



## Ventilation

### Centrifugal Roof Units

- ▲ Series DRH
- ▲ Series DRV
- ▲ Series DRVF
- ▲ Series DRVF-H
- ▲ Series DRVF-K



TLT-Turbo GmbH



**TLT-Turbo GmbH**

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## CENTRIFUGAL ROOF UNITS INDEX

002



TLT standard fan production plant at Bad Hersfeld

Our Bad Hersfeld facility has a history going back to 1874, when Benno Schilde and August Büttner founded their factories here.

The “exhausters” traditionally made of cast iron could be built much lighter and cheaper through the use of steel sheet.

At Büttner the focus was initially on blowers for tubular boilers and dryers, then shifted to heavy-duty industrial fans as required specifically in power plant de-dusting applications. Schilde, meanwhile, stepped up its research and development of light-duty ventilating fans and medium-duty industrial blowers. Numerous patents and registered designs testify to a steady flow of engineering breakthroughs. With the erection of its series production facility at Bad Hersfeld, dedicated mainly to the cost-effective production of roof fans, the Babcock-BSH Group gained a leading market position both in Germany and abroad. The Turbo-Lufttechnik GmbH (TLT) – Bad Hersfeld site - was newly established in June 1995, now integrating Babcock-BSH's Air and Thermal Engineering division.

The “TLT-Turbo GmbH”, newly established in March 2003 as a company

in their own rights, belongs to AG Kühnle, Kopp & Kausch, Frankenthal.

TLT now is one of the world's leading fan manufacturers and our competence is expressed in mature and very economical products. Our two R&D centres at Zweibrücken and Bad Hersfeld guarantee a continuing process of always adapting all TLT products to the latest demands of the market.

Please ask for our  
special catalogue for  
Smoke Exhaust Fans

### Contents

### Page

|                                                             |         |
|-------------------------------------------------------------|---------|
| Why use roof units?                                         | 003     |
| Overview of types                                           | 004-005 |
| In-house research for reliable results                      | 006     |
| Technical notes                                             | 007-009 |
| DRH Series - characteristics and specifications             | 011-035 |
| DRV Series - characteristics and specifications             | 037-061 |
| DRVF/DRVF-H/BVD Series - characteristics and specifications | 063-084 |
| Acoustic damping hood / base                                | 085-087 |
| Accessories                                                 | 088-092 |
| DRVF-K Series - characteristics and specifications          | 093-102 |
| Switchgear and control accessories                          | 103-105 |
| Motor circuit diagrams / contactor control circuits         | 106-125 |
| Overall range                                               | 127     |

Changes, errors and omissions reserved.



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## WHY CENTRIFUGAL ROOF UNITS ? TYPES-OVERVIEW

003

### Why use roof units

Roof units constitute the most straightforward mechanical ventilation system. The key benefits of roof unit solutions include the following:

- **best value for money, hence reduced investment expenditure**
- **high efficiency, hence good price / performance ratio**
- **not much space required and virtually unlimited installation space on the roof**
- **low technical requirements, hence immediate availability upon installation**

In roof units, when it comes to the old "centrifugal-versus-axial-flow" controversy, the scales have since long tipped in favour of centrifugal units. In ducted inlet configurations centrifugal fans benefit from their superior pressure performance. In free inlet systems they are preferred for their subjectively more agreeable noise characteristics.

Roof units are suitable for distributed ventilation systems (many small-sized free-inlet fans) as well as for central exhaust installations (few larger fans with appropriate ducting). They are perfect for extracting warm, stale air, which they remove straight from its normal accumulation point. In ventilation systems relying on roof-mounted fans, care must be taken to ensure a sufficient flow of make-up air into the ventilated room.

As extraction devices, roof units can favourably supplement a central or distributed air supply system. To meet ever more stringent demands on noise damping, roof units have undergone (and are still undergoing) a progressive improvement of their acoustic characteristics. Where appropriate, they are available in special sound-dampened versions or with optional silencer equipment.

To overcome the drawbacks of a fixed motor speed while meeting today's demands for variability and control system integration, roof units can be supplied with variable-speed motors in conjunction with optional control gear such as transformers, frequency converters, phase control devices, etc.



The following standard series are currently available:

#### **Series DRH**

horizontal outlet types with external rotor motor

#### **Series DRV**

vertical outlet types with external rotor motor

#### **Series DRVF**

vertical outlet types with IEC standard motor arranged outside the airflow

#### **Series DRVF-H**

same as DRVF but with additional motor ventilation (for elevated temperatures of the conveyed medium)

#### **Series DRFV-SDI**

same as DRVF, but with outlet silencer integrated into the fan casing

#### **Series DRFV-H-SDI**

same as DRVF-H, but with outlet silencer integrated into the fan casing

#### **Series DR-SDV**

same as DRV, but with additional tubular outlet silencer

#### **Series DRVF-SDV**

same as DRVF, but with an additional tubular outlet silencer

#### **Series DRVF-H-SDV**

same as DRVF-H, but with an additional tubular outlet silencer

#### **Series BVD**

In preventive fire protection applications, BVD series fans provide a mechanical smoke and heat exhaust capability with all obvious advantages over natural ventilation based systems. Tested to EN 12101 Part 3 by the Technical University of Munich, our smoke exhaust fans are available with 400°C - 120 min. and 620°C - 120 min. withstand ratings. For detailed information please refer to our Smoke Exhaust Fans catalogue.



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## CENTRIFUGAL ROOF UNITS TYPES-OVERVIEW

004

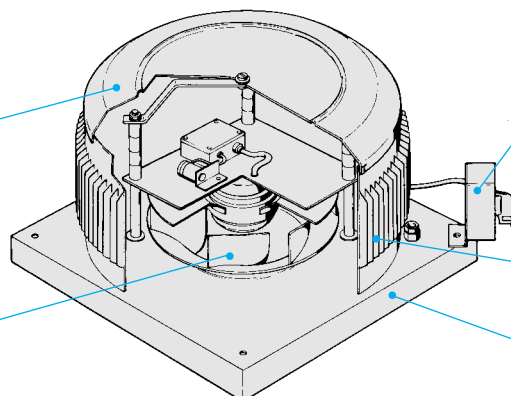
### Series DRH-Minivent

Centrifugal roof unit,  
horizontal outlet type,  
50°C maximum airflow temperature

For specifications and characteristic curves  
please refer to pages 011-031

Rugged, deep-drawn aluminium  
casing

Impeller made of sendzimir-galvanized  
steel, with backward curved blades  
and external rotor motor (IP 44)



Local isolator with three-lock  
interlocking in accordance with  
VDE 0113-IEC

Aluminium outlet screen

Baseplate made of sendzimir-  
galvanized sheet steel, with  
aerodynamically optimized deep-drawn  
bellmouth, flanged for attachment of a  
damper, flexible connector, etc.

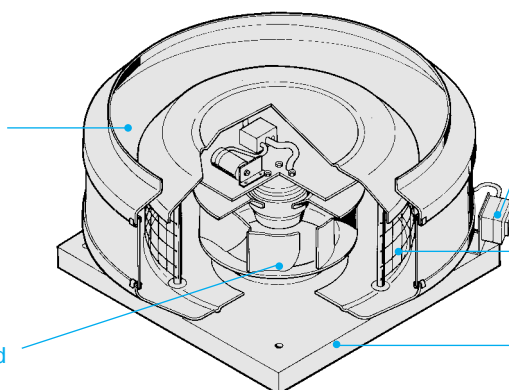
### Series DRV-Minivent

Centrifugal roof unit,  
vertical outlet type,  
50°C maximum airflow temperature

For specifications and characteristic curves please  
refer to pages 031-057

Rugged, deep-drawn aluminium  
casing

Impeller made of sendzimir-galvanized  
steel, with backward curved blades  
and external rotor motor (IP 44)



Local isolator with three-lock  
interlocking in accordance with VDE  
0113 - IEC 204 and VGB 4

Guard

Baseplate made of sendzimir-  
galvanized sheet steel, with  
aerodynamically optimized deep-drawn  
bellmouth, flanged for installation of a  
damper, flexible connector, etc.

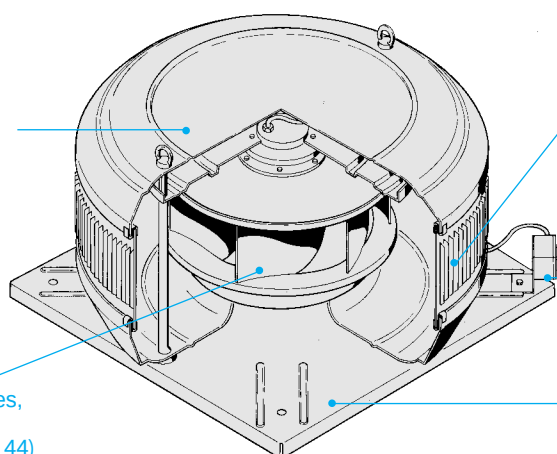
### Series DRH

Centrifugal roof unit,  
horizontal outlet type,  
40°C maximum airflow temperature

For specifications and characteristic curves please  
refer to pages 011-031

Rugged, deep-drawn aluminium  
casing

Impeller with backward curved blades,  
powder coated, with external rotor  
motor (IP 54 / Nominal size 224 = IP 44)



Aluminium outlet screen

Local Isolator with three-lock  
interlocking in accordance with VDE  
0113 - IEC 204 and VGB

Baseplate made of sendzimir-  
galvanized sheet steel, with  
aerodynamically optimized deep-drawn  
bellmouth, flanged for attachment of a  
damper, flexible connector, etc.



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## CENTRIFUGAL ROOF UNITS TYPES-OVERVIEW

005

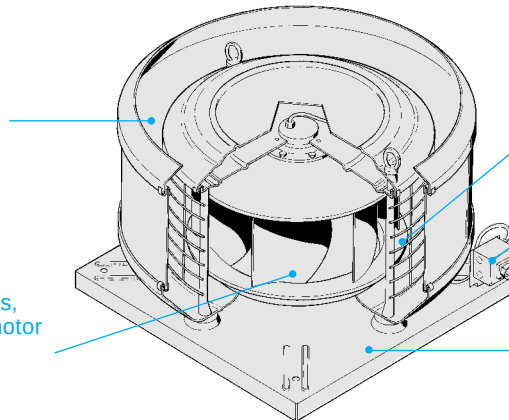
### Series DRV

Centrifugal roof unit,  
vertical outlet type,  
40°C maximum airflow temperature

For specifications and characteristic curves please refer to  
pages 037-057

Rugged, deep-drawn aluminium  
casing

Impeller with backward curved blades,  
powder coated, with external rotor motor  
(IP 54 / Nominal size 224 = IP 44)



Guard

Local isolator with three-lock  
interlocking in accordance with VDE  
0113 - IEC 204 and VGB 4

Baseplate made of galvanized sheet  
steel, with aerodynamically optimized  
deep-drawn bellmouth, flanged for  
attachment of a damper, flexible  
connector, etc.

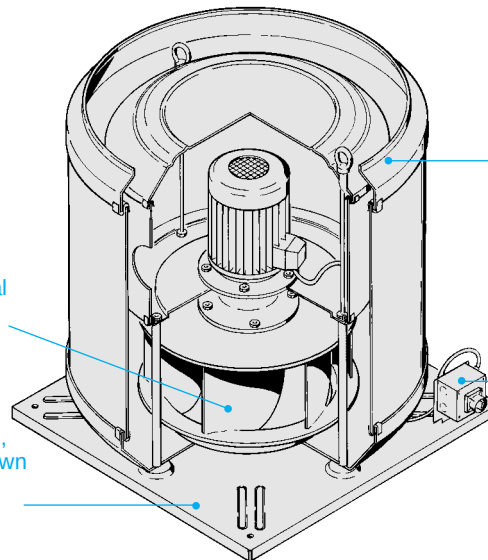
### Series DRVF

Centrifugal roof unit,  
vertical outlet type,  
40°C maximum airflow temperature

For specifications and characteristic  
curves please refer to pages 063-080

Impeller with backward curved blades,  
powder coated, with IEC standard internal  
rotor motor (IP 54), mounted outside the  
air flow

Baseplate made of galvanized sheet steel,  
with aerodynamically optimized deep-drawn  
bellmouth, flanged for attachment of a  
damper, flexible connector, etc.



Rugged, deep-drawn aluminium casing

Local isolator with three-lock interlock  
in accordance with VDE 0113 - IEC 204  
and VGB 4

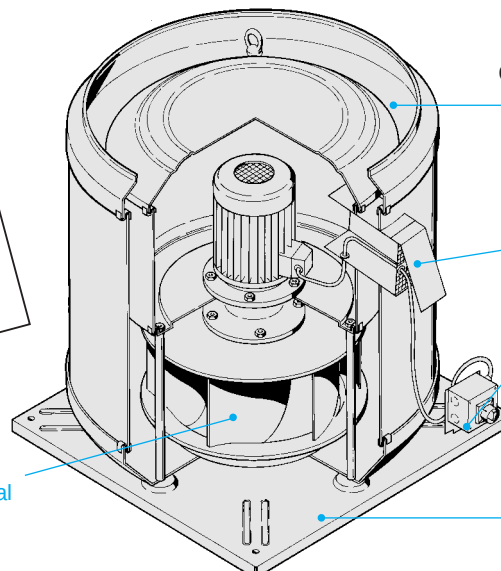
### Series DRVF-H

Centrifugal roof unit,  
vertical outlet type,  
120°C maximum airflow temperature

For specifications and characteristic  
curves please refer to pages 063-080

**For roof-mounting smoke exhaust  
fans (400°C/600°C - 120 minutes),  
tested to EN 12101 Pt. 3 by the  
Technical University of Munich,  
please refer to our special  
catalogue!**

Impeller with backward curved blades,  
powder coated, with IEC standard internal  
rotor motor (IP 54), arranged outside the  
airflow, externally ventilated



Rugged, deep-drawn aluminium casing.

Ambient air inlet to motor compartment

Local isolator with three-lock  
interlocking in accordance with VDE  
0113 - IEC 204 and VGB 4

Baseplate made of galvanized sheet  
steel, with aerodynamically optimized  
deep-drawn bellmouth, flanged for  
attachment of a damper, flexible  
connector, etc.

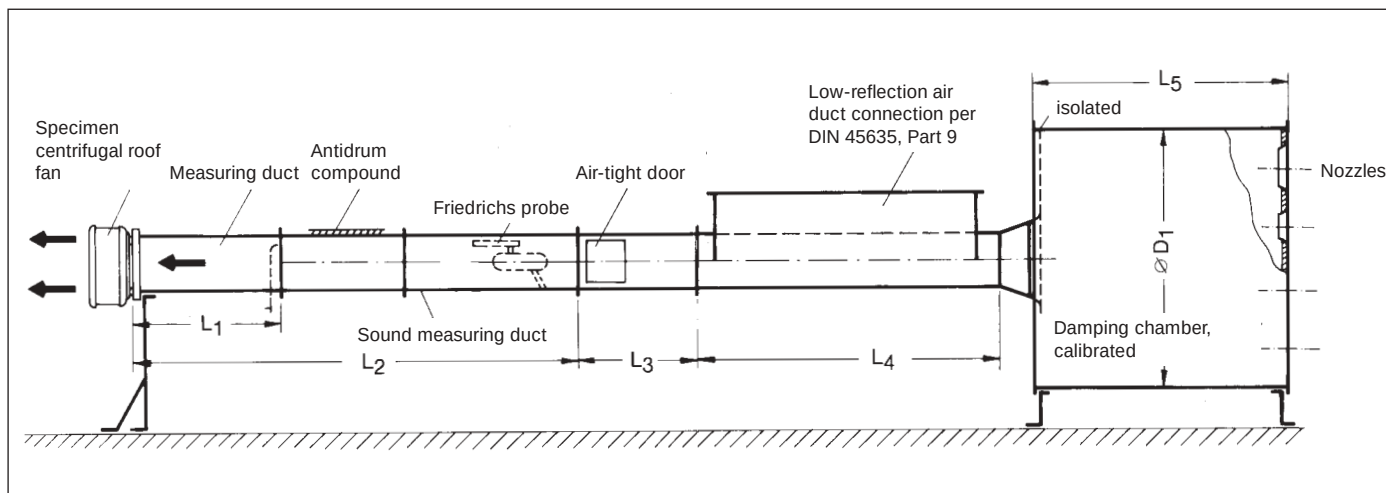


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## CENTRIFUGAL ROOF UNITS IN-HOUSE RESEARCH - RELIABLE RESULTS

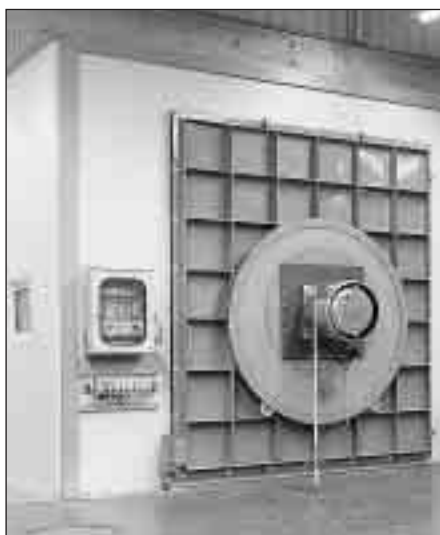
006



**DRV Series centrifugal roof unit with inlet-side measuring duct**  
The measuring duct for centrifugal roof units meets DIN 24163 for

volume and pressure measurements and DIN 45635, Part 9 (draft) for sound measurements. The pressure increase (pt1) is calculated from the

difference between the static pressure (ps) and the dynamic pressure (pd) across the inlet duct.

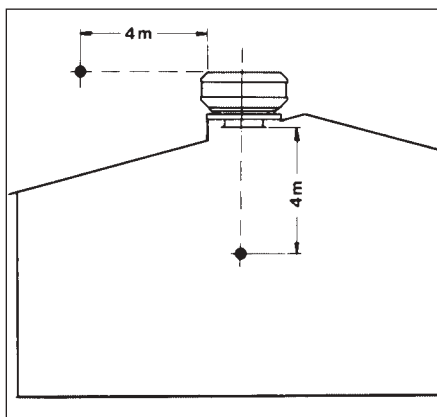
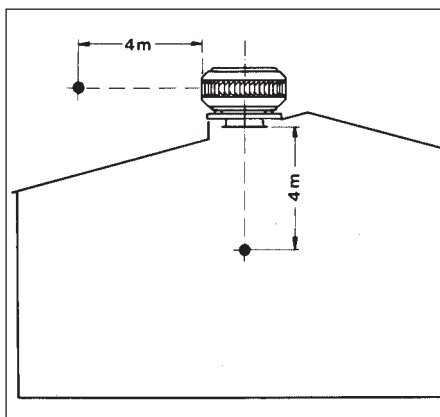


Chamber test rig with specimen (DRVF centrifugal roof unit).



View of the measuring centre of our test station. The requisite array of high-precision instruments includes a Betz pressure gauge (1), a calibrating unit for the pressure

measuring station (2), a frequency analyzer for collecting acoustic data (3), a measured data acquisition computer (4), etc.



Extensive testing of each centrifugal roof unit yields the sound pressure levels prevailing at the four measuring points shown in the drawings. The reference plane of the outdoor sound pressure of DRH fans passes through the centre of the outlet guard. For DRV, DRVF and BVD fans the values are related to the horizontal outlet edge. Indoor sound levels are determined vertically under the roof fan axis.

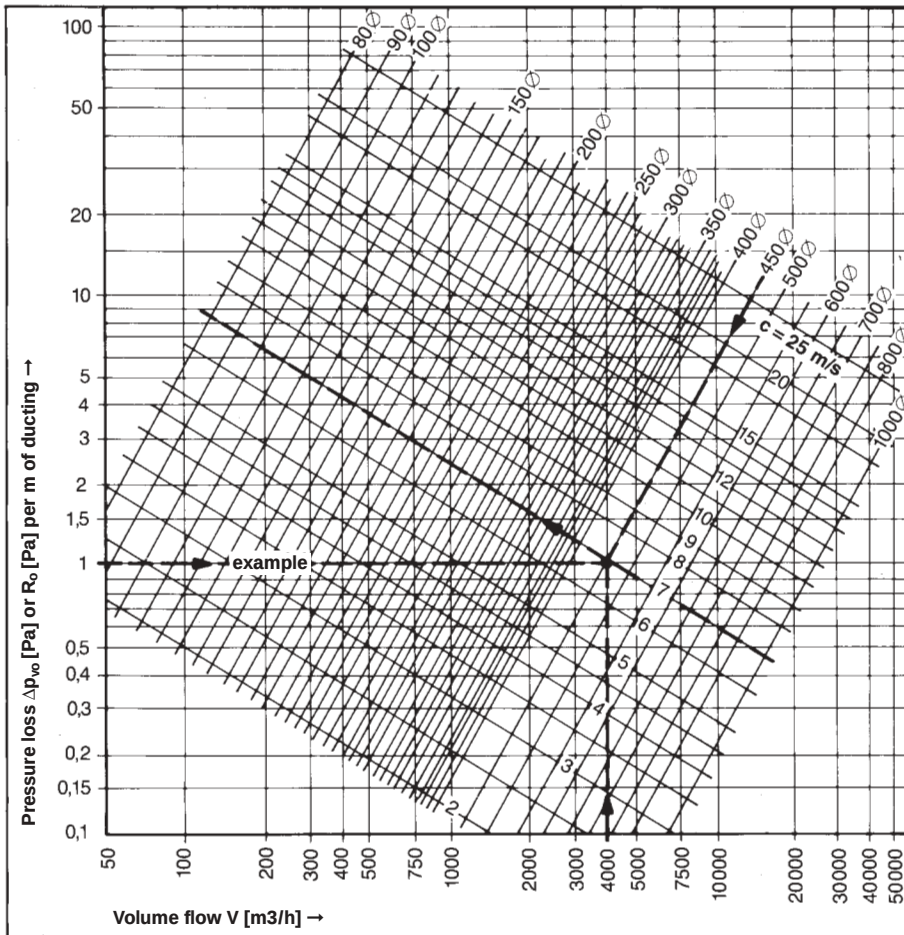


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## CENTRIFUGAL ROOF UNITS TECHNICAL NOTES

007



For rectangular ducts, the equivalent diameter  $D_{eq}$  is to be determined as follows:  $D_{eq} = \frac{2 \cdot a \cdot b}{a + b}$  [mm]

### Resistance of different duct sections

The pressure loss is a multiple of the dynamic pressure  $p_d$ , which is calculated as follows:

$$p_d = \frac{c^2}{2} \cdot \varrho$$

$$p_d = 0,6 c^2$$

$p_d$  = dynamic pressure in Pa

$c$  = air velocity in m/s

$\varrho$  = density of air (= 1,2 kg/m³)

#### ① Y-section

$\alpha = 10^\circ$  Pressure loss = 0,1  $p_d$   
 $\alpha = 45^\circ$  Pressure loss = 0,7  $p_d$   
 $\alpha = 90^\circ$  Pressure loss = 1,4  $p_d$

#### ② Elbow 90°

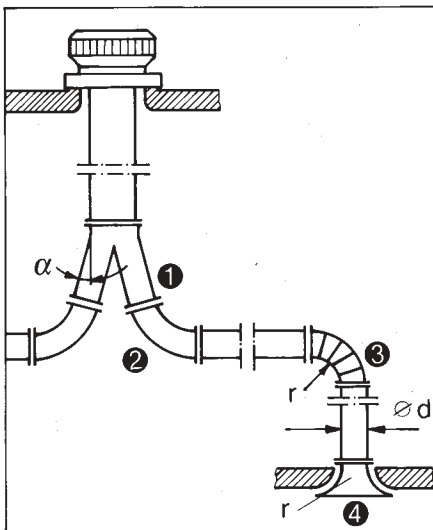
$r = 0,5 d$  Pressure loss = 0,1  $p_d$   
 $r = 1,0 d$  Pressure loss = 0,25  $p_d$   
 $r = 1,5 d$  Pressure loss = 0,15  $p_d$

#### ③ Segmental elbow 90°

$r = 0,5 d$  Pressure loss = 1,3  $p_d$   
 $r = 1,0 d$  Pressure loss = 0,5  $p_d$   
 $r = 1,5 d$  Pressure loss = 0,3  $p_d$

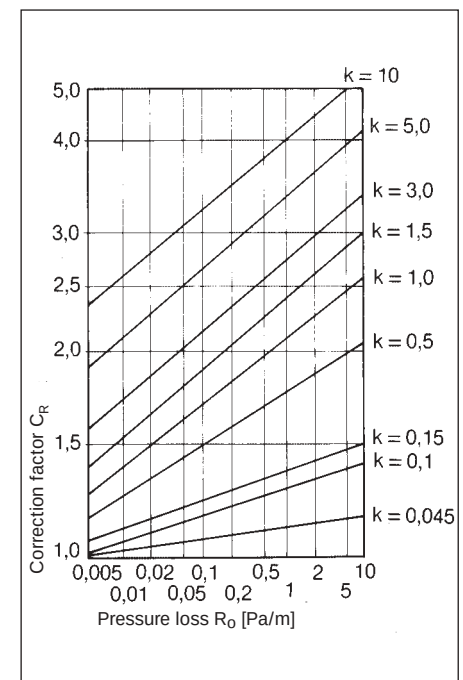
#### ④ Inlet bellmouth

$r = 0,25 d$  Pressure loss = 0,2  $p_d$   
 $r = 0,5 d$  Pressure loss = 0,1  $p_d$



Connecting a centrifugal roof unit to inlet-side ducting will give rise to flow resistances which must be overcome by the fan. The relationship between ducting resistance and volume flow is expressed in the characteristic curves. Reference values for calculating duct resistance are given in the tables below. The pressure loss per metre of straight ducting applies to fully smooth ducts. For rough ducts the  $R_0$  value from the diagram must be corrected with the aid of the roughness value  $k$  from the table below. The correction factor  $C_k$  may then be determined from the diagram.

The resistance of a rough duct is then calculated as  $R = C_k \cdot R_0$  (in Pa per meter of ducting).



### Roughness k

| Duct type            | k     |
|----------------------|-------|
| Plastic pipe         | 0,005 |
| Asbestos cement pipe | 0,1   |
| Sheet steel duct     | 0,15  |
| Flexible hose        | 0,7   |
| Wooden duct          | 2,5   |
| Concret duct         | 0,8   |
| Masonry duct         | 4,0   |



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## Fan selection

How many Roof units you need will depend on the necessary number of air changes per hour. The most common method of determining the exhaust air volume for a given room is to start from a table of empirically derived hourly air changes required for that room type. The exhaust air volume is then calculated from the room volume by multiplying it by the number of hourly air changes.

| Room type                      | Air changes/h |
|--------------------------------|---------------|
| Toilet, public                 | 5 - 15        |
| Toilet, in residential units   | 3 - 4         |
| Bathrooms                      | 5 - 8         |
| Pickling shops                 | 5 - 15        |
| Offices                        | 4 - 8         |
| Dyehouse                       | 15 - 20       |
| Spray-painting rooms           | 30 - 80       |
| Garages                        | 4 - 6         |
| Guest rooms                    | 4 - 8         |
| Foundries                      | 8 - 15        |
| Theatres, cinemas              | 5 - 8         |
| Kitchens, in residential units | 10 - 20       |
| Kitchens, medium-size          | 20 - 30       |
| Kitchens, industrial-size      | 15 - 25       |
| Laboratories                   | 8 - 15        |
| Warehouse                      | 4 - 6         |
| Machine shops                  | 15 - 30       |
| Assembly shops                 | 4 - 8         |
| Schools                        | 4 - 6         |
| Indoor swimming pools          | 5 - 7         |
| Sales rooms                    | 4 - 8         |
| Restaurants/cafeterias         | 5 - 8         |
| Convention rooms               | 5 - 10        |
| Laundry rooms                  | 12 - 15       |
| Department stores              | 4 - 6         |
| Workshops                      | 3 - 6         |

## Determination by the air rate method

No-smoking rooms  
20...30 m<sup>3</sup> exhaust air per hour and occupant  
Smoking rooms  
30...40 m<sup>3</sup> exhaust air per hour and occupant

## MAC-based determination

For rooms subject to continuous air pollution with gaseous or solid substances the requisite exhaust air volume must be determined so as to comply with the MAC threshold (maximum allowable concentration). Applicable MAC values can be taken from the relevant tables.

# CENTRIFUGAL ROOF UNITS TECHNICAL NOTES

008

Calculating exhaust volumes so as to cope with given pollutant levels is difficult to achieve with any degree of reliability. The hourly exhaust air volume V is computed from the MAC value as follows:

$$V = K/k$$

wehre

V = hourly exhaust air volume in m<sup>3</sup>/h

K = hourly pollutant volume in cm<sup>3</sup>/h

k = maximum allowable concentration (MAC) in cm<sup>3</sup> of pollutant per m<sup>3</sup> of airspace

## Motor rpm/Output/Current rating

The values given in the tables may differ slightly depending on the motor brand used. The tabulated data are averaged from motors sourced from various manufacturers.

## Motorized dampers

Installation feasibility should be checked for size 250 + 315 fans. (If necessary, provide a spacer between the baseplate and damper).

## Acoustic characteristics

Acoustic output data are given on the "Specifications" pages.

The values stated apply to the measured fan speed (rpm).

The acoustic levels shown apply to a free inlet without ducting. In ducted configurations they may be higher, depending on the flow characteristics and acoustic properties of the ducting.

Acoustic output values for different fan speeds can be approximated with the aid of the following formulas.

Noise level for lower rpm

$$L_1 = L_2 - 45 \left[ \log \left( \frac{n_2}{n_1} \right) \right]$$

Noise level for higher rpm

$$L_2 = L_1 + 45 \left[ \log \left( \frac{n_2}{n_1} \right) \right]$$

## Correction factors for increasing distance:

| Distance [m]                          |     |    |      |    |      |
|---------------------------------------|-----|----|------|----|------|
| 4                                     | 8   | 16 | 32   | 64 | 128  |
| 0                                     | 4,5 | 9  | 13,5 | 18 | 22,5 |
| Decrease in sound pressure level [dB] |     |    |      |    |      |

**The acoustic output levels of several Roof units of identical loudness can be determined from the following table:**

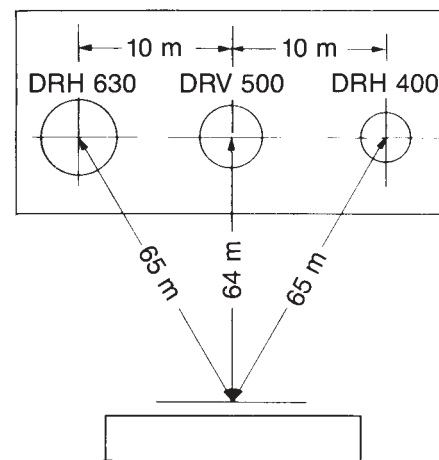
| Number of fans            |   |   |   |   |   |    |    |    |    |  |  |
|---------------------------|---|---|---|---|---|----|----|----|----|--|--|
| 2                         | 3 | 4 | 5 | 6 | 8 | 10 | 15 | 20 | 30 |  |  |
| 3                         | 5 | 6 | 7 | 8 | 9 | 10 | 12 | 13 | 15 |  |  |
| Noise level increase [dB] |   |   |   |   |   |    |    |    |    |  |  |

**Where two roof units with different acoustic outputs operate simultaneously, the resulting noise level can be obtained by adding the value from the following table to the louder of the two:**

| Noise level difference [dB] |     |   |     |   |     |   |     |   |    |    |    |
|-----------------------------|-----|---|-----|---|-----|---|-----|---|----|----|----|
| 0                           | 1   | 2 | 3   | 4 | 5   | 6 | 7   | 8 | 10 | 15 | 20 |
| 0                           | 0,5 | 1 | 1,5 | 2 | 2,5 | 3 | 3,5 | 4 | 5  | 7  | 10 |
| Value to be added [dB]      |     |   |     |   |     |   |     |   |    |    |    |

## Example

Different centrifugal roof units are mounted on the same roof. The sound pressure level at the reference point is to be determined.



|                        |       |
|------------------------|-------|
| DRH 400/30 - 6 at 4 m: | 58 dB |
| DRV 500/30 - 6 at 4 m: | 62 dB |
| DRH 630/25 - 6 at 4 m: | 69 dB |

Assuming that the sound level decrease by 4.5 dB whenever the distance is doubled, we obtain

|                         |       |
|-------------------------|-------|
| DRH 400/30 - 6 at 65 m: | 40 dB |
| DRV 500/30 - 6 at 64 m: | 44 dB |
| DRH 630/25 - 6 at 65 m: | 51 dB |

These sound levels add up as follows:

$$44 - 40 = 4 \text{ dB}$$

Sound level increase by 1.5 dB  
DRH 400/30 - 6 and  
DRV 500/30 - 6

Total: 45,5

$$51 - 45,5 = 5,5 \text{ dB}$$

Sound level increase by 1.1 dB  
DRH 400/30 - 6 and  
DRV 500/30 - 6 and  
DRH 630/25 - 6

Total: 51 + 1,1 = 52,1 dB

The sound level  $L_{PA}$  at the reference point is approx. 52 dB.

The rise in LW (total acoustic power level) on the inlet side by up to 7 dB (please refer to the Specifications) due to intense damper throttling (to 25%) is a result of an increase in the low frequencies, i.e., 63 and 125 Hz. Since the low frequencies are A-weighted, this increase is not reflected in the weighted acoustic power level  $L_{WA}$ . It follows that only the two low octaves should be raised in the relative frequency response characteristic.

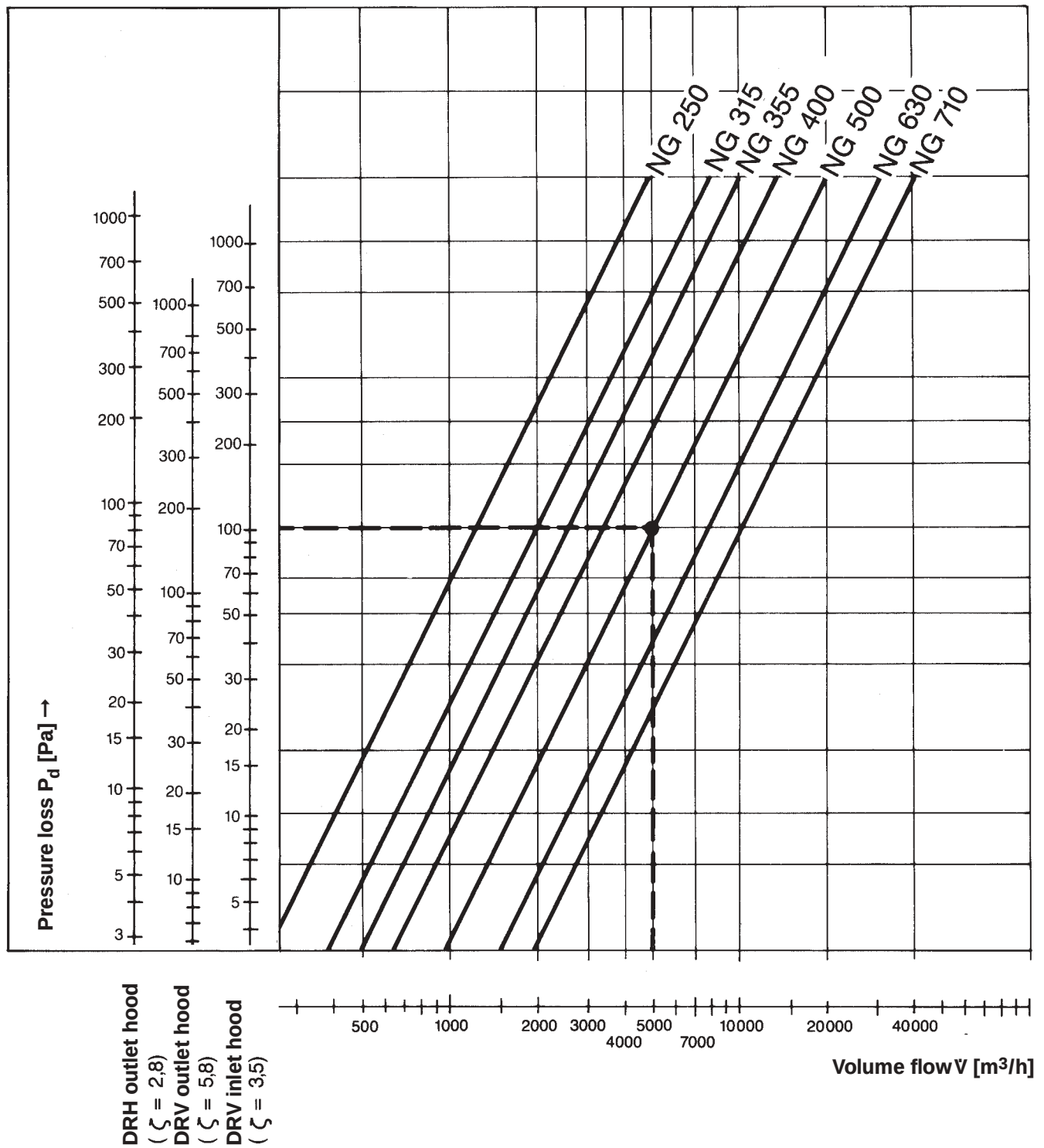


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## CENTRIFUGAL ROOF UNITS RESISTANCE DIAGRAM FOR EMPTY HOODS

009



### Example:

Empty hood as DRV inlet hood

Volume flow = 5000  $m^3/h$

Pressure loss  $P_d$  = 105 Pa



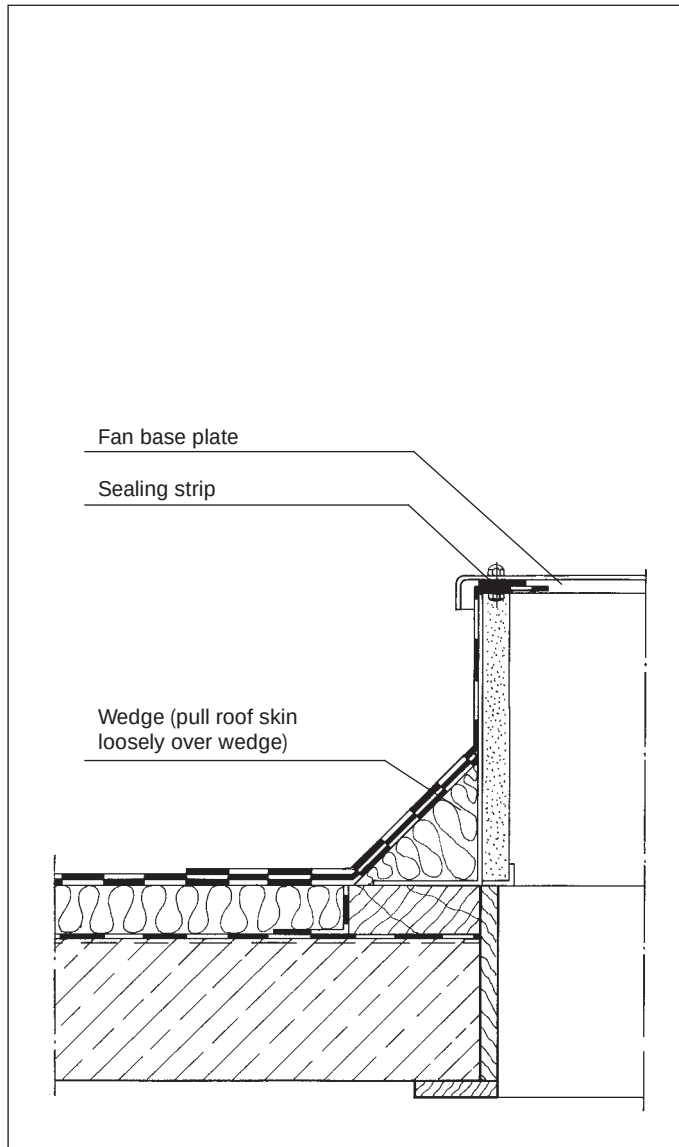
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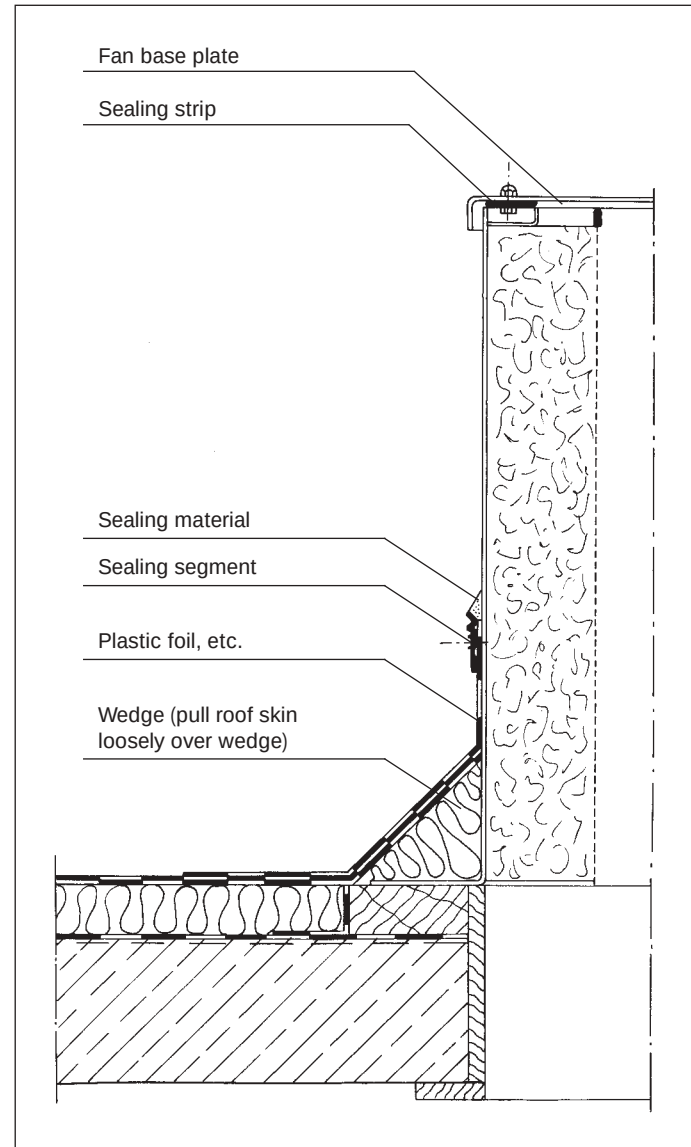
## CENTRIFUGAL ROOF UNITS INTEGRATION OF ROOF BASES AND NOISE DAMPING BASES

010

### Steel flat-roof base with internal insulation



### SDS noise damping base



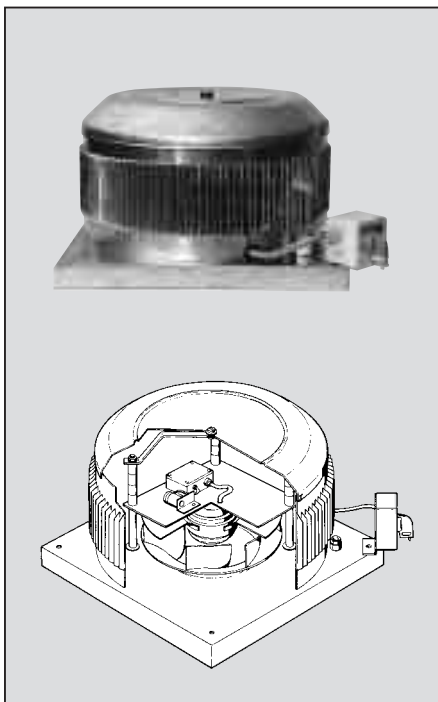
Please install or integrate roof bases or noise damping bases into roof skin as shown on sketches above.



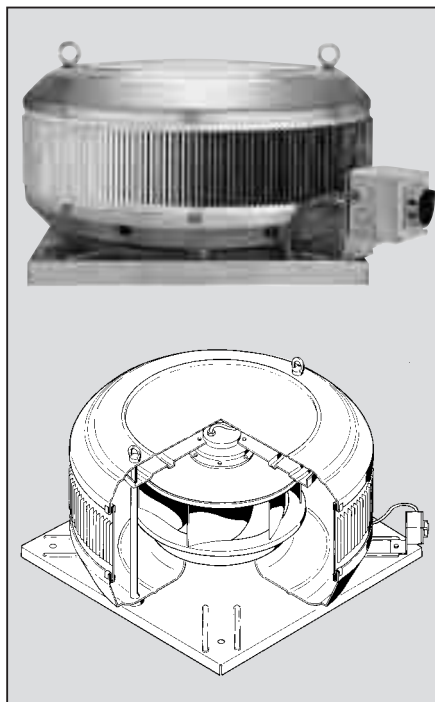
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## CENTRIFUGAL ROOF UNITS DRH-MINIVENT SERIES DRH SERIES HORIZONTAL OUTLET

011



**DRH-Minivent Series**



**DRH Series**

### DRH-Minivent range

1 size  
4 types  
Volume flow up to 1100 m³/h  
Pressure increase up to 420 Pa

### DRH range

5 sizes  
More than 100 types  
Volume flow up to 35.000 m³/h  
Pressure increase up to 800 Pa

### Casing

The baseplate consists of sendzimir-galvanized sheet metal, bent for maximum torsional stiffness. The bellmouth is deep-drawn for optimum flow properties, providing high aerodynamic efficiency.

The diverter cap, outlet guard and rain hood are made of deep-drawn aluminium.

### Impeller

The sheet steel impeller, with backward curved blades, is dynamically balanced and powder-coated.

Minivent series fans are equipped with plastic impellers.

On sizes 224 + 250 fans, the impellers are made of galvanized sheet steel.

### Motor (DRH-Minivent and DRH 224/35...E types)

The fan is driven by a single-phase a.c. capacitor motor (external rotor type), enclosed, moisture-protected and tropicalized.

Full motor protection is ensured by thermal overload protection contacts connected in line with the winding.

The motor speed can be varied via a transformer or electronic phase control system (0 to 100%).

### Motor (DRH types)

These fans are powered by a single-phase or three-phase a.c. motor (external rotor type), enclosed and moisture-protected.

Types marked with an asterisk (\*) are speed-controllable via a fully modulating transformer or electronic phase control system. To operate a variable-voltage type external rotor motor on a frequency converter, it is absolutely necessary to use an all-pole (phase-to-phase and phase-to-earth) sine filter between the frequency converter and the motor. Thermal overload contacts embedded in the winding provide full motor protection.

The motor is wired to a local isolator mounted outside on the fan casing.

### Operating conditions

DRH fans are rated for a max. airflow temperature of 40°C; DRH-Minivent for a max. airflow temperature of 50°C

### Series DRH fans

These fans can be mounted at angles up to 20 deg. (Designs for higher roof gradients available upon request).

### Series DRH-Minivent fans

The maximum mounting angle for these fans is 90 deg. Note, however, that installation at an angle will compromise rainproofness.

### Accessories and options

- ☐ Powder-coated surface finish, RAL 7030
- ❶ Automatic damper for free inlet
- ☐ Automatic damper for ducted inlet
- ❶ Motor-actuated damper for free inlet
- ❶ Motor-actuated damper for ducted inlet
- ☐ Inlet guard
- ☐ Flexible connector
- ☐ Matching flange
- ☐ Steel flat-roof base with internal insulation
- ☐ Twin baseplate
- ☐ Base for pitched roofs
- ☐ Base for corrugated roofs
- ☐ Tilting frame
- ☐ Hinge for tilting frame
- ☐ SDS noise damping base
- ☐ SDH noise damping hood

❶ Not available for Minivent

DRH

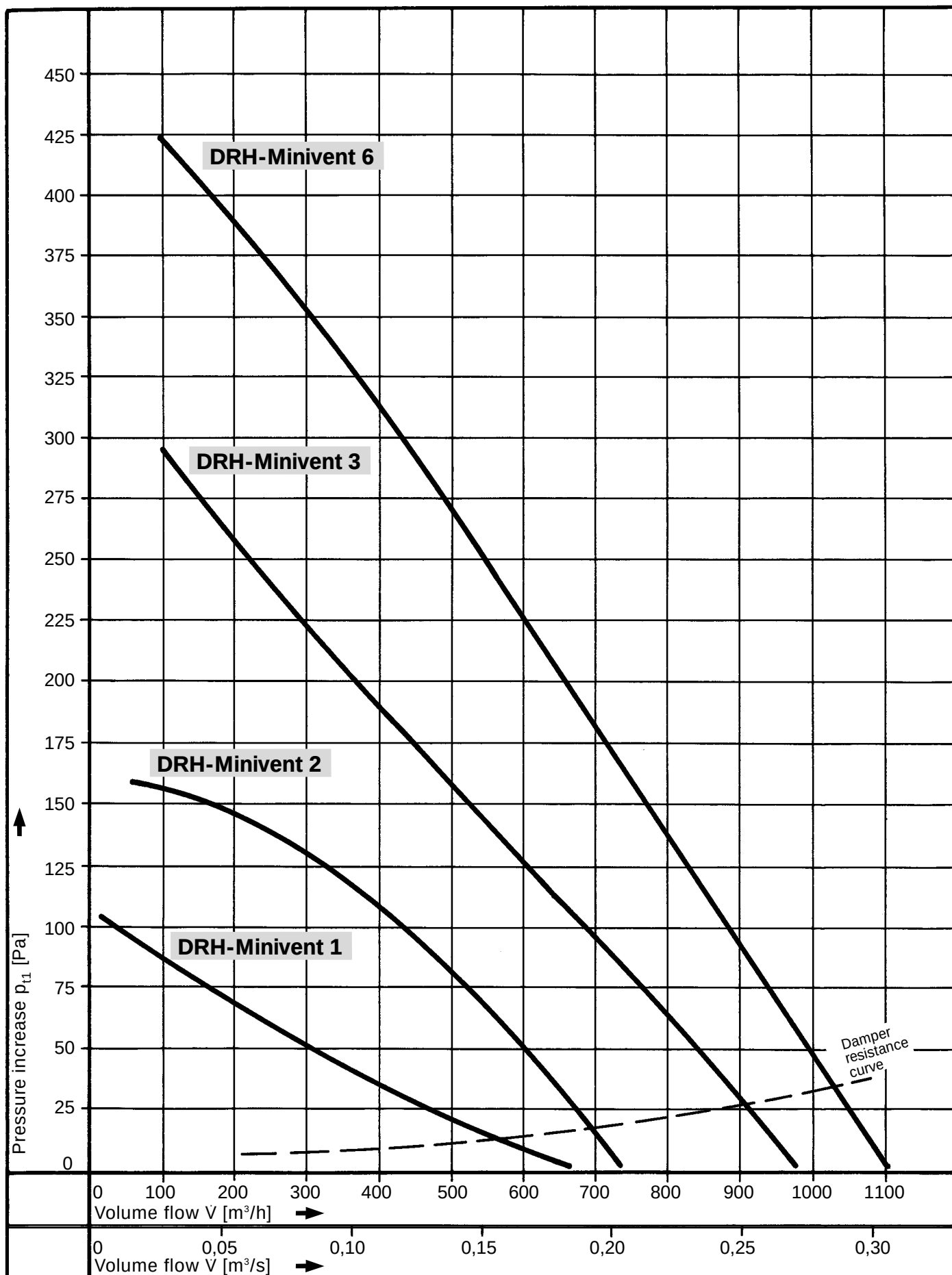


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH-MINIVENT 1 TO 3 AND 6

012



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOFS UNITS SPECIFICATIONS DRH-MINIVENT 1 TO 3 AND 6

013

| Type             | Weight<br>approx.<br>[kg] | Motor-<br>speed<br>[rpm] | Motor-<br>output<br>[W] | Nominal-<br>current<br>at<br>1~230 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|------------------|---------------------------|--------------------------|-------------------------|---------------------------------------------------------|------------------------------------|---------------------------------|
|                  |                           |                          |                         |                                                         | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRH-Minivent 1 * | 7,7                       | 1200                     | 25                      | 0,12                                                    | 640                                | 550                             |
| DRH-Minivent 2 * | 7,7                       | 1400                     | 43                      | 0,20                                                    | 740                                | 680                             |
| DRH-Minivent 3 * | 8,3                       | 2200                     | 91                      | 0,40                                                    | 980                                | 910                             |
| DRH-Minivent 6 * | 8,3                       | 2500                     | 115                     | 0,51                                                    | 1090                               | 1040                            |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

### Indoor noise level (inlet side)

Influences: A = 100 m² Sabin, measuring distance S = 4 m, L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 0 dB, freefield conditions

| Type       | Speed <sup>2)</sup><br>[rpm] <sup>1)</sup> | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variations as a function of volume flow |                      |                      |                     |                      |                      |
|------------|--------------------------------------------|----------------------------------------|----------------------|----------------------|-----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|            |                                            | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 %                 | 25 %                 |                     |                      |                      |
| DRH        |                                            |                                        |                      |                      | L <sub>W</sub> [dB]                                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| Minivent 1 | 1200                                       | 64                                     | 54                   | 34                   | -1                                                  | -3                   | -4                   | -8                  | 5                    | -6                   |
| Minivent 2 | 1400                                       | 67                                     | 56                   | 36                   | -1                                                  | -4                   | 0                    | -1                  | 8                    | 2                    |
| Minivent 3 | 2200                                       | 72                                     | 66                   | 45                   | -1                                                  | -4                   | 0                    | -8                  | 6                    | -3                   |
| Minivent 6 | 2500                                       | 75                                     | 70                   | 50                   | -1                                                  | -2                   | 2                    | -7                  | 5                    | -2                   |

Influence of the automatic damper: + 3dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Type       | Speed <sup>2)</sup><br>[rpm] <sup>1)</sup> | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------|--------------------------------------------|------------------------------|-----|------|------|------|------|------|------|
|            |                                            | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| DRH        |                                            |                              |     |      |      |      |      |      |      |
| Minivent 1 | 1200                                       | 2,7                          | 4,8 | 12,5 | 16,8 | 20,9 | 14,3 | 23,3 | 33,0 |
| Minivent 2 | 1400                                       | 2,4                          | 6,0 | 10,1 | 15,7 | 18,8 | 20,1 | 17,5 | 30,6 |
| Minivent 3 | 2200                                       | 2,9                          | 8,0 | 8,7  | 11,9 | 13,7 | 17,5 | 12,1 | 24,5 |
| Minivent 6 | 2500                                       | 3,3                          | 8,5 | 8,9  | 11,1 | 12,7 | 15,9 | 10,7 | 16,3 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 100 m²,  
measuring distance = 4m, L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor (r = 4m, 0°) = 0 dB

| Type       | Speed <sup>2)</sup><br>[rpm] <sup>1)</sup> | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                     |                      |                      |
|------------|--------------------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|            |                                            | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 |                     |                      |                      |
|            |                                            |                                        |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| Minivent 1 | 1200                                       | 65                                     | 59                   | 39                   | -3                                                 | -7                   | -1                   | -10                 | 5                    | -5                   |
| Minivent 2 | 1400                                       | 70                                     | 64                   | 44                   | -3                                                 | -6                   | -1                   | -5                  | 4                    | -1                   |
| Minivent 3 | 2200                                       | 74                                     | 70                   | 50                   | -3                                                 | -4                   | -4                   | -7                  | 4                    | 0                    |
| Minivent 6 | 2500                                       | 77                                     | 74                   | 54                   | -1                                                 | -2                   | -1                   | -4                  | 5                    | 0                    |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

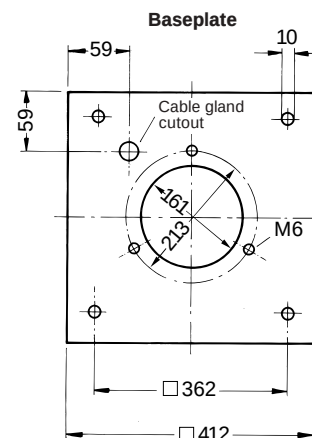
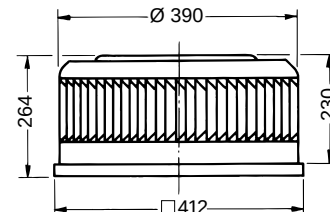
| Type       | Speed <sup>2)</sup><br>[rpm] <sup>1)</sup> | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------|--------------------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|            |                                            | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| DRH        |                                            |                              |     |     |      |      |      |      |      |
| Minivent 1 | 1200                                       | 2,7                          | 2,6 | 5,9 | 13,1 | 14,8 | 9,2  | 22,6 | 34,6 |
| Minivent 2 | 1400                                       | 5,6                          | 7,1 | 1,4 | 16,6 | 16,0 | 12,1 | 20,0 | 35,1 |
| Minivent 3 | 2200                                       | 6,1                          | 8,1 | 3,5 | 9,1  | 8,9  | 9,0  | 14,8 | 25,4 |
| Minivent 6 | 2500                                       | 3,2                          | 9,2 | 4,5 | 9,4  | 7,8  | 9,3  | 17,0 | 18,3 |

These noise data apply to a free-inlet configuration without damper at V max.

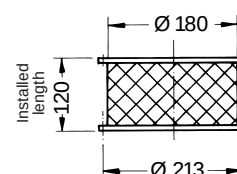
1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

2) Please see note on page 008.

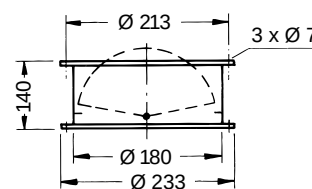
3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°



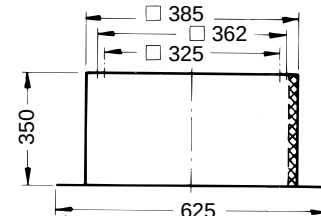
### Flexible connector



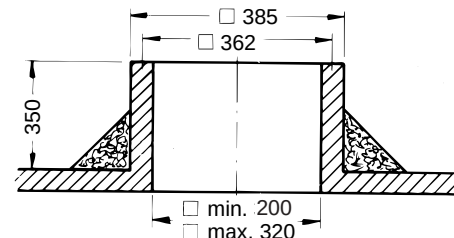
### Automatic damper



### Steel flat-roof base with internal insulation



### Customer-supplied base



DRH

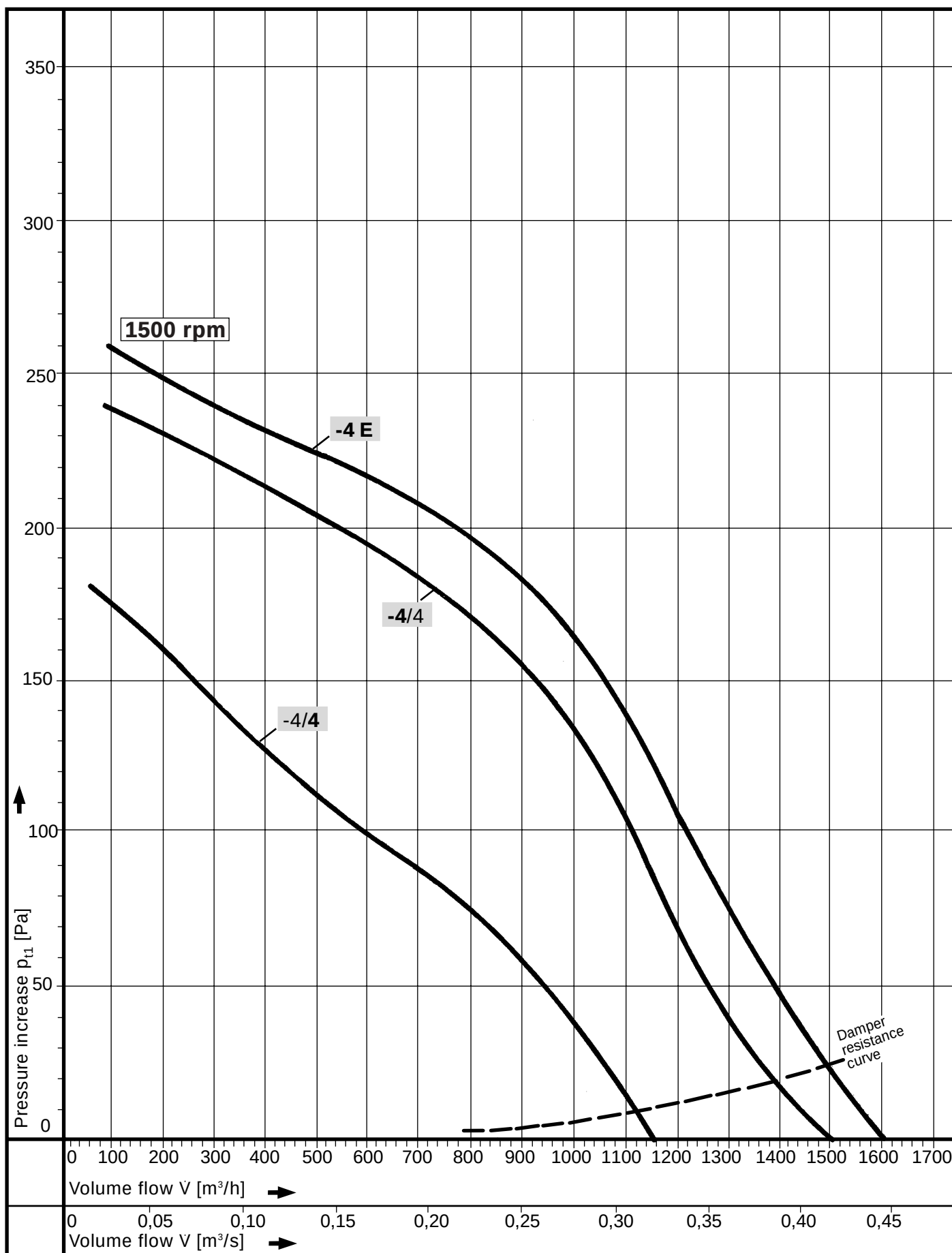


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## CENTRIFUGAL ROOF UNIT CHARACTERISTIC CURVES DRH 224/35

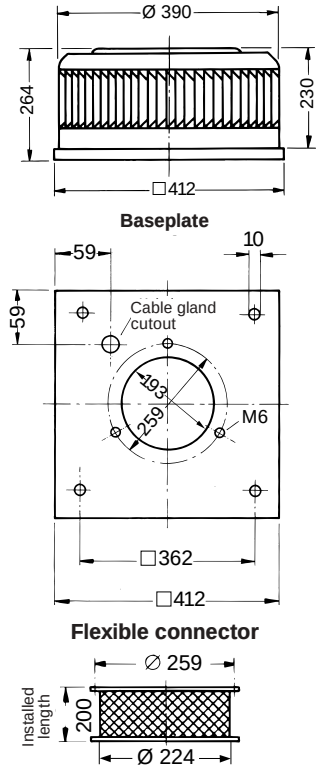
014



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 kg/m^3$

| Type             | Weight approx. | Motor-speed | Motor-output | Nominal-current at 1-230 Volt 50 Hz [A] | Volume flow (m³/h)        |                        |
|------------------|----------------|-------------|--------------|-----------------------------------------|---------------------------|------------------------|
|                  |                |             |              |                                         | Free inlet without damper | Free inlet with damper |
| DRH 224/35 – 4E  | 9,5            | 1400        | 110          | 0,49*                                   | 1600                      | 1490                   |
| DRH 224/35 – 4/4 | 9,5            | 1380/1120   | 0,87/0,61    | 0,15/0,1                                | 1500/1150                 | 1380/1120              |

\* Nominal current 1~230 Volt



Indoor noise level (inlet side)

Influences: measurement area S = 100 m², measuring distance = 4m, L<sub>S</sub> = 20 dB, External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 0 dB freefield conditions

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variations as a function of volume flow |      |      |    |    |    |
|------------------------------|----------------------------------------|----------------------|----------------------|-----------------------------------------------------|------|------|----|----|----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 % | 25 % |    |    |    |
| 1400                         | 78                                     | 67                   | 47                   | -1                                                  | -2   | +1   | -3 | +7 | +1 |
| 1120                         | 76                                     | 64                   | 44                   | -2                                                  | -6   | -3   | -8 | +2 | -6 |
| 1380                         | 79                                     | 67                   | 47                   | -2                                                  | -3   | -3   | -5 | -1 | -4 |

Influence of the automatic damper: + 3 dB

Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 1400                         | 2,8                          | 5,1 | 14,7 | 20,3 | 27,2 | 29,1 | 20,9 | 32,7 |
| 1120                         | 5,2                          | 2,1 | 12,7 | 18,4 | 25,3 | 27,2 | 18,9 | 30,8 |
| 1380                         | 4,2                          | 3,0 | 11,6 | 14,1 | 22,7 | 25,2 | 23,5 | 23,4 |

Outdoor noise level (outlet side, above roof)

Influences: measurement area S = 100 m², measuring distance = 4m, L<sub>S</sub> = 20 dB, External sound influence K<sub>1</sub> = 0 dB, directional factor (r = 4m, 0°) = 0 dB, freefield conditions

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |    |    |    |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----|----|----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |    |    |    |
| 1400                         | 79                                     | 72                   | 52                   | -2                                                 | -3   | +1   | -2 | +3 | ±0 |
| 1120                         | 77                                     | 67                   | 48                   | -3                                                 | -4   | -5   | -8 | -3 | -6 |
| 1380                         | 80                                     | 72                   | 53                   | -2                                                 | -3   | -1   | -3 | +2 | -1 |

Influence of the automatic damper: + 2 dB

Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

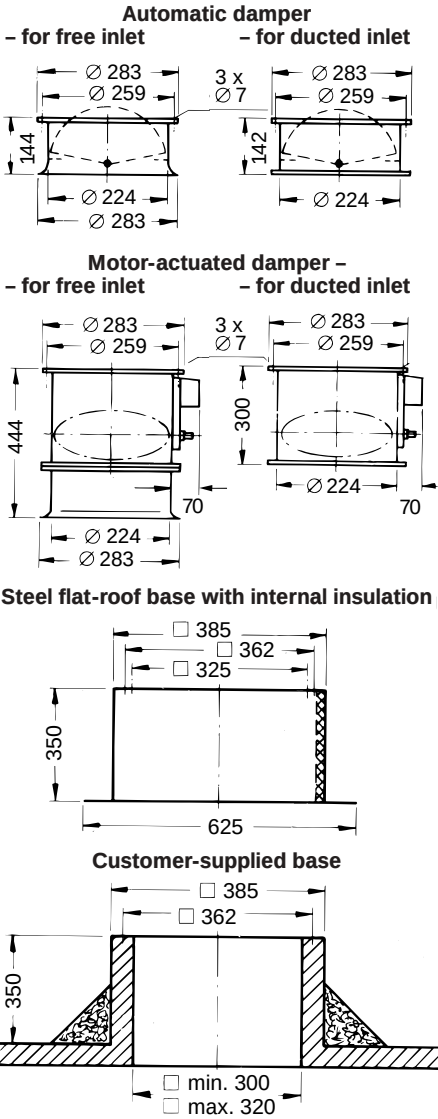
| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 1400                         | 4,4                          | 3,7 | 3,5 | 9,8  | 13,7 | 17,2 | 25,9 | 20,6 |
| 1120                         | 5,1                          | 1,1 | 4,9 | 14,1 | 17,6 | 20,6 | 20,8 | 32,0 |
| 1380                         | 4,6                          | 2,8 | 3,5 | 11,1 | 15,5 | 18,7 | 25,6 | 22,6 |

These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

2) Please see note on page 008.

3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r=4m, 0°



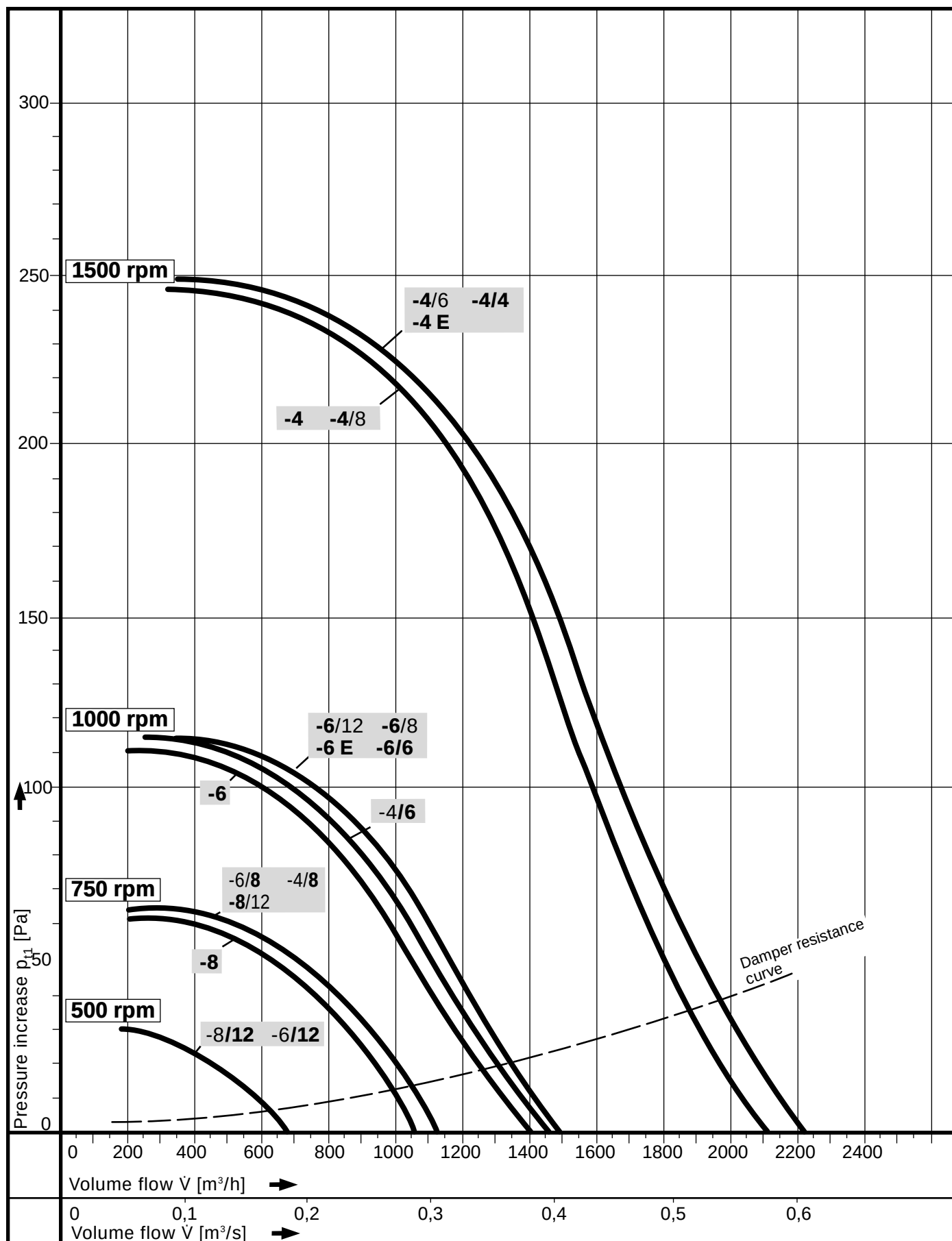


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH 250/28

016



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type               | Weight approx.<br><br>[kg] | Motor speed<br><br>[rpm] | Motor output<br><br>[kW] | Nominal current at 400 Volt 50 Hz<br>[A] | Volume flow (m³/h)        |                        |
|--------------------|----------------------------|--------------------------|--------------------------|------------------------------------------|---------------------------|------------------------|
|                    |                            |                          |                          |                                          | Free inlet without damper | Free inlet with damper |
| DRH 250/28 – 8 *   | 18                         | 610                      | 0,06                     | 0,31                                     | 1060                      | 980                    |
| DRH 250/28 – 8/12  | 18                         | 690/440                  | 0,08/0,025               | 0,45/0,28                                | 1130/700                  | 1050/620               |
| DRH 250/28 – 6 *   | 18                         | 850                      | 0,05                     | 0,37                                     | 1400                      | 1250                   |
| DRH 250/28 – 6/12  | 18                         | 860/420                  | 0,08/0,01                | 0,37/0,11                                | 1500/700                  | 1340/620               |
| DRH 250/28 – 6/8   | 18                         | 930/680                  | 0,065/0,03               | 0,37/0,17                                | 1500/1130                 | 1340/1050              |
| DRH 250/28 – 6/6   | 18                         | 890/720                  | 0,04                     | 0,34/0,16                                | 1500/1050                 | 1200/840               |
| DRH 250/28 – 6/E * | 18                         | 880                      | 0,04                     | 0,53 **                                  | 1500                      | 1340                   |
| DRH 250/28 – 4 *   | 18                         | 1200                     | 0,16                     | 0,47                                     | 2100                      | 1850                   |
| DRH 250/28 – 4/8   | 18                         | 1290/670                 | 0,15/0,022               | 0,43/0,25                                | 2100/1130                 | 1850/1050              |
| DRH 250/28 – 4/6   | 18                         | 1410/930                 | 0,16/0,05                | 0,55/0,2                                 | 2200/1500                 | 1900/1350              |
| DRH 250/28 – 4/4   | 18                         | 1350/1100                | 0,12                     | 0,36/0,2                                 | 2200/1540                 | 1900/1330              |
| DRH 250/28 – 4E *  | 18                         | 1330                     | 0,16                     | 1,3 **                                   | 2200                      | 1900                   |

\* Motors are speed-variable via a fully modulating transformer or phase control system.  
 \*\* Nominal current at 1~230 Volt

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
 External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variation as a function of volume flow |                                              |                     |                                              |                     |                                              |
|------------------------------|-------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------------------------------|---------------------|----------------------------------------------|---------------------|----------------------------------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                                         | 25 %                |                                              |                     |                                              |
|                              |                                     |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 440                          | 65                                  | 47                   | 33                   | -1                                                 | -2                                           | +0,5                | -0,5                                         | +7                  | -1,5                                         |
| 680                          | 73                                  | 55                   | 40                   | -1                                                 | -2                                           | +0,5                | -0,5                                         | +7                  | -1,5                                         |
| 930                          | 78                                  | 62                   | 46                   | -1                                                 | -2                                           | +0,5                | -0,5                                         | +7                  | -1,5                                         |
| 1320                         | 86                                  | 71                   | 56                   | -1                                                 | -2                                           | +0,5                | -0,5                                         | +7                  | -1,5                                         |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 440                          | 1,1                          | 7,2 | 18,9 | 23,2 | 21,7 | 29,5 | 39,4 | 44,7 |
| 680                          | 1,0                          | 7,9 | 15,6 | 23,8 | 25,4 | 26,0 | 39,2 | 44,5 |
| 930                          | 3,7                          | 3,0 | 12,0 | 24,4 | 28,5 | 27,1 | 34,9 | 44,8 |
| 1320                         | 2,0                          | 5,7 | 11,1 | 18,9 | 24,3 | 26,9 | 26,2 | 39,7 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
 External sound influence K<sub>1</sub> = 0 dB, directional factor = - 2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variations as a function of volume flow |                                              |                     |                                              |                     |                                              |
|------------------------------|-------------------------------------|----------------------|----------------------|-----------------------------------------------------|----------------------------------------------|---------------------|----------------------------------------------|---------------------|----------------------------------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 %                                         | 25 %                |                                              |                     |                                              |
|                              |                                     |                      |                      | L <sub>W</sub> [dB]                                 | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 440                          | 64                                  | 48                   | 26                   | -1                                                  | -3                                           | -4                  | -5                                           | -4                  | -5,5                                         |
| 680                          | 72                                  | 59                   | 36                   | -1                                                  | -3                                           | -4                  | -5                                           | -4                  | -5,5                                         |
| 930                          | 77                                  | 64                   | 42                   | -1                                                  | -3                                           | -4                  | -5                                           | -4                  | -5,5                                         |
| 1320                         | 85                                  | 75                   | 52                   | -1                                                  | -3                                           | -4                  | -5                                           | -4                  | -5,5                                         |

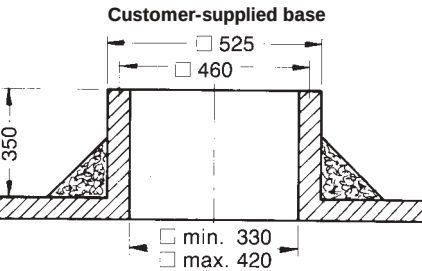
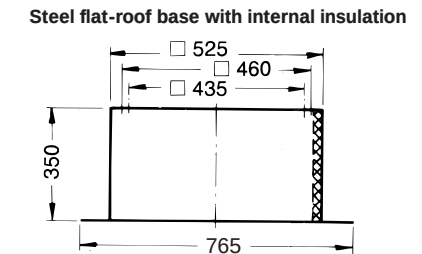
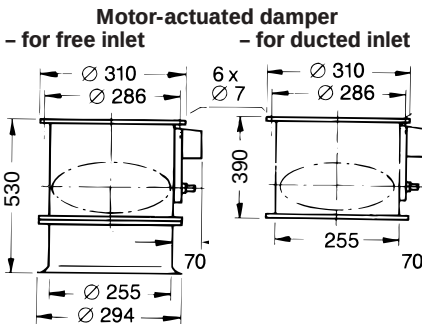
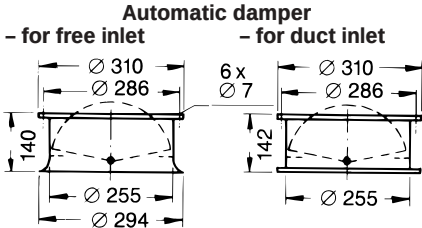
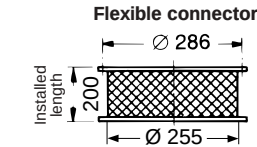
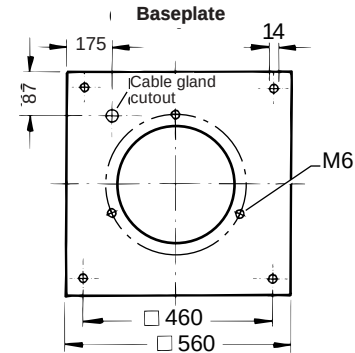
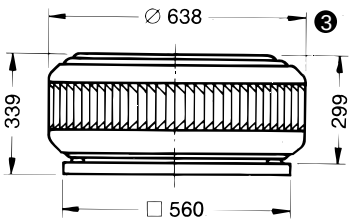
Influence of the automatic damper: + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 440                          | 1,5                          | 6,4 | 13,3 | 18,1 | 23,2 | 28,5 | 33,8 | 39,1 |
| 680                          | 2,5                          | 5,4 | 10,3 | 14,7 | 19,6 | 24,8 | 30,1 | 35,4 |
| 930                          | 2,0                          | 6,4 | 10,4 | 14,3 | 19,1 | 24,2 | 29,5 | 34,8 |
| 1320                         | 2,5                          | 6,7 | 8,8  | 12,1 | 16,4 | 21,3 | 26,5 | 31,7 |

These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 14154, Series 3. An inlet guard can be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area: 0.22 m²
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r = 4 m, 0°



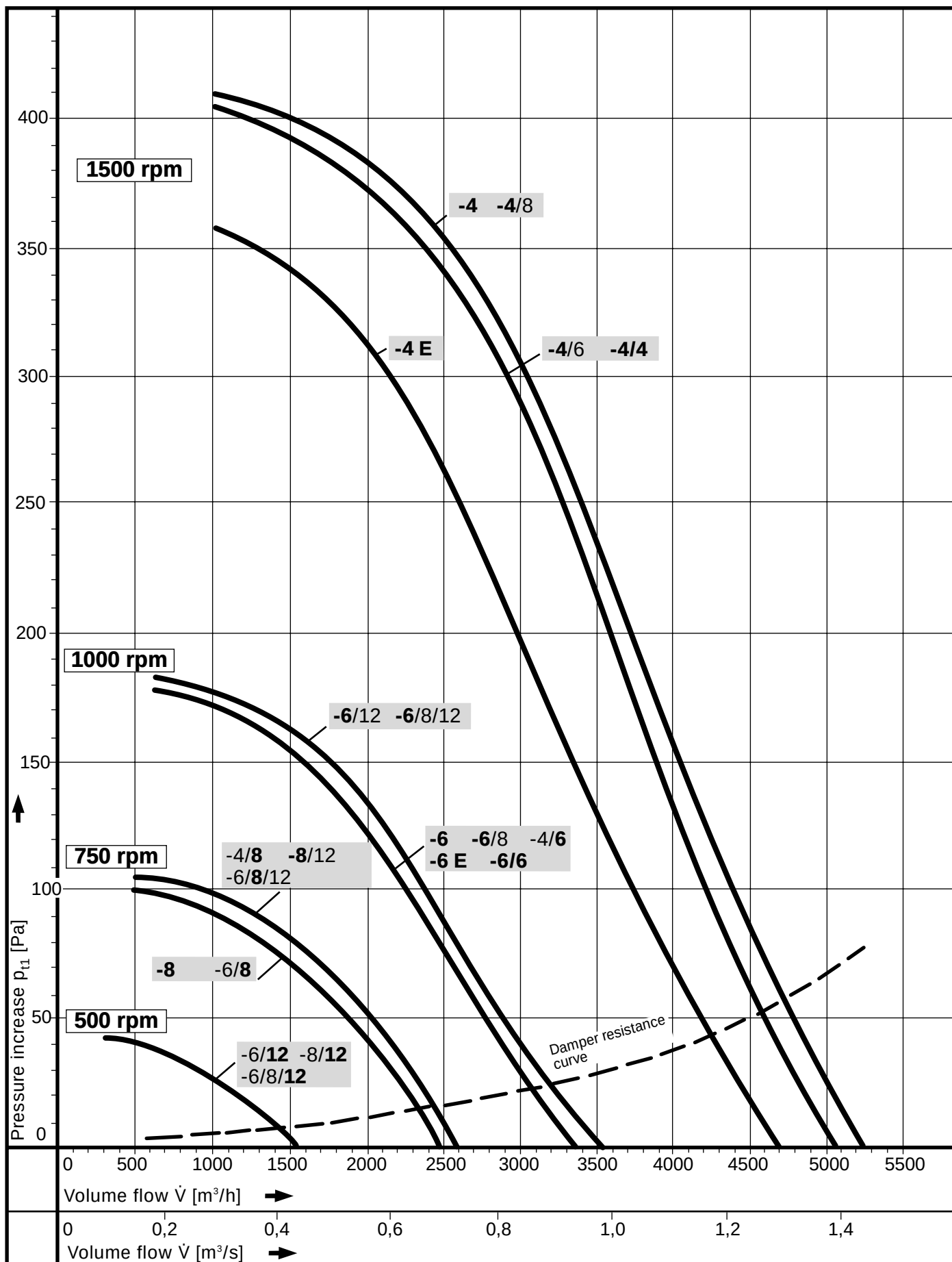


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH 315/30

018



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRH 315/30

019

| Type                | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[kW] | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|---------------------|---------------------------|-------------------------|-------------------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                     |                           |                         |                         |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRH 315/30 – 8 *    | 22                        | 610                     | 0,06                    | 0,31                                                 | 2500                               | 2350                            |
| DRH 315/30 – 8/12   | 22                        | 670/440                 | 0,08/0,025              | 0,45/0,28                                            | 2600/1550                          | 2450/1400                       |
| DRH 315/30 – 6 *    | 22                        | 860                     | 0,1                     | 0,47                                                 | 3350                               | 3100                            |
| DRH 315/30 – 6/12   | 22                        | 890/450                 | 0,14/0,018              | 0,47/0,2                                             | 3500/1550                          | 3200/1400                       |
| DRH 315/30 – 6/8    | 22                        | 890/670                 | 0,16/0,06               | 0,57/0,28                                            | 3350/2500                          | 3100/2300                       |
| DRH 315/30 – 6/6    | 22                        | 900/670                 | 0,1                     | 0,34/0,19                                            | 3250/2200                          | 3100/2150                       |
| DRH 315/30 – 6/8/12 | 22                        | 890/660/                | 0,12/0,05/              | 0,42/0,25/                                           | 3500/2600/                         | 3200/2400/                      |
|                     |                           | 450                     | 0,015                   | 0,15                                                 | 1550                               | 1400                            |
| DRH 315/30 – 6E *   | 22                        | 900                     | 0,08                    | 0,76 **                                              | 3350                               | 3100                            |
| DRH 315/30 – 4 *    | 22                        | 1360                    | 0,45                    | 1,19                                                 | 5250                               | 4750                            |
| DRH 315/30 – 4/8    | 22                        | 1360/680                | 0,34/0,07               | 1,04/0,38                                            | 5250/2600                          | 4750/2400                       |
| DRH 315/30 – 4/6    | 22                        | 1370/900                | 0,34/0,11               | 1,04/0,43                                            | 5050/3350                          | 4600/3100                       |
| DRH 315/30 – 4/4    | 22                        | 1350/1100               | 0,45                    | 1,23/0,66                                            | 5050/3700                          | 4600/3400                       |
| DRH 315/30 – 4E *   | 22                        | 1200                    | 0,28                    | 2,1 **                                               | 4700                               | 4250                            |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

\*\* Nominal current at 1~230 Volt

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 |                     |                      |                      |
|                              |                                        |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 450                          | 69                                     | 53                   | 36                   | -1                                                 | -3                   | -2                   | -6                  | -2                   | -3                   |
| 680                          | 75                                     | 63                   | 47                   | -1                                                 | -3                   | -1                   | -5                  | +1                   | -3                   |
| 890                          | 80                                     | 69                   | 54                   | -2                                                 | -3                   | -1                   | -5                  | -2                   | -2                   |
| 1410                         | 88                                     | 79                   | 65                   | -1                                                 | -2                   | ± 0                  | -3                  | +3                   | +1                   |

Influence of the automatic damper: +3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 450                          | 2,7                          | 4,2 | 17,5 | 22,9 | 26,3 | 25,2 | 35,2 | 43,1 |
| 680                          | 3,7                          | 4,8 | 6,7  | 18,8 | 22,0 | 24,9 | 24,3 | 35,6 |
| 890                          | 4,1                          | 4,9 | 7,1  | 12,0 | 20,2 | 24,0 | 23,0 | 30,8 |
| 1410                         | 5,1                          | 6,6 | 5,6  | 9,6  | 17,4 | 20,7 | 22,9 | 23,0 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = -2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 |                     |                      |                      |
|                              |                                        |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 450                          | 67                                     | 58                   | 34                   | -3                                                 | -3                   | -3                   | -7                  | -3                   | -4                   |
| 680                          | 76                                     | 70                   | 45                   | -2                                                 | -3                   | -3                   | -5                  | ± 0                  | -3                   |
| 890                          | 82                                     | 77                   | 52                   | -3                                                 | -3                   | -3                   | -6                  | -1                   | -2                   |
| 1410                         | 88                                     | 84                   | 59                   | -2                                                 | -2                   | -2                   | -2                  | +1                   | -2                   |

Influence of the automatic damper: +2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |      |      |      |      |      |      |      |
|------------------------------|------------------------------|------|------|------|------|------|------|------|
|                              | 63                           | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 450                          | 3,5                          | 4,6  | 13,8 | 18,9 | 15,3 | 12,5 | 22,7 | 31,0 |
| 680                          | 6,4                          | 7,3  | 3,7  | 16,4 | 13,2 | 14,2 | 13,5 | 25,4 |
| 890                          | 7,2                          | 7,7  | 4,5  | 10,6 | 11,8 | 13,5 | 12,2 | 21,0 |
| 1410                         | 9,1                          | 10,2 | 4,6  | 8,5  | 9,7  | 10,9 | 12,9 | 14,0 |

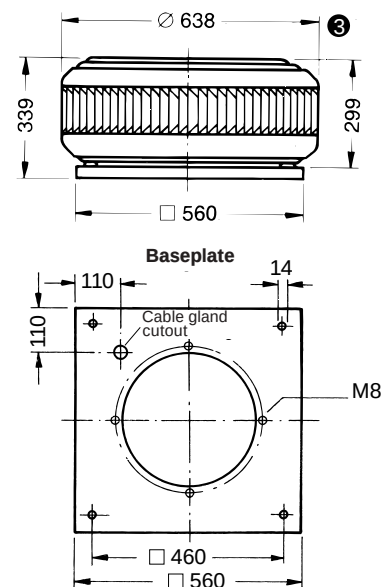
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard can be fitted directly to the baseplate or the flanges.

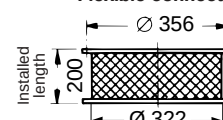
2) Please see note on page 008.

3) Free outlet surface area: = 0,22 m²

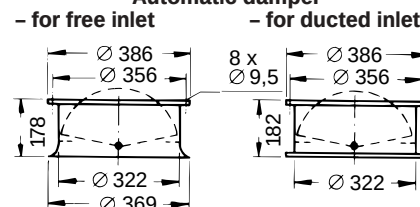
3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r = 4 m, 0°



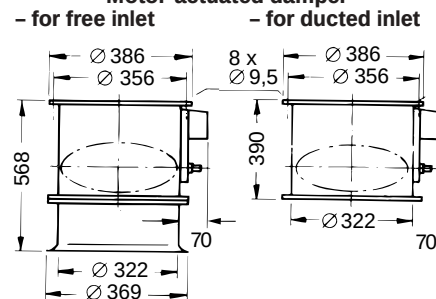
Flexible connector



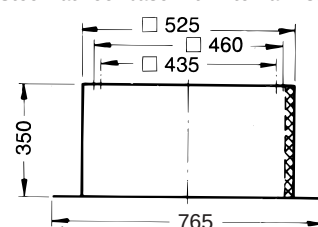
Automatic damper



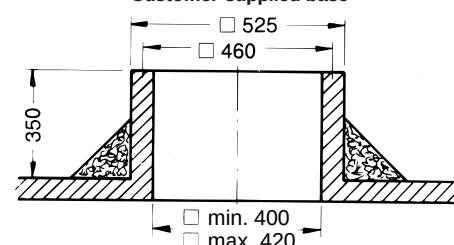
Motor-actuated damper



Steel flat-roof base with internal insulation



Customer-supplied base



DRH

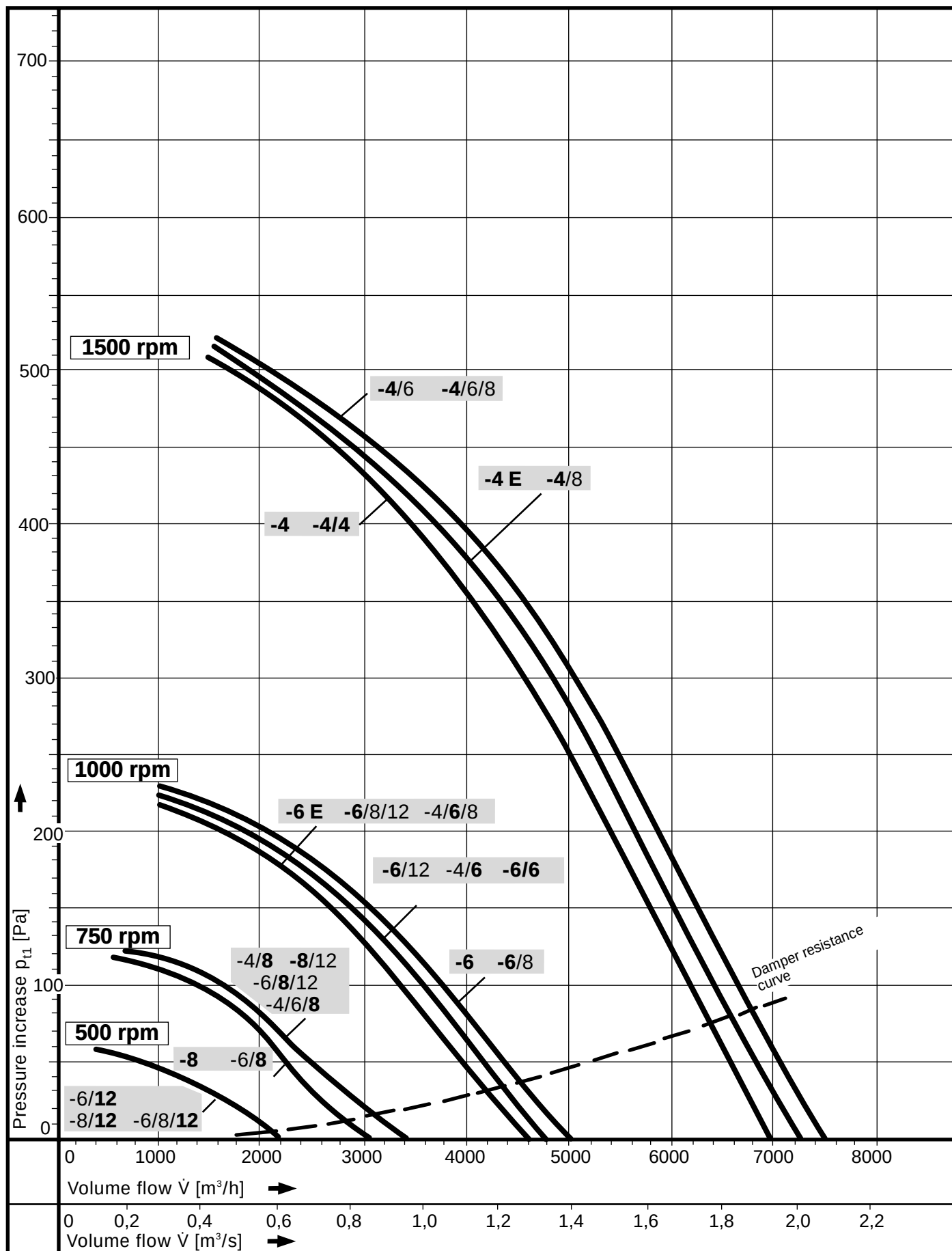


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH 355/30

020



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type                | Weight approx.<br><br>[kg] | Motor speed<br><br>[rpm] | Motor output<br><br>[kW] | Nominal current at 400 Volt 50 Hz [A] | Volume flow (m³/h)        |                        |
|---------------------|----------------------------|--------------------------|--------------------------|---------------------------------------|---------------------------|------------------------|
|                     |                            |                          |                          |                                       | Free inlet without damper | Free inlet with damper |
| DRH 355/30 – 8 *    | 40                         | 610                      | 0,06                     | 0,31                                  | 3100                      | 2800                   |
| DRH 355/30 – 8/12   | 40                         | 690/440                  | 0,08/0,025               | 0,45/0,28                             | 3400/2200                 | 3100/2100              |
| DRH 355/30 – 6 *    | 40                         | 895                      | 0,15                     | 0,66                                  | 5000                      | 4500                   |
| DRH 355/30 – 6/12   | 40                         | 840/470                  | 0,2/0,025                | 0,8/0,24                              | 4800/2250                 | 4400/2100              |
| DRH 355/30 – 6/8    | 40                         | 890/670                  | 0,16/0,06                | 0,57/0,28                             | 5000/3100                 | 4500/2800              |
| DRH 355/30 – 6/6    | 40                         | 920/620                  | 0,17                     | 0,71/0,28                             | 4800/3700                 | 4400/3400              |
| DRH 355/30 – 6/8/12 | 40                         | 890/650/450              | 0,23/0,12/0,04           | 0,95/0,49/0,35                        | 4600/3100/2200            | 4200/3050/2100         |
| DRH 355/30 – 6E *   | 40                         | 900                      | 0,27                     | 1,9 **                                | 4600                      | 4200                   |
| DRH 355/30 – 4 *    | 40                         | 1290                     | 0,7                      | 1,85                                  | 7000                      | 6400                   |
| DRH 355/30 – 4/8    | 40                         | 1350/700                 | 0,8/0,1                  | 2,0/0,57                              | 7250/3400                 | 6600/3100              |
| DRH 355/30 – 4/6    | 40                         | 1390/920                 | 0,85/0,23                | 2,18/0,8                              | 7500/4800                 | 6800/4400              |
| DRH 355/30 – 4/4    | 40                         | 1350/1100                | 0,7                      | 2,04/1,09                             | 7000/5400                 | 6400/4900              |
| DRH 355/30 – 4/6/8  | 40                         | 1400/940/720             | 0,92/0,28/0,11           | 2,3/0,8/0,6                           | 7500/4600/3400            | 6800/4200/3100         |
| DRH 355/30 – 4E *   | 40                         | 1380                     | 1,0                      | 6,2 **                                | 7250                      | 6600                   |

\* Motors are speed-variable via a fully modulating transformer or phase control system.  
 \*\* Nominal current at 1~230 Volt

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>s</sub> = 20 dB,  
 External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                      |                      |                      |
|------------------------------|-------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] |
|                              |                                     |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB]  | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 450                          | 72                                  | 57                   | 42                   | -1                                                 | -4                   | ± 0                  | -6                   | +1                   | -5                   |
| 650                          | 78                                  | 65                   | 51                   | -1                                                 | -3                   | -1                   | -6                   | +1                   | -4                   |
| 885                          | 83                                  | 73                   | 58                   | -1                                                 | -3                   | -1                   | -6                   | +2                   | -3                   |
| 1290                         | 91                                  | 83                   | 69                   | -2                                                 | -4                   | -2                   | -6                   | +2                   | -2                   |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 450                          | 3,0                          | 4,9 | 10,4 | 22,7 | 25,5 | 23,2 | 29,4 | 42,2 |
| 650                          | 3,0                          | 4,8 | 7,7  | 19,3 | 22,6 | 22,1 | 23,2 | 35,1 |
| 885                          | 4,1                          | 4,7 | 7,1  | 12,1 | 19,5 | 22,6 | 19,7 | 25,5 |
| 1290                         | 4,3                          | 5,8 | 7,3  | 8,8  | 17,0 | 20,0 | 19,6 | 20,0 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>s</sub> = 20,7 dB,  
 External sound influence K<sub>1</sub> = 0 dB, directional factor = - 2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                      |                      |                      |
|------------------------------|-------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] |
|                              |                                     |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB]  | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 450                          | 71                                  | 64                   | 39                   | -2                                                 | -2                   | -2                   | -6                   | ± 0                  | -4                   |
| 650                          | 78                                  | 73                   | 48                   | -3                                                 | -2                   | -3                   | -6                   | ± 0                  | -3                   |
| 885                          | 84                                  | 80                   | 54                   | -2                                                 | -2                   | -3                   | -6                   | ± 0                  | -3                   |
| 1290                         | 92                                  | 89                   | 64                   | -2                                                 | -2                   | -3                   | -5                   | ± 0                  | ± 0                  |

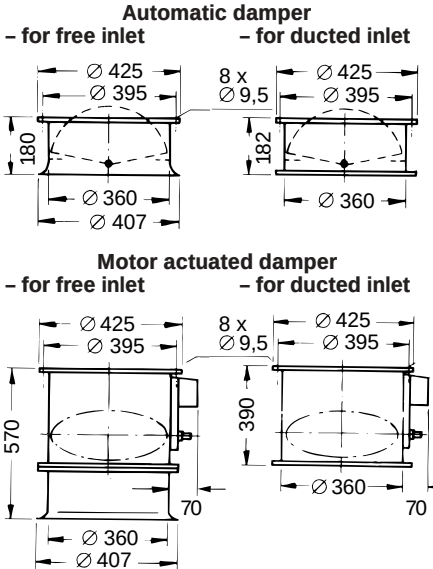
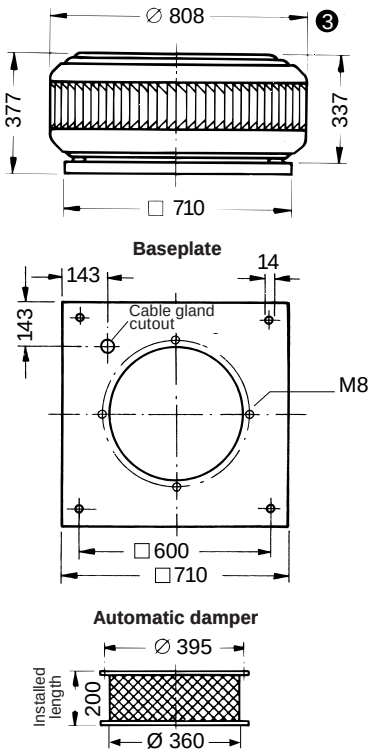
Influence of the automatic damper: + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

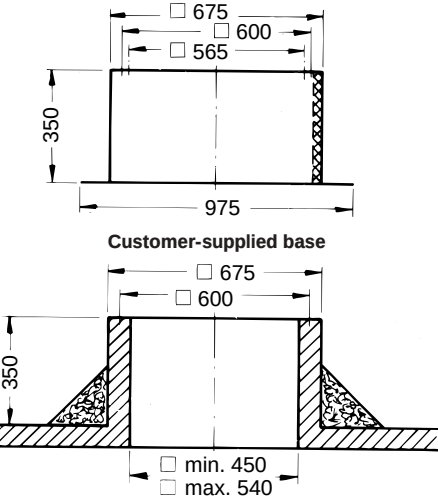
| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 450                          | 4,2                          | 4,5 | 8,4 | 18,0 | 13,1 | 11,5 | 16,6 | 30,4 |
| 650                          | 6,1                          | 6,1 | 5,2 | 16,2 | 12,4 | 12,2 | 11,8 | 24,9 |
| 885                          | 8,4                          | 7,1 | 5,2 | 10,7 | 10,6 | 13,8 | 9,4  | 16,6 |
| 1290                         | 9,4                          | 9,1 | 6,2 | 7,8  | 8,7  | 12,0 | 10,3 | 12,1 |

These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard can be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area: = 0,28 m²
- 3) L<sub>W</sub> = Total acoustic powerlevel  
 L<sub>WA</sub> = Total acoustic powerlevel  
 L<sub>PA</sub> = Sound pressure level r = 4 m, 0°



Steel flat-roof base with internal insulation



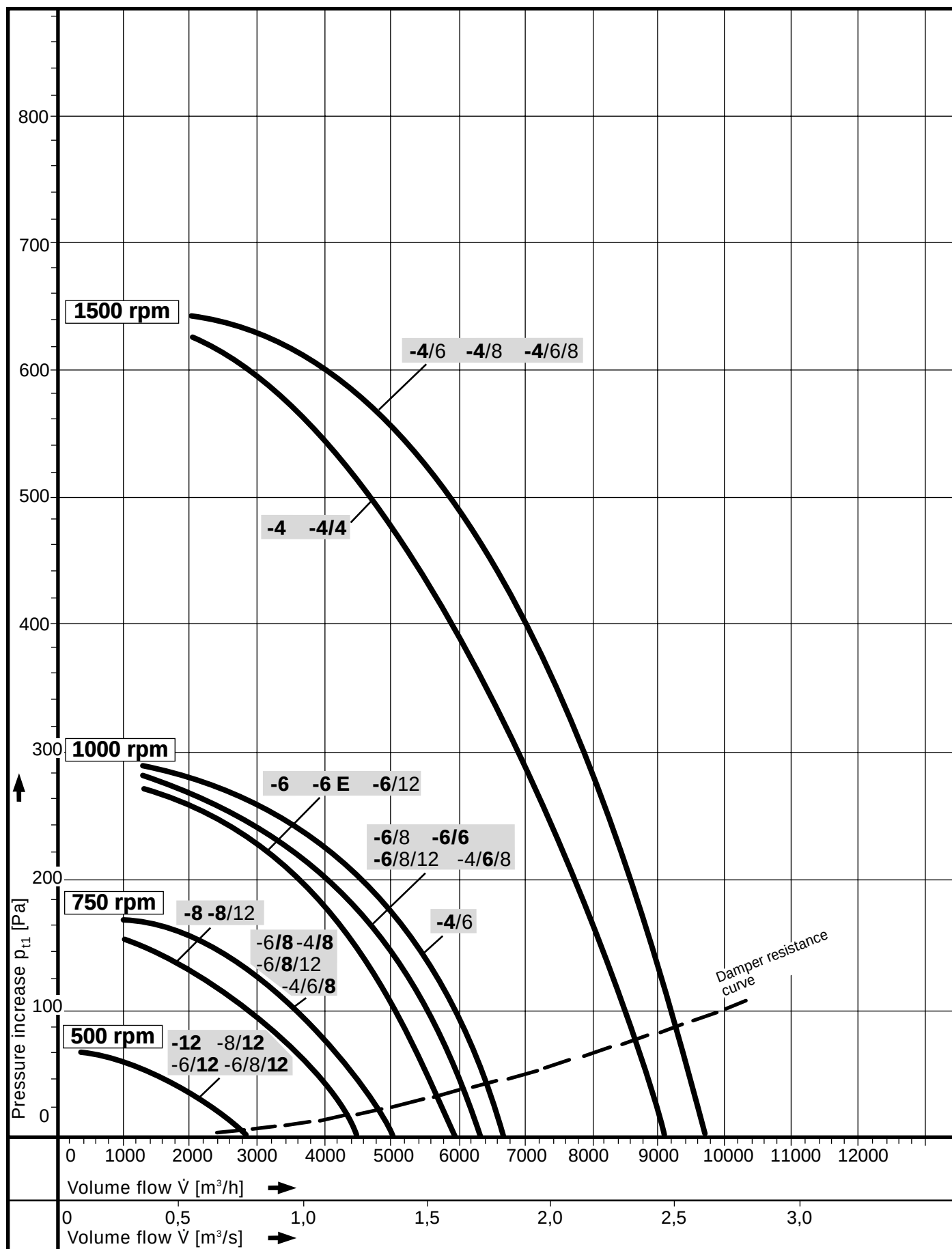


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH 400/30

022



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRH 400/30

023

| Type                | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[kW] | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|---------------------|---------------------------|-------------------------|-------------------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                     |                           |                         |                         |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRH 400/30 -12 *    | 45                        | 420                     | 0,035                   | 0,22                                                 | 2800                               | 2600                            |
| DRH 400/30 - 8 *    | 45                        | 615                     | 0,11                    | 0,52                                                 | 4500                               | 4400                            |
| DRH 400/30 - 8/12   | 45                        | 700/450                 | 0,12/0,035              | 0,62/0,33                                            | 4500/2800                          | 4400/2700                       |
| DRH 400/30 - 6 *    | 45                        | 870                     | 0,44                    | 1,5                                                  | 6000                               | 5800                            |
| DRH 400/30 - 6/12   | 45                        | 910/440                 | 0,3/0,04                | 1,14/0,4                                             | 6000/2800                          | 5800/2700                       |
| DRH 400/30 - 6/8    | 45                        | 910/680                 | 0,4/0,18                | 1,23/0,71                                            | 6300/5000                          | 6000/4800                       |
| DRH 400/30 - 6/6    | 45                        | 870/660                 | 0,44                    | 1,52/0,85                                            | 6300/4950                          | 6000/4700                       |
| DRH 400/30 - 6/8/12 | 45                        | 890/680/                | 0,38/0,17/              | 1,78/0,8/                                            | 6300/5000/                         | 6000/4800/                      |
|                     |                           | 450                     | 0,05                    | 0,43                                                 | 2800                               | 2700                            |
| DRH 400/30 - 6E *   | 45                        | 900                     | 0,42                    | 3,15 **                                              | 6000                               | 5800                            |
| DRH 400/30 - 4 *    | 45                        | 1330                    | 1,0                     | 2,47                                                 | 9100                               | 8700                            |
| DRH 400/30 - 4/8    | 45                        | 1390/710                | 1,1/0,14                | 2,56/0,76                                            | 9700/5000                          | 9400/4800                       |
| DRH 400/30 - 4/6    | 45                        | 1380/940                | 1,2/0,35                | 2,94/1,14                                            | 9700/6700                          | 9400/6500                       |
| DRH 400/30 - 4/4    | 45                        | 1320/1000               | 1,0                     | 2,47/1,42                                            | 9100/6900                          | 8700/6600                       |
| DRH 400/30 - 4/6/8  | 45                        | 1410/890/               | 1,3/0,4/                | 3,4/1,3/                                             | 9700/6400/                         | 9400/6000/                      |
|                     |                           | 700                     | 0,25                    | 1,0                                                  | 5000                               | 4800                            |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

\*\* Nominal current at 1~230 Volt

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                      |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] |
| 420                          | 77                                     | 62                   | 47                   | -1                                                 | -3   | ± 0  | -3                   | +1                   | -4                   |
| 640                          | 86                                     | 73                   | 59                   | +1                                                 | -3   | +1   | -5                   | +3                   | -3                   |
| 840                          | 91                                     | 81                   | 67                   | -1                                                 | -3   | -1   | -4                   | +2                   | -2                   |
| 1320                         | 97                                     | 89                   | 75                   | ± 0                                                | -2   | ± 0  | -3                   | +3                   | ± 0                  |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 420                          | 2,3                          | 5,0 | 10,5 | 22,4 | 25,5 | 21,6 | 31,0 | 42,0 |
| 640                          | 2,2                          | 6,7 | 8,2  | 19,9 | 22,9 | 24,5 | 21,2 | 34,2 |
| 840                          | 4,0                          | 5,1 | 7,0  | 11,9 | 19,5 | 22,6 | 18,7 | 26,4 |
| 1320                         | 5,0                          | 4,7 | 8,0  | 9,5  | 16,9 | 19,9 | 20,3 | 18,2 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 123 m², L<sub>S</sub> = 20,9 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = - 2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                      |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] |
| 420                          | 74                                     | 67                   | 43                   | -2                                                 | -2   | -1   | ± 0                  | ± 0                  | -4                   |
| 640                          | 83                                     | 78                   | 53                   | -1                                                 | -2   | -2   | -5                   | ± 0                  | -2                   |
| 840                          | 89                                     | 85                   | 60                   | -2                                                 | -2   | -2   | -3                   | ± 0                  | -1                   |
| 1320                         | 97                                     | 94                   | 69                   | -1                                                 | -2   | -2   | -2                   | +1                   | ± 0                  |

Influence of the automatic damper: + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 420                          | 4,5                          | 4,7 | 7,9 | 17,0 | 13,5 | 11,0 | 18,5 | 31,4 |
| 640                          | 6,8                          | 7,3 | 4,4 | 15,3 | 12,1 | 14,8 | 9,6  | 24,3 |
| 840                          | 9,2                          | 7,5 | 4,9 | 9,5  | 10,4 | 14,7 | 8,9  | 18,1 |
| 1320                         | 11,1                         | 7,7 | 6,8 | 7,3  | 8,4  | 13,0 | 11,7 | 11,0 |

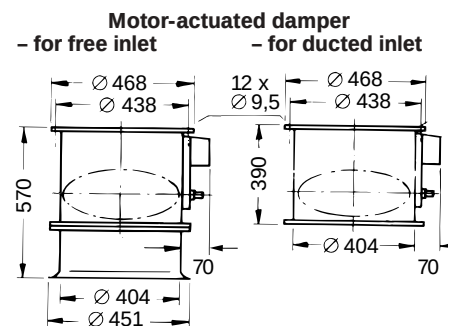
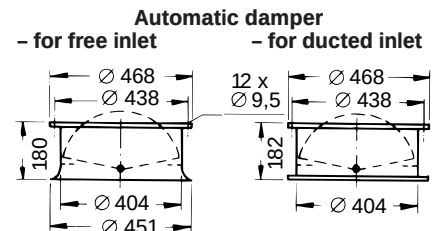
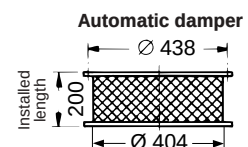
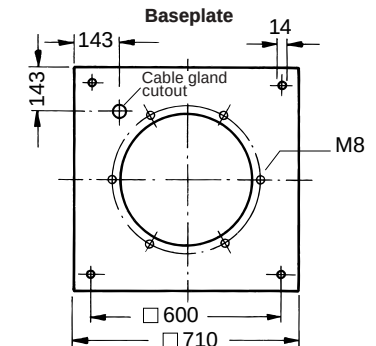
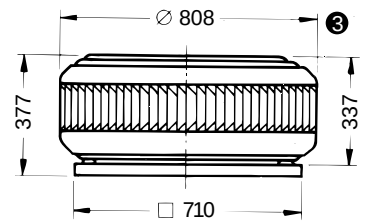
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard can be fitted directly to the baseplate or the flanges.

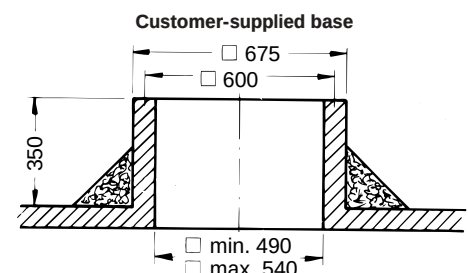
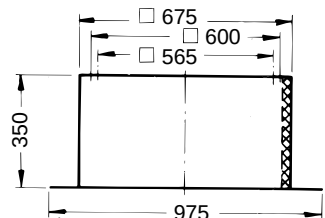
2) Please see note on page 008.

3) Free outlet surface area = 0,28 m²

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r = 4 m, 0°



Steel flat-roof base with internal insulation



DRH

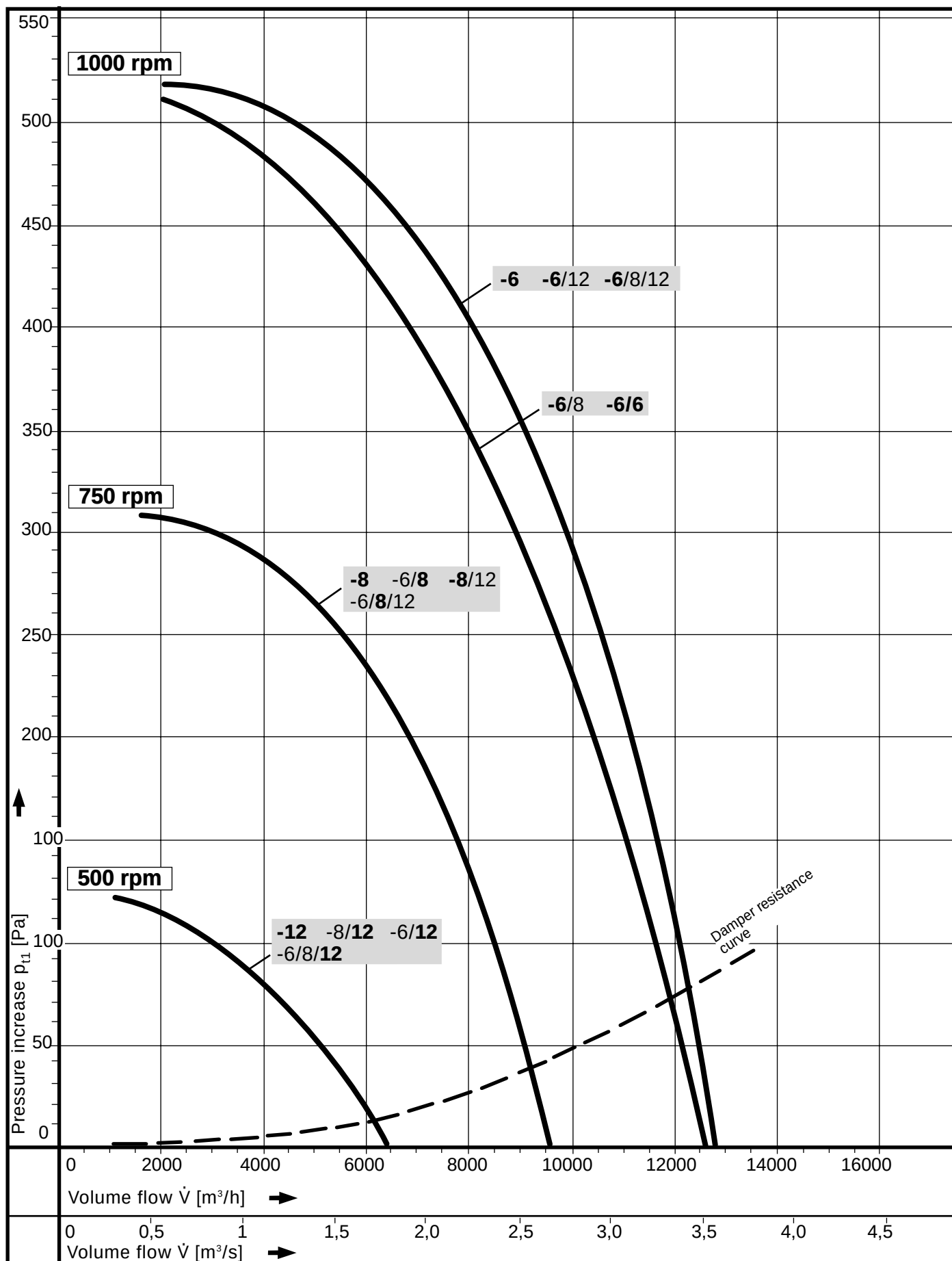


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH 500/30

024



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type                | Weight approx.<br><br>[kg] | Motor speed<br><br>[rpm] | Motor output<br><br>[kW] | Nominal current at 400 Volt 50 Hz<br>[A] | Volume flow (m³/h)        |                        |
|---------------------|----------------------------|--------------------------|--------------------------|------------------------------------------|---------------------------|------------------------|
|                     |                            |                          |                          |                                          | Free inlet without damper | Free inlet with damper |
| DRH 500/30 – 12 *   | 85                         | 400                      | 0,13                     | 0,9                                      | 6500                      | 6200                   |
| DRH 500/30 – 8 *    | 85                         | 660                      | 0,59                     | 2,0                                      | 9600                      | 9100                   |
| DRH 500/30 – 8/12   | 85                         | 680/450                  | 0,35/0,1                 | 1,33/0,62                                | 9600/6500                 | 9200/6200              |
| DRH 500/30 – 6 *    | 85                         | 900                      | 0,92                     | 2,75                                     | 12800                     | 12400                  |
| DRH 500/30 – 6/12   | 85                         | 910/440                  | 1,1/0,16                 | 2,75/0,85                                | 12800/6500                | 12300/6200             |
| DRH 500/30 – 6/8    | 85                         | 910/690                  | 1,45/0,7                 | 3,7/2,0                                  | 12800/9600                | 11900/9600             |
| DRH 500/30 – 6/6    | 85                         | 840/570                  | 0,85                     | 2,66/1,5                                 | 12800/9800                | 11900/9600             |
| DRH 500/30 – 6/8/12 | 85                         | 900/700/460              | 0,92/0,42/0,12           | 2,28/1,42/0,66                           | 12800/9600/6500           | 12300/9600/6200        |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

#### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                     |                      |                      |
|------------------------------|-------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 |                     |                      |                      |
| 400                          | 82                                  | 68                   | 53                   | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 690                          | 90                                  | 78                   | 64                   | -1                                                 | -4                   | -1                   | -9                  | ± 0                  | -6                   |
| 925                          | 95                                  | 84                   | 70                   | -1                                                 | -3                   | -1                   | -6                  | + 2                  | -2                   |
|                              |                                     |                      |                      | ± 0                                                | -2                   | + 1                  | -4                  | + 3                  | -1                   |

Influence of the automatic damper: + 3 dB

#### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 400                          | 2,7                          | 4,9 | 7,8 | 21,3 | 24,9 | 29,7 | 34,8 | 40,0 |
| 690                          | 4,3                          | 4,0 | 7,3 | 12,5 | 21,4 | 25,7 | 30,6 | 35,8 |
| 925                          | 5,3                          | 3,6 | 8,3 | 11,2 | 20,2 | 23,7 | 28,5 | 33,6 |

#### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement S = 126 m², L<sub>S</sub> = 21 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = - 2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                     |                      |                      |
|------------------------------|-------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 |                     |                      |                      |
| 400                          | 79                                  | 69                   | 45                   | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 690                          | 88                                  | 81                   | 57                   | -2                                                 | -3                   | -4                   | -9                  | -4                   | -3                   |
| 925                          | 94                                  | 88                   | 64                   | -1                                                 | -3                   | -1                   | -5                  | + 1                  | ± 0                  |
|                              |                                     |                      |                      | -1                                                 | -3                   | ± 0                  | -5                  | + 2                  | ± 0                  |

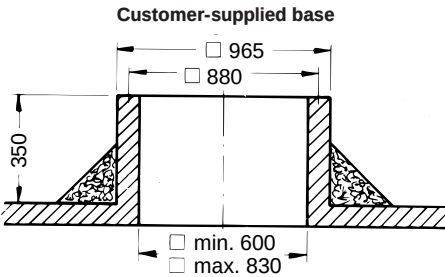
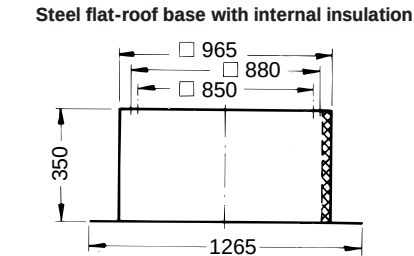
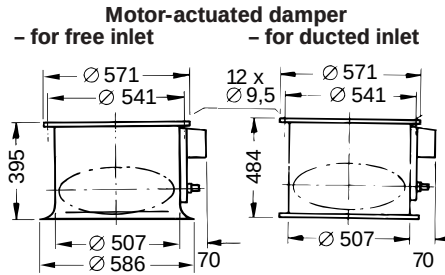
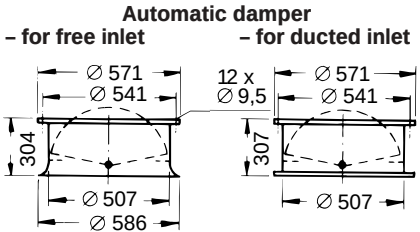
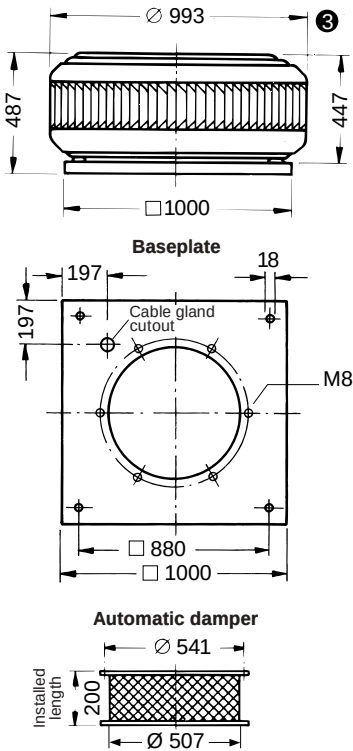
Influence of the automatic damper: + 2 dB

#### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 400                          | 7,7                          | 5,5 | 4,3 | 16,0 | 14,8 | 20,6 | 24,8 | 32,2 |
| 690                          | 9,3                          | 4,7 | 4,1 | 10,3 | 11,4 | 16,6 | 20,7 | 28,0 |
| 925                          | 10,8                         | 5,0 | 5,6 | 7,5  | 10,7 | 15,1 | 19,0 | 26,3 |

These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard can be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area: = 0,53 m²
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r = 4 m, 0°



DRH

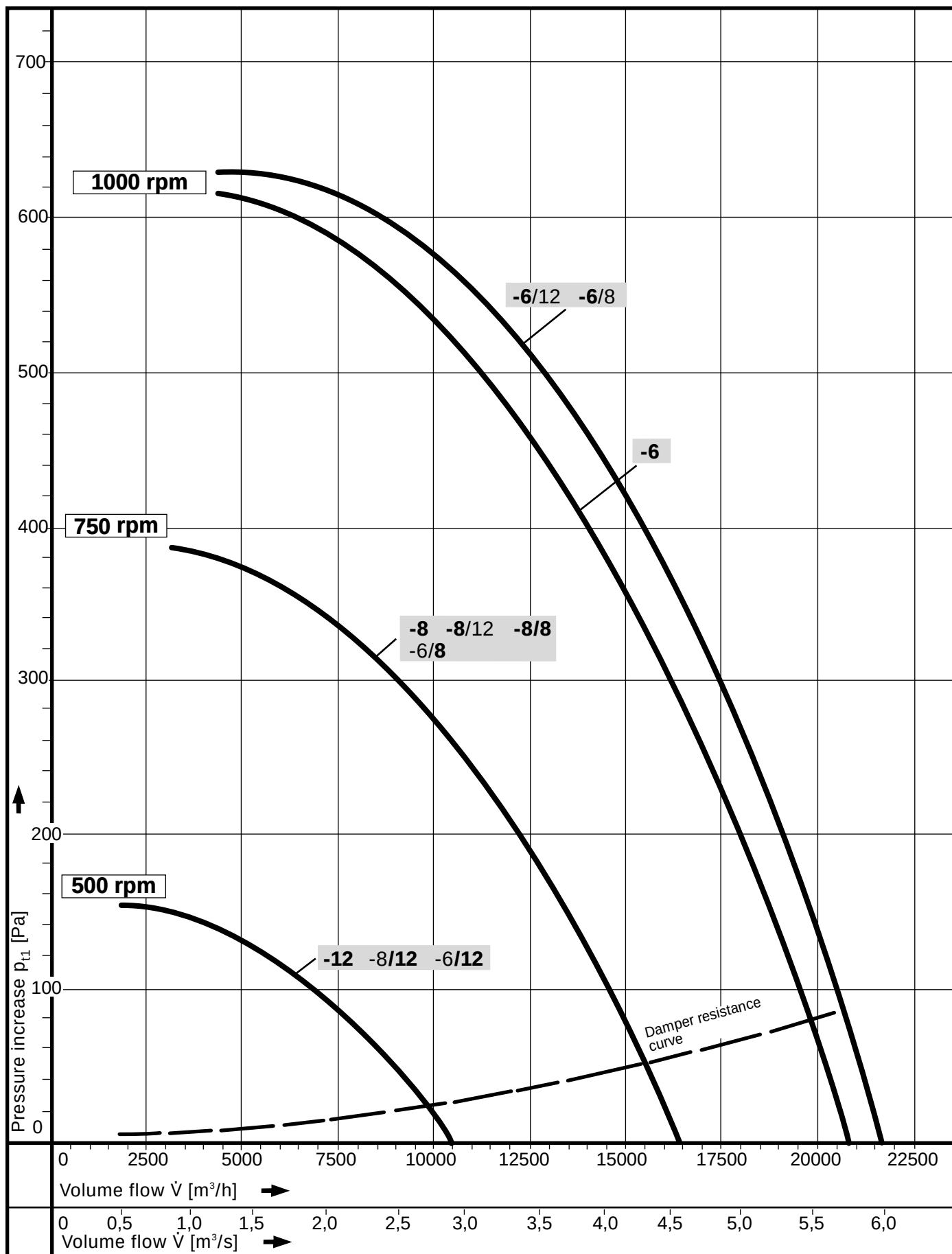


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH 630/25

026



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type              | Weight approx.<br>[kg] | Motor speed<br>[min <sup>-1</sup> ] | Motor output<br>[kW] | Nominal current at 400 Volt 50 Hz<br>[A] | Volume flow (m³/h)        |                        |
|-------------------|------------------------|-------------------------------------|----------------------|------------------------------------------|---------------------------|------------------------|
|                   |                        |                                     |                      |                                          | Free inlet without damper | Free inlet with damper |
| DRH 630/25 – 12   | 125                    | 440                                 | 0,4                  | 2,08                                     | 10500                     | 10000                  |
| DRH 630/25 – 8 *  | 125                    | 690                                 | 1,15                 | 3,32                                     | 16700                     | 15700                  |
| DRH 630/25 – 8/12 | 125                    | 700/450                             | 1,0/0,26             | 3,04/1,14                                | 16700/10500               | 15700/10000            |
| DRH 630/25 – 8/8  | 125                    | 700/520                             | 1,15                 | 3,13/1,8                                 | 16700/12400               | 15700/11800            |
| DRH 630/25 – 6    | 125                    | 920                                 | 2,2                  | 5,2                                      | 20800                     | 19800                  |
| DRH 630/25 – 6/12 | 125                    | 900/450                             | 2,2/0,28             | 4,9/1,42                                 | 21800/10500               | 20800/10000            |
| DRH 630/25 – 6/8  | 125                    | 950/720                             | 2,9/1,25             | 7,1/3,7                                  | 21800/16700               | 20800/15700            |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
 External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variations as a function of volume flow |      |      |     |     |     |
|------------------------------|-------------------------------------|----------------------|----------------------|-----------------------------------------------------|------|------|-----|-----|-----|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 % | 25 % |     |     |     |
| 440                          | 86                                  | 71                   | 57                   | – 1                                                 | – 3  | – 1  | ± 0 | – 4 |     |
| 670                          | 93                                  | 81                   | 68                   | – 1                                                 | – 3  | ± 0  | – 4 | – 2 | – 3 |
| 920                          | 98                                  | 87                   | 74                   | ± 0                                                 | – 2  | + 1  | – 2 | + 3 | – 1 |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 440                          | 3,2                          | 4,7 | 7,7 | 22,9 | 26,4 | 31,2 | 36,3 | 41,5 |
| 670                          | 3,5                          | 5,2 | 6,7 | 12,1 | 22,6 | 26,8 | 31,7 | 36,9 |
| 920                          | 4,4                          | 4,7 | 7,4 | 10,3 | 20,9 | 24,4 | 29,4 | 34,3 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 135 m², L<sub>S</sub> = 21,3 dB,  
 External sound influence K<sub>1</sub> = 0 dB, directional factor = – 2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |     |     |     |
|------------------------------|-------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|-----|-----|-----|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |     |     |     |
| 440                          | 85                                  | 75                   | 51                   | – 1                                                | – 3  | – 3  | – 5 | – 3 | – 2 |
| 670                          | 93                                  | 86                   | 62                   | – 2                                                | – 2  | – 1  | – 4 | ± 0 | ± 0 |
| 920                          | 98                                  | 92                   | 68                   | – 1                                                | – 3  | ± 0  | – 2 | + 1 | + 1 |

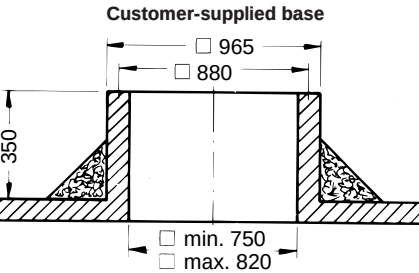
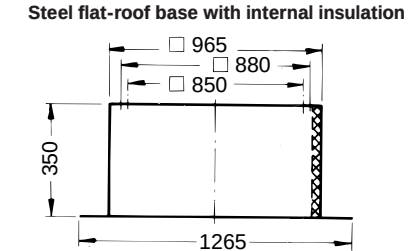
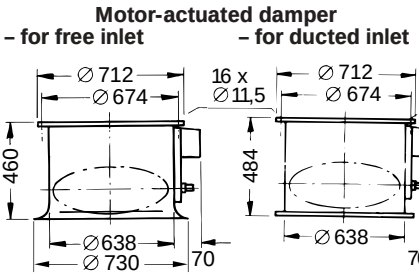
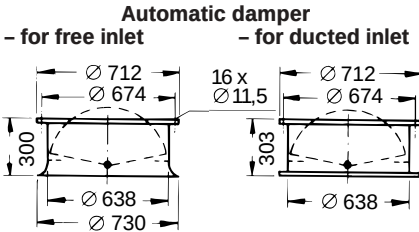
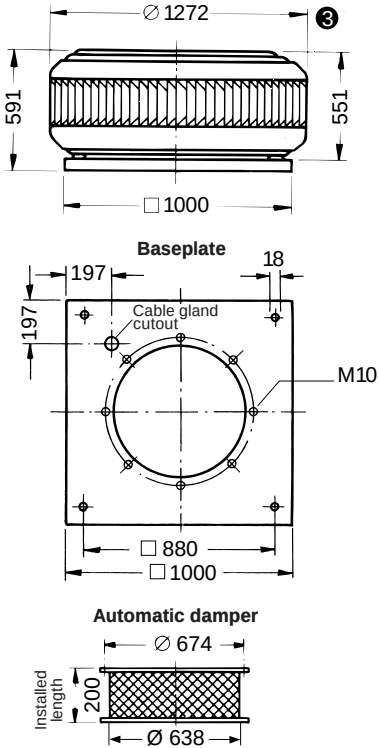
Influence of the automatic damper: + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 440                          | 6,8                          | 3,1 | 6,4 | 13,3 | 16,7 | 21,6 | 27,5 | 34,8 |
| 670                          | 7,7                          | 4,4 | 6,4 | 6,8  | 13,7 | 17,9 | 23,7 | 31,0 |
| 920                          | 9,5                          | 5,2 | 7,9 | 5,0  | 13,0 | 16,4 | 22,0 | 29,2 |

These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard can be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area =0,72 m²
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r = 4 m, 0°



DRH

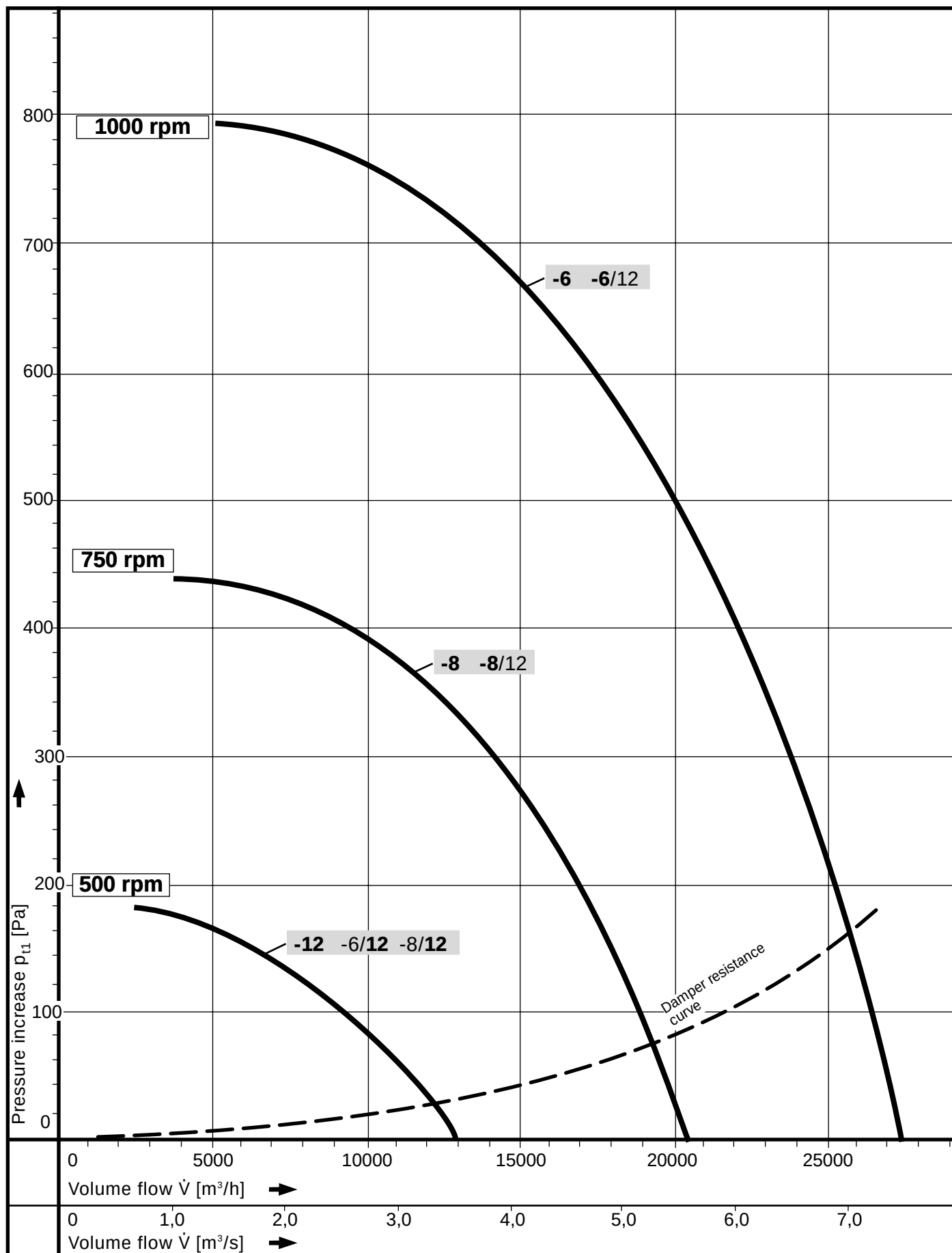


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH 630/30

028



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type              | Weight<br>approx. | Motor<br>speed       | Motor<br>output | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|-------------------|-------------------|----------------------|-----------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                   |                   |                      |                 |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
|                   | [kg]              | [min <sup>-1</sup> ] | [kW]            |                                                      |                                    |                                 |
| DRH 630/30 – 12   | 150               | 445                  | 0,65            | 2,85                                                 | 13000                              | 12100                           |
| DRH 630/30 – 8    | 150               | 680                  | 2,05            | 5,3                                                  | 20500                              | 19400                           |
| DRH 630/30 – 8/12 | 150               | 700/460              | 2,0/0,6         | 5,0/2,47                                             | 20500/13000                        | 19400/12100                     |
| DRH 630/30 – 6    | 150               | 930                  | 4,4             | 9,5                                                  | 27500                              | 25600                           |
| DRH 630/30 – 6/12 | 150               | 950/475              | 5,0/0,66        | 11,7/3,3                                             | 27500/13000                        | 25600/12100                     |

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
 External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                                              |                     |                                              |                     |                                              |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------------------------------|---------------------|----------------------------------------------|---------------------|----------------------------------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                                         | 25 %                |                                              |                     |                                              |
|                              |                                        |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 445                          | 88                                     | 75                   | 61                   | -1                                                 | -4                                           | -1                  | -7                                           | +1                  | -3                                           |
| 690                          | 97                                     | 86                   | 73                   | -1                                                 | -3                                           | ± 0                 | -7                                           | +2                  | -2                                           |
| 970                          | 102                                    | 93                   | 80                   | -1                                                 | -3                                           | ± 0                 | -4                                           | -3                  | -1                                           |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 445                          | 3,0                          | 5,4 | 6,9 | 20,2 | 22,8 | 27,3 | 32,4 | 37,6 |
| 690                          | 5,0                          | 3,6 | 8,0 | 10,8 | 19,7 | 23,2 | 28,0 | 33,1 |
| 970                          | 5,2                          | 4,4 | 8,2 | 9,7  | 14,1 | 20,1 | 24,5 | 29,5 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 135 m², L<sub>S</sub> = 21,3 dB,  
 External sound influence K<sub>1</sub> = 0 dB, directional factor = - 2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                                              |                     |                                              |                     |                                              |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------------------------------|---------------------|----------------------------------------------|---------------------|----------------------------------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                                         | 25 %                |                                              |                     |                                              |
|                              |                                        |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 445                          | 88                                     | 80                   | 55                   | -2                                                 | -3                                           | -2                  | -6                                           | -1                  | ± 0                                          |
| 690                          | 97                                     | 91                   | 66                   | -2                                                 | -3                                           | -2                  | -7                                           | ± 0                 | ± 0                                          |
| 970                          | 102                                    | 99                   | 73                   | -3                                                 | -3                                           | -3                  | -4                                           | ± 0                 | -1                                           |

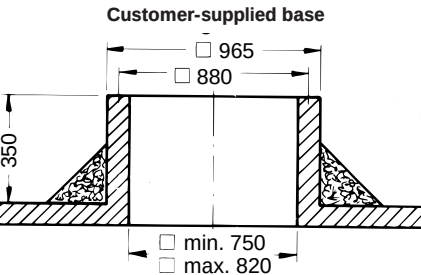
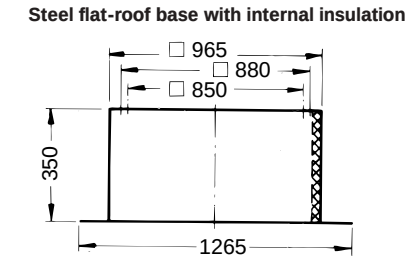
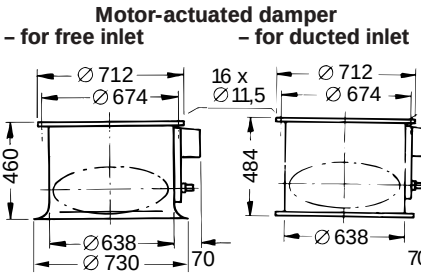
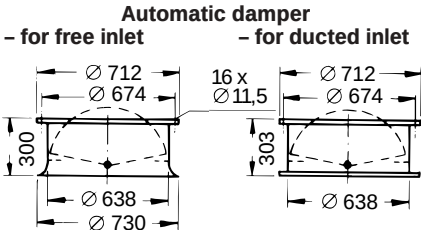
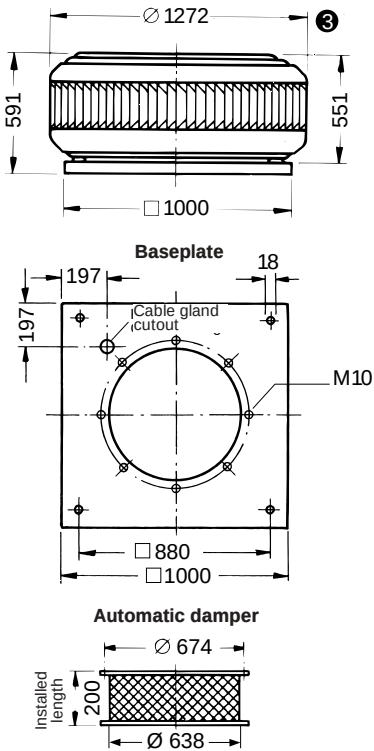
Influence of the automatic damper: + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 445                          | 6,8                          | 3,8 | 5,9  | 12,5 | 13,2 | 17,8 | 23,6 | 30,9 |
| 690                          | 9,9                          | 4,6 | 8,3  | 5,3  | 11,6 | 14,9 | 20,5 | 27,8 |
| 970                          | 11,8                         | 6,6 | 10,2 | 5,0  | 6,6  | 13,5 | 18,7 | 25,8 |

The noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard can be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area =0,72 m²
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r = 4 m, 0°



DRH

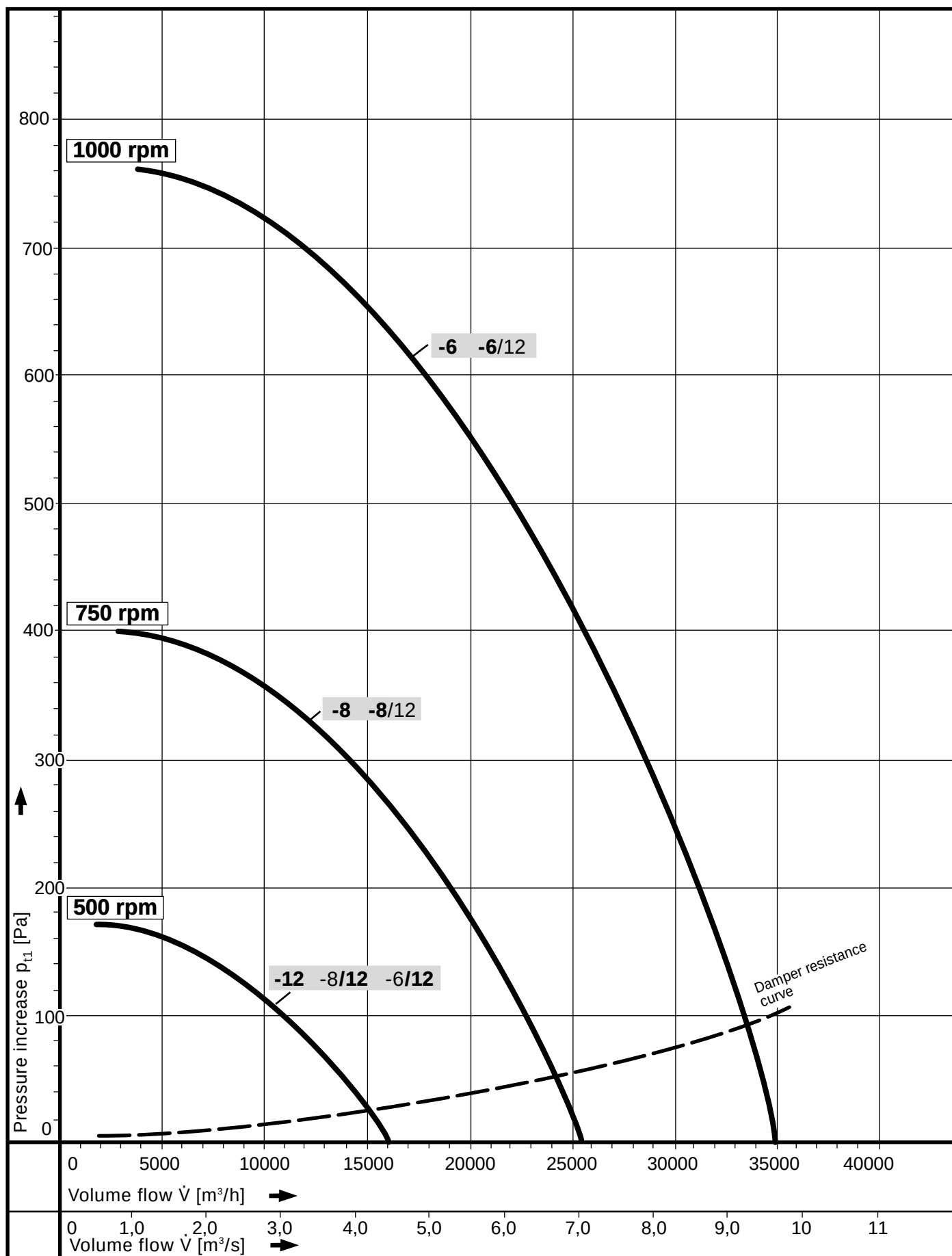


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRH 710/30

030



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type              | Weight approx.<br><br>[kg] | Motor speed<br><br>[rpm] | Motor output<br><br>[kW] | Nominal current at 400 Volt 50 Hz [A] | Volume flow (m³/h)        |                        |
|-------------------|----------------------------|--------------------------|--------------------------|---------------------------------------|---------------------------|------------------------|
|                   |                            |                          |                          |                                       | Free inlet without damper | Free inlet with damper |
| DRH 710/30 – 12   | 180                        | 425                      | 1,3                      | 4,6                                   | 16000                     | 15000                  |
| DRH 710/30 – 8    | 180                        | 670                      | 2,05                     | 5,3                                   | 25500                     | 24000                  |
| DRH 710/30 – 8/12 | 180                        | 710/450                  | 2,8/0,7                  | 7,7/2,28                              | 25000/16400               | 24400/15000            |
| DRH 710/30 – 6    | 180                        | 925                      | 5,5                      | 12,3                                  | 35000                     | 33500                  |
| DRH 710/30 – 6/12 | 180                        | 950/475                  | 5,0/0,66                 | 11,4/3,0                              | 35000/16400               | 33500/15000            |

Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB, External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                                              |                     |                                              |                     |                                              |
|----------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------------------------------|---------------------|----------------------------------------------|---------------------|----------------------------------------------|
|                                  | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                                         | 25 %                |                                              |                     |                                              |
|                                  |                                        |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 445                              | 90                                     | 78                   | 64                   | -1                                                 | -3                                           | -1                  | -6                                           | +1                  | -2                                           |
| 690                              | 98                                     | 88                   | 75                   | -4                                                 | -7                                           | -3                  | -7                                           | ± 0                 | -2                                           |
| 970                              | 103                                    | 94                   | 81                   | -1                                                 | -3                                           | -1                  | -6                                           | +2                  | ± 0                                          |

Influence of the automatic damper: + 3 dB

Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 445                          | 3,5                          | 5,1 | 6,6 | 18,8 | 21,3 | 25,9 | 30,9 | 36,1 |
| 690                          | 4,5                          | 4,5 | 7,5 | 10,2 | 18,2 | 21,8 | 26,6 | 31,7 |
| 970                          | 5,5                          | 4,2 | 8,5 | 10,0 | 14,1 | 19,2 | 23,6 | 28,6 |

Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 135 m², L<sub>S</sub> = 21,3 dB, External sound influence K<sub>1</sub> = 0 dB, directional factor = - 2 dB

| Speed <sup>2)</sup><br><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                                              |                     |                                              |                     |                                              |
|----------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------------------------------|---------------------|----------------------------------------------|---------------------|----------------------------------------------|
|                                  | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                                         | 25 %                |                                              |                     |                                              |
|                                  |                                        |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 445                              | 92                                     | 84                   | 60                   | -1                                                 | -4                                           | ± 0                 | -7                                           | -2                  | -2                                           |
| 690                              | 99                                     | 94                   | 69                   | -1                                                 | -7                                           | -1                  | -6                                           | +2                  | ± 0                                          |
| 970                              | 105                                    | 101                  | 76                   | ± 0                                                | -3                                           | ± 0                 | -4                                           | +3                  | ± 0                                          |

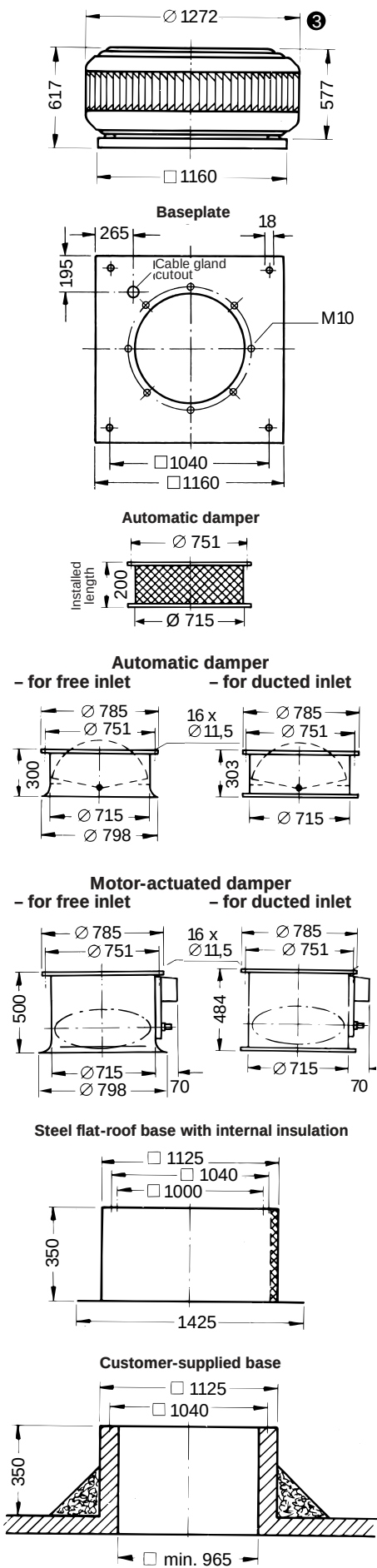
Influence of the automatic damper: + 2 dB

Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 445                          | 7,0                          | 4,3 | 5,7  | 10,5 | 13,5 | 16,7 | 23,1 | 30,2 |
| 690                          | 9,5                          | 6,0 | 8,1  | 4,4  | 12,0 | 14,1 | 20,3 | 27,3 |
| 970                          | 11,9                         | 5,9 | 10,5 | 4,7  | 8,9  | 13,0 | 18,8 | 25,6 |

These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard can be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area: ≈0,72 m²
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r = 4 m, 0°



DRH

| Item No.                                    | Qty.              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Unit price  | Amount            |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
|---------------------------------------------|-------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------|-------------|-------|-------------------|----|-------------|-----|--------------|----|---------------|-----------|---------------------|---|-------------------|-----------|-----------|-------|---------------------------------------------|----|--------|----|--|--|
|                                             |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | €           | €                 |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
|                                             |                   | <p><b>Centrifugal Roof Unit, DRH-Minivent Series, Horizontal Outlet</b></p> <p>Direct motor drive type.<br/>Max. airflow temperature: 50°C<br/>Baseplate made of sendzimir-galvanized sheet steel with deep-drawn bellmouth; casing, outlet screen and rain hood made of aluminium.<br/>Centrifugal flow impeller, single inlet, made of plastic, dynamically balanced according to DIN ISO 1940, quality grade G 2.5.<br/>Single-phase a.c. motor, external rotor type with capacitor, protection class IP 44 moisture-protected and tropicalized, internally wired thermal overload protection contacts.<br/>Motor electrically wired to an external local isolator in accordance with VDE 0113 and VBG 4.</p> <p><b>Specifications</b></p> <table><tr><td>Volume flow</td><td>m<sup>3</sup>/h</td></tr><tr><td>Temperature</td><td>20 °C</td></tr><tr><td>Pressure increase</td><td>Pa</td></tr><tr><td>Motor speed</td><td>rpm</td></tr><tr><td>Motor output</td><td>kW</td></tr><tr><td>Motor winding</td><td>1 x 230 V</td></tr><tr><td>Current consumption</td><td>A</td></tr><tr><td>Operating voltage</td><td>1 x 230 V</td></tr><tr><td>Frequency</td><td>50 Hz</td></tr><tr><td>Sound pressure level LpA (outdoor, r = 4 m)</td><td>dB</td></tr><tr><td>Weight</td><td>kg</td></tr></table> <p><b>Manufacturer: TLT-Turbo GmbH</b><br/><b>Type: DRH-Minivent</b></p> <p><b>Optional extras</b></p> <ul style="list-style-type: none"><li>• Surface protection “S”, all casing parts plus baseplate additionally corrosion-protected on inside and outside with polyester powder coating (colour: RAL 7030)</li><li>• Inlet guard for free inlet configurations</li><li>• Automatic damper for inlet duct installation, with two flanges</li><li>• Flexible connector, tissue covered with a silicone-free coating, with two flanges, for direct attachment to the baseplate</li><li>• Matching flange</li></ul> | Volume flow | m <sup>3</sup> /h | Temperature | 20 °C | Pressure increase | Pa | Motor speed | rpm | Motor output | kW | Motor winding | 1 x 230 V | Current consumption | A | Operating voltage | 1 x 230 V | Frequency | 50 Hz | Sound pressure level LpA (outdoor, r = 4 m) | dB | Weight | kg |  |  |
| Volume flow                                 | m <sup>3</sup> /h |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Temperature                                 | 20 °C             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Pressure increase                           | Pa                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Motor speed                                 | rpm               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Motor output                                | kW                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Motor winding                               | 1 x 230 V         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Current consumption                         | A                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Operating voltage                           | 1 x 230 V         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Frequency                                   | 50 Hz             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Sound pressure level LpA (outdoor, r = 4 m) | dB                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Weight                                      | kg                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
|                                             |                   | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |

| Item No. | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Unit price<br>€ | Amount<br>€ |
|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
|          | or   | <ul style="list-style-type: none"> <li>Steel flat-roof base made of sendzimir-galvanized sheet steel, with internal insulation</li> <li>- for flat roof installation</li> <li>- for pitched roof installation, ____° gradient</li> </ul>                                                                                                                                                                                                                                                                                                      |                 |             |
|          | or   | <ul style="list-style-type: none"> <li>Base for corrugated aluminium roof installation</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |             |
|          | or   | <ul style="list-style-type: none"> <li>SDS noise-damping base for acoustic attenuation of the fan inlet noise, consisting of the base structure with roof integration flange made of sendzimir-galvanized sheet steel and splitter attenuator made of incombustible, abrasion-resistant absorbent material.</li> <li>- for flat roof installation</li> <li>- for pitched roof installation, ____° gradient</li> </ul>                                                                                                                         |                 |             |
|          | or   | <ul style="list-style-type: none"> <li>SDH noise-damping hood with horizontal air outlet, consisting of a tubular silencer screwed to the roof fan baseplate.<br/>The damping hood comprises the internally and externally damping silencer made of incombustible, abrasion resistant absorbent material.<br/>The enclosure is made of sendzimir-galvanized sheet steel, the hood itself consists of aluminium.<br/>Sound attenuation rating: LpA = 11 dB</li> <li>Additional synthetic surface coating for SDH noise damping hood</li> </ul> |                 |             |
|          | or   | <ul style="list-style-type: none"> <li>Electronic speed controller EDS-2 for a.c. motor</li> <li>- for apparent installation (AP)</li> <li>- for concealed installation (flush-type)(UP)</li> </ul>                                                                                                                                                                                                                                                                                                                                           |                 |             |
|          | or   | <ul style="list-style-type: none"> <li>230 V transformer for installation in a switchgear panel / cabinet, with 7 taps, ETE ... type</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                               |                 |             |
|          |      | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                 |             |
|          |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |             |

| – 034 –  |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |        |
|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------|
| Item No. | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Unit price | Amount |
|          |      | <div><div>Centrifugal Roof Unit, DRH Series, Horizontal Outlet</div><div><div>Direct motor drive type.<br/>Max. airflow temperature: 40°C<br/>Baseplate made of sendzimir-galvanized sheet steel with deep-drawn bellmouth<br/>Strong flow-formed aluminium housing<br/>Centrifugal flow impeller, single inlet, made of sheet steel, surface-protected with a polyester powder coating, dynamically balanced according to DIN ISO 1940, quality grade G 6.3</div><div>External rotor-type drive motor, protection class IP54, moisture-protected.<br/>Motor protected by thermal overload contacts embedded in the winding, wired to external terminals.<br/>Thermal overload contacts on DRH 224/35...E motors are internally wired.<br/>Motors electrically wired to an external local isolator conforming to VDE 0113 and VBG 4.</div><div>Specifications<div><div>Volume flow</div><div>Temperature</div><div>Pressure increase</div><div>Motor speed</div><div>Motor output</div><div>Motor winding</div><div>Current consumption</div><div>Operating voltage</div><div>Frequency</div><div>Sound pressure level LpA (outdoor, r = 4 m)</div><div>Weight</div></div><div><div>m<sup>3</sup>/h</div><div>20 °C</div><div>Pa</div><div>rpm</div><div>kW</div><div>V</div><div>A</div><div>V</div><div>Hz</div><div>dB</div><div>kg</div></div></div><div>Manufacturer: TLT-Turbo GmbH<br/>Type: DRH</div><div>Optional extras<ul style="list-style-type: none"><li>• Surface protection “S”, all casing parts plus baseplate additionally corrosion-protected on inside and outside with a polyester powder coating (colour: RAL 7030)</li><li>• Inlet guard for free inlet configurations</li><li>• Automatic damper in the inlet duct, with flow-formed bellmouth for free inlet flow</li><li>• Automatic damper in the inlet duct, flanged type, for customer-supplied duct connection</li></ul></div></div></div> |            |        |
|          | or   | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |            |        |
|          |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |            |        |

| Item No. | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Unit price<br>€ | Amount<br>€ |
|----------|------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
|          |      | <p>carryover</p> <p>or</p> <ul style="list-style-type: none"> <li>• Motor-actuated damper in the inlet duct, with flow-formed bellmouth for free inlet flow</li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>• Motor-actuated damper in the inlet duct, with flange for customer-supplied duct connection, with 230 V / 50 Hz actuating motor (8 W - 10 VA), operating time 80 sec., overload protected, maintenance-free</li> <li>• Flexible connector, tissue covered with silicone-free coating, with two flanges, for direct attachment to the baseplate</li> <li>• Matching flange</li> <li>• Steel flat-roof base made of sendzimir-galvanized sheet steel, with internal insulation               <ul style="list-style-type: none"> <li>- for flat roof installation</li> <li>- for pitched roof installation, ____° gradient</li> </ul> </li> </ul> <p>or</p> <ul style="list-style-type: none"> <li>• Base for corrugated aluminium roof</li> <li>• Tilting frame for hinged fan installation, for easy cleaning of the impeller and bellmouth, complete with locking devices according to German Accident Prevention Rules (UVV)</li> <li>• Only in conjunction with the tilting frame:<br/>Cone and flange for damper or customer-provided duct connection</li> <li>• SDS noise-damping base for acoustic attenuation of the fan inlet noise, consisting of the base structure with roof integration flange made of sendzimir-galvanized sheet steel and a tube-type silencer covered with a shield of perforated galvanized sheet steel. Size 224 units come with a splitter attenuator. The bases of size 250 - 710 units are fitted with an integrated cable duct for easy wiring.               <ul style="list-style-type: none"> <li>- for flat roof installation</li> <li>- for pitched roof installation, ____° gradient</li> </ul> </li> </ul> <p>SDH noise-damping hood with horizontal air outlet, consisting of a tubular silencer screwed to the roof fan baseplate.<br/>The damping hood comprises the internally and externally damping silencer made of incombustible, abrasion resistant absorbent material.<br/>The enclosure is made of sendzimir-galvanized sheet steel, the hood itself consists of glass-reinforced plastic or aluminium<br/>Sound attenuation rating: LpA = 11 dB</p> <ul style="list-style-type: none"> <li>• Additional synthetic surface coating for SDH noise damping hood</li> </ul> |                 |             |
|          |      | <ul style="list-style-type: none"> <li>• Motor protection switch set, type FP ...               <ul style="list-style-type: none"> <li>- for apparent installation (AP)</li> <li>- for concealed installation (flush-type)(UP)</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |             |



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## CENTRIFUGAL ROOF UNITS APPLICATION EXAMPLES / REFERENCES

036



Fig. 1



Fig. 2



Fig. 3



Fig. 4

- 1 DRV-F-K and DRV roof units (Munich airport)
- 2 DRV and BVD roof units on a mixed residential and retail building complex (Weberpark Babelsberg)
- 3 DRV roof units (AquaFit indoor pool, Bad Hersfeld)
- 4 DRV- and DRH roof units, partly with noise-damping bases, ventilating a residential building (Wasserstadt, Berlin-Spandau)
- 5 DRV roof units with base for pitched-roof installation (Edeka Market, Karlstadt)



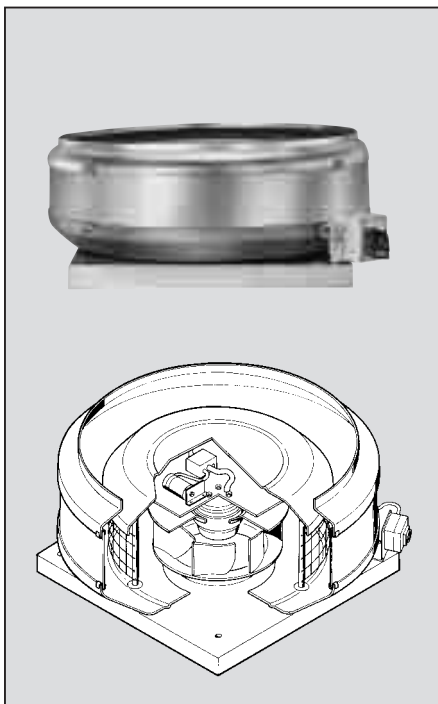
Fig. 5



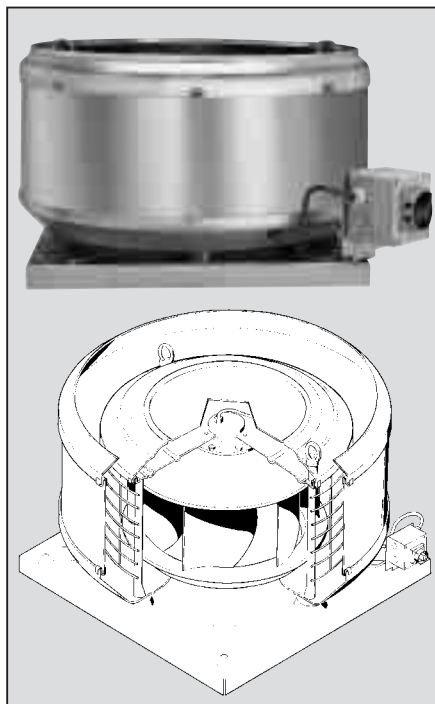
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## CENTRIFUGAL ROOF UNITS DRV-MINIVENT SERIES DRV SERIES VERTICAL OUTLET

037



**DRV-Minivent Series**



**DRV Series**

### DRV-Minivent range

1 size  
4 types  
Volume flow up to 1000 m³/h  
pressure increase up to 440 Pa

### DRV range

5 sizes  
More than 100 types  
Volume flow up to 32.000 m³/h  
Pressure increase up to 800 Pa

### Casing

The baseplate consists of sendzimir-galvanized sheet metal, bent for maximum torsional stiffness. The bellmouth is deep-drawn for optimum flow properties, providing high aerodynamic efficiency. The housing geometry ensures a truly vertical, strongly guided airflow. The surround ring, rain hood and deflector cap are deep-drawn and made of aluminium. The same material is used for the fan casing.

### Impeller

The sheet steel impeller, with backward curved blades, is dynamically balanced and powder-coated. Minivent series fans are equipped with plastic impellers. On sizes 224 + 250 fans, the impellers are made of galvanized sheet steel.

### Motor (DRV-Minivent and DRV 224/35...E types)

The fan is driven by a single-phase a.c. capacitor motor (external rotor type), enclosed, moisture-protected and tropicalized. Full motor protection is ensured by thermal overload protection contacts connected in line with the winding. The motor speed can be varied via a transformer or electronic phase control system (0 to 100%).

### Motor (DRV types)

These fans are powered by a single-phase or three-phase a.c. motor (external rotor type), enclosed and moisture-protected. Types marked with an asterisk (\*) are speed-controllable via a fully modulating transformer or electronic phase control system. To operate a variable-voltage type external rotor motor on a frequency converter, it is absolutely necessary to use an all-pole (phase-to-phase and phase-to-earth) sine filter between the frequency converter and the motor. Thermal overload contacts embedded in the winding provide full motor protection. The motor is wired to a local isolator mounted outside on the fan casing.

### Operating conditions

DRV fans are rated for a max. airflow temperature of 40°C; DRV-Minivent for a max. airflow temperature of 50°C

### Series DRV fans

These fans can be mounted at angles up to 20 deg. (Designs for higher roof gradients available upon request).

### Series DRV-Minivent fans

The maximum mounting angle for these fans is 90 deg. Note, however, that installation at an angle will compromise rainproofness.

### Accessories and options

- ☐ Powder-coated surface finish, RAL 7030
- ❶ Automatic damper for free inlet
- ☐ Automatic damper for ducted inlet
- ❶ Motor-actuated damper for free inlet
- ❶ Motor-actuated damper for ducted inlet
- ☐ Inlet guard
- ☐ Flexible connector
- ☐ Matching flange
- ☐ Steel flat-roof base with internal insulation
- ☐ Twin baseplate
- ☐ Base for pitched roofs
- ☐ Base for corrugated roofs
- ☐ Tilting frame
- ☐ Hinge for tilting frame
- ☐ SDS noise damping base
- ☐ SDH noise damping hood

❶ Not available for Minivent.

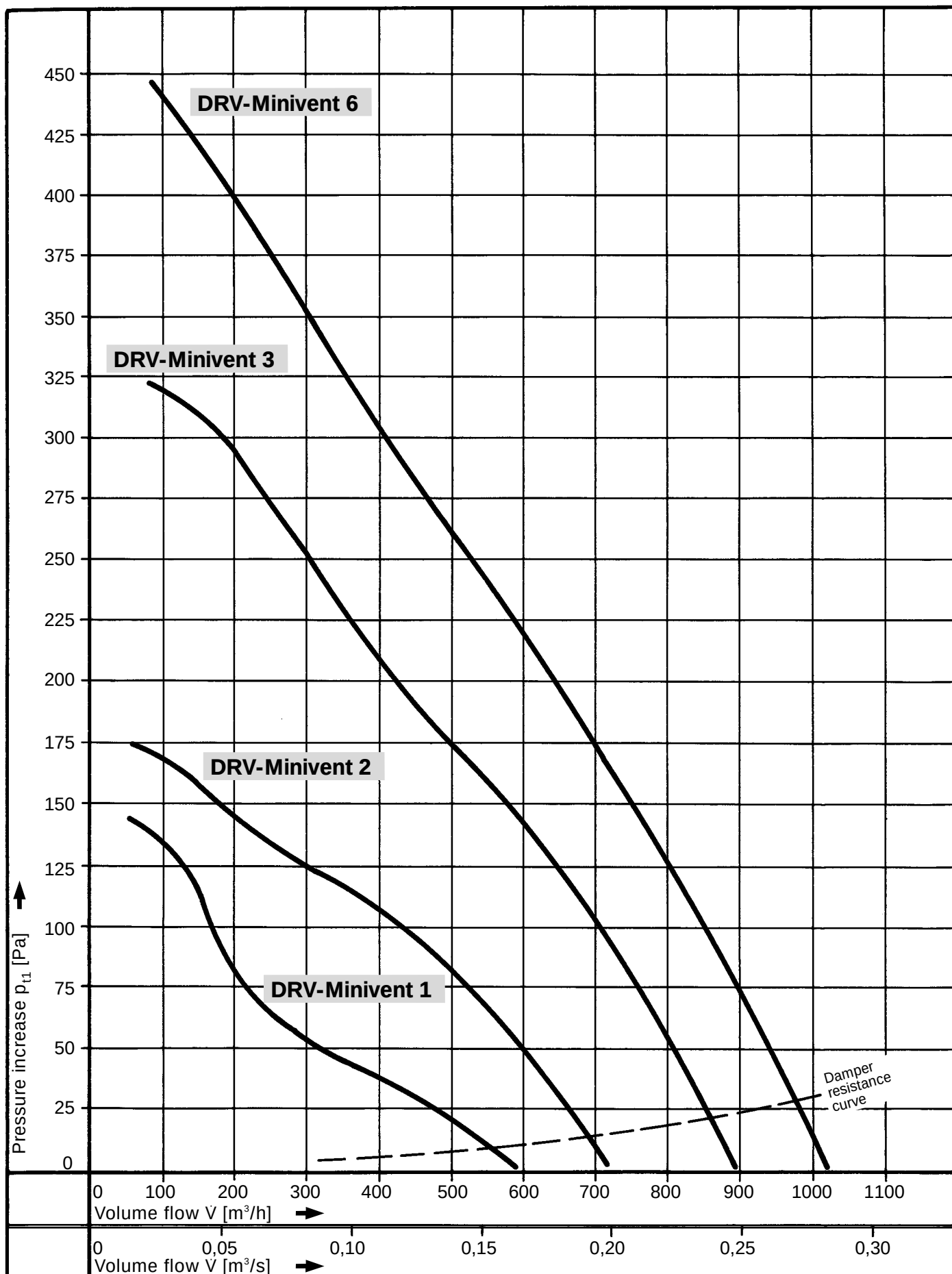


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV-MINIVENT 1 TO 3 AND 6

038



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRV-MINIVENT 1 TO 3 AND 6

039

| Type             | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>1~230 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|------------------|---------------------------|-------------------------|------------------------|--------------------------------------------------------|------------------------------------|---------------------------------|
|                  |                           |                         |                        |                                                        | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRV-Minivent 1 * | 8,6                       | 1200                    | 25                     | 0,12                                                   | 600                                | 530                             |
| DRV-Minivent 2 * | 8,6                       | 1400                    | 43                     | 0,20                                                   | 710                                | 670                             |
| DRV-Minivent 3 * | 9,2                       | 2200                    | 91                     | 0,40                                                   | 900                                | 860                             |
| DRV-Minivent 6 * | 9,2                       | 2500                    | 115                    | 0,51                                                   | 1010                               | 980                             |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

### Indoor noise level (inlet side)

Influences: A = 100 m² Sabin, measuring distance S = 4 m, L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 0 dB, freefield conditions

| Type<br>DRV | Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|-------------|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|             |                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| Minivent 1  | 1200                         | 66                                     | 56                   | 36                   | -4                                                 | -6   | -3   | 4                   | -3                   | -3                   |
| Minivent 2  | 1400                         | 70                                     | 59                   | 39                   | -4                                                 | -4   | -3   | 4                   | -3                   | -3                   |
| Minivent 3  | 2200                         | 72                                     | 65                   | 45                   | -3                                                 | -6   | -3   | 7                   | -1                   | -1                   |
| Minivent 6  | 2500                         | 74                                     | 69                   | 49                   | -3                                                 | -5   | -2   | 4                   | -3                   | -3                   |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Type<br>DRV | Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|-------------|----------------|------------------------------|-----|------|------|------|------|------|------|
|             |                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| Minivent 1  | 1200           | 2,1                          | 6,1 | 12,4 | 16,1 | 20,1 | 13,8 | 29,0 | 30,0 |
| Minivent 2  | 1400           | 1,7                          | 7,5 | 11,4 | 15,3 | 19,6 | 21,5 | 18,0 | 30,9 |
| Minivent 3  | 2200           | 2,5                          | 9,3 | 10,5 | 10,5 | 12,9 | 15,3 | 12,5 | 23,7 |
| Minivent 6  | 2500           | 3,3                          | 8,2 | 10,1 | 10,4 | 12,4 | 14,6 | 10,8 | 17,0 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 100 m²,  
measuring distance = 4m, L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor (r = 4m, 0°) = -2 dB

| Type<br>DRV | Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|-------------|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|             |                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| Minivent 1  | 1200                         | 66                                     | 57                   | 35                   | -4                                                 | -5   | -1   | 4                   | -3                   | -3                   |
| Minivent 2  | 1400                         | 70                                     | 63                   | 41                   | -4                                                 | -6   | -2   | 3                   | -6                   | -6                   |
| Minivent 3  | 2200                         | 73                                     | 70                   | 48                   | -3                                                 | -6   | -3   | 7                   | -2                   | -2                   |
| Minivent 6  | 2500                         | 75                                     | 73                   | 51                   | -2                                                 | -4   | -2   | 5                   | -3                   | -3                   |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

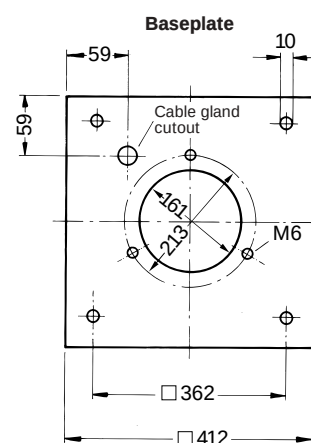
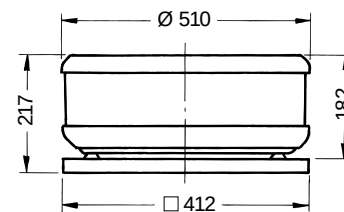
| Type<br>DRV | Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|-------------|----------------|------------------------------|-----|------|------|------|------|------|------|
|             |                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| Minivent 1  | 1200           | -0,9                         | 2,7 | 10,0 | 17,6 | 16,6 | 11,6 | 26,9 | 34,5 |
| Minivent 2  | 1400           | -0,4                         | 5,2 | 5,3  | 13,0 | 14,2 | 14,7 | 15,6 | 33,2 |
| Minivent 3  | 2200           | 0,9                          | 9,5 | 6,7  | 13,5 | 6,4  | 9,2  | 12,8 | 24,0 |
| Minivent 6  | 2500           | 2,4                          | 7,7 | 7,4  | 12,8 | 6,3  | 7,5  | 15,3 | 15,2 |

These noise data apply to a free-inlet configuration without damper at V max.

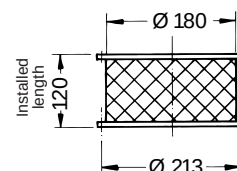
1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

2) Please see note on page 008.

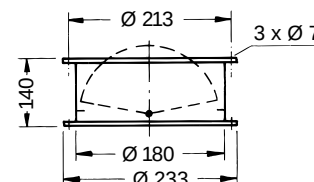
3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°



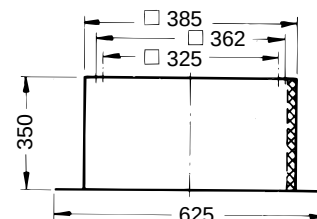
### Flexible connector



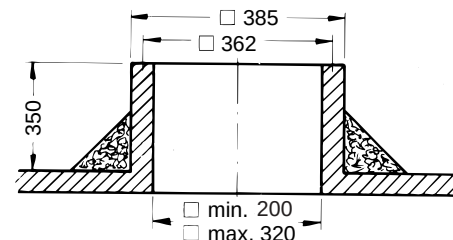
### Automatic damper



### Steel flat-roof base with internal insulation



### Customer-supplied base



DRV

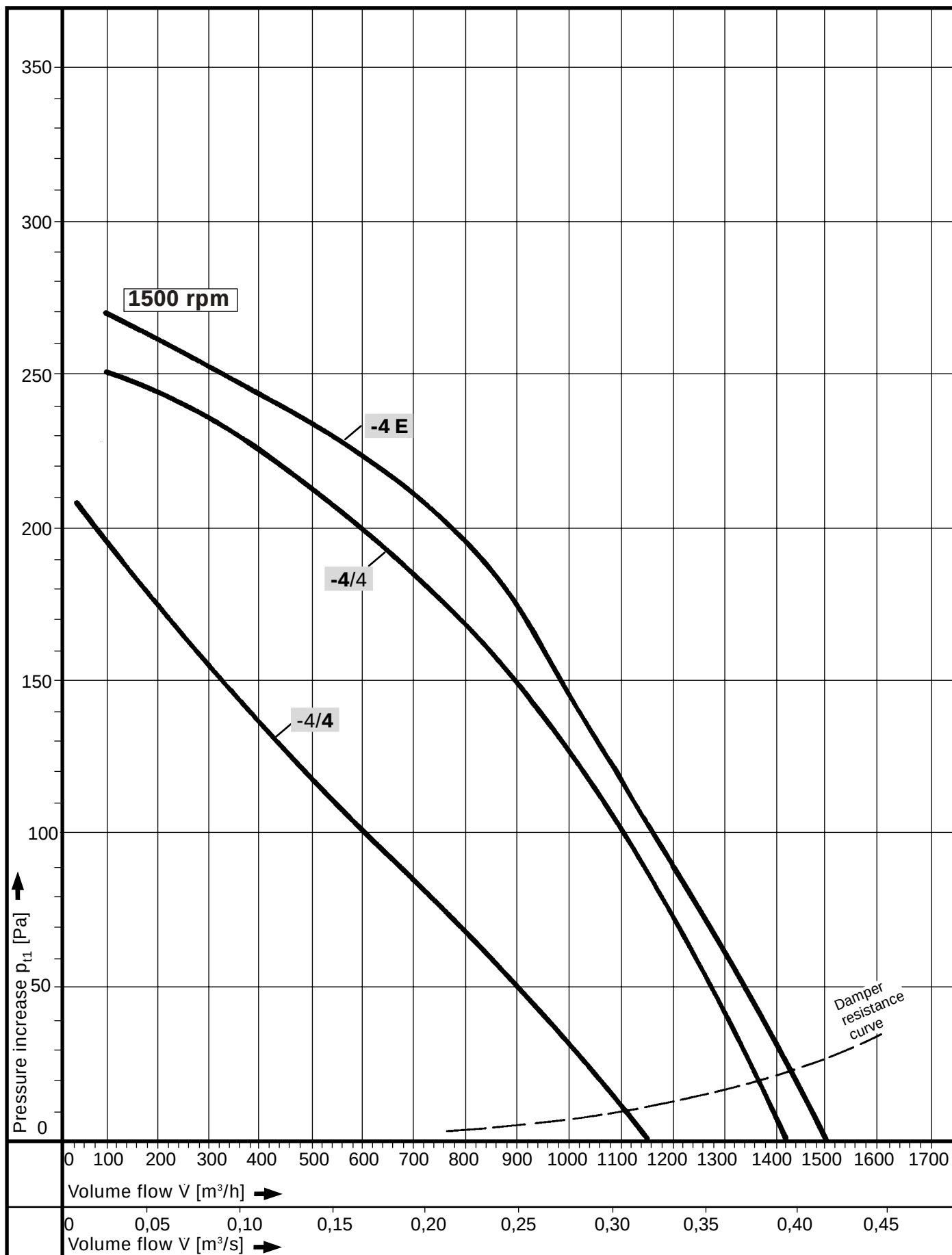


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 224/35

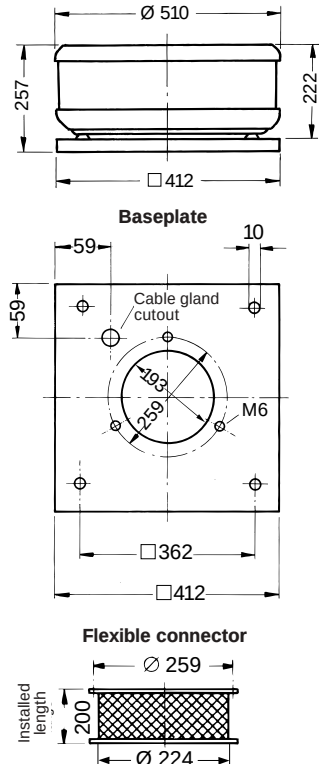
040



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type             | Weight approx. | Motor speed | Motor output | Nominal current at 400 Volt 50 Hz [A] | Volume flow (m³/h)        |                        |
|------------------|----------------|-------------|--------------|---------------------------------------|---------------------------|------------------------|
|                  |                |             |              |                                       | Free inlet without damper | Free inlet with damper |
| DRV 224/35 – 4E  | 10,7           | 1410        | 100          | 0,49*                                 | 1500                      | 1420                   |
| DRV 224/35 – 4/4 | 10,7           | 1380/1120   | 100/65       | 0,15/0,1                              | 1420/1150                 | 1360/1100              |

\*Nominal current at 1 ~ 230 Volt



Indoor noise level (inlet side)

Influences: measurement area S = 100 m², measuring distance = 4m, L<sub>S</sub> = 20 dB, External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 0 dB freefield conditions

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variations as a function of volume flow |                                              |      |                                              |      |                                              |
|------------------------------|-------------------------------------|----------------------|----------------------|-----------------------------------------------------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | 50 % | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | 25 % | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 1410                         | 78                                  | 66                   | 46                   | -2                                                  | -2                                           | -3   | -3                                           | +4   | ±0                                           |
| 1120                         | 74                                  | 62                   | 41                   | ±0                                                  | -4                                           | +1   | -5                                           | +3   | -3                                           |
| 1380                         | 78                                  | 67                   | 47                   | -1                                                  | -2                                           | +1   | -3                                           | +2   | -2                                           |

Influence of the automatic damper: + 3 dB

Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 1410                         | 2,1                          | 5,7 | 17,3 | 19,8 | 24,3 | 27,0 | 25,5 | 41,0 |
| 1120                         | 3,1                          | 3,7 | 13,7 | 16,2 | 20,6 | 23,4 | 21,8 | 37,3 |
| 1380                         | 3,0                          | 4,4 | 12,5 | 12,2 | 16,7 | 22,1 | 23,4 | 33,1 |

Outdoor noise level (above roof level, outlet side)

Influences: measurement area S = 100 m², measuring distance = 4m, L<sub>S</sub> = 20 dB, External sound influence K<sub>1</sub> = 0 dB, directional factor (r = 4m, 0°) = -2 dB, freefield conditions

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variations as a function of volume flow |                                              |      |                                              |      |                                              |
|------------------------------|-------------------------------------|----------------------|----------------------|-----------------------------------------------------|----------------------------------------------|------|----------------------------------------------|------|----------------------------------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | 50 % | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | 25 % | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 1400                         | 78                                  | 66                   | 48                   | -2                                                  | -2                                           | -6   | -6                                           | -2   | -2                                           |
| 1120                         | 77                                  | 64                   | 45                   | -3                                                  | -3                                           | -1   | -5                                           | +2   | -3                                           |
| 1380                         | 78                                  | 58                   | 48                   | ±0                                                  | -2                                           | -1   | -4                                           | +1   | -3                                           |

Influence of the automatic damper: + 2 dB

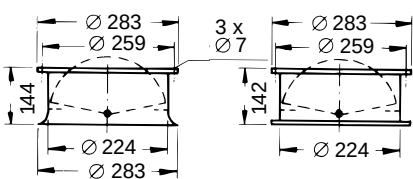
Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 1400                         | 0,5                          | 2,4 | 8,3  | 15,1 | 15,3 | 20,0 | 26,5 | 20,6 |
| 1120                         | 0,7                          | 0,5 | 11,3 | 19,7 | 19,2 | 20,5 | 23,3 | 36,8 |
| 1380                         | 0,3                          | 1,8 | 9,4  | 15,4 | 15,6 | 18,3 | 23,3 | 29,3 |

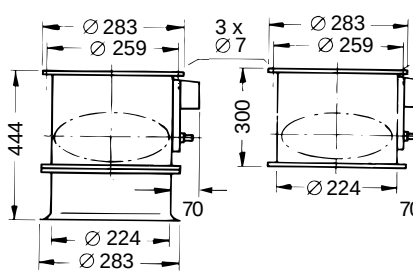
These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area =0,116 m²
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r=4m, 0°

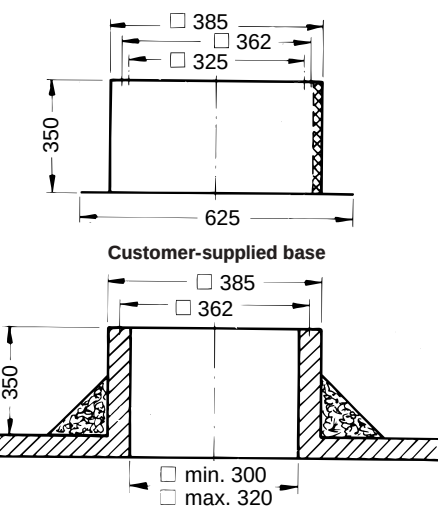
Automatic damper



Motor-actuated damper



Steel flat-roof base with internal insulation



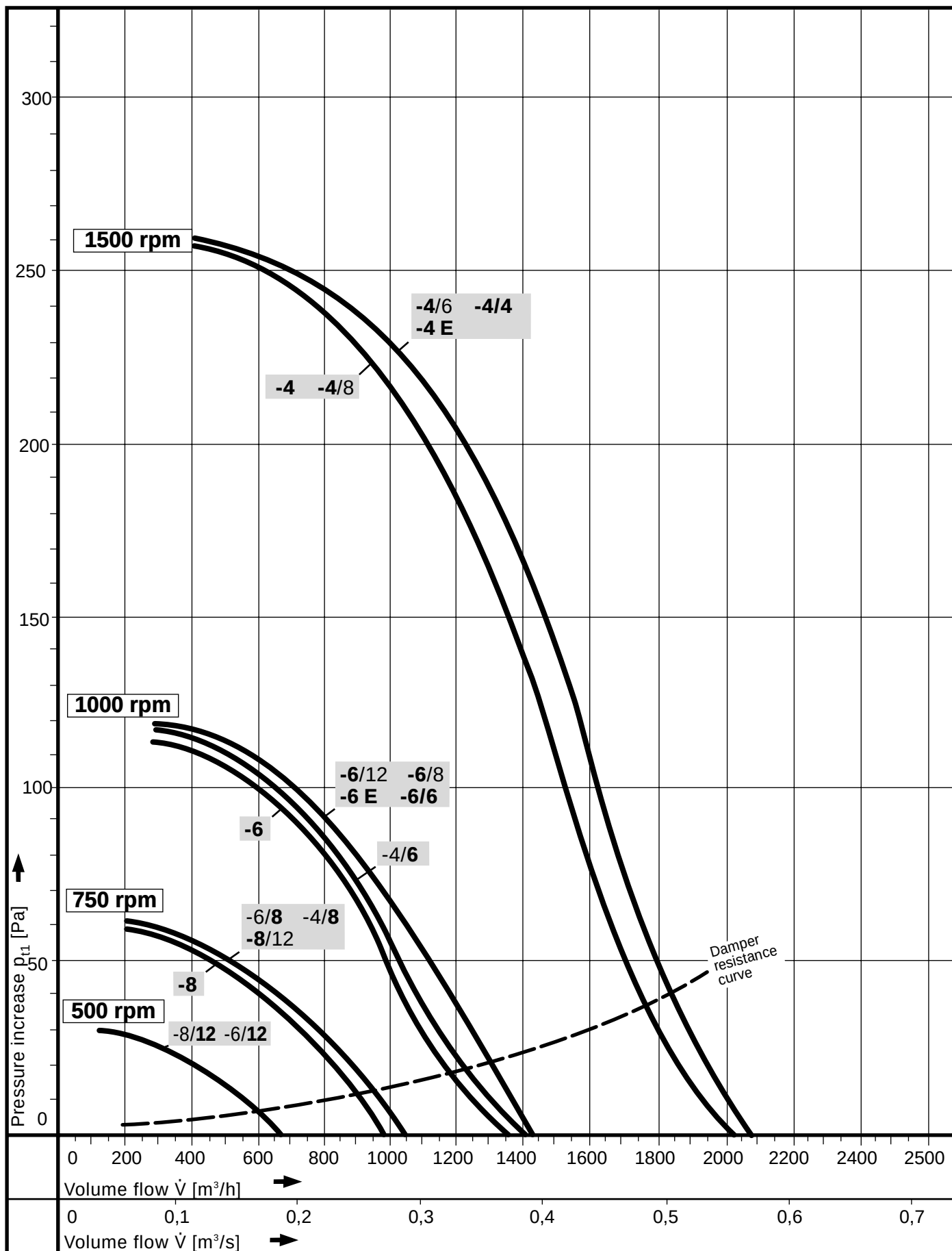


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 250/28

042



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type              | Weight approx.<br>[kg] | Motor speed<br>[rpm] | Motor output<br>[W] | Nominal current at 1~230 Volt 50 Hz [A] | Volume flow (m³/h)        |                        |
|-------------------|------------------------|----------------------|---------------------|-----------------------------------------|---------------------------|------------------------|
|                   |                        |                      |                     |                                         | Free inlet without damper | Free inlet with damper |
| DRV 250/28 – 8 *  | 18                     | 610                  | 0,06                | 0,31                                    | 980                       | 900                    |
| DRV 250/28 – 8/12 | 18                     | 690/440              | 0,08/0,025          | 0,45/0,28                               | 1040/670                  | 950/600                |
| DRV 250/28 – 6 *  | 18                     | 850                  | 0,05                | 0,37                                    | 1350                      | 1180                   |
| DRV 250/28 – 6/12 | 18                     | 860/420              | 0,08/0,01           | 0,37/0,11                               | 1400/670                  | 1230/600               |
| DRV 250/28 – 6/8  | 18                     | 930/680              | 0,065/0,03          | 0,37/0,17                               | 1400/1040                 | 1230/950               |
| DRV 250/28 – 6/6  | 18                     | 890/720              | 0,04                | 0,34/0,16                               | 1400/1100                 | 1230/960               |
| DRV 250/28 – 6E * | 18                     | 880                  | 0,04                | 0,53 **                                 | 1400                      | 1230                   |
| DRV 250/28 – 4 *  | 18                     | 1200                 | 0,16                | 0,47                                    | 2020                      | 1750                   |
| DRV 250/28 – 4/8  | 18                     | 1290/670             | 0,15/0,022          | 0,43/0,25                               | 2020/1040                 | 1750/950               |
| DRV 250/28 – 4/6  | 18                     | 1410/930             | 0,16/0,05           | 0,55/0,2                                | 2100/1450                 | 1850/1300              |
| DRV 250/28 – 4/4  | 18                     | 1350/1100            | 0,12                | 0,36/0,2                                | 2100/1700                 | 1850/1500              |
| DRV 250/28 – 4E * | 18                     | 1330                 | 0,16                | 1,3 **                                  | 2100                      | 1850                   |

\* Motors are speed-variable via a fully modulating transformer or phase control system.  
 \*\* Nominal current at 1~230 Volt

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
 External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                     |                      |                      |
|------------------------------|-------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 |                     |                      |                      |
|                              |                                     |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 440                          | 65                                  | 47                   | 33                   | -1                                                 | -2                   | +0,5                 | -0,5                | +7                   | -1,5                 |
| 680                          | 73                                  | 56                   | 41                   | -1                                                 | -2                   | +0,5                 | -0,5                | +7                   | -1,5                 |
| 930                          | 78                                  | 61                   | 46                   | -1                                                 | -2                   | +0,5                 | -0,5                | +7                   | -1,5                 |
| 1320                         | 86                                  | 71                   | 56                   | -1                                                 | -2                   | +0,5                 | -0,5                | +7                   | -1,5                 |

Influence of the automatic damper + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|----------------|------------------------------|-----|------|------|------|------|------|------|
|                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 440            | 1,5                          | 6,4 | 13,3 | 18,1 | 23,2 | 28,5 | 33,8 | 39,1 |
| 680            | 2,5                          | 5,4 | 10,3 | 14,7 | 19,6 | 24,8 | 30,1 | 35,4 |
| 930            | 2,0                          | 6,4 | 10,4 | 14,3 | 19,1 | 24,2 | 29,5 | 34,8 |
| 1320           | 2,5                          | 6,7 | 8,8  | 12,1 | 16,4 | 21,3 | 26,5 | 31,7 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
 External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variations as a function of volume flow |                      |                      |                     |                      |                      |
|------------------------------|-------------------------------------|----------------------|----------------------|-----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 %                 | 25 %                 |                     |                      |                      |
|                              |                                     |                      |                      | L <sub>W</sub> [dB]                                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 440                          | 63                                  | 47                   | 24                   | -1                                                  | ± 0                  | -7                   | -5,5                | -4,5                 | -5                   |
| 680                          | 71                                  | 58                   | 36                   | -1                                                  | ± 0                  | -7                   | -5,5                | -4,5                 | -5                   |
| 930                          | 76                                  | 63                   | 40                   | -1                                                  | ± 0                  | -7                   | -5,5                | -4,5                 | -5                   |
| 1320                         | 84                                  | 73                   | 51                   | -1                                                  | ± 0                  | -7                   | -5,5                | -4,5                 | -5                   |

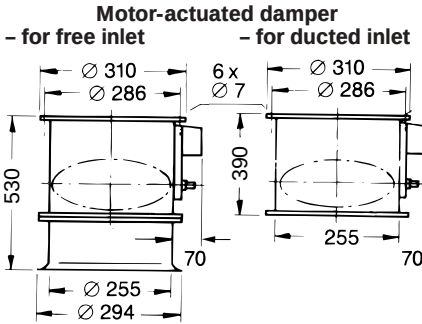
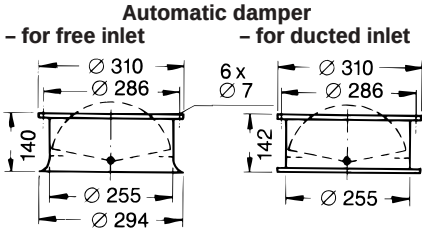
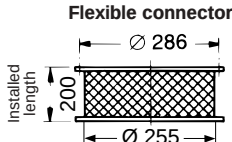
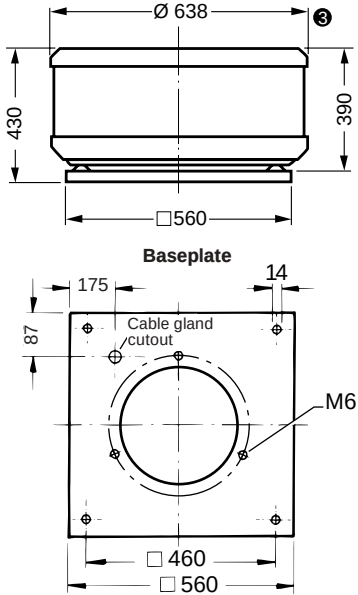
Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

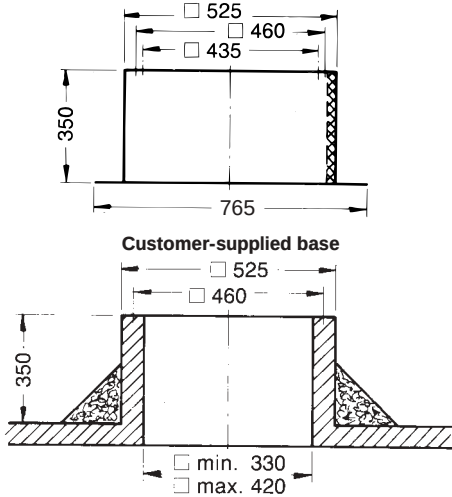
| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 440                          | 1,1                          | 7,2 | 18,9 | 23,2 | 21,7 | 29,5 | 39,4 | 44,7 |
| 680                          | 1,0                          | 7,9 | 15,6 | 23,8 | 25,4 | 26,0 | 39,2 | 44,5 |
| 930                          | 3,7                          | 3,0 | 12,0 | 24,4 | 28,5 | 27,1 | 34,9 | 44,8 |
| 1320                         | 2,0                          | 5,7 | 11,1 | 18,9 | 24,3 | 26,9 | 26,2 | 39,7 |

These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area =0,116 m²
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r=4m, 0°



Steel flat-roof base with internal insulation



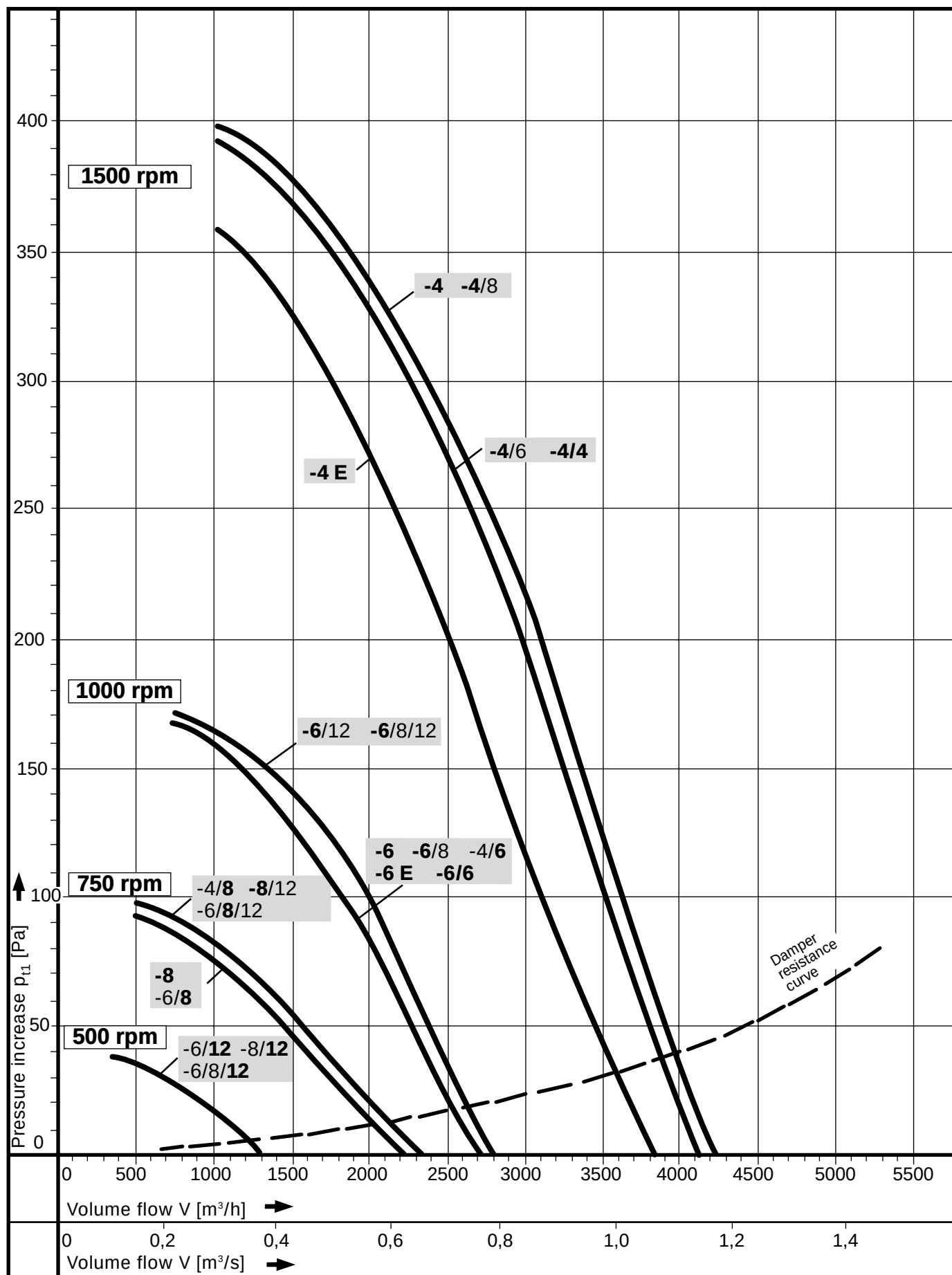


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 315/30

044



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRV 315/30

045

| Type                | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>1~230 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|---------------------|---------------------------|-------------------------|------------------------|--------------------------------------------------------|------------------------------------|---------------------------------|
|                     |                           |                         |                        |                                                        | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRV 315/30 – 8 *    | 22                        | 610                     | 0,06                   | 0,31                                                   | 2200                               | 2000                            |
| DRV 315/30 – 8/12   | 22                        | 670/440                 | 0,08/0,025             | 0,45/0,28                                              | 2400/1300                          | 2090/1240                       |
| DRV 315/30 – 6 *    | 22                        | 860                     | 0,1                    | 0,47                                                   | 2700                               | 2600                            |
| DRV 315/30 – 6/12   | 22                        | 890/450                 | 0,14/0,018             | 0,47/0,2                                               | 2800/1300                          | 2580/1240                       |
| DRV 315/30 – 6/8    | 22                        | 890/670                 | 0,16/0,06              | 0,57/0,28                                              | 2700/2200                          | 2500/2000                       |
| DRV 315/30 – 6/6    | 22                        | 900/670                 | 0,1                    | 0,34/0,19                                              | 2700/2100                          | 2550/2000                       |
| DRV 315/30 – 6/8/12 | 22                        | 890/660/                | 0,12/0,05/             | 0,42/0,25/                                             | 2800/2350/                         | 2580/2100/                      |
|                     |                           | 450                     | 0,015                  | 0,15                                                   | 1300                               | 1200                            |
| DRV 315/30 – 6E *   | 22                        | 900                     | 0,08                   | 0,76 **                                                | 2700                               | 2550                            |
| DRV 315/30 – 4 *    | 22                        | 1360                    | 0,45                   | 1,19                                                   | 4240                               | 3870                            |
| DRV 315/30 – 4/8    | 22                        | 1360/680                | 0,34/0,07              | 1,04/0,38                                              | 4240/2400                          | 3870/2090                       |
| DRV 315/30 – 4/6    | 22                        | 1370/900                | 0,34/0,11              | 1,04/0,43                                              | 4100/2780                          | 3710/2500                       |
| DRV 315/30 – 4/4    | 22                        | 1350/1100               | 0,45                   | 1,23/0,66                                              | 4100/3000                          | 3710/2720                       |
| DRV 315/30 – 4E *   | 22                        | 1200                    | 0,28                   | 2,1 **                                                 | 3850                               | 3500                            |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

\*\* Nominal current at 1~230 Volt

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>(2)</sup><br>[rpm] | Noise level <sup>(3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                      |                      |                     |                      |                      |
|-------------------------------|-----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|                               | L <sub>W</sub> [dB]                     | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 %                 | 25 %                 |                     |                      |                      |
|                               |                                         |                      |                      | L <sub>W</sub> [dB]                                | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 450                           | 69                                      | 52                   | 37                   | +1                                                 | -2                   | -1                   | +1                  | -2                   | -1                   |
| 680                           | 75                                      | 62                   | 46                   | -2                                                 | -4                   | -2                   | -6                  | +1                   | -3                   |
| 890                           | 80                                      | 68                   | 52                   | +1                                                 | -1                   | +1                   | -1                  | +3                   | +1                   |
| 1410                          | 88                                      | 79                   | 64                   | ±0                                                 | -2                   | -1                   | -3                  | +3                   | -1                   |

Influence of the automatic damper + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|----------------|------------------------------|-----|------|------|------|------|------|------|
|                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 450            | 2,1                          | 5,0 | 14,8 | 23,8 | 27,0 | 25,5 | 36,4 | 44,0 |
| 680            | 5,4                          | 2,4 | 8,3  | 20,6 | 23,9 | 26,6 | 26,3 | 37,7 |
| 890            | 5,8                          | 2,3 | 8,8  | 15,5 | 23,0 | 26,4 | 25,3 | 35,2 |
| 1410           | 4,7                          | 6,2 | 5,5  | 10,2 | 17,7 | 21,3 | 22,2 | 23,9 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = -3 dB

| Speed <sup>(2)</sup><br>[rpm] | Noise level <sup>(3)</sup><br>at V max. |                      |                      | Noise level variations as a function of volume flow |                      |                      |                     |                      |                      |
|-------------------------------|-----------------------------------------|----------------------|----------------------|-----------------------------------------------------|----------------------|----------------------|---------------------|----------------------|----------------------|
|                               | L <sub>W</sub> [dB]                     | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 %                 | 25 %                 |                     |                      |                      |
|                               |                                         |                      |                      | L <sub>W</sub> [dB]                                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 450                           | 66                                      | 57                   | 34                   | +1                                                  | -2                   | ±0                   | -3                  | +1                   | -1                   |
| 680                           | 74                                      | 67                   | 43                   | -2                                                  | -3                   | -3                   | -6                  | +1                   | -2                   |
| 890                           | 80                                      | 74                   | 49                   | ±0                                                  | -1                   | ±0                   | ±0                  | +2                   | +2                   |
| 1410                          | 86                                      | 82                   | 58                   | -1                                                  | -2                   | -3                   | -5                  | +1                   | ±0                   |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>(2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|-------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                               | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 450                           | 2,8                          | 5,3 | 12,1 | 19,5 | 16,0 | 12,5 | 23,8 | 31,9 |
| 680                           | 6,8                          | 5,4 | 4,1  | 16,9 | 13,9 | 14,7 | 14,2 | 26,2 |
| 890                           | 7,8                          | 4,2 | 5,1  | 12,9 | 13,5 | 14,9 | 13,6 | 24,3 |
| 1410                          | 8,5                          | 9,5 | 4,6  | 8,8  | 9,9  | 11,4 | 12,0 | 14,8 |

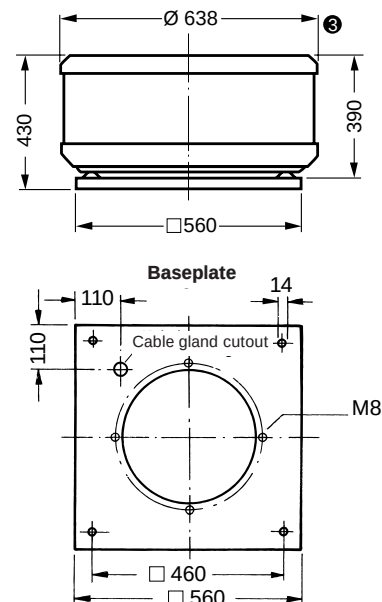
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

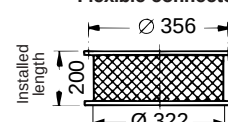
2) Please see note on page 008.

3) Free outlet surface area = 0,116 m²

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°

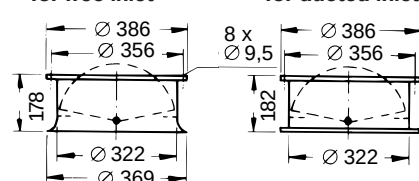


Flexible connector



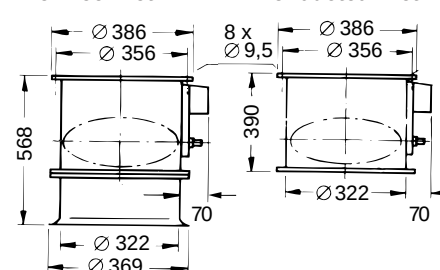
Automatic damper

- for free inlet - for ducted inlet

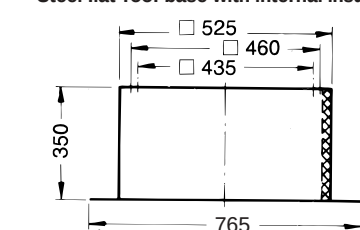


Motor-actuated damper

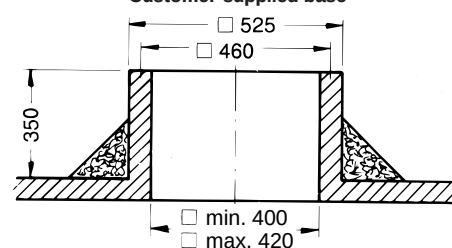
- for free inlet - for ducted inlet



Steel flat-roof base with internal insulation



Customer-supplied base



DRV

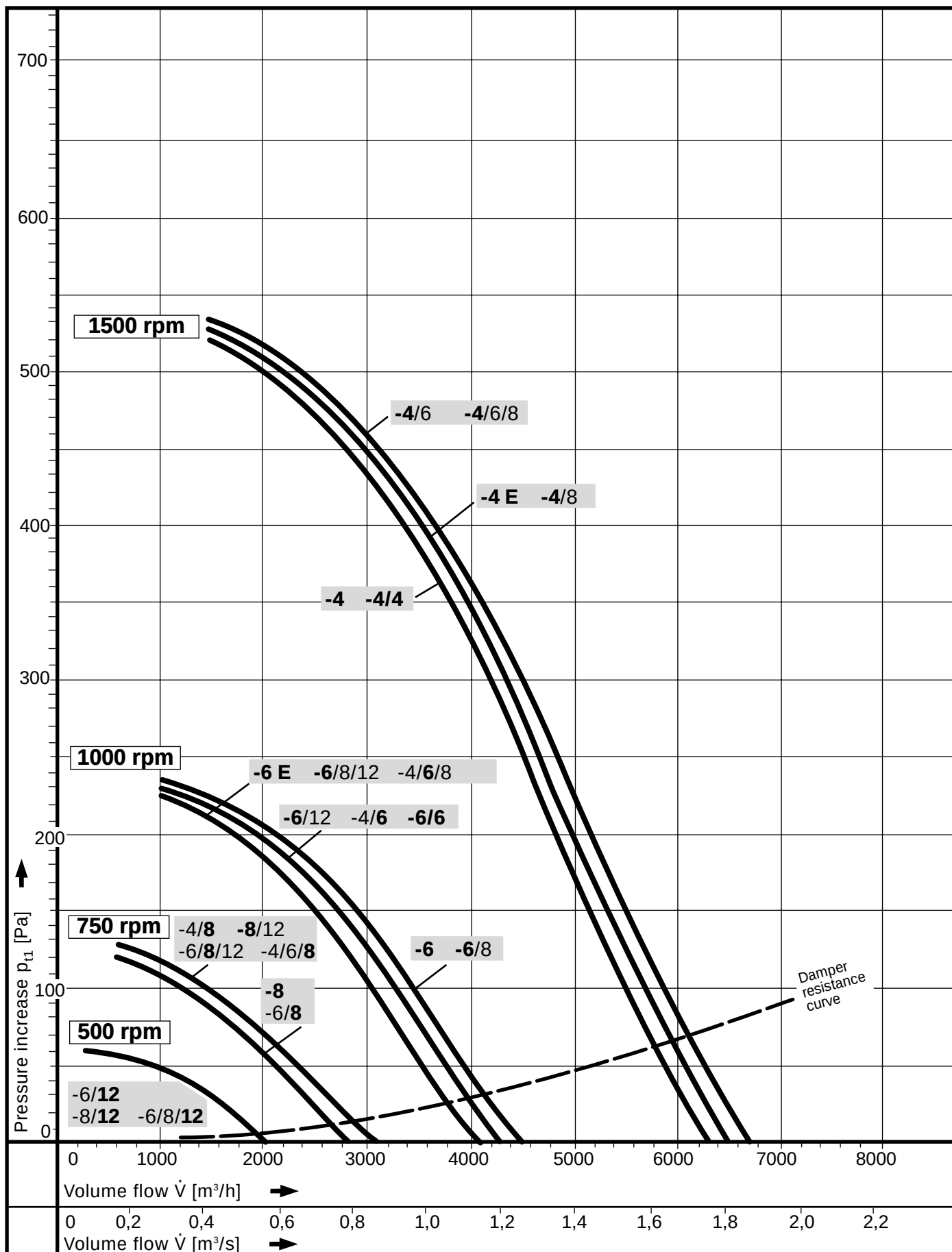


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 355/30

046



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRV 355/30

047

| Type                | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>1~230 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|---------------------|---------------------------|-------------------------|------------------------|--------------------------------------------------------|------------------------------------|---------------------------------|
|                     |                           |                         |                        |                                                        | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRV 355/30 – 8 *    | 42                        | 610                     | 0,06                   | 0,31                                                   | 2900                               | 2700                            |
| DRV 355/30 – 8/12   | 42                        | 690/440                 | 0,08/0,025             | 0,45/0,28                                              | 3150/2000                          | 2950/1950                       |
| DRV 355/30 – 6 *    | 42                        | 895                     | 0,15                   | 0,66                                                   | 4550                               | 4150                            |
| DRV 355/30 – 6/12   | 42                        | 840/470                 | 0,2/0,025              | 0,8/0,24                                               | 4350/2000                          | 4000/1950                       |
| DRV 355/30 – 6/8    | 42                        | 890/670                 | 0,16/0,06              | 0,57/0,28                                              | 4550/2900                          | 4150/2700                       |
| DRV 355/30 – 6/6    | 42                        | 920/620                 | 0,17                   | 0,71/0,28                                              | 4350/3350                          | 4000/3080                       |
| DRV 355/30 – 6/8/12 | 42                        | 890/650/                | 0,23/0,12/             | 0,95/0,49/                                             | 4100/3150/                         | 3800/2950/                      |
|                     |                           | 450                     | 0,04                   | 0,35                                                   | 2000                               | 1950                            |
| DRV 355/30 – 6E *   | 42                        | 900                     | 0,27                   | 1,9 **                                                 | 4100                               | 3800                            |
| DRV 355/30 – 4 *    | 42                        | 1290                    | 0,7                    | 1,85                                                   | 6300                               | 5800                            |
| DRV 355/30 – 4/8    | 42                        | 1350/700                | 0,8/0,1                | 2,0/0,57                                               | 6550/3150                          | 6000/2950                       |
| DRV 355/30 – 4/6    | 42                        | 1390/920                | 0,85/0,23              | 2,18/0,8                                               | 6800/4350                          | 6150/4000                       |
| DRV 355/30 – 4/4    | 42                        | 1350/1100               | 0,7                    | 2,04/1,09                                              | 6300/4850                          | 5800/4460                       |
| DRV 355/30 – 4/6/8  | 42                        | 1400/940/               | 0,92/0,28/             | 2,3/0,8                                                | 6800/4100/                         | 6150/3800/                      |
|                     |                           | 720                     | 0,11                   | 0,6                                                    | 3150                               | 2950                            |
| DRV 355/30 – 4E *   | 42                        | 1380                    | 1,0                    | 6,2 **                                                 | 6550                               | 6000                            |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

\*\* Nominal current at 1~230 Volt

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,

External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                      |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] |
| 450                          | 71                                     | 56                   | 41                   | -3                                                 | -4   | -2   | -7                   | -1                   | -6                   |
| 650                          | 77                                     | 64                   | 49                   | -1                                                 | -4   | ± 0  | -5                   | +2                   | -3                   |
| 885                          | 82                                     | 71                   | 57                   | -1                                                 | -3   | -2   | -3                   | +2                   | -3                   |
| 1290                         | 90                                     | 81                   | 67                   | -1                                                 | -2   | +1   | -3                   | +3                   | -1                   |

Influence of the automatic damper + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|----------------|------------------------------|-----|------|------|------|------|------|------|
|                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 450            | 1,6                          | 5,2 | 10,7 | 22,7 | 25,5 | 23,1 | 28,3 | 41,9 |
| 650            | 2,4                          | 6,3 | 7,8  | 20,6 | 23,8 | 23,9 | 24,1 | 35,7 |
| 885            | 4,6                          | 4,1 | 7,6  | 12,5 | 19,9 | 23,0 | 20,2 | 25,8 |
| 1290           | 5,8                          | 3,2 | 8,8  | 10,3 | 18,5 | 21,5 | 21,1 | 21,5 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,

External sound influence K<sub>1</sub> = 0 dB, directional factor = -3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variations as a function of volume flow |      |      |                      |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|-----------------------------------------------------|------|------|----------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 % | 25 % | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>WA</sub> [dB] |
| 450                          | 69                                     | 61                   | 36                   | -3                                                  | -3   | -5   | -1                   | -3                   | -3                   |
| 650                          | 76                                     | 70                   | 45                   | -3                                                  | -3   | -5   | -1                   | -3                   | -3                   |
| 885                          | 82                                     | 78                   | 52                   | -3                                                  | -2   | -7   | -2                   | -2                   | -2                   |
| 1290                         | 90                                     | 86                   | 61                   | -1                                                  | ± 0  | -3   | +2                   | ± 0                  | ± 0                  |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 450                          | 3,7                          | 5,7 | 9,6 | 18,9 | 14,2 | 12,5 | 16,5 | 31,1 |
| 650                          | 5,8                          | 7,3 | 4,3 | 17,2 | 13,3 | 13,6 | 12,4 | 25,2 |
| 885                          | 8,6                          | 6,2 | 5,5 | 11,0 | 10,7 | 14,0 | 9,7  | 16,7 |
| 1290                         | 10,5                         | 5,0 | 7,3 | 8,9  | 9,8  | 13,1 | 11,4 | 13,2 |

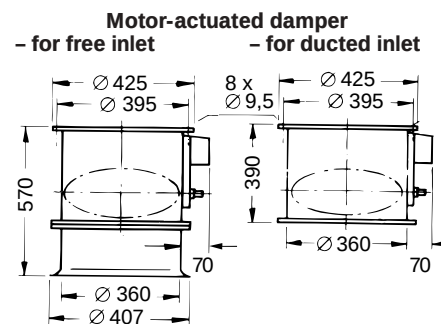
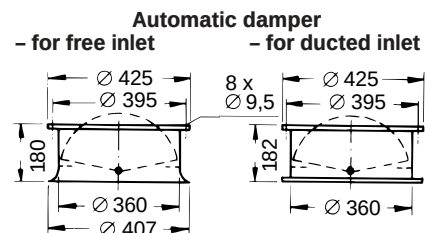
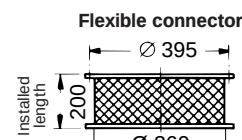
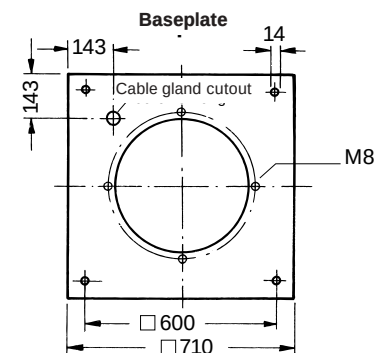
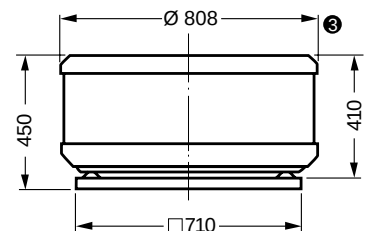
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

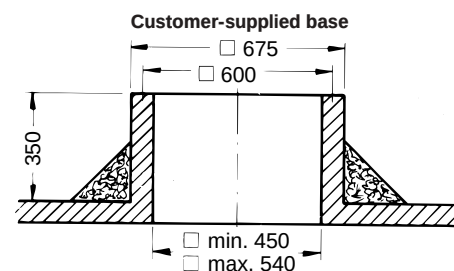
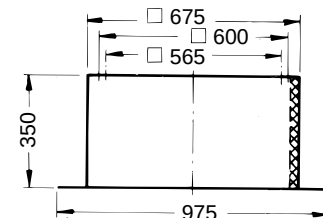
2) Please see note on page 008.

3) Free outlet surface area = 0,193 m²

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°



Steel flat-roof base with internal insulation



DRV

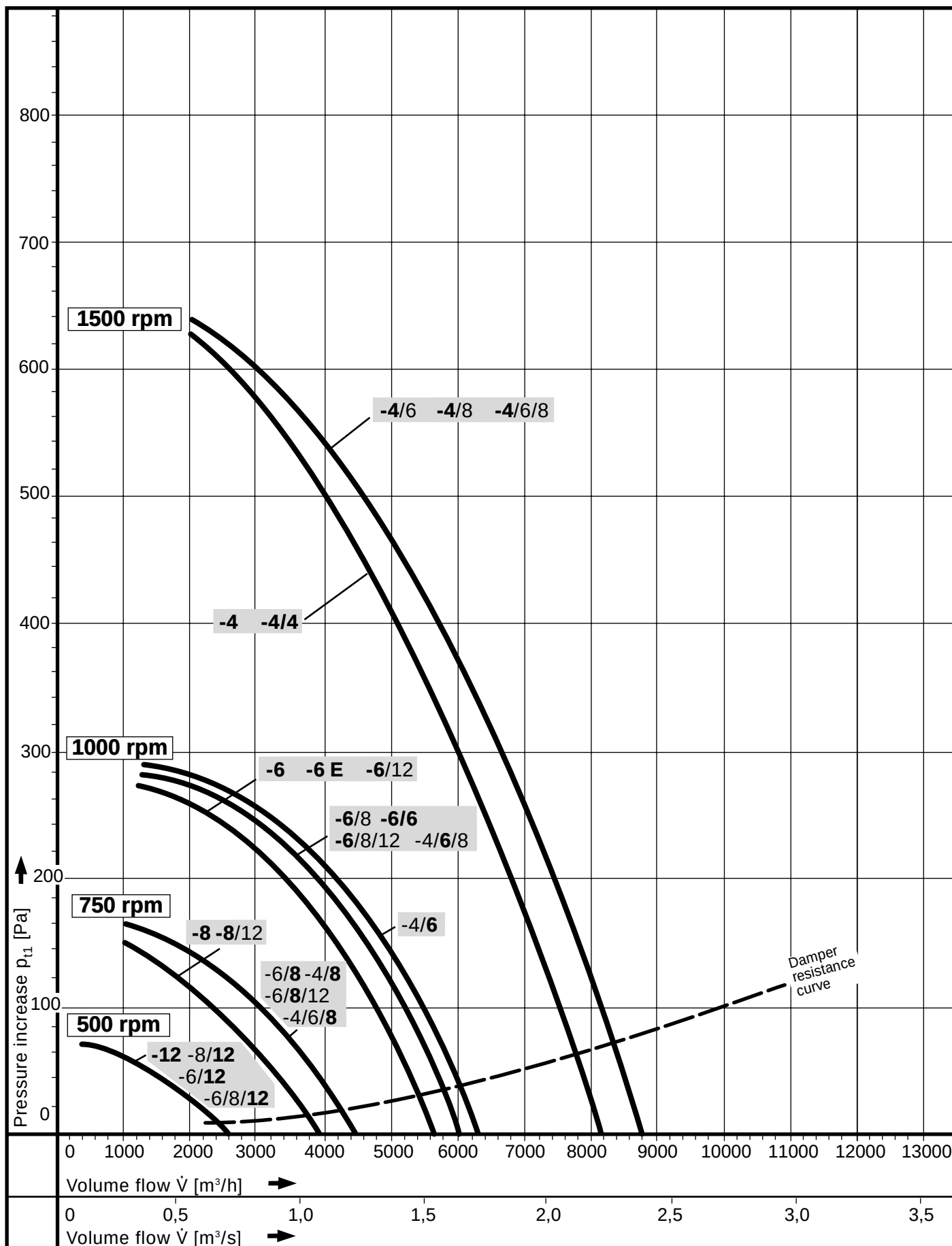


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 400/30

048



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRV 400/30

049

| Type                | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>1~230 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|---------------------|---------------------------|-------------------------|------------------------|--------------------------------------------------------|------------------------------------|---------------------------------|
|                     |                           |                         |                        |                                                        | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRV 400/30 – 12 *   | 47                        | 420                     | 0,035                  | 0,22                                                   | 2600                               | 2500                            |
| DRV 400/30 – 8 *    | 47                        | 615                     | 0,11                   | 0,52                                                   | 4000                               | 3800                            |
| DRV 400/30 – 8/12   | 47                        | 700/450                 | 0,12/0,035             | 0,62/0,33                                              | 4000/2600                          | 3800/2500                       |
| DRV 400/30 – 6 *    | 47                        | 870                     | 0,44                   | 1,5                                                    | 5600                               | 5400                            |
| DRV 400/30 – 6/12   | 47                        | 910/440                 | 0,3/0,04               | 1,14/0,4                                               | 5600/2600                          | 5400/2500                       |
| DRV 400/30 – 6/8    | 47                        | 910/680                 | 0,4/0,18               | 1,23/0,71                                              | 6000/4500                          | 5800/4250                       |
| DRV 400/30 – 6/6    | 47                        | 870/660                 | 0,44                   | 1,52/0,85                                              | 6000/4720                          | 5800/4570                       |
| DRV 400/30 – 6/8/12 | 47                        | 890/680/<br>450         | 0,38/0,17/<br>0,05     | 1,78/0,8/<br>0,43                                      | 6000/4500/<br>2600                 | 5800/4250/<br>2500              |
| DRV 400/30 – 6E *   | 47                        | 900                     | 0,42                   | 3,15 **                                                | 5600                               | 5400                            |
| DRV 400/30 – 4 *    | 47                        | 1330                    | 1,0                    | 2,47                                                   | 8200                               | 7700                            |
| DRV 400/30 – 4/8    | 47                        | 1390/710                | 1,1/0,14               | 2,56/0,76                                              | 8800/4500                          | 8400/4300                       |
| DRV 400/30 – 4/6    | 47                        | 1380/940                | 1,2/0,35               | 2,94/1,14                                              | 8800/6300                          | 8400/6000                       |
| DRV 400/30 – 4/4    | 47                        | 1320/1000               | 1,0                    | 2,47/1,42                                              | 8200/6200                          | 7700/5850                       |
| DRV 400/30 – 4/6/8  | 47                        | 1410/890/<br>700        | 1,3/0,4/<br>0,25       | 3,4/1,3/<br>1,0                                        | 8800/6000/<br>4500                 | 8400/5800/<br>4250              |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

\*\* Nominal current at 1~230 Volt

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |                                              |                             |                                              |                             |                                              |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|----------------------------------------------|-----------------------------|----------------------------------------------|-----------------------------|----------------------------------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %<br>L <sub>W</sub> [dB]                        | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | 50 %<br>L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | 25 %<br>L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 420                          | 76                                     | 61                   | 47                   | ± 0                                                | - 3                                          | ± 0                         | - 5                                          | ± 0                         | - 4                                          |
| 640                          | 85                                     | 72                   | 57                   | ± 0                                                | - 3                                          | + 2                         | ± 0                                          | + 3                         | - 1                                          |
| 840                          | 90                                     | 78                   | 64                   | + 1                                                | - 1                                          | + 1                         | - 1                                          | + 3                         | ± 0                                          |
| 1320                         | 96                                     | 87                   | 73                   | + 1                                                | - 1                                          | + 1                         | - 1                                          | + 4                         | + 1                                          |

Influence of the automatic damper + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|----------------|------------------------------|-----|------|------|------|------|------|------|
|                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 420            | 2,5                          | 4,9 | 10,4 | 22,0 | 25,3 | 21,3 | 30,0 | 41,6 |
| 640            | 2,0                          | 7,4 | 8,9  | 20,8 | 23,8 | 25,2 | 22,1 | 35,3 |
| 840            | 6,0                          | 2,4 | 9,0  | 13,9 | 21,3 | 24,5 | 20,5 | 26,2 |
| 1320           | 6,5                          | 2,7 | 9,0  | 11,0 | 18,4 | 21,4 | 21,8 | 19,7 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variations as a function of volume flow |                                              |                             |                                              |                             |                                              |
|------------------------------|----------------------------------------|----------------------|----------------------|-----------------------------------------------------|----------------------------------------------|-----------------------------|----------------------------------------------|-----------------------------|----------------------------------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %<br>L <sub>W</sub> [dB]                         | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | 50 %<br>L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] | 25 %<br>L <sub>W</sub> [dB] | L <sub>WA</sub> [dB]<br>L <sub>PA</sub> [dB] |
| 420                          | 72                                     | 65                   | 41                   | - 1                                                 | - 3                                          | - 1                         | - 3                                          | - 1                         | - 4                                          |
| 640                          | 81                                     | 76                   | 51                   | - 1                                                 | - 2                                          | ± 0                         | - 3                                          | + 1                         | ± 0                                          |
| 840                          | 87                                     | 82                   | 57                   | ± 0                                                 | - 1                                          | ± 0                         | - 1                                          | + 2                         | ± 0                                          |
| 1320                         | 95                                     | 91                   | 67                   | ± 0                                                 | - 2                                          | ± 0                         | - 2                                          | + 2                         | ± 0                                          |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 420                          | 4,9                          | 4,7 | 7,9 | 16,8 | 13,5 | 10,8 | 17,7 | 31,0 |
| 640                          | 6,2                          | 7,6 | 4,7 | 15,6 | 12,5 | 15,0 | 10,0 | 24,9 |
| 840                          | 10,1                         | 4,8 | 5,9 | 10,4 | 11,0 | 15,5 | 9,7  | 16,8 |
| 1320                         | 11,9                         | 4,9 | 7,3 | 8,2  | 9,2  | 13,9 | 12,6 | 11,8 |

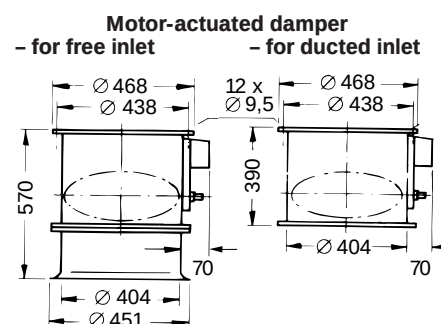
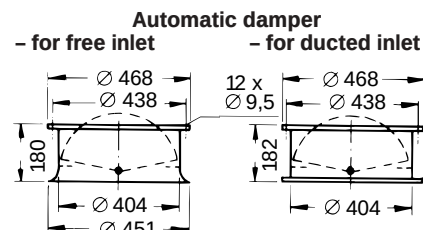
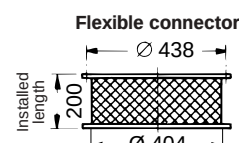
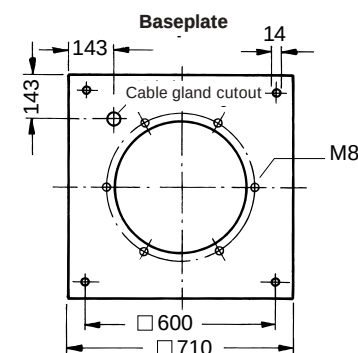
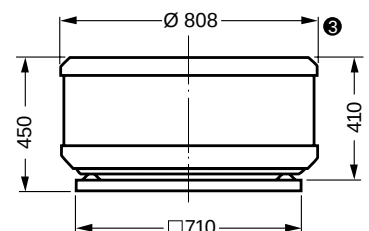
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

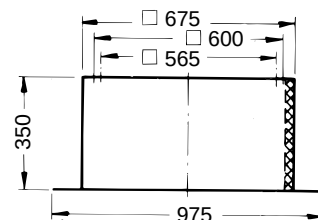
2) Please see note on page 008.

3) Free outlet surface area = 0,193 m²

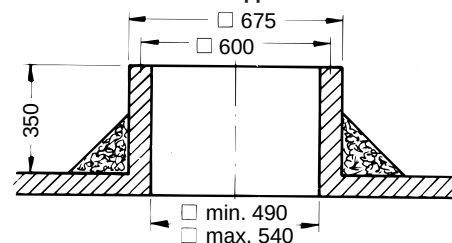
3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°



Steel flat-roof base with internal insulation



Customer-supplied base



DRV

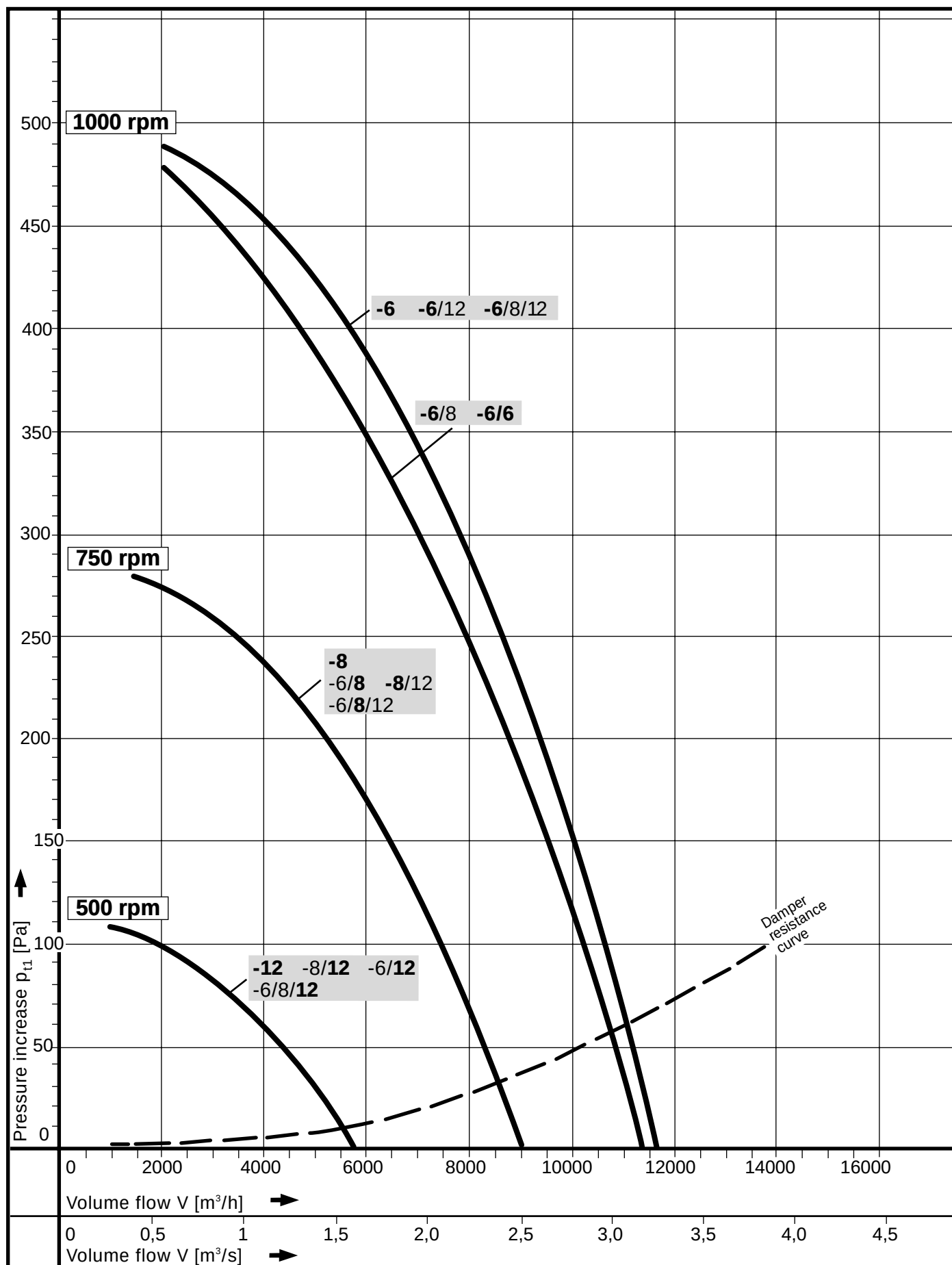


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 500/30

050



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRV 500/30

051

| Type                | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>1~230 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|---------------------|---------------------------|-------------------------|------------------------|--------------------------------------------------------|------------------------------------|---------------------------------|
|                     |                           |                         |                        |                                                        | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRV 500/30 – 12 *   | 90                        | 400                     | 0,13                   | 0,9                                                    | 5800                               | 5500                            |
| DRV 500/30 – 8 *    | 90                        | 690                     | 0,59                   | 2,0                                                    | 9000                               | 8500                            |
| DRV 500/30 – 8/12   | 90                        | 670/440                 | 0,35/0,1               | 1,33/0,62                                              | 9000/5800                          | 8500/5500                       |
| DRV 500/30 – 6 *    | 90                        | 925                     | 0,92                   | 2,75                                                   | 11600                              | 11200                           |
| DRV 500/30 – 6/12   | 90                        | 920/440                 | 1,1/0,16               | 2,75/0,85                                              | 11600/5800                         | 11200/5500                      |
| DRV 500/30 – 6/8    | 90                        | 905/685                 | 1,45/0,7               | 3,7/2,0                                                | 11400/9000                         | 10500/8600                      |
| DRV 500/30 – 6/6    | 90                        | 870/690                 | 0,85                   | 2,66/1,5                                               | 11400/9050                         | 10800/8600                      |
| DRV 500/30 – 6/8/12 | 90                        | 950/720/<br>475         | 0,92/0,42/<br>0,12     | 2,28/1,42/<br>0,66                                     | 11600/9000/<br>5800                | 11000/8600/<br>5500             |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>(2)</sup><br>[rpm] | Noise level <sup>(3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |    |    |     |
|-------------------------------|-----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----|----|-----|
|                               | L <sub>W</sub> [dB]                     | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |    |    |     |
| 400                           | 80                                      | 64                   | 48                   | -1                                                 | -4   | +1   | -7 | +2 | -4  |
| 690                           | 88                                      | 76                   | 62                   | -1                                                 | -2   | ± 0  | -5 | +2 | -2  |
| 925                           | 93                                      | 82                   | 68                   | ± 0                                                | -2   | +1   | -3 | -3 | ± 0 |

Influence of the automatic damper + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed<br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|----------------|------------------------------|-----|-----|------|------|------|------|------|
|                | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 400            | 1,8                          | 6,9 | 9,9 | 23,4 | 27,0 | 31,8 | 36,9 | 42,1 |
| 690            | 4,3                          | 4,2 | 7,3 | 12,5 | 21,5 | 25,7 | 30,7 | 35,9 |
| 925            | 5,5                          | 3,1 | 8,5 | 11,3 | 20,5 | 24,0 | 28,8 | 33,9 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = -3 dB

| Speed <sup>(2)</sup><br>[rpm] | Noise level <sup>(3)</sup><br>at V max. |                      |                      | Noise level variations as a function of volume flow |      |      |    |    |    |
|-------------------------------|-----------------------------------------|----------------------|----------------------|-----------------------------------------------------|------|------|----|----|----|
|                               | L <sub>W</sub> [dB]                     | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 % | 25 % |    |    |    |
| 400                           | 77                                      | 67                   | 42                   | -2                                                  | -3   | -1   | -7 | -1 | -2 |
| 690                           | 86                                      | 79                   | 54                   | -1                                                  | -2   | -1   | -5 | +1 | -2 |
| 925                           | 92                                      | 86                   | 62                   | -1                                                  | -3   | -1   | -5 | +2 | -1 |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>(2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|-------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                               | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 400                           | 5,0                          | 5,9 | 4,6 | 16,4 | 15,2 | 21,0 | 25,2 | 32,6 |
| 690                           | 9,5                          | 5,1 | 4,3 | 10,5 | 11,6 | 16,9 | 20,9 | 28,2 |
| 925                           | 11,0                         | 4,7 | 5,7 | 7,6  | 10,9 | 15,5 | 19,4 | 26,6 |

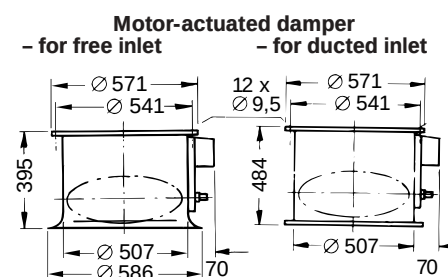
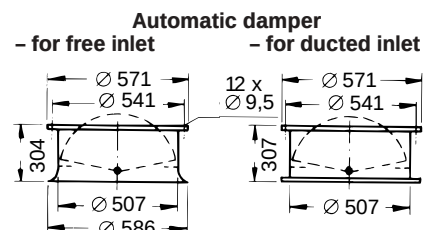
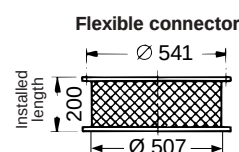
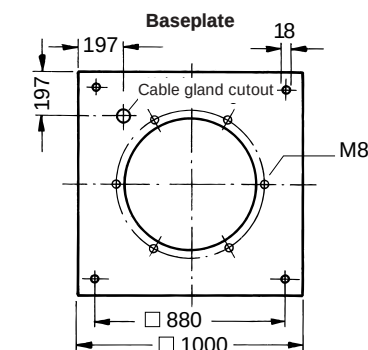
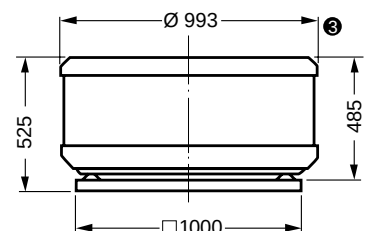
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

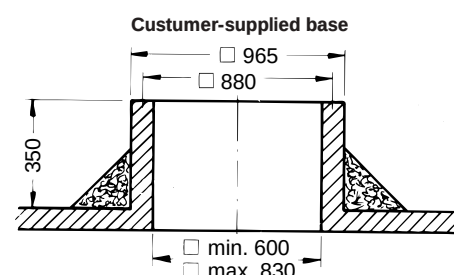
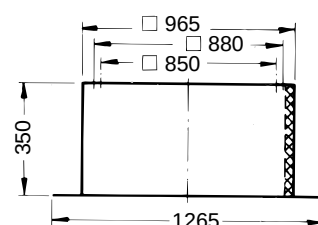
2) Please see note on page 008.

3) Free outlet surface area = 0,261 m²

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°



### Steel flat-roof base with internal insulation



DRV

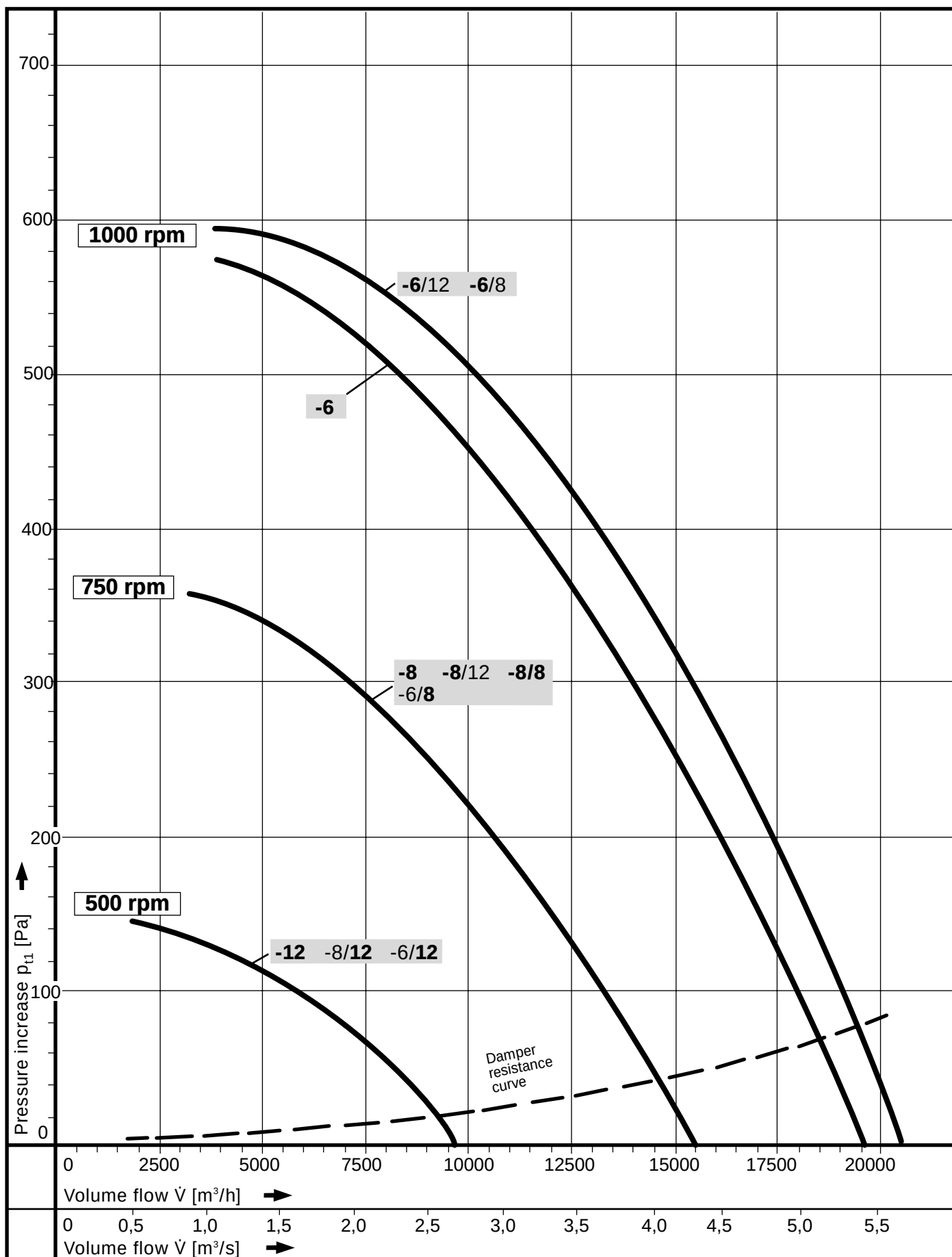


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 630/25

052



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type              | Weight approx.<br><br>[kg] | Motor speed<br><br>[rpm] | Motor output<br><br>[W] | Nominal current at 1-230 Volt 50 Hz<br>[A] | Volume flow (m³/h)        |                        |
|-------------------|----------------------------|--------------------------|-------------------------|--------------------------------------------|---------------------------|------------------------|
|                   |                            |                          |                         |                                            | Free inlet without damper | Free inlet with damper |
| DRV 630/25 – 12   | 130                        | 440                      | 0,4                     | 2,08                                       | 9600                      | 9100                   |
| DRV 630/25 – 8 *  | 130                        | 690                      | 1,15                    | 3,32                                       | 15500                     | 14500                  |
| DRV 630/25 – 8/12 | 130                        | 700/450                  | 1.0/0,26                | 3,04/1,14                                  | 15500/9600                | 14500/9100             |
| DRV 630/25 – 8/8  | 130                        | 700/520                  | 1,15                    | 3,13/1,8                                   | 15500/11600               | 14500/10800            |
| DRV 630/25 – 6    | 130                        | 920                      | 2,2                     | 5,2                                        | 19500                     | 19000                  |
| DRV 630/25 – 6/12 | 130                        | 900/450                  | 2,2/0,28                | 4,9/1,42                                   | 20400/9600                | 19400/9100             |
| DRV 630/25 – 6/8  | 130                        | 950/720                  | 2,9/1,25                | 7,1/3,7                                    | 20400/15500               | 19400/14500            |

\* Motors are speed-variable via a fully modulating transformer or phase control system.

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
 External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |     |     |     |
|----------------------------------|-------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|-----|-----|-----|
|                                  | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |     |     |     |
| 440                              | 84                                  | 68                   | 54                   | + 2                                                | - 2  | + 2  | - 3 | + 4 | ± 0 |
| 670                              | 91                                  | 80                   | 66                   | ± 0                                                | - 3  | + 1  | - 5 | + 3 | ± 0 |
| 920                              | 96                                  | 86                   | 73                   | + 1                                                | - 2  | + 1  | - 1 | + 4 | + 2 |

Influence of the automatic damper + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|----------------|------------------------------|-----|------|------|------|------|------|------|
|                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 440            | 1,4                          | 7,8 | 10,6 | 20,4 | 23,9 | 28,6 | 33,7 | 38,9 |
| 670            | 2,6                          | 6,6 | 8,1  | 12,7 | 18,3 | 22,4 | 27,3 | 32,5 |
| 920            | 5,8                          | 3,3 | 8,8  | 10,3 | 16,7 | 20,1 | 24,8 | 29,9 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
 External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br><br>[rpm] | Noise level <sup>3)</sup> at V max. |                      |                      | Noise level variations as a function of volume flow |      |      |     |     |     |
|----------------------------------|-------------------------------------|----------------------|----------------------|-----------------------------------------------------|------|------|-----|-----|-----|
|                                  | L <sub>W</sub> [dB]                 | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 % | 25 % |     |     |     |
| 440                              | 83                                  | 75                   | 51                   | ± 0                                                 | - 2  | ± 0  | - 3 | + 2 | ± 0 |
| 670                              | 90                                  | 84                   | 60                   | ± 0                                                 | - 3  | - 1  | - 4 | + 2 | + 2 |
| 920                              | 95                                  | 91                   | 66                   | - 1                                                 | - 3  | - 1  | - 1 | + 3 | + 2 |

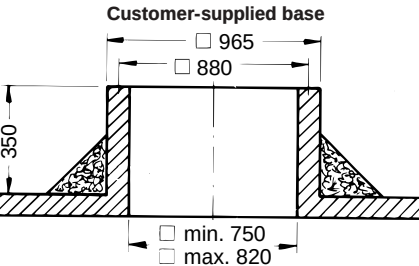
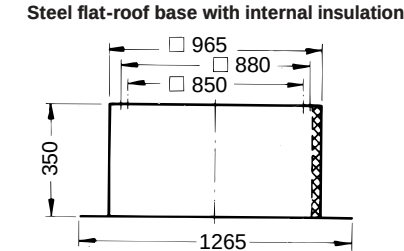
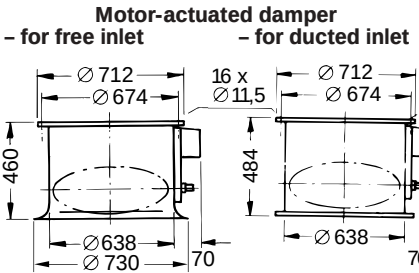
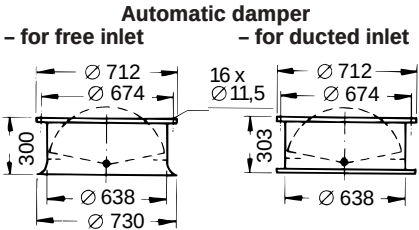
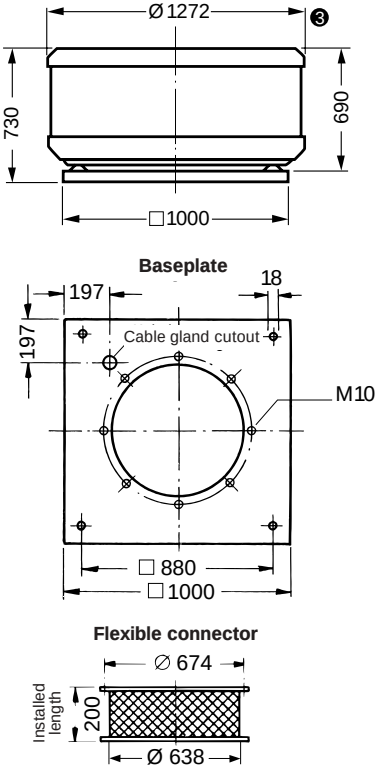
Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 440                          | 5,4                          | 4,4 | 7,6 | 11,0 | 12,4 | 17,3 | 23,2 | 30,5 |
| 670                          | 5,9                          | 6,1 | 8,2 | 7,1  | 9,8  | 13,9 | 19,7 | 26,9 |
| 920                          | 11,5                         | 5,4 | 9,9 | 4,7  | 9,4  | 12,6 | 18,1 | 25,4 |

These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.  
 3) Free outlet surface area = 0,496 m²
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r=4m, 0°



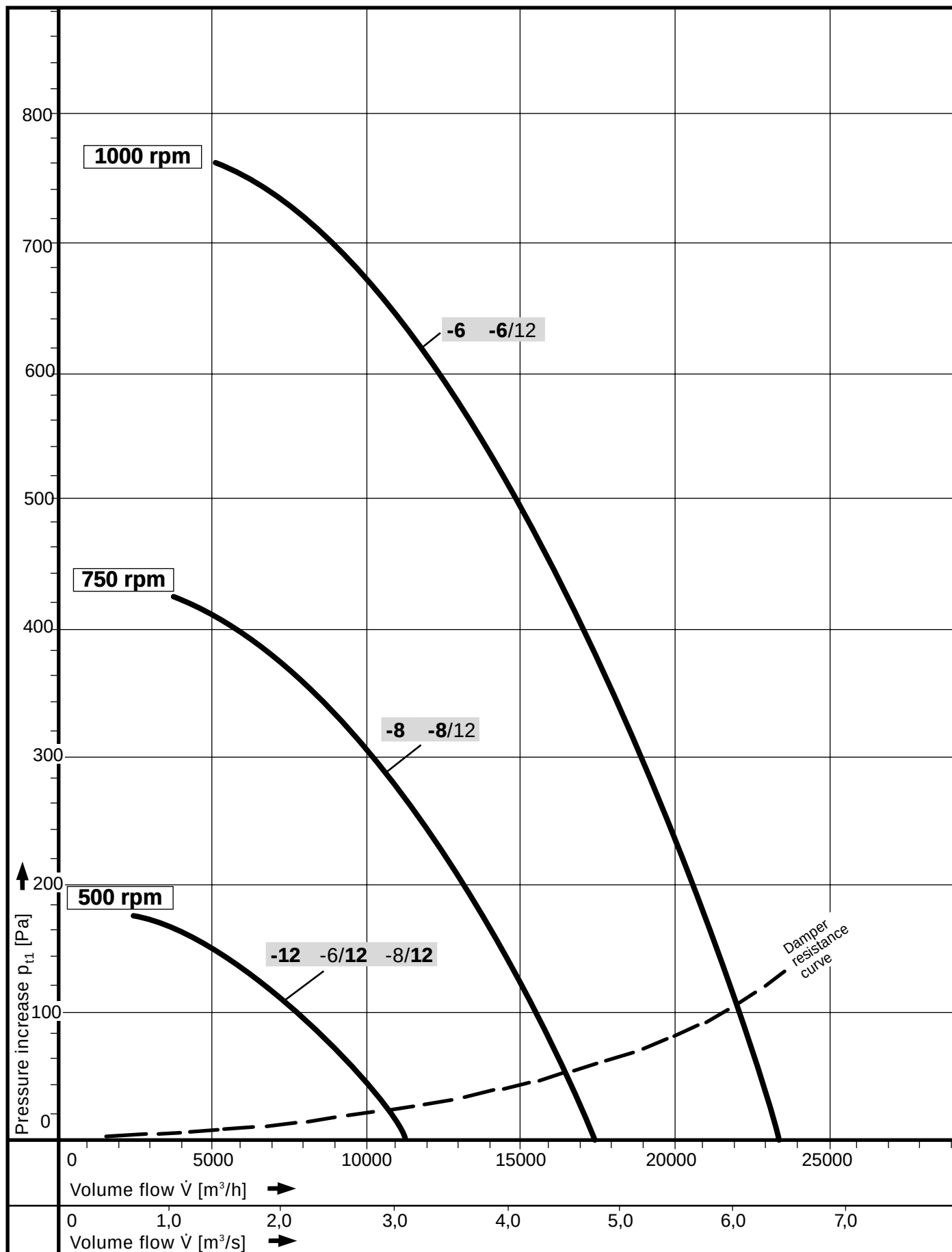


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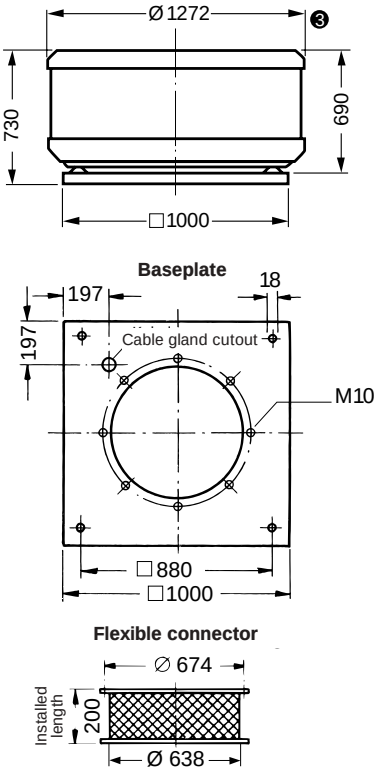
## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 630/30

054



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$

| Type              | Weight approx.<br>[kg] | Motor speed<br>[rpm] | Motor output<br>[W] | Nominal current at 1~230 Volt 50 Hz [A] | Volume flow (m³/h)        |                        |
|-------------------|------------------------|----------------------|---------------------|-----------------------------------------|---------------------------|------------------------|
|                   |                        |                      |                     |                                         | Free inlet without damper | Free inlet with damper |
| DRV 630/30 – 12   | 155                    | 445                  | 0,65                | 2,85                                    | 11400                     | 10600                  |
| DRV 630/30 – 8    | 155                    | 680                  | 2,05                | 5,3                                     | 17600                     | 16600                  |
| DRV 630/30 – 8/12 | 155                    | 700/460              | 2,0/0,6             | 5,0/2,47                                | 17600/11400               | 16600/10600            |
| DRV 630/30 – 6    | 155                    | 930                  | 4,4                 | 9,5                                     | 23500                     | 22000                  |
| DRV 630/30 – 6/12 | 155                    | 950/475              | 5,0/0,66            | 11,7/3,3                                | 23500/11400               | 22000/10600            |



### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
 External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |    |    |     |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----|----|-----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |    |    |     |
| 445                          | 87                                     | 74                   | 60                   | -1                                                 | -3   | -1   | -7 | +1 | -3  |
| 690                          | 96                                     | 83                   | 69                   | +1                                                 | -2   | +2   | -2 | +4 | ± 0 |
| 970                          | 101                                    | 92                   | 79                   | ± 0                                                | -3   | ± 0  | -4 | +3 | ± 0 |

Influence of the automatic damper + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|----------------|------------------------------|-----|------|------|------|------|------|------|
|                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 445            | 3,4                          | 5,0 | 6,5  | 20,0 | 22,6 | 27,2 | 32,3 | 37,5 |
| 690            | 7,9                          | 1,6 | 10,0 | 13,7 | 22,9 | 26,6 | 31,4 | 36,6 |
| 970            | 4,9                          | 4,1 | 7,9  | 9,4  | 13,9 | 20,3 | 24,8 | 29,8 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
 External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variations as a function of volume flow |      |      |    |    |     |
|------------------------------|----------------------------------------|----------------------|----------------------|-----------------------------------------------------|------|------|----|----|-----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 % | 25 % |    |    |     |
| 445                          | 86                                     | 78                   | 53                   | -2                                                  | -3   | -2   | -6 | -1 | -1  |
| 690                          | 95                                     | 88                   | 63                   | ± 0                                                 | -2   | +1   | -5 | +2 | ± 0 |
| 970                          | 100                                    | 97                   | 72                   | -2                                                  | -3   | -2   | -6 | +1 | +1  |

Influence of the automatic damper + 2 dB

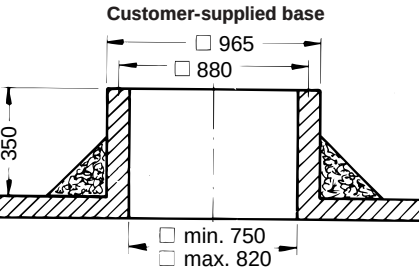
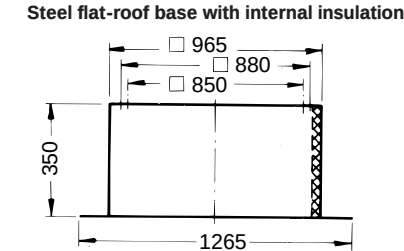
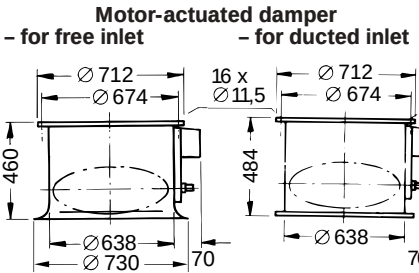
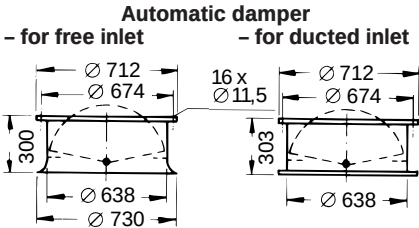
### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 445                          | 7,3                          | 3,6 | 5,7 | 12,5 | 13,2 | 17,9 | 23,7 | 31,0 |
| 690                          | 11,6                         | 2,6 | 9,2 | 7,0  | 13,6 | 17,2 | 22,8 | 30,0 |
| 970                          | 11,3                         | 6,0 | 9,6 | 4,5  | 6,1  | 13,4 | 18,8 | 25,9 |

These noise data apply to a free-inlet configuration without damper at V max.

- 1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.  
 2) Please see note on page 008.
- 3) L<sub>W</sub> = Total acoustic power level  
 L<sub>WA</sub> = Total acoustic power level  
 L<sub>PA</sub> = Sound pressure level r=4m, 0°

③ Free outlet surface area = 0,496 m²



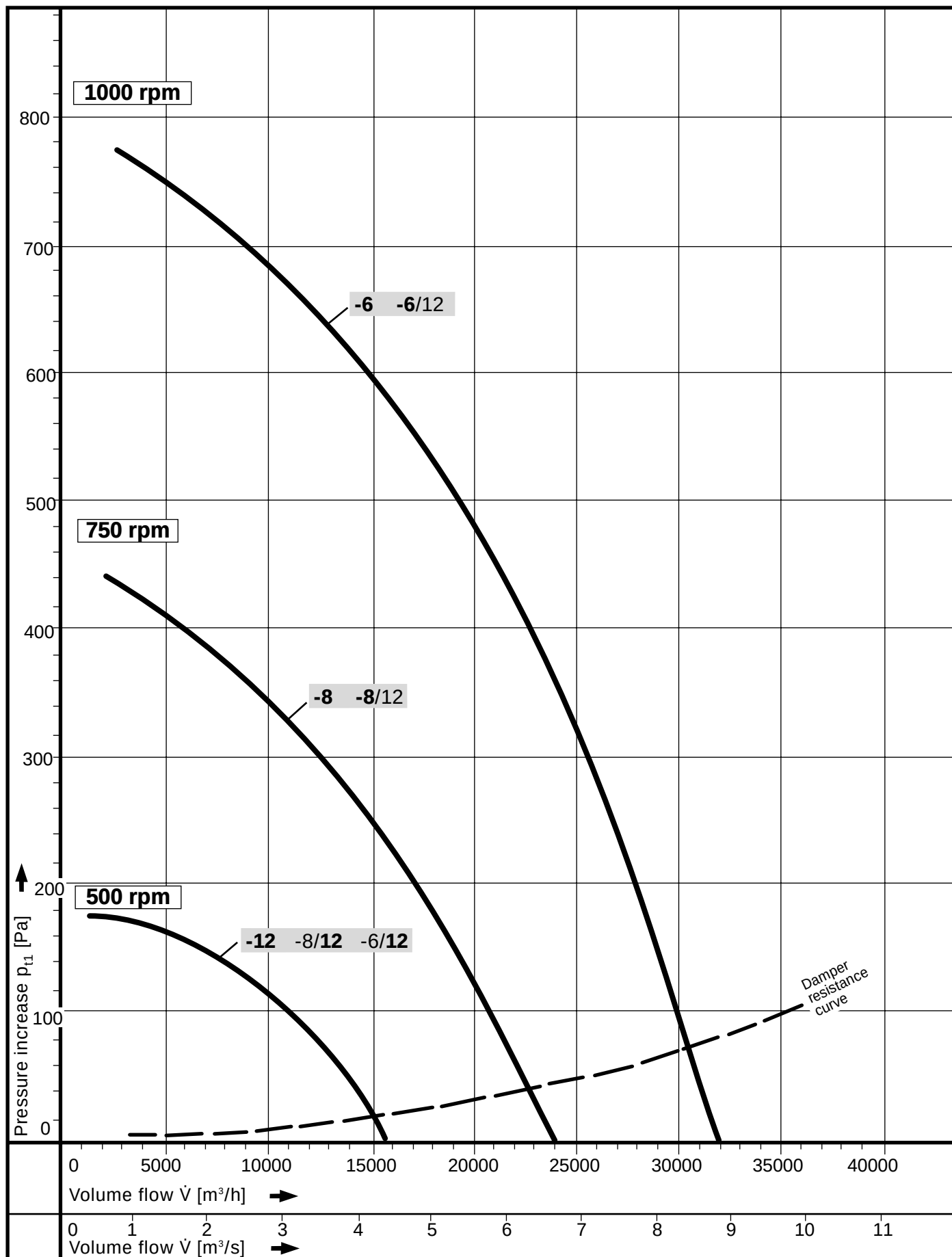


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRV 710/30

056



Characteristic curves are applicable for the conveyed medium „air“ at 20°C, density  $\rho = 1.2 \text{ kg/m}^3$



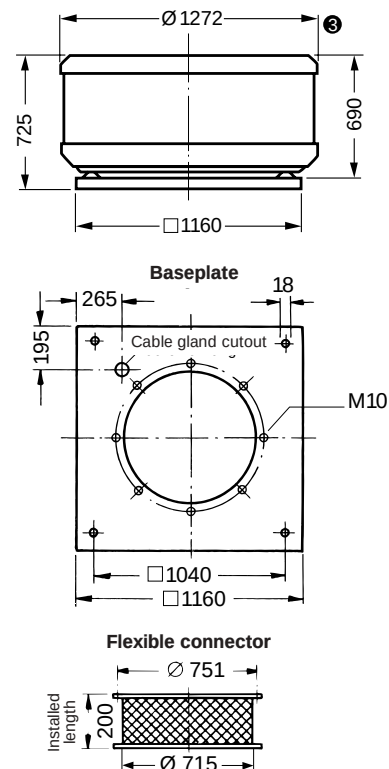
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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRV 710/30

057

| Type              | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>1~230 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|-------------------|---------------------------|-------------------------|------------------------|--------------------------------------------------------|------------------------------------|---------------------------------|
|                   |                           |                         |                        |                                                        | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRV 710/30 – 12   | 185                       | 445                     | 1,3                    | 4,6                                                    | 16000                              | 15000                           |
| DRV 710/30 – 8    | 185                       | 690                     | 2,05                   | 5,3                                                    | 24000                              | 22500                           |
| DRV 710/30 – 8/12 | 185                       | 710/460                 | 2,8/0,7                | 7,7/2,28                                               | 24000/16000                        | 22500/15000                     |
| DRV 710/30 – 6    | 185                       | 960                     | 5,5                    | 12,3                                                   | 32000                              | 31000                           |
| DRV 710/30 – 6/12 | 185                       | 950/475                 | 5,0/0,66               | 11,4/3,0                                               | 32000/16000                        | 31000/15000                     |



### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |     |     |     |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|-----|-----|-----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |     |     |     |
| 445                          | 89                                     | 74                   | 61                   | ± 0                                                | - 2  | + 2  | - 1 | + 4 | ± 0 |
| 690                          | 97                                     | 84                   | 70                   | + 1                                                | - 1  | + 3  | - 1 | + 4 | + 2 |
| 970                          | 102                                    | 94                   | 81                   | ± 0                                                | - 3  | + 1  | - 3 | + 4 | + 2 |

Influence of the automatic damper + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed<br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|----------------|------------------------------|-----|------|------|------|------|------|------|
|                | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 445            | 1,3                          | 9,2 | 11,3 | 16,5 | 21,7 | 26,1 | 31,1 | 36,3 |
| 690            | 11,8                         | 1,2 | 10,2 | 17,1 | 20,4 | 23,9 | 28,7 | 33,8 |
| 970            | 6,7                          | 2,7 | 9,7  | 11,2 | 13,0 | 15,7 | 20,2 | 25,2 |

### Outdoor noise level (above roof level, outlet side)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variations as a function of volume flow |      |      |     |     |     |
|------------------------------|----------------------------------------|----------------------|----------------------|-----------------------------------------------------|------|------|-----|-----|-----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                                | 50 % | 25 % |     |     |     |
| 445                          | 89                                     | 81                   | 56                   | ± 0                                                 | - 4  | + 1  | - 5 | + 3 | ± 0 |
| 690                          | 96                                     | 89                   | 64                   | ± 0                                                 | - 2  | + 1  | - 3 | + 3 | + 2 |
| 970                          | 102                                    | 99                   | 74                   | - 1                                                 | - 2  | - 1  | - 4 | + 3 | + 3 |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |     |      |      |      |      |
|------------------------------|------------------------------|-----|------|-----|------|------|------|------|
|                              | 63                           | 125 | 250  | 500 | 1000 | 2000 | 4000 | 8000 |
| 445                          | 3,4                          | 7,3 | 10,0 | 8,3 | 13,3 | 16,4 | 22,8 | 29,8 |
| 690                          | 14,7                         | 2,7 | 9,1  | 8,7 | 12,1 | 14,2 | 20,4 | 27,3 |
| 970                          | 13,2                         | 4,2 | 11,8 | 6,0 | 8,3  | 9,6  | 15,4 | 22,3 |

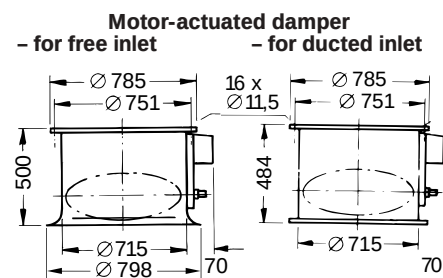
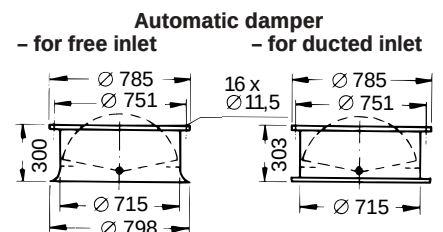
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

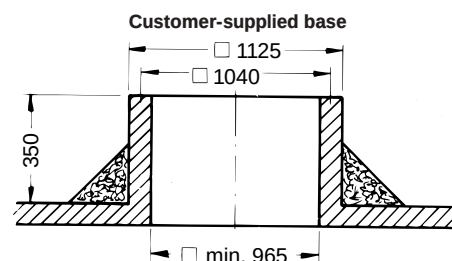
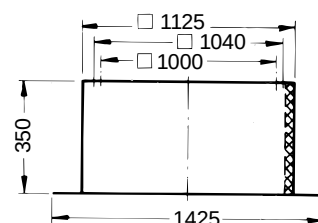
2) Please see note on page 008.

3) Free outlet surface area = 0,496 m²

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°



### Steel flat-roof base with internal insulation



DRV

| Item No.                                    | Qty.              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Unit price  | Amount            |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
|---------------------------------------------|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|-------------------|-------------|-------|-------------------|----|-------------|-----|--------------|----|---------------|-----------|---------------------|---|-------------------|-----------|-----------|-------|---------------------------------------------|----|--------|----|--|--|
|                                             |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | €           | €                 |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
|                                             |                   | <p><b>Centrifugal Roof Unit, DRV-Minivent Series, Vertical Outlet</b></p> <p>Direct motor drive type.<br/>Max. airflow temperature: 50°C<br/>Baseplate made of sendzimir-galvanized sheet steel with deep-drawn bellmouth casing, rugged flow-formed aluminium casing.<br/>Centrifugal flow impeller, single inlet, made of plastic, dynamically balanced according to DIN ISO 1940, quality grade G 2.5.<br/>Single-phase a.c. motor, external rotor type with capacitor, protection class IP 44 moisture-protected and tropicalized, internally wired thermal overload protection contacts.<br/>Motor electrically wired to an external local isolator in accordance with VDE 0113 and VBG 4.</p> <p><b>Specifications</b></p> <table><tr><td>Volume flow</td><td>m<sup>3</sup>/h</td></tr><tr><td>Temperature</td><td>20 °C</td></tr><tr><td>Pressure increase</td><td>Pa</td></tr><tr><td>Motor speed</td><td>rpm</td></tr><tr><td>Motor output</td><td>kW</td></tr><tr><td>Motor winding</td><td>1 x 230 V</td></tr><tr><td>Current consumption</td><td>A</td></tr><tr><td>Operating voltage</td><td>1 x 230 V</td></tr><tr><td>Frequency</td><td>50 Hz</td></tr><tr><td>Sound pressure level LpA (outdoor, r = 4 m)</td><td>dB</td></tr><tr><td>Weight</td><td>kg</td></tr></table> <p><b>Manufacturer: TLT-Turbo GmbH</b><br/><b>Type: DRV-Minivent</b></p> <p><b>Optional extras</b></p> <ul style="list-style-type: none"><li>• Surface protection “S”, all casing parts plus baseplate additionally corrosion-protected on inside and outside with polyester powder coating (colour: RAL 7030)</li><li>• Inlet guard for free inlet configurations</li><li>• Automatic damper for inlet duct installation, with two flanges</li><li>• Flexible connector, tissue covered with a silicone-free coating, with two flanges, for direct attachment to the baseplate</li><li>• Matching flange</li></ul> <p>carryover</p> | Volume flow | m <sup>3</sup> /h | Temperature | 20 °C | Pressure increase | Pa | Motor speed | rpm | Motor output | kW | Motor winding | 1 x 230 V | Current consumption | A | Operating voltage | 1 x 230 V | Frequency | 50 Hz | Sound pressure level LpA (outdoor, r = 4 m) | dB | Weight | kg |  |  |
| Volume flow                                 | m <sup>3</sup> /h |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Temperature                                 | 20 °C             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Pressure increase                           | Pa                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Motor speed                                 | rpm               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Motor output                                | kW                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Motor winding                               | 1 x 230 V         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Current consumption                         | A                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Operating voltage                           | 1 x 230 V         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Frequency                                   | 50 Hz             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Sound pressure level LpA (outdoor, r = 4 m) | dB                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
| Weight                                      | kg                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |
|                                             |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |             |                   |             |       |                   |    |             |     |              |    |               |           |                     |   |                   |           |           |       |                                             |    |        |    |  |  |

| Item No. | Qty.                                         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Unit price<br>€ | Amount<br>€ |
|----------|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
|          | or<br>or<br>or<br>or<br>or<br>or<br>or<br>or | <ul style="list-style-type: none"><li>• Steel flat-roof base made of sendzimir-galvanized sheet steel, with internal insulation<ul style="list-style-type: none"><li>- for flat roof installation</li><li>- for pitched roof installation, ____ ° gradient</li></ul></li><li>• Base for corrugated aluminium roof installation</li><li>• SDS noise-damping base for acoustic attenuation of the fan inlet noise, consisting of the base structure with roof integration flange made of sendzimir-galvanized sheet steel and splitter attenuator made of incombustible, abrasion-resistant absorbent material.<ul style="list-style-type: none"><li>- for flat roof installation</li><li>- for pitched roof installation, ____ ° gradient</li></ul></li><li>• SDH noise-damping hood with horizontal air outlet, consisting of a tubular silencer screwed to the roof fan baseplate.<br/>The damping hood comprises the internally and externally damping silencer made of incombustible, abrasion resistant absorbent material.<br/>The enclosure is made of sendzimir-galvanized sheet steel.<br/>Sound attenuation rating: LpA = 11 dB</li><li>• Additional synthetic surface coating for SDH noise damping hood</li><li>• Electronic speed controller EDS-2 for a.c. motor<ul style="list-style-type: none"><li>- for apparent installation (AP)</li><li>- for concealed installation (flush-type)(UP)</li></ul></li><li>• 230 V transformer for installation in a switchgear panel / cabinet, with 7 taps, ETE ... type</li></ul> |                 |             |
|          |                                              | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                 |             |

| – 060 –  |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |        |
|----------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------|
| Item No. | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Unit price | Amount |
|          |      | <div>Centrifugal Roof Unit, DRV Series, Vertical Outlet</div> <div>Direct motor drive type.<br/>Max. airflow temperature: 40°C<br/>Baseplate made of sendzimir-galvanized sheet steel with deep-drawn bellmouth<br/>Rugged flow-formed aluminium casing<br/>Centrifugal flow impeller, single inlet, made of sheet steel, surface-protected with a polyester powder coating; dynamically balanced according to DIN ISO 1940, quality grade G 6.3</div> <div>External rotor-type drive motor, protection class IP54, with moisture protection insulation.<br/>Motor protected by thermal overload contacts embedded in the winding, wired to external terminals.<br/>Thermal overload contacts on DRV 224/35...E motors are internally wired.<br/>Motors electrically wired to an external local isolator conforming to VDE 0113 and VBG 4.</div> <div>Specifications<div><div>Volume flow</div><div>m<sup>3</sup>/h</div></div><div><div>Temperature</div><div>20 °C</div></div><div><div>Pressure increase</div><div>Pa</div></div><div><div>Motor speed</div><div>rpm</div></div><div><div>Motor output</div><div>kW</div></div><div><div>Motor winding</div><div>V</div></div><div><div>Current consumption</div><div>A</div></div><div><div>Operating voltage</div><div>V</div></div><div><div>Frequency</div><div>Hz</div></div><div><div>Sound pressure level LpA (outdoor, r = 4 m)</div><div>dB</div></div><div><div>Weight</div><div>kg</div></div></div> <div>Manufacturer: TLT-Turbo GmbH<br/>Type: DRV</div> <div>Optional extras<ul style="list-style-type: none"><li>• Surface protection “S”, all casing parts plus baseplate additionally corrosion-protected on inside and outside with a polyester powder coating (colour: RAL 7030)</li><li>• Inlet guard for free inlet configurations</li><li>or<ul style="list-style-type: none"><li>• Automatic damper in the inlet duct, with flow-formed bellmouth for free inlet flow</li></ul></li><li>or<ul style="list-style-type: none"><li>• Automatic damper in the inlet duct, flanged type, for customer-supplied duct connection</li></ul></li></ul></div> <div>carryover</div> | €          | €      |
|          |      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |            |        |

| Item No. | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Unit price<br>€ | Amount<br>€ |
|----------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
|          | or   | <ul style="list-style-type: none"> <li>• Motor-actuated damper in the inlet duct, with flow-formed bellmouth for free inlet flow</li> <li>• Motor-actuated damper in the inlet duct, with flange for customer-supplied duct connection, with 230 V / 50 Hz actuating motor (8 W - 10 VA), operating time 80 sec., overload protected, maintenance-free</li> <li>• Flexible connector, tissue covered with silicone-free coating, with two flanges, for direct attachment to the baseplate</li> <li>• Matching flange</li> <li>• Steel flat-roof base made of sendzimir-galvanized sheet steel, with internal insulation               <ul style="list-style-type: none"> <li>- for flat roof installation</li> <li>- for pitched roof installation, ____° gradient</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |             |
|          | or   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |             |
|          | or   | <ul style="list-style-type: none"> <li>• Base for corrugated aluminium roof</li> <li>• Tilting frame for hinged fan installation, for easy cleaning of the impeller and bellmouth, complete with locking devices according to German Accident Prevention Rules (UVV)</li> <li>• Only in conjunction with the tilting frame:<br/>Cone and flange for damper or customer-provided duct connection</li> <li>• SDS noise-damping base for acoustic attenuation of the fan inlet noise, consisting of the base structure with roof integration flange made of sendzimir-galvanized sheet steel and a tube-type silencer covered with a shield of perforated galvanized sheet steel. Size 224 units come with a splitter attenuator. The bases of size 250 - 710 units are fitted with an integrated cable duct for easy wiring.               <ul style="list-style-type: none"> <li>- for flat roof installation</li> <li>- for pitched roof installation, ____° gradient</li> </ul> </li> <li>• SDV noise-damping hood with horizontal air outlet, consisting of a tubular silencer screwed to the roof fan baseplate. The damping hood comprises the internally and externally damping silencer made of incombustible, abrasion resistant absorbent material. The enclosure is made of sendzimir-galvanized sheet steel, the hood itself consists of glass-reinforced plastic or aluminium<br/>Sound attenuation rating: LpA = 11 dB</li> <li>• Additional synthetic surface coating for SDV noise damping hood</li> </ul> |                 |             |
|          | or   | <ul style="list-style-type: none"> <li>• Motor protection switch set, type FP ...               <ul style="list-style-type: none"> <li>- for apparent installation (AP)</li> <li>- for concealed installation (flush-type)(UP)</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |             |
|          |      | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |             |



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## CENTRIFUGAL ROOF UNITS APPLICATION EXAMPLES / REFERENCES

062



Fig. 1



Fig. 2



Fig. 3



Fig. 4

- 1 DRV and DRVF roof units installed on various commercial buildings (Munich Airport)
- 2 DRV roof units fitted on the roof of a passenger lounge (Frankfurt Airport)
- 3 DRVF and DRV roof units on a new building (Babelsberg Motion Picture Academy)
- 4 DRV centrifugal roof units on a book wholesaler's warehouse building (Libri, Bad Hersfeld)

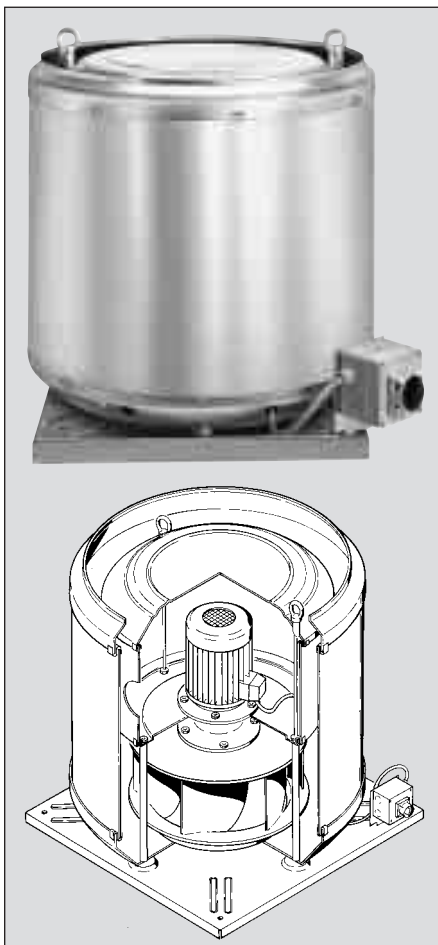


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## CENTRIFUGAL ROOF UNITS DRVF/DRVF-H/BVD SERIES <sup>①</sup> VERTICAL OUTLET

063



**DRVF Series**

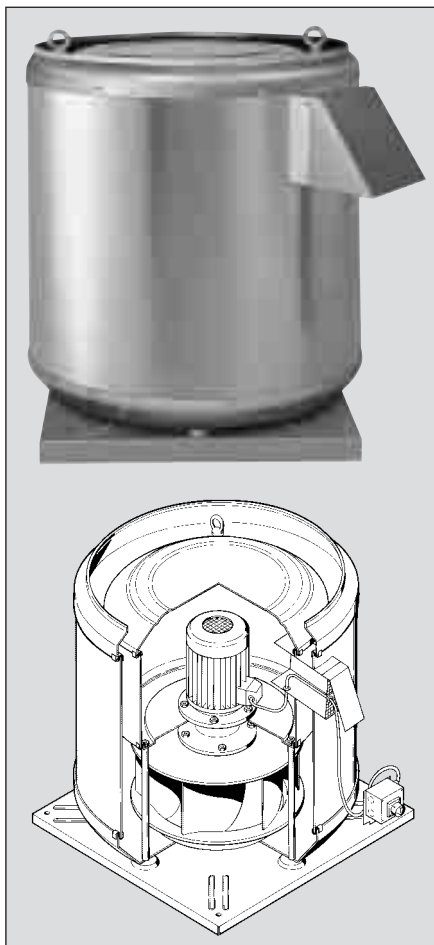
### Casing

The baseplate consists of sendzimir-galvanized sheet metal, bent for maximum torsional stiffness. The bellmouth is deep-drawn for optimum flow properties, providing high aerodynamic efficiency. The housing geometry ensures a truly vertical, strongly guided airflow. The surround ring, rain hood and deflector cap are deep-drawn and made of aluminium. The same material is used for the fan casing.

On DRVF-H and BVD types, motor cooling air is supplied via a special duct.

### Impeller

The sheet steel impeller, with backward curved blades, is dynamically balanced and powder-coated.



**DRVF-H and BVD Series resp.**

### Motor

These fans are powered by an IEC standard three-phase a.c. motor (V1 style) arranged outside the airflow. The standard versions are supplied without motor protection. The motor is wired to an external local isolator or, on fans with an "Ex" hazardous duty rating, to the hazardous-duty terminal box. On BVD types the terminal box is standard.

|                                   |           |
|-----------------------------------|-----------|
| Motor protection/insulation class |           |
| DRVF                              | = IP 54/F |
| DRVF-H                            | = IP 54/F |
| ① BVD (up to 400 °C)              | = IP 54/F |
| ① BVD (up to 620 °C)              | = IP 54/H |

### Operating data

Series DRVF: max. airflow temperature 40 °C.  
Series DRVF-H: max. airflow temperature 120 °C in continuous operation  
Series BVD: max. airflow temperature 400 °C - 120 min. or 620 °C - 120 min.

### Range

4 sizes  
More than 100 types  
Volume flow up to 51500 m³/h  
Pressure increase up to 1900 Pa

① Tested to EN 12101-Pt. 3 at the Technical University of Munich, see special catalogue „Smoke Exhaust Fans“. This catalogue also lists axial-flow and centrifugal type smoke exhaust fans for wall-mounted installation or use as central fans.

### Accessories and options

- ② Fan with "Ex-e" hazardous duty rating
  - ☐ Powder-coated surface finish, RAL 7030
- ② Automatic damper for free inlet
  - ☐ Automatic damper for ducted inlet
- ② Motor-actuated damper for free inlet
- ② Motor-actuated damper for ducted inlet
  - ☐ Inlet guard
  - ☐ Flexible connector, flanged at both ends
  - ☐ Matching flange
  - ☐ Steel flat-roof base with internal insulation
  - ☐ Twin baseplate
  - ☐ Base for pitched roofs
  - ② Base for corrugated roofs
  - ☐ Tilting frame
  - ☐ Connector
  - ☐ SDS noise damping base
  - ② SDH noise damping hood

② Not available for BVD.

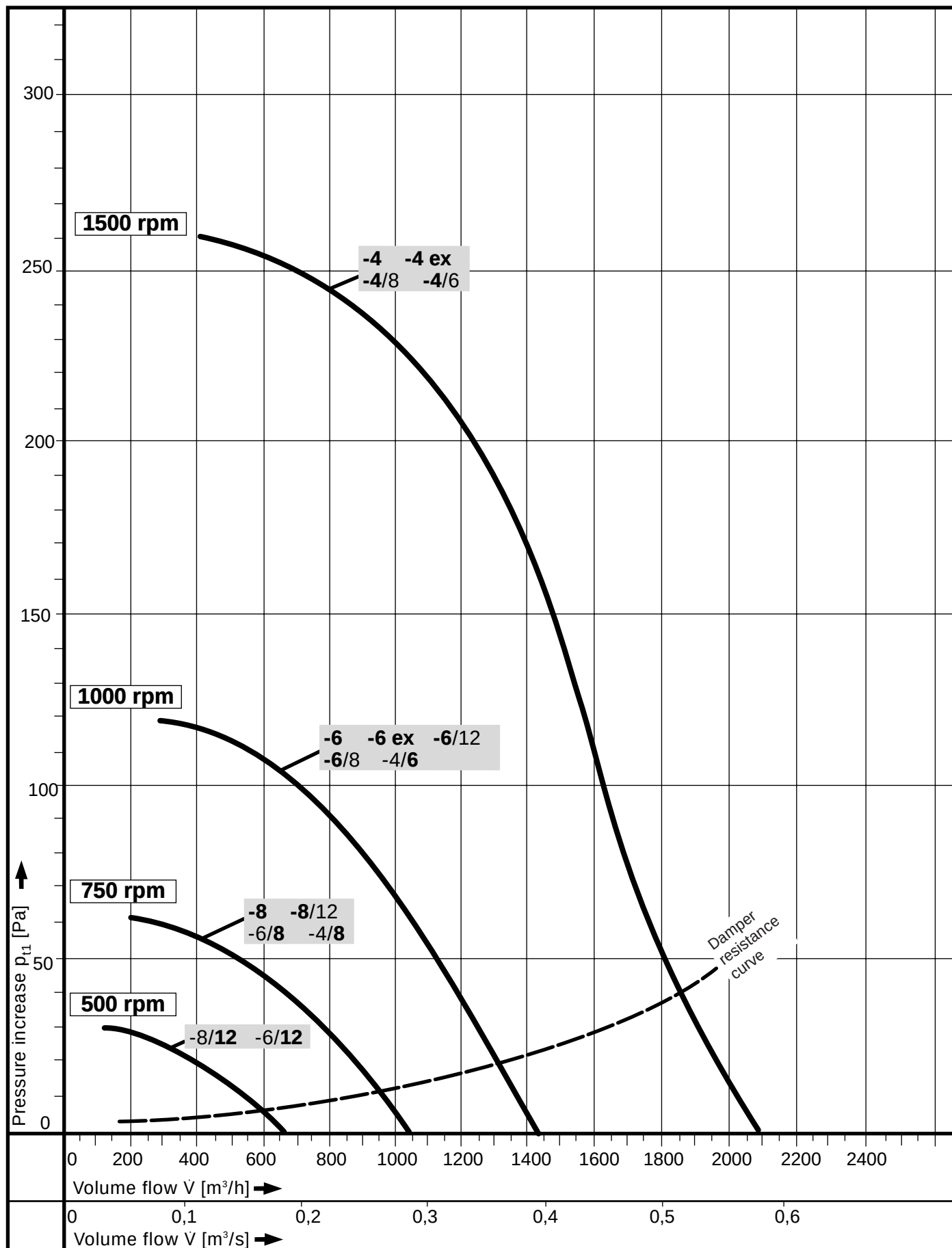


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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRVF 250/28 · DRVF-H 250/28

064



Characteristic curves are applicable for the conveyed medium „air“ at 20 °C, density  $\rho = 1.2 \text{ kg/m}^3$



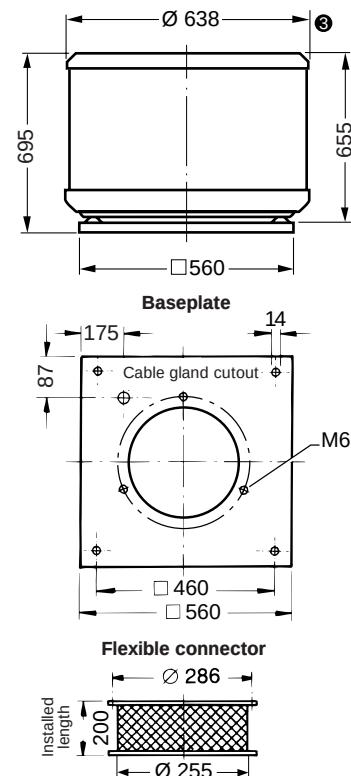
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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS DRVF 250/28 · DRVF-H 250/28

065

| Type               | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|--------------------|---------------------------|-------------------------|------------------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                    |                           |                         |                        |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRVF 250/28 – 8    | 21                        | 670                     | 0,12                   | 0,65                                                 | 1050                               | 950                             |
| DRVF 250/28 – 8/12 | 21                        | 700/470                 | 0,22/0,08              | 1,0/0,7                                              | 1050/650                           | 950/600                         |
| DRVF 250/28 – 6    | 21                        | 880                     | 0,09                   | 0,43                                                 | 1450                               | 1300                            |
| DRVF 250/28 – 6/12 | 21                        | 890/400                 | 0,25/0,044             | 0,9/0,38                                             | 1450/650                           | 1300/600                        |
| DRVF 250/28 – 6/8  | 21                        | 920/700                 | 0,22/0,11              | 0,9/0,72                                             | 1450/1050                          | 1300/950                        |
| DRVF 250/28 – 6ex  | 21                        | 935                     | 0,18                   | 0,62                                                 | 1450                               | 1300                            |
| DRVF 250/28 – 4    | 21                        | 1390                    | 0,25                   | 0,76                                                 | 2100                               | 1850                            |
| DRVF 250/28 – 4/8  | 21                        | 1410/680                | 0,22/0,044             | 0,95/0,4                                             | 2100/1050                          | 1850/950                        |
| DRVF 250/28 – 4/6  | 21                        | 1400/900                | 0,37/0,12              | 1,1/0,52                                             | 2100/1450                          | 1850/1300                       |
| DRVF 250/28 – 4ex  | 21                        | 1360                    | 0,18                   | 0,57                                                 | 2100                               | 1850                            |



### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 64                                     | 46                   | 32                   | -1                                                 | -2   | +0,5 | -0,5                | +7                   | -1,5                 |
| 670                          | 73                                     | 56                   | 41                   | -1                                                 | -2   | +0,5 | -0,5                | +7                   | -1,5                 |
| 880                          | 75                                     | 58                   | 43                   | -1                                                 | -2   | +0,5 | -0,5                | +7                   | -1,5                 |
| 1390                         | 86                                     | 71                   | 56                   | -1                                                 | -2   | +0,5 | -0,5                | +7                   | -1,5                 |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 1,1                          | 7,2 | 18,9 | 23,2 | 21,7 | 29,5 | 39,4 | 44,7 |
| 670                          | 1,0                          | 7,9 | 15,6 | 23,8 | 25,4 | 26,0 | 39,2 | 44,5 |
| 880                          | 3,7                          | 3,0 | 12,0 | 24,4 | 28,5 | 27,1 | 34,9 | 44,8 |
| 1390                         | 2,0                          | 5,7 | 11,1 | 18,9 | 24,3 | 26,9 | 26,2 | 39,7 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 63                                     | 47                   | 24                   | -1                                                 | ± 0  | -7   | -5,5                | -4,5                 | -5                   |
| 670                          | 70                                     | 57                   | 35                   | -1                                                 | ± 0  | -7   | -5,5                | -4,5                 | -5                   |
| 880                          | 75                                     | 62                   | 39                   | -1                                                 | ± 0  | -7   | -5,5                | -4,5                 | -5                   |
| 1390                         | 85                                     | 74                   | 52                   | -1                                                 | ± 0  | -7   | -5,5                | -4,5                 | -5                   |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 1,5                          | 6,4 | 13,3 | 18,1 | 23,2 | 28,5 | 33,8 | 39,1 |
| 670                          | 2,5                          | 5,4 | 10,3 | 14,7 | 19,6 | 24,8 | 30,1 | 35,4 |
| 880                          | 2,0                          | 6,4 | 10,4 | 14,3 | 19,1 | 24,2 | 29,5 | 34,8 |
| 1390                         | 2,5                          | 6,7 | 8,8  | 12,1 | 16,4 | 21,3 | 26,5 | 31,7 |

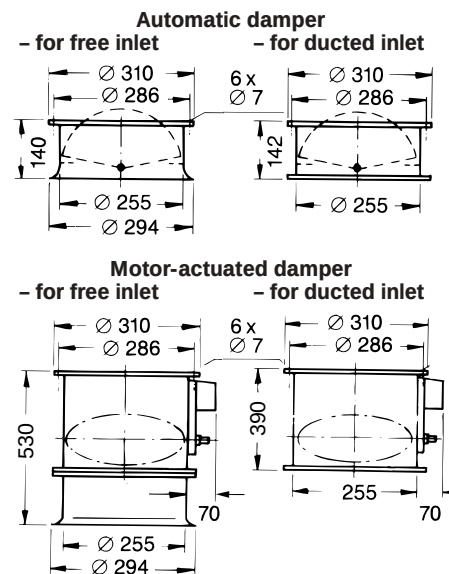
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

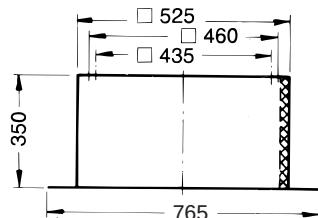
2) Please see note on page 008.

3) Free outlet surface area = 0,116 m²

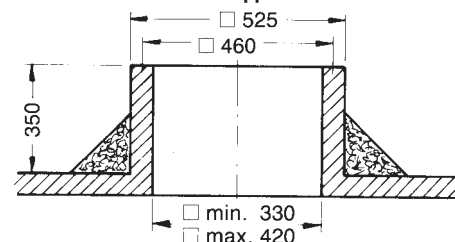
3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°



Steel flat-roof base with internal insulation



Customer-supplied base



DRVF/DRVF-H

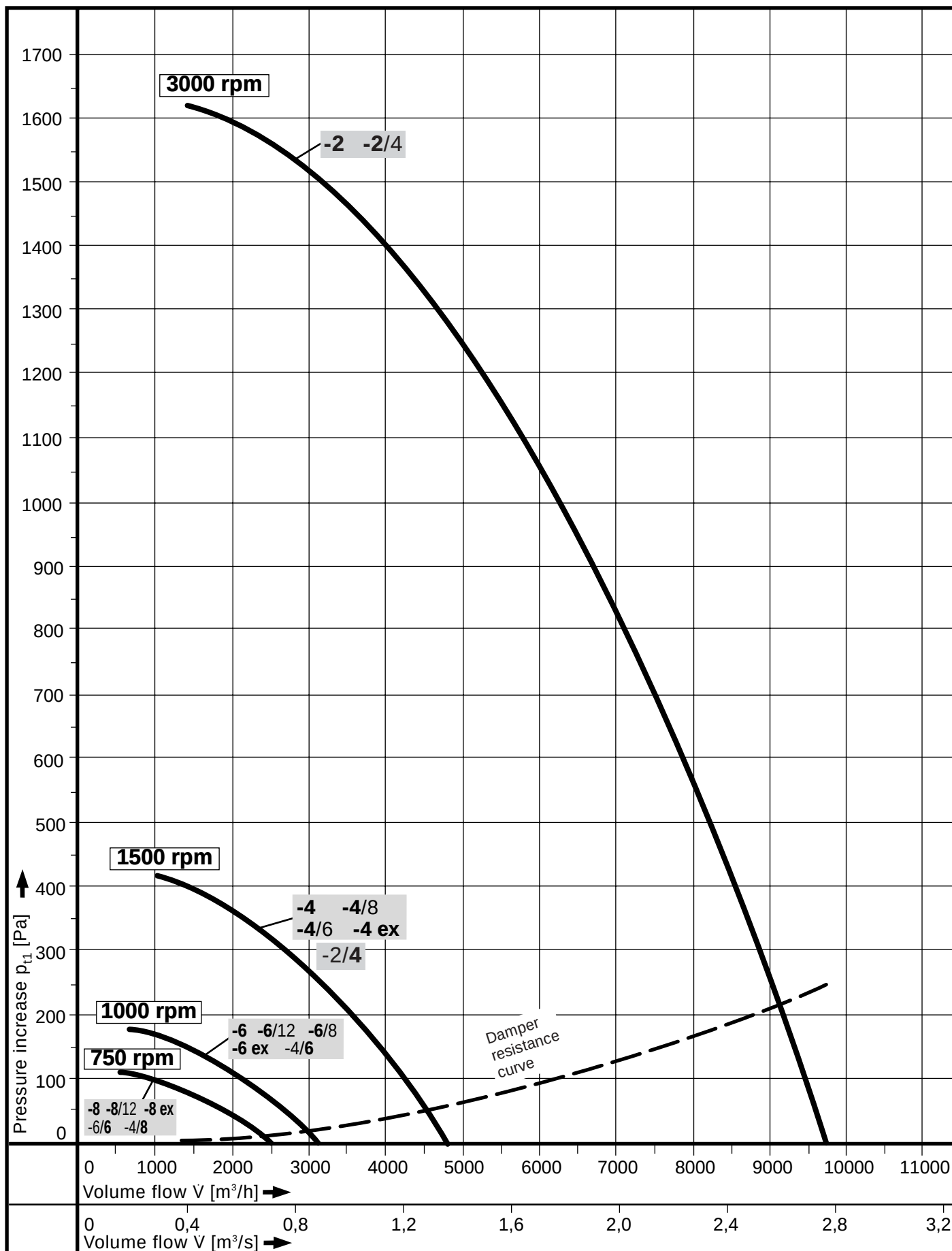


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**CENTRIFUGAL ROOF UNITS  
CHARACTERISTIC CURVES  
DRVF 315/30 · DRVF-H 315/30 · BVD 315/30**

066



Characteristic curves are applicable for the conveyed medium „air“ at 20 °C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS

DRVF 315/30 · DRVF-H 315/30 · BVD 315/30

067

| Type               | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|--------------------|---------------------------|-------------------------|------------------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                    |                           |                         |                        |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRVF 315/30 – 8    | 50                        | 670                     | 0,12                   | 0,65                                                 | 2500                               | 2250                            |
| DRVF 315/30 – 8/12 | 50                        | 700/470                 | 0,22/0,08              | 1,0/0,7                                              | 2500/1100                          | 2250/1050                       |
| DRVF 315/30 – 8ex  | 50                        | 670                     | 0,37                   | 1,45                                                 | 2500                               | 2250                            |
| DRVF 315/30 – 6    | 50                        | 930                     | 0,18                   | 0,82                                                 | 3200                               | 2800                            |
| DRVF 315/30 – 6/12 | 50                        | 890/400                 | 0,25/0,044             | 0,9/0,38                                             | 3200/1100                          | 2800/1050                       |
| DRVF 315/30 – 6/8  | 50                        | 920/700                 | 0,22/0,11              | 0,9/0,72                                             | 3200/2500                          | 2780/2250                       |
| DRVF 315/30 – 6ex  | 50                        | 935                     | 0,18                   | 0,62                                                 | 3200                               | 2800                            |
| DRVF 315/30 – 4    | 50                        | 1380                    | 0,55                   | 1,4                                                  | 4900                               | 4500                            |
| DRVF 315/30 – 4/8  | 50                        | 1410/680                | 0,5/0,12               | 1,5/0,7                                              | 4900/2500                          | 4500/2250                       |
| DRVF 315/30 – 4/6  | 50                        | 1410/920                | 0,55/0,18              | 1,45/0,8                                             | 4900/3200                          | 4500/2800                       |
| DRVF 315/30 – 4ex  | 50                        | 1380                    | 0,55                   | 1,43                                                 | 4900                               | 4500                            |
| DRVF 315/30 – 2    | 70                        | 2880                    | 4,0                    | 8,5                                                  | 9700                               | 9050                            |
| DRVF 315/30 – 2/4  | 70                        | 2890/1440               | 4,1/1,0                | 9,1/2,0                                              | 9700/4900                          | 9050/4050                       |

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 69                                     | 51                   | 34                   | ± 0                                                | – 1  | – 1  | – 3                 | – 1                  | – 1                  |
| 670                          | 75                                     | 62                   | 47                   | – 2                                                | – 3  | ± 0  | – 4                 | – 1                  | – 6                  |
| 930                          | 81                                     | 70                   | 55                   | – 1                                                | – 2  | – 1  | – 2                 | – 3                  | – 4                  |
| 1380                         | 88                                     | 79                   | 65                   | – 2                                                | – 2  | – 1  | – 2                 | – 3                  | – 2                  |
| 2880                         | 102                                    | 97                   | 85                   | – 2                                                | – 2  | – 1  | – 4                 | – 1                  | – 1                  |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 1,8                          | 4,8 | 18,8 | 25,8 | 26,4 | 28,5 | 40,1 | 46,4 |
| 670                          | 4,6                          | 4,3 | 7,6  | 19,2 | 22,3 | 23,6 | 24,2 | 34,6 |
| 930                          | 4,5                          | 4,6 | 6,3  | 12,4 | 20,1 | 23,5 | 22,4 | 28,6 |
| 1380                         | 5,1                          | 6,6 | 5,0  | 9,6  | 17,0 | 20,2 | 21,3 | 22,2 |
| 2880                         | 6,0                          | 8,0 | 9,0  | 4,0  | 12,0 | 15,0 | 18,0 | 19,0 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = – 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 66                                     | 56                   | 33                   | ± 1                                                | ± 0  | – 5  | – 2                 | – 1                  | – 1                  |
| 670                          | 74                                     | 69                   | 43                   | – 4                                                | – 3  | – 2  | – 4                 | – 1                  | – 5                  |
| 930                          | 80                                     | 75                   | 50                   | – 2                                                | – 2  | – 1  | – 3                 | ± 0                  | – 3                  |
| 1380                         | 86                                     | 83                   | 57                   | – 2                                                | – 2  | – 1  | – 1                 | ± 0                  | – 2                  |
| 2880                         | 100                                    | 98                   | 73                   | – 2                                                | – 2  | – 1  | – 2                 | ± 1                  | ± 0                  |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |      |      |      |      |      |      |      |
|------------------------------|------------------------------|------|------|------|------|------|------|------|
|                              | 63                           | 125  | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 1,6                          | 6,0  | 14,5 | 20,5 | 14,0 | 14,3 | 26,4 | 33,4 |
| 670                          | 6,4                          | 6,6  | 3,7  | 15,9 | 12,7 | 12,3 | 12,4 | 23,5 |
| 930                          | 7,6                          | 7,4  | 4,1  | 11,0 | 11,7 | 13,0 | 11,7 | 18,7 |
| 1380                         | 9,2                          | 10,3 | 4,8  | 8,6  | 9,5  | 10,7 | 11,4 | 13,5 |
| 2880                         | 13,0                         | 8,0  | 10,0 | 7,0  | 10,0 | 9,0  | 11,0 | 13,0 |

These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

2) Please see note on page 008.

3) Free outlet surface area = 0,116 m²

4) resp. 90 mm for type BVD rated 620°C-120 min.

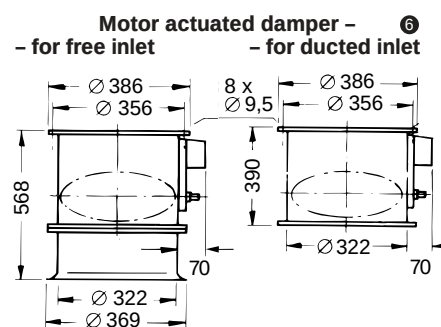
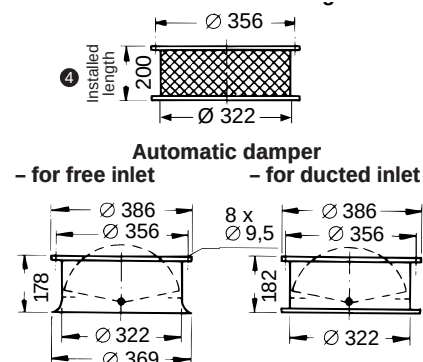
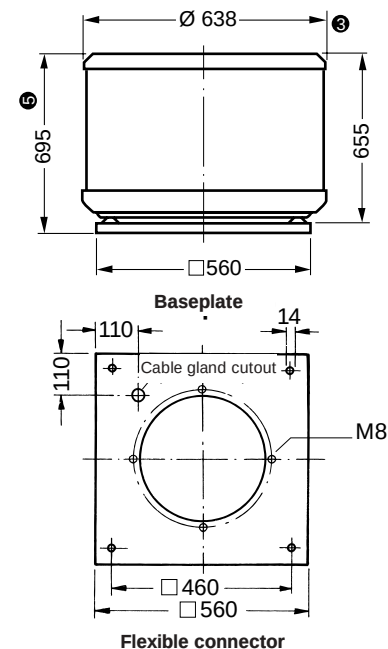
5) L<sub>W</sub> = Total acoustic power level

L<sub>WA</sub> = Total acoustic power level

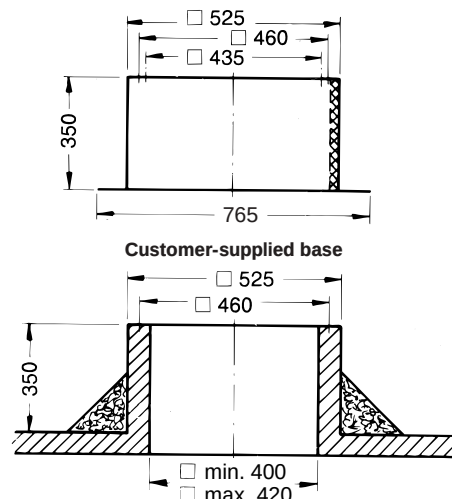
L<sub>PA</sub> = Sound pressure level r=4m, 0°

6) DRVF/DRVF-H 315/30-2 = 744

7) not available for BVD



Steel flat-roof base with internal insulation



DRVF/DRVF-H/BVD

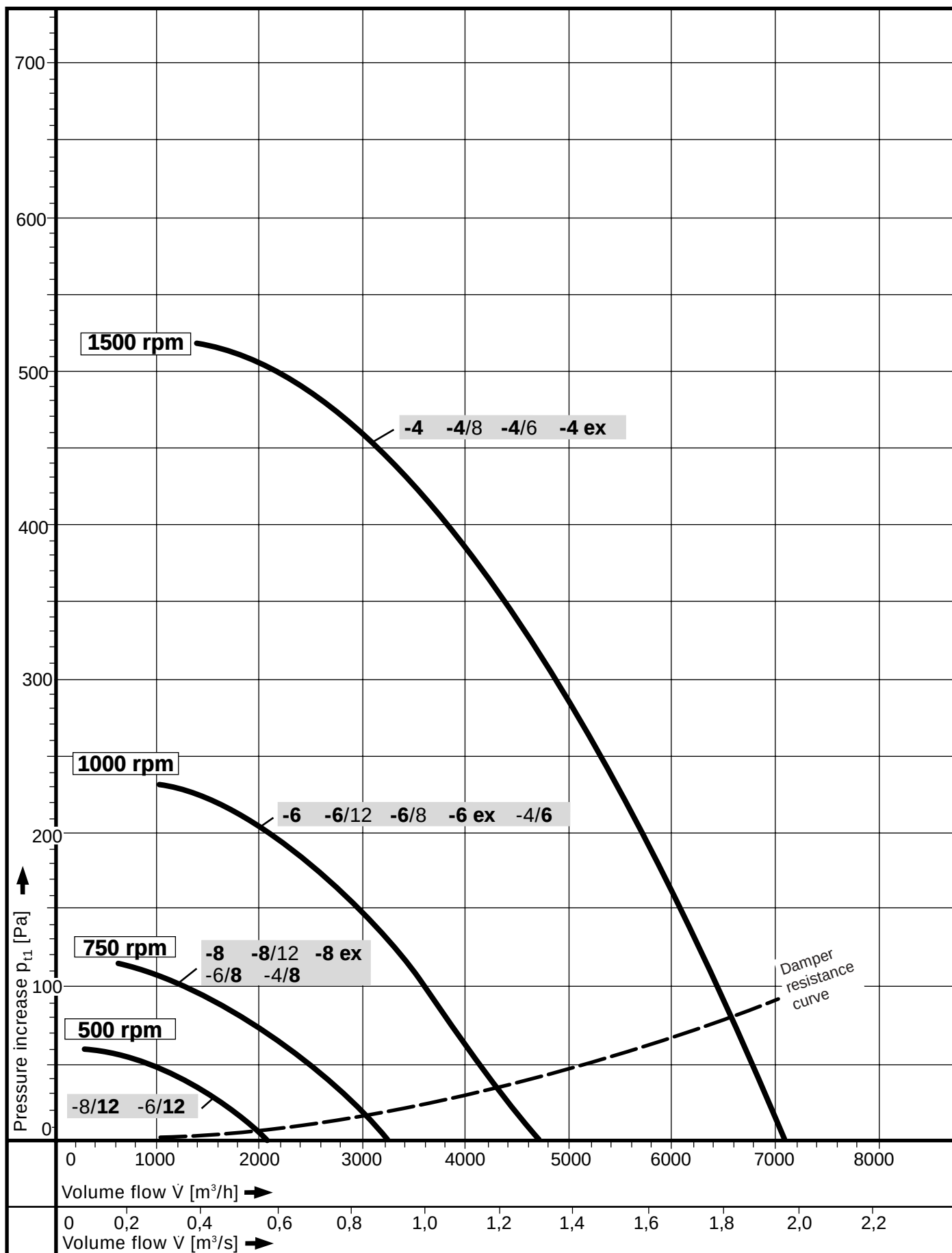


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**CENTRIFUGAL ROOF UNITS  
CHARACTERISTIC CURVES  
DRVF 355/30 · DRVF-H 355/30 · BVD 355/30**

068



Characteristic curves are applicable for the conveyed medium „air“ at 20 °C, density  $\rho = 1.2 \text{ kg/m}^3$



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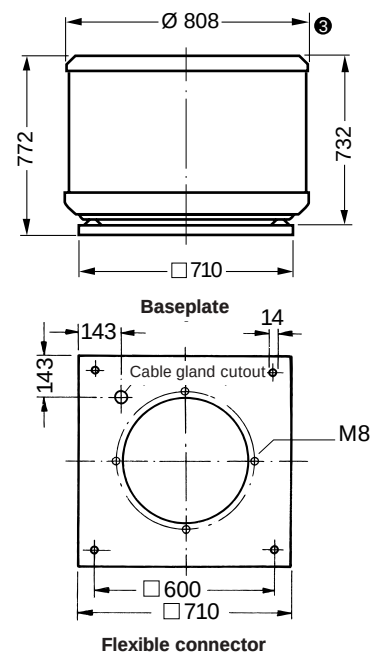
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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS

**DRVF 355/30 · DRVF-H 355/30 · BVD 355/30**

069

| Type               | Weight<br>approx.<br>[kg] | Motor-<br>speed<br>[rpm] | Motor-<br>output<br>[W] | Nominal-<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|--------------------|---------------------------|--------------------------|-------------------------|-------------------------------------------------------|------------------------------------|---------------------------------|
|                    |                           |                          |                         |                                                       | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRVF 355/30 – 8    | 76                        | 670                      | 0,12                    | 0,65                                                  | 3300                               | 3000                            |
| DRVF 355/30 – 8/12 | 76                        | 700/470                  | 0,22/0,08               | 1,0/0,7                                               | 3300/2150                          | 3000/2000                       |
| DRVF 355/30 – 8ex  | 76                        | 670                      | 0,37                    | 1,43                                                  | 3300                               | 3000                            |
| DRVF 355/30 – 6    | 76                        | 910                      | 0,25                    | 0,86                                                  | 4750                               | 4100                            |
| DRVF 355/30 – 6/12 | 76                        | 890/400                  | 0,25/0,044              | 0,9/0,38                                              | 4750/2150                          | 4100/2000                       |
| DRVF 355/30 – 6/8  | 76                        | 920/700                  | 0,22/0,11               | 0,9/0,72                                              | 4750/3300                          | 4100/3000                       |
| DRVF 355/30 – 6ex  | 76                        | 920                      | 0,37                    | 1,18                                                  | 4750                               | 4100                            |
| DRVF 355/30 – 4    | 76                        | 1390                     | 1,1                     | 2,8                                                   | 7050                               | 6550                            |
| DRVF 355/30 – 4/8  | 76                        | 1400/700                 | 1,0/0,25                | 2,4/1,0                                               | 7050/3300                          | 6550/3000                       |
| DRVF 355/30 – 4/6  | 76                        | 1430/950                 | 1,1/0,37                | 2,8/1,35                                              | 7050/4750                          | 6550/4100                       |
| DRVF 355/30 – 4ex  | 76                        | 1390                     | 1,1                     | 2,75                                                  | 7050                               | 6550                            |



### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 71                                     | 57                   | 42                   | ± 0                                                | – 2  | – 4  | ± 1                 | – 6                  | – 3                  |
| 670                          | 77                                     | 65                   | 51                   | – 1                                                | – 2  | – 4  | ± 0                 | – 6                  | – 3                  |
| 910                          | 82                                     | 72                   | 58                   | – 2                                                | – 2  | – 4  | ± 1                 | – 5                  | – 3                  |
| 1390                         | 90                                     | 82                   | 68                   | – 2                                                | – 3  | – 4  | ± 1                 | – 5                  | – 3                  |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 2,3                          | 4,3 | 9,8 | 21,1 | 23,5 | 21,2 | 27,0 | 39,9 |
| 670                          | 3,9                          | 4,4 | 6,9 | 18,9 | 21,8 | 21,3 | 21,1 | 31,1 |
| 910                          | 4,2                          | 4,3 | 7,2 | 12,1 | 18,6 | 21,4 | 18,1 | 23,1 |
| 1390                         | 5,2                          | 6,7 | 5,0 | 9,7  | 16,8 | 19,3 | 19,0 | 17,0 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = – 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 69                                     | 63                   | 38                   | ± 0                                                | – 1  | – 2  | ± 0                 | – 5                  | – 2                  |
| 670                          | 76                                     | 71                   | 46                   | – 2                                                | – 2  | – 3  | – 1                 | – 5                  | – 2                  |
| 910                          | 82                                     | 79                   | 53                   | – 2                                                | – 2  | – 4  | – 1                 | – 5                  | – 2                  |
| 1390                         | 90                                     | 87                   | 62                   | – 2                                                | – 2  | – 4  | ± 0                 | – 5                  | – 2                  |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |      |     |      |      |      |      |      |
|------------------------------|------------------------------|------|-----|------|------|------|------|------|
|                              | 63                           | 125  | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 4,5                          | 4,9  | 8,6 | 17,4 | 12,1 | 10,4 | 15,0 | 29,1 |
| 670                          | 7,5                          | 6,8  | 4,3 | 16,4 | 12,1 | 11,9 | 10,4 | 21,5 |
| 910                          | 8,8                          | 7,0  | 5,6 | 11,0 | 9,9  | 12,9 | 8,0  | 14,5 |
| 1390                         | 10,6                         | 10,4 | 5,7 | 9,0  | 8,8  | 11,7 | 10,0 | 9,3  |

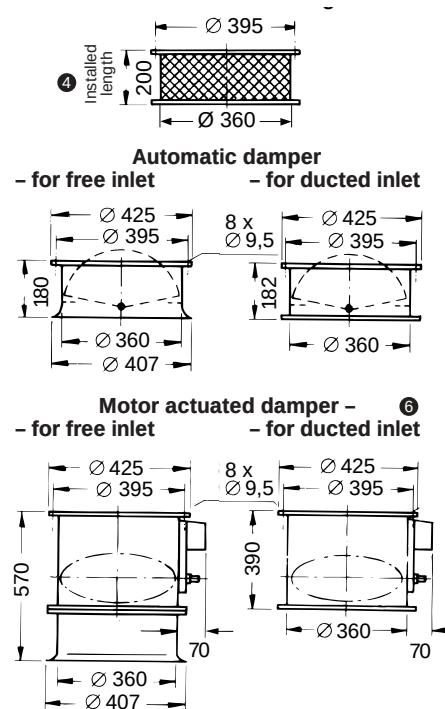
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

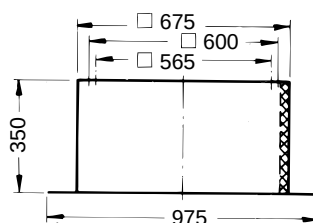
2) Please see note on page 008.

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°

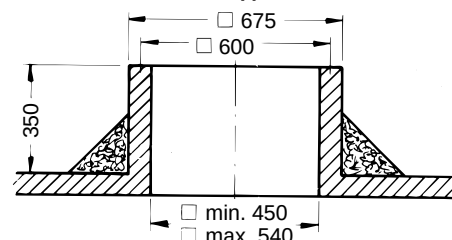
③ Free outlet surface area = 0,193 m² ④ resp. 90 mm for type BVD rated 620°C-120 min. ⑥ not available for BVD



Steel flat-roof base with internal insulation



Customer-supplied base



DRVF/DRVF-H/BVD

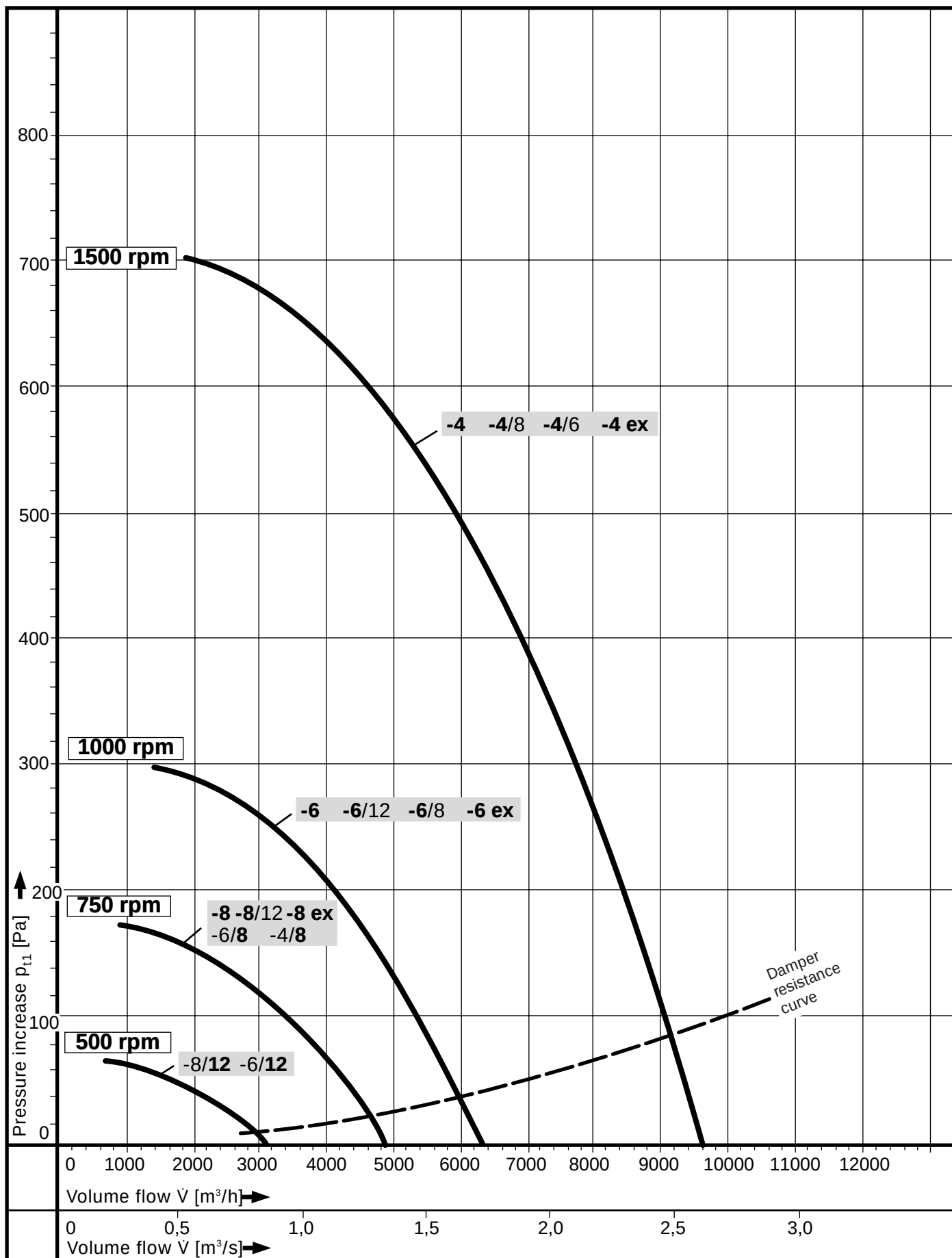


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# CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRVF 400/30 · DRVF-H 400/30 · BVD 400/30

070



Characteristic curves are applicable for the conveyed medium „air“ at 20 °C, density  $\rho = 1.2 \text{ kg/m}^3$



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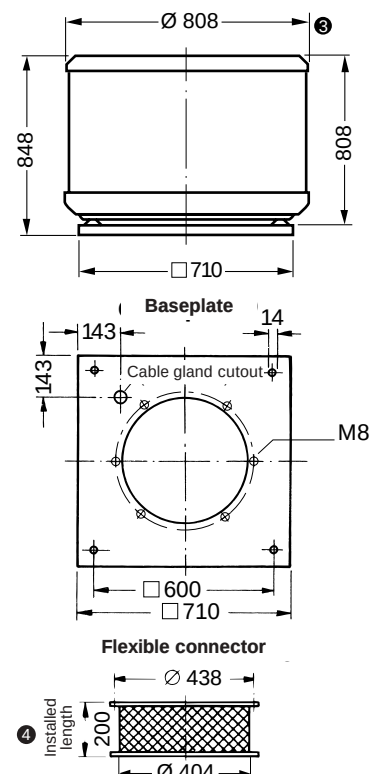
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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS

**DRVF 400/30 · DRVF-H 400/30 · BVD 400/30**

**071**

| Type               | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|--------------------|---------------------------|-------------------------|------------------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                    |                           |                         |                        |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRVF 400/30 – 8    | 85                        | 670                     | 0,37                   | 1,45                                                 | 4900                               | 4600                            |
| DRVF 400/30 – 8/12 | 85                        | 700/470                 | 0,22/0,08              | 1,0/0,7                                              | 4900/3100                          | 4600/2900                       |
| DRVF 400/30 – 8ex  | 85                        | 670                     | 0,37                   | 1,43                                                 | 4900                               | 4600                            |
| DRVF 400/30 – 6    | 85                        | 920                     | 0,55                   | 1,6                                                  | 6250                               | 6000                            |
| DRVF 400/30 – 6/12 | 85                        | 900/420                 | 0,33/0,055             | 1,15/0,33                                            | 6250/3100                          | 6000/2900                       |
| DRVF 400/30 – 6/8  | 85                        | 920/700                 | 0,44/0,22              | 1,45/0,95                                            | 6250/4900                          | 5950/4600                       |
| DRVF 400/30 – 6ex  | 85                        | 920                     | 0,55                   | 1,57                                                 | 6250                               | 5950                            |
| DRVF 400/30 – 4    | 85                        | 1410                    | 1,5                    | 3,5                                                  | 9600                               | 9150                            |
| DRVF 400/30 – 4/8  | 85                        | 1400/690                | 1,4/0,35               | 3,3/1,35                                             | 9600/4900                          | 9150/4600                       |
| DRVF 400/30 – 4/6  | 85                        | 1430/960                | 1,6/0,6                | 3,9/1,8                                              | 9600/6250                          | 9150/5950                       |
| DRVF 400/30 – 4ex  | 85                        | 1420                    | 2,1                    | 4,75                                                 | 9600                               | 9150                            |



### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>s</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 77                                     | 64                   | 49                   | -1                                                 | -3   | -4   | +1                  | -6                   | -6                   |
| 670                          | 86                                     | 75                   | 61                   | -2                                                 | -3   | -3   | +2                  | -5                   | -5                   |
| 920                          | 92                                     | 83                   | 69                   | -1                                                 | -3   | -3   | +3                  | -4                   | -4                   |
| 1410                         | 98                                     | 90                   | 76                   | -1                                                 | -2   | -2   | +3                  | -2                   | -2                   |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 3,1                          | 5,6 | 8,5 | 20,8 | 23,9 | 20,7 | 24,3 | 38,6 |
| 670                          | 4,4                          | 4,3 | 7,4 | 18,0 | 20,2 | 22,2 | 18,7 | 27,0 |
| 920                          | 5,0                          | 4,5 | 6,7 | 10,7 | 18,6 | 21,7 | 18,4 | 21,9 |
| 1410                         | 7,3                          | 8,8 | 2,7 | 10,4 | 18,0 | 20,3 | 21,4 | 18,2 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>s</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 73                                     | 68                   | 43                   | -2                                                 | -3   | -2   | -3                  | -1                   | -6                   |
| 670                          | 82                                     | 78                   | 52                   | -2                                                 | -3   | -1   | -3                  | -1                   | -5                   |
| 920                          | 89                                     | 85                   | 60                   | -2                                                 | -2   | -1   | -2                  | ± 0                  | -2                   |
| 1410                         | 97                                     | 93                   | 68                   | -1                                                 | -2   | -1   | ± 0                 | ± 0                  | ± 0                  |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

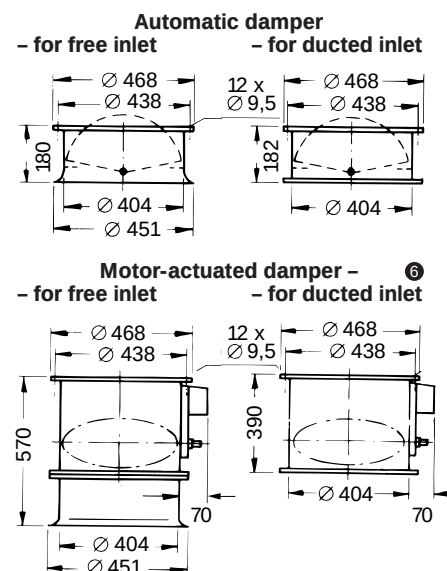
| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |      |     |      |      |      |      |      |
|------------------------------|------------------------------|------|-----|------|------|------|------|------|
|                              | 63                           | 125  | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 6,9                          | 6,4  | 4,4 | 16,5 | 13,1 | 11,2 | 12,9 | 29,0 |
| 670                          | 9,1                          | 6,6  | 4,9 | 14,4 | 10,6 | 13,7 | 8,5  | 18,1 |
| 920                          | 10,9                         | 7,1  | 4,5 | 9,6  | 10,1 | 14,6 | 9,5  | 14,3 |
| 1410                         | 13,4                         | 12,0 | 3,5 | 8,6  | 9,5  | 13,5 | 12,8 | 11,1 |

These noise data apply to a free-inlet configuration without damper at V max.

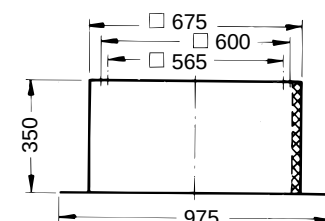
1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

2) Please see note on page 008.

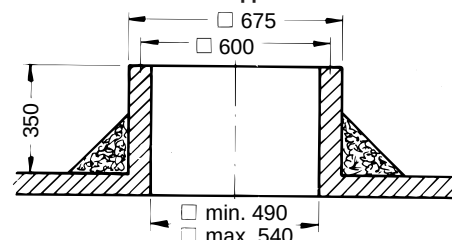
3) Free outlet surface area = 0,193 m² 4) resp. 90 mm for type BVD rated 620°C-120 min. 5) not available for BVD



Steel flat-roof base with internal insulation



Customer-supplied base



DRVF/DRVF-H/BVD

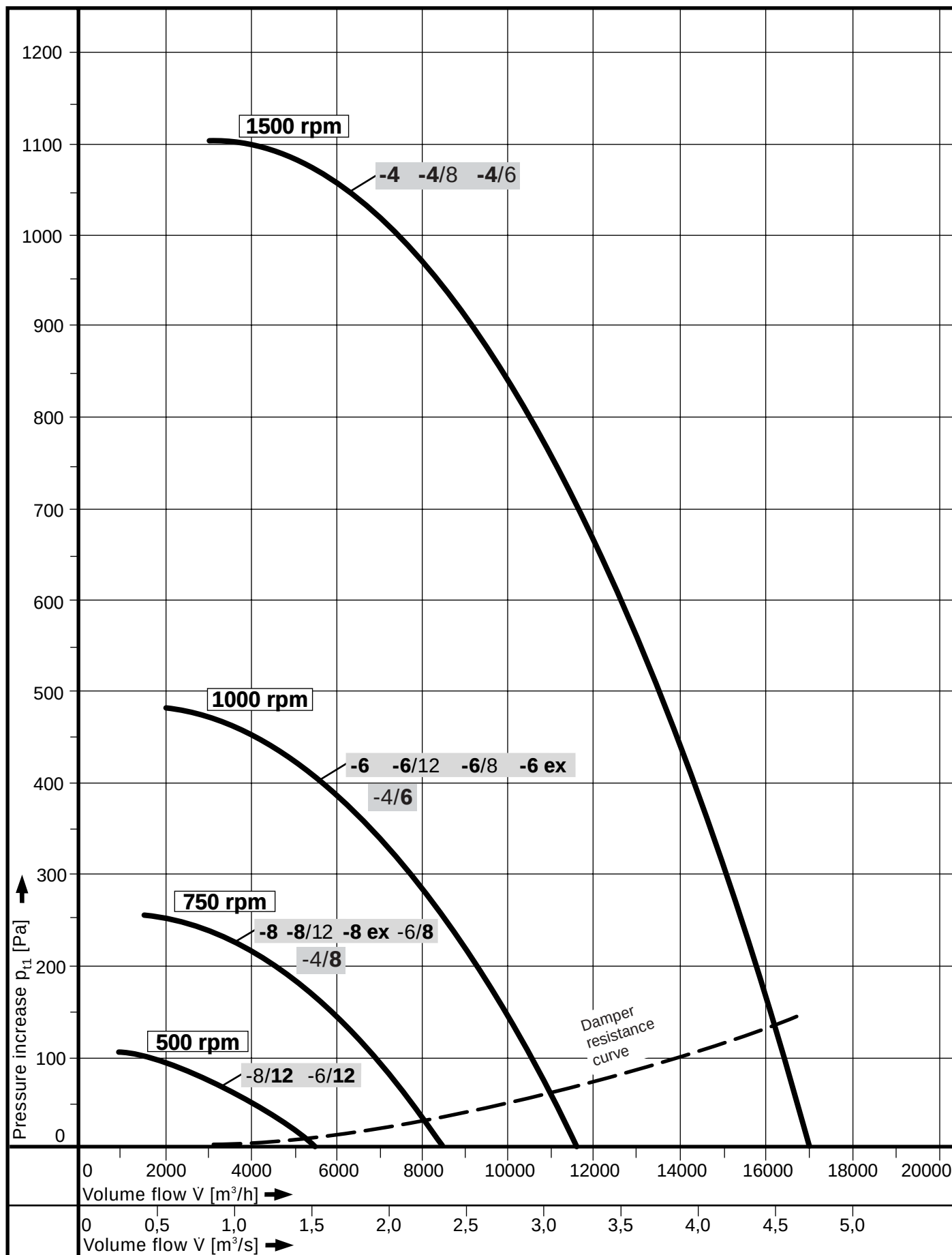


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**CENTRIFUGAL ROOF UNITS  
CHARACTERISTIC CURVES  
DRVF 500/30 · DRVF-H 500/30 · BVD 500/30**

072



Characteristic curves are applicable for the conveyed medium „air“ at 20 °C, density  $\rho = 1.2 \text{ kg/m}^3$



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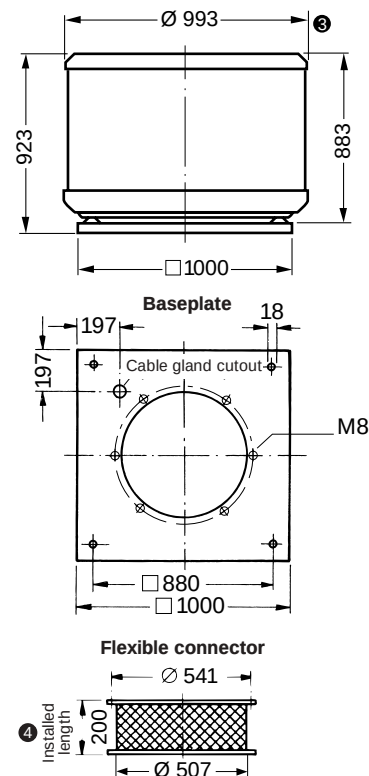
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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS

DRVF 500/30 · DRVF-H 500/30 · BVD 500/30

073

| Type               | Weight approx.<br>[kg] | Motor speed<br>[rpm] | Motor output<br>[W] | Nominal current at 400 Volt 50 Hz [A] | Volume flow (m³/h)        |                        |
|--------------------|------------------------|----------------------|---------------------|---------------------------------------|---------------------------|------------------------|
|                    |                        |                      |                     |                                       | Free inlet without damper | Free inlet with damper |
| DRVF 500/30 – 8    | 148                    | 690                  | 0,75                | 2,2                                   | 8500                      | 8200                   |
| DRVF 500/30 – 8/12 | 148                    | 710/470              | 0,55/0,18           | 2,5/1,18                              | 8500/5500                 | 8200/5300              |
| DRVF 500/30 – 8ex  | 148                    | 710                  | 0,65                | 1,9                                   | 8500                      | 8200                   |
| DRVF 500/30 – 6    | 148                    | 910                  | 1,1                 | 3,15                                  | 11500                     | 10900                  |
| DRVF 500/30 – 6/12 | 148                    | 910/450              | 1,5/0,3             | 3,8/1,35                              | 11500/5500                | 10900/5300             |
| DRVF 500/30 – 6/8  | 148                    | 940/710              | 1,3/0,66            | 3,3/2,3                               | 11500/8500                | 10900/8200             |
| DRVF 500/30 – 6ex  | 148                    | 950                  | 1,5                 | 3,9                                   | 11500                     | 10900                  |
| DRVF 500/30 – 4    | 148                    | 1420                 | 4,0                 | 9,0                                   | 17000                     | 16000                  |
| DRVF 500/30 – 4/8  | 148                    | 1400/700             | 5,5/1,4             | 11,4/4,3                              | 17000/8500                | 16000/8200             |
| DRVF 500/30 – 4/6  | 148                    | 1450/960             | 4,5/1,5             | 9,5/3,8                               | 17000/11500               | 16000/10900            |



### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 81                                     | 66                   | 51                   | + 2                                                | ± 0  | – 2  | + 4                 | – 2                  | – 2                  |
| 690                          | 88                                     | 76                   | 62                   | + 1                                                | – 1  | + 1  | – 3                 | + 4                  | – 3                  |
| 950                          | 93                                     | 83                   | 69                   | + 1                                                | ± 0  | + 2  | – 1                 | + 5                  | – 1                  |
| 1420                         | 104                                    | 95                   | 82                   | + 1                                                | ± 0  | + 2  | – 1                 | + 5                  | – 1                  |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 2,3                          | 5,3 | 8,2 | 21,1 | 24,9 | 29,7 | 34,8 | 40,0 |
| 690                          | 4,8                          | 4,2 | 6,3 | 12,9 | 21,8 | 26,2 | 31,1 | 36,3 |
| 950                          | 5,0                          | 3,9 | 8,0 | 10,8 | 19,2 | 22,7 | 27,5 | 32,6 |
| 1420                         | 5,0                          | 7,0 | 6,0 | 10,0 | 15,0 | 23,0 | 28,0 | 33,0 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = – 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 78                                     | 69                   | 45                   | + 2                                                | ± 0  | – 2  | + 1                 | ± 0                  | ± 0                  |
| 690                          | 86                                     | 78                   | 54                   | ± 0                                                | ± 0  | – 2  | + 1                 | ± 0                  | ± 0                  |
| 950                          | 92                                     | 87                   | 62                   | + 1                                                | – 1  | – 2  | + 2                 | ± 0                  | ± 0                  |
| 1420                         | 101                                    | 97                   | 73                   | + 1                                                | – 1  | – 2  | + 2                 | ± 0                  | ± 0                  |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 6,8                          | 4,9 | 3,7 | 14,8 | 13,8 | 19,6 | 23,8 | 31,2 |
| 690                          | 10,5                         | 5,6 | 3,2 | 11,3 | 12,4 | 17,8 | 21,9 | 29,2 |
| 950                          | 10,7                         | 5,6 | 5,5 | 7,3  | 9,9  | 14,4 | 18,3 | 25,2 |
| 1420                         | 8,0                          | 8,0 | 6,0 | 10,0 | 9,0  | 15,0 | 18,0 | 19,0 |

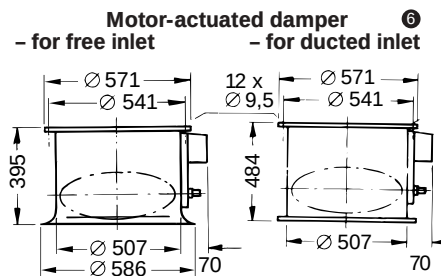
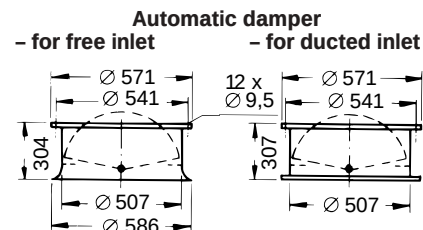
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

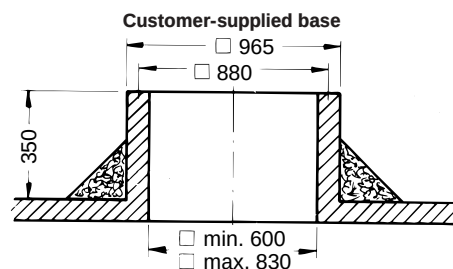
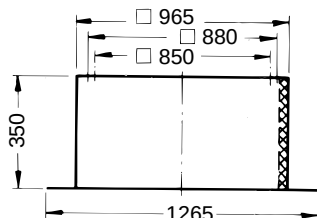
2) Please see note on page 008.

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°

③ Free outlet surface area = 0,261 m² ④ resp. 90 mm for type BVD rated 620°C-120 min. ⑥ not available for BVD



Steel flat-roof base with internal insulation



DRVF/DRVF-H/BVD

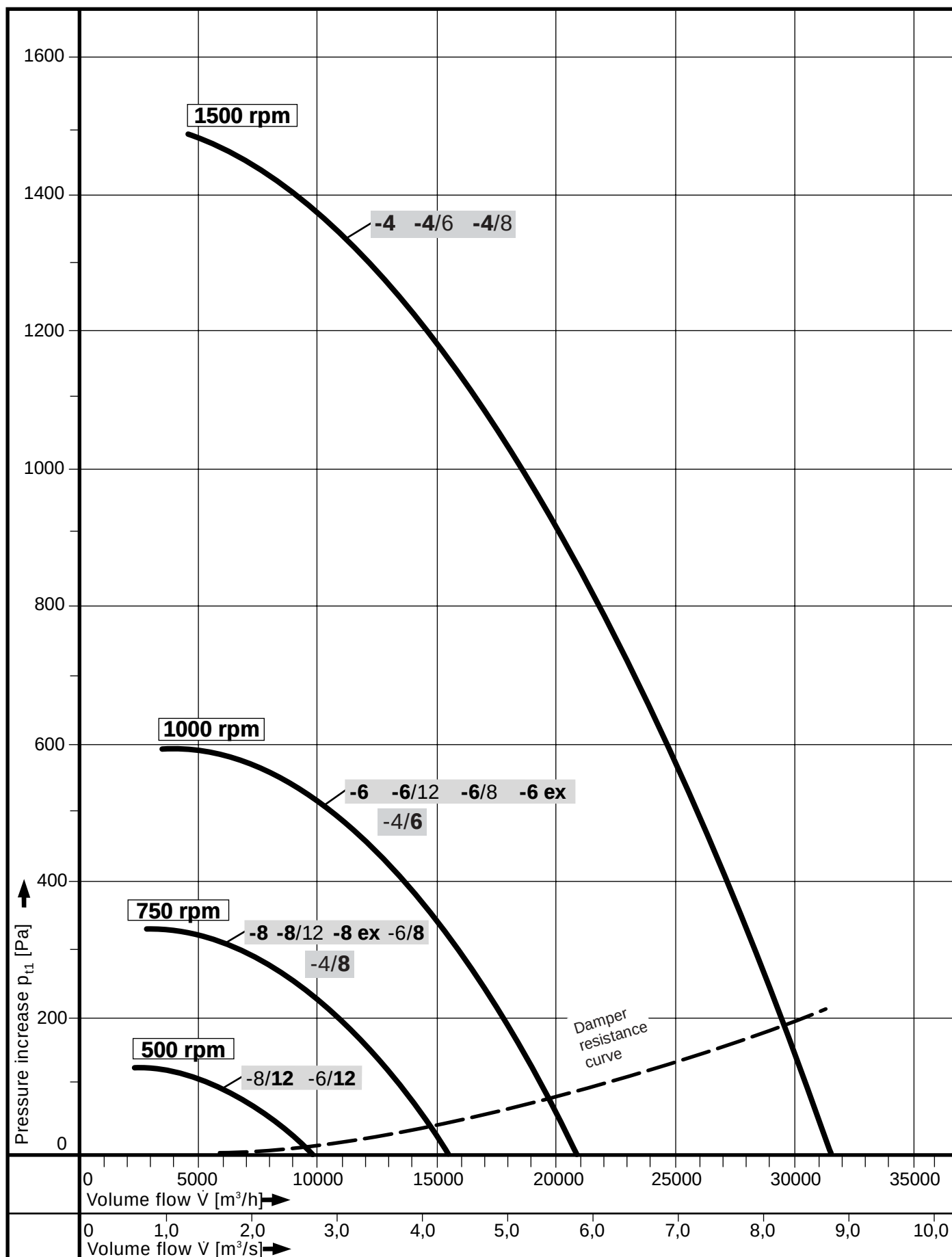


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# CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES DRVF 630/25 · DRVF-H 630/25 · BVD 630/25

074



Characteristic curves are applicable for the conveyed medium „air“ at 20 °C, density  $\rho = 1.2 \text{ kg/m}^3$



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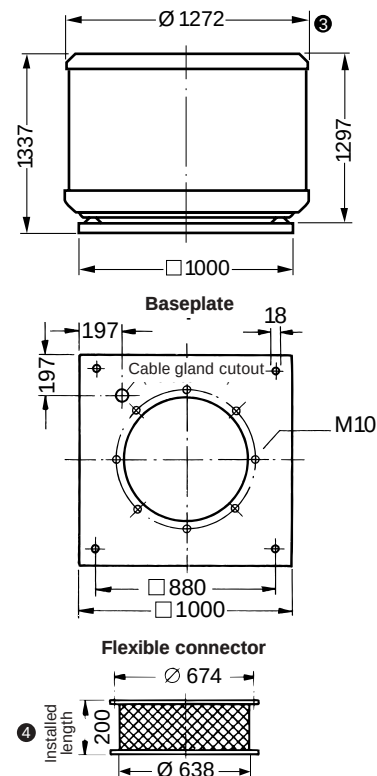
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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS

**DRVF 630/25 · DRVF-H 630/25 · BVD 630/25**

075

| Type               | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|--------------------|---------------------------|-------------------------|------------------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                    |                           |                         |                        |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRVF 630/25 – 8    | 220                       | 705                     | 1,5                    | 5,15                                                 | 15700                              | 14800                           |
| DRVF 630/25 – 8/12 | 220                       | 720/450                 | 1,1/0,37               | 4,0/2,0                                              | 15700/10000                        | 14800/9600                      |
| DRVF 630/25 – 8ex  | 220                       | 700                     | 1,3                    | 4,0                                                  | 15700                              | 14800                           |
| DRVF 630/25 – 6    | 220                       | 945                     | 3,0                    | 7,4                                                  | 20800                              | 19700                           |
| DRVF 630/25 – 6/12 | 220                       | 950/470                 | 2,6/0,5                | 7,1/2,8                                              | 20800/10000                        | 19700/9600                      |
| DRVF 630/25 – 6/8  | 220                       | 950/720                 | 3,3/1,5                | 9,3/4,4                                              | 20800/15700                        | 19700/14800                     |
| DRVF 630/25 – 6ex  | 220                       | 960                     | 3,0                    | 7,4                                                  | 20800                              | 19700                           |
| DRVF 630/25 – 4    | 240                       | 1460                    | 9,2                    | 20                                                   | 32000                              | 29600                           |
| DRVF 630/25 – 4/6  | 240                       | 1460/970                | 12/3,5                 | 24/9,5                                               | 31500/20800                        | 29600/19700                     |
| DRVF 630/25 – 4/8  | 240                       | 1440/720                | 11/3,0                 | 24/9,5                                               | 31500/13700                        | 29600/14800                     |



### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 450                          | 84                                     | 71                   | 57                   | -1                                                 | -1   | -2   | +2                  | -2                   | -2                   |
| 705                          | 91                                     | 81                   | 68                   | ± 0                                                | ± 0  | +1   | -1                  | +4                   | -1                   |
| 945                          | 96                                     | 86                   | 73                   | ± 0                                                | +1   | +1   | ± 0                 | +3                   | +1                   |
| 1460                         | 107                                    | 99                   | 86                   | ± 0                                                | +1   | +1   | +1                  | +3                   | +2                   |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 450                          | 2,5                          | 6,4 | 7,9 | 18,7 | 22,0 | 26,7 | 31,8 | 37,0 |
| 705                          | 2,5                          | 6,2 | 8,1 | 10,7 | 17,7 | 21,8 | 26,7 | 31,8 |
| 945                          | 6,5                          | 2,7 | 9,4 | 11,0 | 17,1 | 20,2 | 24,9 | 30,0 |
| 1460                         | 7,0                          | 2,0 | 9,0 | 12,0 | 14,0 | 17,0 | 21,0 | 26,0 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 450                          | 83                                     | 75                   | 51                   | ± 0                                                | +1   | ± 0  | ± 0                 | ± 0                  | ± 0                  |
| 705                          | 90                                     | 85                   | 60                   | ± 0                                                | +2   | ± 0  | ± 0                 | +1                   | +1                   |
| 945                          | 95                                     | 91                   | 66                   | ± 0                                                | +1   | ± 0  | +1                  | +2                   | +2                   |
| 1460                         | 107                                    | 102                  | 77                   | ± 0                                                | +1   | ± 0  | +1                  | +1                   | +2                   |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 450                          | 7,1                          | 4,5 | 6,6  | 10,8 | 12,1 | 16,9 | 22,8 | 30,1 |
| 705                          | 6,5                          | 5,9 | 8,8  | 5,4  | 9,9  | 13,9 | 19,6 | 26,9 |
| 945                          | 11,9                         | 4,8 | 10,2 | 5,1  | 9,5  | 12,3 | 17,9 | 25,0 |
| 1460                         | 16,0                         | 7,0 | 6,0  | 7,0  | 8,0  | 12,0 | 15,0 | 16,0 |

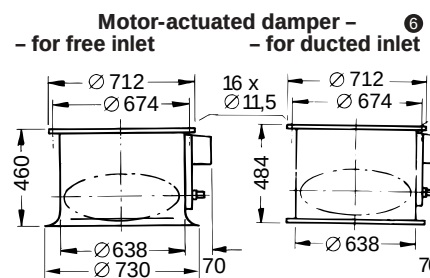
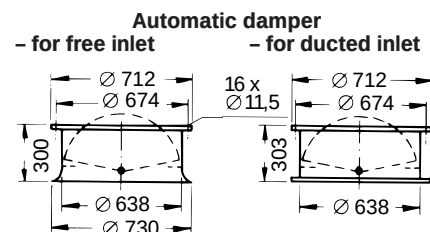
These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

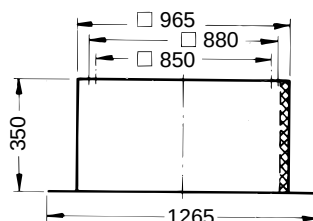
2) Please see note on page 008.

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°

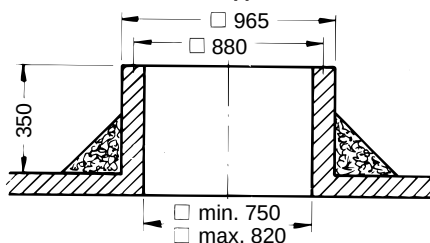
③ Free outlet surface area = 0,496 m² ④ resp. 90 mm for type BVD rated 620°C-120 min. ⑥ not available for BVD



### Steel flat-roof base with internal insulation



### Customer-supplied base



DRVF/DRVF-H/BVD

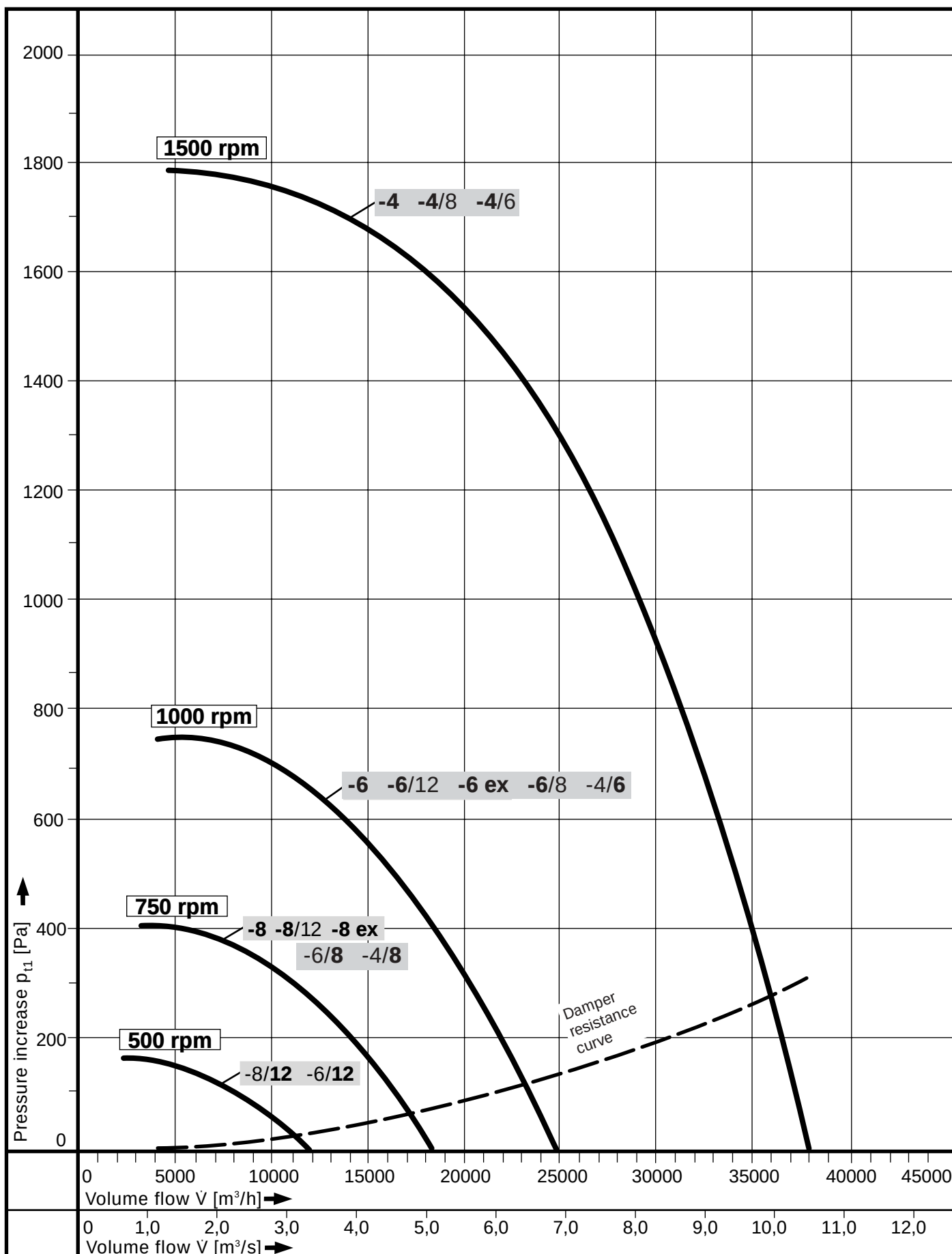


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**CENTRIFUGAL ROOF UNITS  
CHARACTERISTIC CURVES  
DRVF 630/30 · DRVF-H 630/30 · BVD 630/30**

076



Characteristic curves are applicable for the conveyed medium „air“ at 20 °C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS

DRVF 630/30 · DRVF-H 630/30 · BVD 630/30

077

| Type               | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|--------------------|---------------------------|-------------------------|------------------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                    |                           |                         |                        |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRVF 630/30 – 8    | 240                       | 710                     | 2,2                    | 5,4                                                  | 18300                              | 17400                           |
| DRVF 630/30 – 8/12 | 240                       | 720/470                 | 2,4/0,8                | 6,8/3,6                                              | 18300/11800                        | 17400/11000                     |
| DRVF 630/30 – 6    | 240                       | 945                     | 5,5                    | 12,7                                                 | 24800                              | 23200                           |
| DRVF 630/30 – 6/12 | 240                       | 950/460                 | 6,3/1,5                | 16,6/6,1 <sup>4)</sup>                               | 24800/11800                        | 23200/11000                     |
| DRVF 630/30 – 6/8  | 240                       | 970/720                 | 4,8/2,4                | 11,4/6,7                                             | 24800/18300                        | 23200/17400                     |
| DRVF 630/30 – 6ex  | 240                       | 970                     | 6,6                    | 14,7                                                 | 24800                              | 23200                           |
| DRVF 630/30 – 8ex  | 240                       | 715                     | 1,9                    | 5,0                                                  | 18300                              | 17400                           |
| DRVF 630/30 – 4    | 240                       | 1460                    | 18,5                   | 38                                                   | 37500                              | 36000                           |
| DRVF 630/30 – 4/6  | 240                       | 1460/980                | 18/6,0                 | 36/14                                                | 38000/24800                        | 36000/23200                     |
| DRVF 630/30 – 4/8  | 240                       | 1460/710                | 20/5,5                 | 39/16,2                                              | 38000/18300                        | 36000/17400                     |

<sup>4)</sup> depending on brand used

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 87                                     | 73                   | 59                   | ± 0                                                | – 1  | – 3  | ± 0                 | – 3                  | – 3                  |
| 710                          | 96                                     | 86                   | 72                   | ± 0                                                | – 2  | – 2  | ± 0                 | – 2                  | – 1                  |
| 945                          | 101                                    | 90                   | 76                   | – 1                                                | – 2  | – 2  | ± 0                 | – 2                  | – 1                  |
| 1460                         | 111                                    | 104                  | 91                   | + 1                                                | – 1  | – 1  | + 1                 | + 4                  | ± 0                  |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 3,4                          | 5,2 | 8,3 | 21,1 | 23,6 | 28,1 | 33,1 | 38,3 |
| 710                          | 5,4                          | 4,2 | 6,5 | 11,2 | 19,8 | 23,4 | 28,2 | 33,3 |
| 945                          | 9,6                          | 1,3 | 9,8 | 14,1 | 18,5 | 24,6 | 29,0 | 34,0 |
| 1460                         | 6,0                          | 7,0 | 3,0 | 10,0 | 13,0 | 17,0 | 21,0 | 26,0 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = – 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |                     |                      |                      |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|---------------------|----------------------|----------------------|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % | L <sub>W</sub> [dB] | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] |
| 470                          | 86                                     | 77                   | 53                   | ± 0                                                | – 1  | – 2  | ± 0                 | – 1                  | – 1                  |
| 710                          | 95                                     | 89                   | 65                   | – 1                                                | – 2  | – 2  | ± 0                 | – 1                  | – 1                  |
| 945                          | 100                                    | 94                   | 69                   | – 2                                                | – 4  | – 3  | + 1                 | – 1                  | – 1                  |
| 1460                         | 110                                    | 105                  | 82                   | ± 0                                                | + 1  | ± 0  | + 3                 | + 2                  | + 2                  |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 470                          | 6,9                          | 3,9 | 7,0 | 13,0 | 13,7 | 18,3 | 24,1 | 31,4 |
| 710                          | 10,4                         | 5,1 | 7,0 | 5,6  | 11,7 | 15,2 | 20,8 | 28,0 |
| 945                          | 14,5                         | 2,7 | 9,4 | 7,7  | 9,2  | 16,2 | 21,5 | 28,6 |
| 1460                         | 15,0                         | 2,0 | 8,0 | 10,0 | 14,0 | 16,0 | 18,0 | 26,0 |

These noise data apply to a free-inlet configuration without damper at V max.

1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

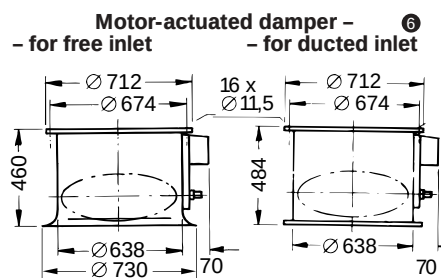
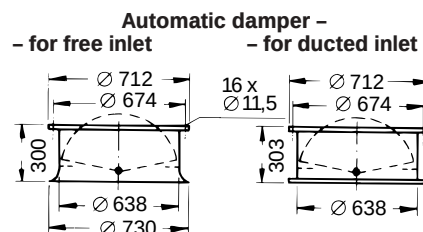
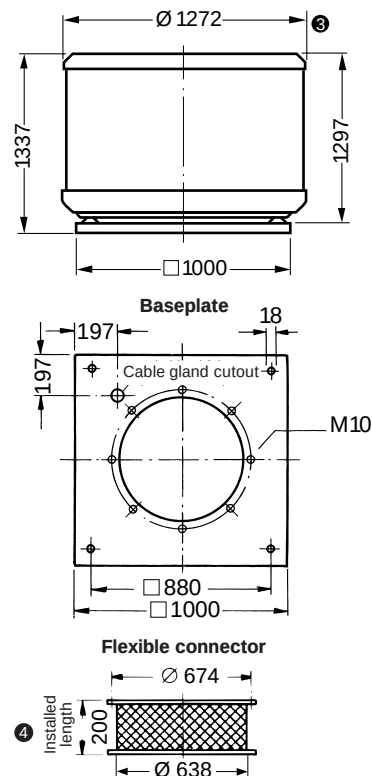
2) Please see note on page 008.

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°

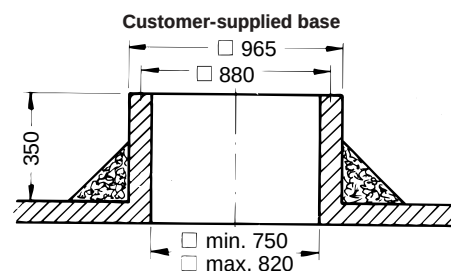
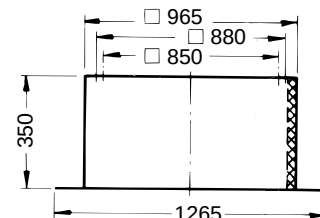
③ Free outlet surface area = 0,496 m²

④ resp. 90 mm for type BVD rated 620°-120 min.

⑥ not available for BVD



Steel flat-roof base with internal insulation



DRVF/DRVF-H/BVD



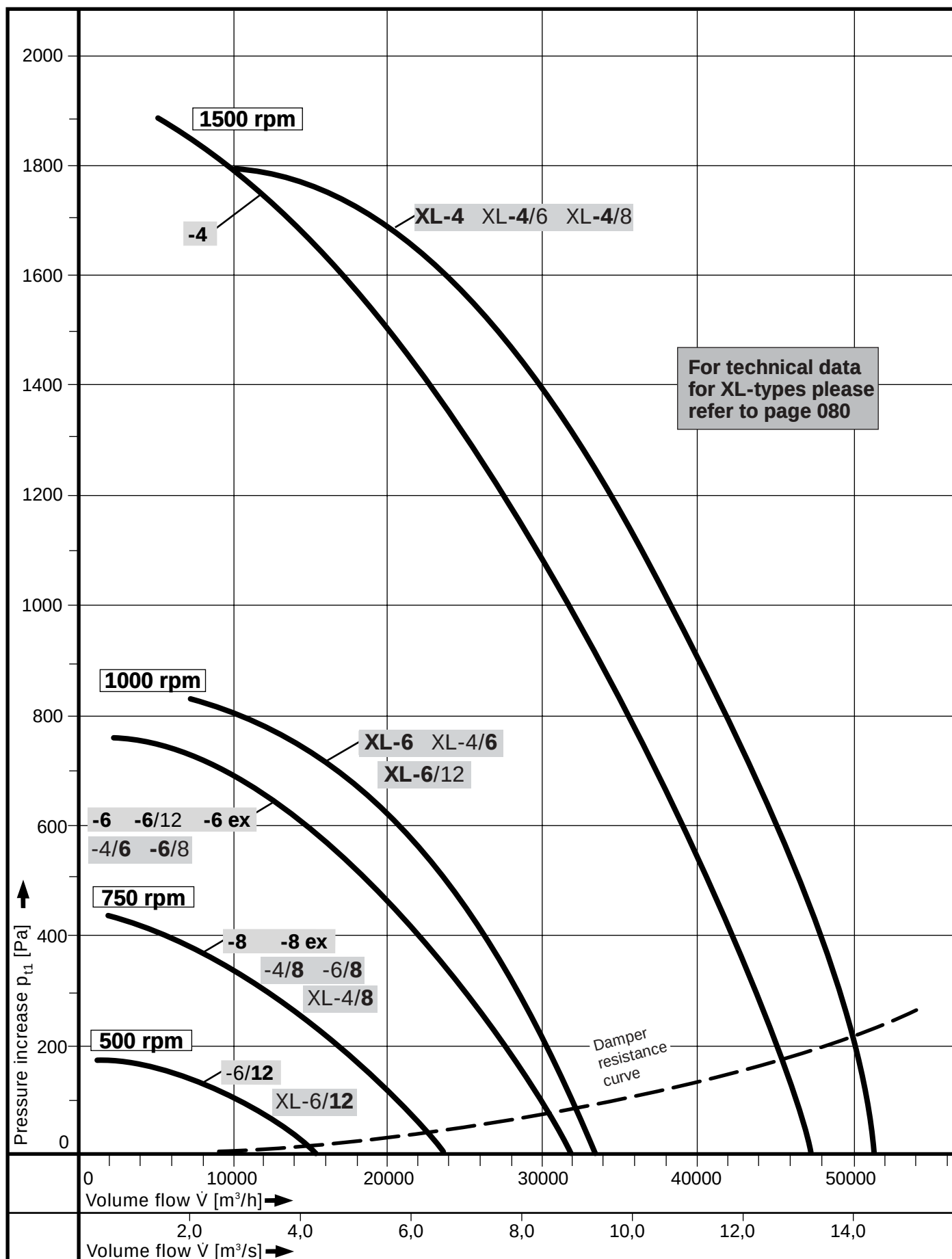
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## CENTRIFUGAL ROOF UNITS CHARACTERISTIC CURVES

DRVF 710/30 XL · DRVF-H 710/30 XL · BVD 710/30 XL

078



Characteristic curves are applicable for the conveyed medium „air“ at 20 °C, density  $\rho = 1.2 \text{ kg/m}^3$



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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS

DRVF 710/30 · DRVF-H 710/30 · BVD 710/30

079

| Type               | Weight<br>approx.<br>[kg] | Motor<br>speed<br>[rpm] | Motor<br>output<br>[W] | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|--------------------|---------------------------|-------------------------|------------------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                    |                           |                         |                        |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRVF 710/30 – 8    | 270                       | 710                     | 2,2                    | 5,4                                                  | 24000                              | 23000                           |
| DRVF 710/30 – 8ex  | 270                       | 715                     | 2,6                    | 6,75                                                 | 24000                              | 23000                           |
| DRVF 710/30 – 6    | 270                       | 945                     | 5,5                    | 12,7                                                 | 32000                              | 30500                           |
| DRVF 710/30 – 6/8  | 270                       | 970/720                 | 7,0/3,5                | 15,5/9,4                                             | 32000/24000                        | 30500/23000                     |
| DRVF 710/30 – 6/12 | 270                       | 950/460                 | 6,3/1,5                | 16,6/6,1 <sup>4)</sup>                               | 32000/16000                        | 30500/15000                     |
| DRVF 710/30 – 6ex  | 270                       | 970                     | 6,6                    | 14,7                                                 | 32000                              | 30500                           |
| DRVF 710/30 – 4    | 350                       | 1460                    | 18,5                   | 38                                                   | 47000                              | 46000                           |
| DRVF 710/30 – 4/6  | 420                       | 1460/980                | 20/7,0                 | 41/16,2 <sup>4)</sup>                                | 47000/32000                        | 46000/30500                     |
| DRVF 710/30 – 4/8  | 380                       | 1460/710                | 20/5,5                 | 39/16,2 <sup>4)</sup>                                | 47000/24000                        | 46000/23000                     |

For technical data for XL-types please refer to page 080.

<sup>4)</sup> depending on brand used

### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |    |    |    |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----|----|----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |    |    |    |
| 475                          | 89                                     | 77                   | 64                   | –1                                                 | –4   | –4   | –1 | –4 | –4 |
| 710                          | 97                                     | 87                   | 74                   | –1                                                 | –2   | –4   | –1 | –4 | –2 |
| 945                          | 102                                    | 95                   | 82                   | ±0                                                 | –2   | –1   | ±0 | –1 | ±0 |
| 1460                         | 109                                    | 100                  | 87                   | ±0                                                 | –1   | ±0   | ±0 | –3 | ±2 |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |      |     |      |      |      |      |      |
|------------------------------|------------------------------|------|-----|------|------|------|------|------|
|                              | 63                           | 125  | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 475                          | 1,6                          | 8,2  | 8,7 | 13,9 | 18,4 | 22,8 | 27,8 | 33,0 |
| 710                          | 8,0                          | 3,0  | 6,0 | 13,0 | 15,5 | 19,0 | 23,8 | 28,9 |
| 945                          | 9,3                          | 3,8  | 4,2 | 13,8 | 15,0 | 17,3 | 21,8 | 26,8 |
| 1460                         | 14,0                         | 15,0 | 1,0 | 16,0 | 19,0 | 18,0 | 21,0 | 26,0 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = – 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |    |    |    |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----|----|----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |    |    |    |
| 475                          | 89                                     | 83                   | 58                   | ±0                                                 | –3   | –3   | –3 | –3 | ±0 |
| 710                          | 96                                     | 92                   | 67                   | ±0                                                 | –2   | –2   | –2 | –2 | ±0 |
| 945                          | 102                                    | 98                   | 73                   | ±0                                                 | –1   | –1   | –1 | –1 | ±0 |
| 1460                         | 108                                    | 104                  | 79                   | ±0                                                 | –2   | –2   | –2 | –2 | ±0 |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |     |      |      |      |      |
|------------------------------|------------------------------|-----|-----|-----|------|------|------|------|
|                              | 63                           | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 |
| 475                          | 4,8                          | 8,3 | 9,0 | 7,2 | 11,6 | 14,7 | 21,1 | 28,1 |
| 710                          | 12,7                         | 5,7 | 6,6 | 6,4 | 9,0  | 11,1 | 17,2 | 24,2 |
| 945                          | 15,5                         | 5,0 | 5,1 | 8,3 | 10,0 | 10,9 | 16,7 | 23,6 |
| 1460                         | 15,0                         | 6,0 | 1,0 | 9,0 | 12,0 | 11,0 | 15,0 | 21,0 |

These noise data apply to a free-inlet configuration without damper at V max.

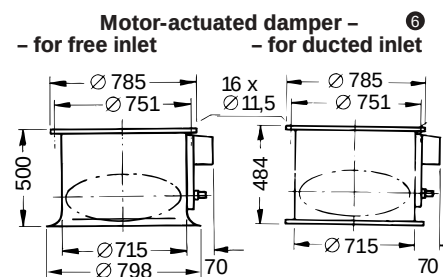
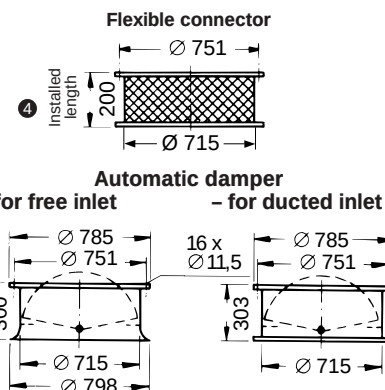
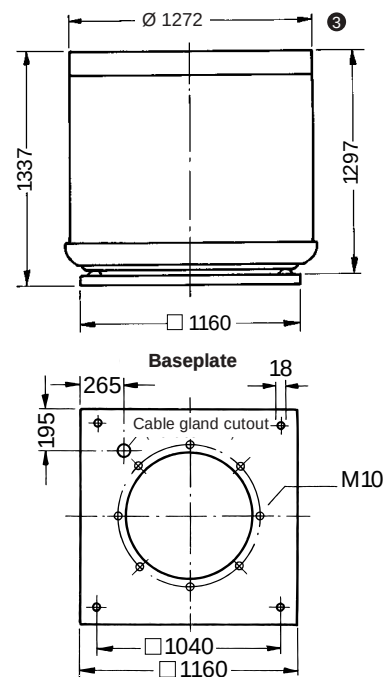
1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

2) Please see note on page 008.

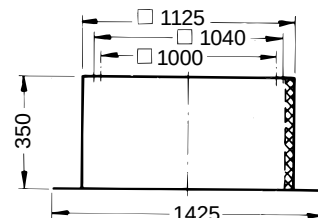
3) Free outlet surface area = 0,496 m²

4) resp. 90 mm for type BVD rated 620°C-120 min.

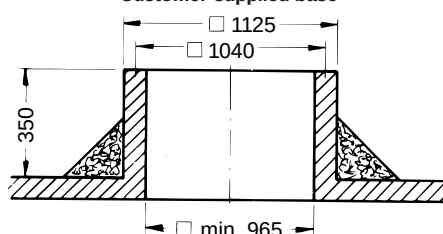
5) not available for BVD



Steel flat-roof base with internal insulation



Customer-supplied base



DRVF/DRVF-H/BVD



**TLT-Turbo GmbH**

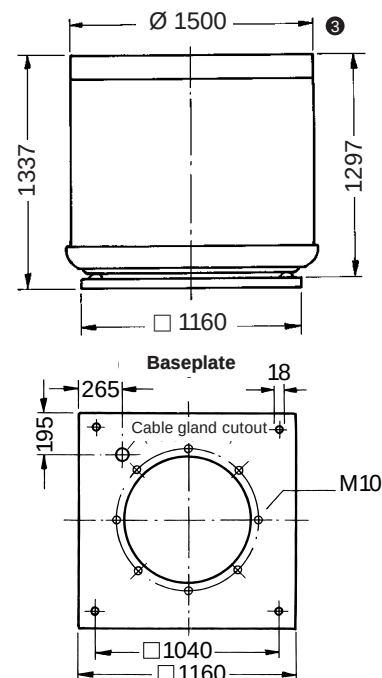
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## CENTRIFUGAL ROOF UNITS SPECIFICATIONS

DRVF 710/30 XL · DRVF-H 710/30 XL · BVD 710/30 XL

080

| Type                | Weight<br>approx. | Motor<br>speed | Motor<br>output | Nominal<br>current<br>at<br>400 Volt<br>50 Hz<br>[A] | Volume flow (m³/h)                 |                                 |
|---------------------|-------------------|----------------|-----------------|------------------------------------------------------|------------------------------------|---------------------------------|
|                     | [kg]              | [rpm]          | [W]             |                                                      | Free<br>inlet<br>without<br>damper | Free<br>inlet<br>with<br>damper |
| DRVF 710/30 XL-4    | 375               | 1470           | 22              | 43                                                   | 51500                              | 50000                           |
| DRVF 710/30 XL-4/6  | 375               | 1470/970       | 25/9,0          | 47/18,5                                              | 51500/33500                        | 50000/32000                     |
| DRVF 710/30 XL-4/8  | 375               | 1470/725       | 24/6,0          | 46/14,5                                              | 51500/24000                        | 50000/23000                     |
| DRVF 710/30 XL-6    | 360               | 965            | 7,5             | 15,7                                                 | 33500                              | 32000                           |
| DRVF 710/30 XL-6/12 | 360               | 975/475        | 7,5/1,85        | 19/6,7                                               | 33500/15500                        | 32000/15000                     |



### Indoor noise level (inlet side)

Influences: A = 173,2 m² Sabin, measurement area S = 100 m², L<sub>S</sub> = 20 dB,  
External sound influence K<sub>1</sub> = 0 dB, room influence K<sub>2</sub> = 5,2 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |    |     |    |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----|-----|----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |    |     |    |
| 965                          | 107                                    | 99                   | 82                   | -4                                                 | -3   | -2   | -5 | -2  | -5 |
| 1470                         | 116                                    | 110                  | 91                   | -3                                                 | -4   | -2   | -6 | ± 0 | -5 |

Influence of the automatic damper: + 3 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |      |      |      |      |      |      |
|------------------------------|------------------------------|-----|------|------|------|------|------|------|
|                              | 63                           | 125 | 250  | 500  | 1000 | 2000 | 4000 | 8000 |
| 965                          | 4,0                          | 4,0 | 11,0 | 14,0 | 13,0 | 14,0 | 19,0 | 24,0 |
| 1470                         | 5,0                          | 9,0 | 6,0  | 13,0 | 13,0 | 12,0 | 15,0 | 20,0 |

### Outdoor noise level (outlet side, above roof)

Influences: freefield conditions K<sub>2</sub> = 0, measurement area S = 117 m², L<sub>S</sub> = 20,7 dB,  
External sound influence K<sub>1</sub> = 0 dB, directional factor = - 3 dB

| Speed <sup>2)</sup><br>[rpm] | Noise level <sup>3)</sup><br>at V max. |                      |                      | Noise level variation as a function of volume flow |      |      |    |     |    |
|------------------------------|----------------------------------------|----------------------|----------------------|----------------------------------------------------|------|------|----|-----|----|
|                              | L <sub>W</sub> [dB]                    | L <sub>WA</sub> [dB] | L <sub>PA</sub> [dB] | 75 %                                               | 50 % | 25 % |    |     |    |
| 965                          | 105                                    | 99                   | 76                   | -4                                                 | -3   | -2   | -5 | -2  | -5 |
| 1470                         | 113                                    | 110                  | 84                   | -3                                                 | -4   | -2   | -6 | + 0 | -5 |

Influence of the automatic damper + 2 dB

### Relative acoustic power level L<sub>W rel.</sub> = L<sub>W</sub>-tabulated value

| Speed <sup>2)</sup><br>[rpm] | Octave centre frequency [Hz] |     |     |      |      |      |      |      |
|------------------------------|------------------------------|-----|-----|------|------|------|------|------|
|                              | 63                           | 125 | 250 | 500  | 1000 | 2000 | 4000 | 8000 |
| 965                          | 7,2                          | 3,1 | 9,6 | 12,1 | 10,9 | 12,7 | 17,0 | 22,0 |
| 1470                         | 7,2                          | 9,0 | 3,0 | 10,0 | 10,0 | 9,0  | 12,0 | 17,0 |

These noise data apply to a free-inlet configuration without damper at V max.

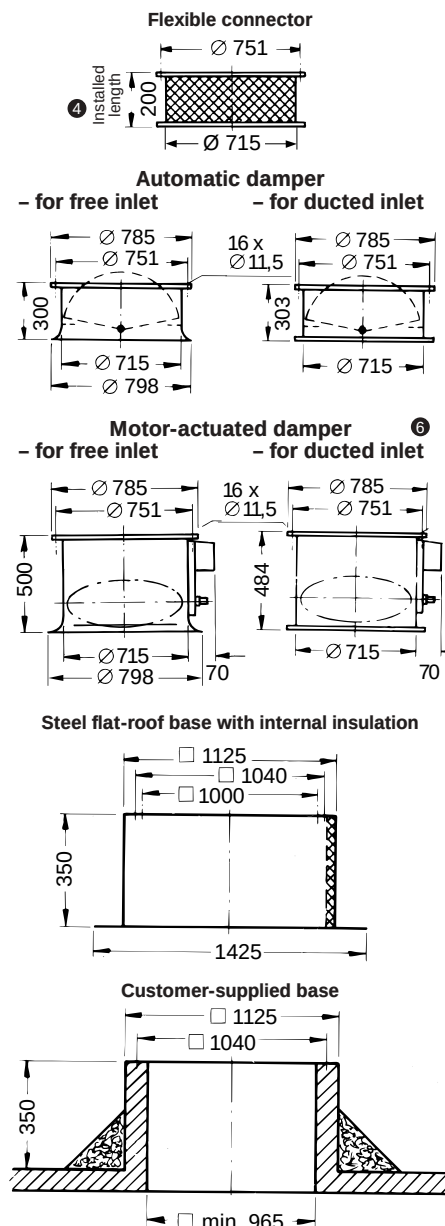
1) Connecting flanges according to DIN 24154, Series 3. An inlet guard may be fitted directly to the baseplate or the flanges.

2) Please see note on page 008.

3) L<sub>W</sub> = Total acoustic power level  
L<sub>WA</sub> = Total acoustic power level  
L<sub>PA</sub> = Sound pressure level r=4m, 0°

③ Free outlet surface area = 0,95 m²

④ resp. 90 mm for type BVD rated 620°C-120 min. ⑥ not available for BVD



| Item No.                                    | Qty.              | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Unit price<br>€ | Amount<br>€       |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
|---------------------------------------------|-------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------|-------------|-------|-------------------|----|-------------|-----|--------------|----|---------------|---|---------------------|---|-------------------|---|-----------|----|---------------------------------------------|----|--------|----|--|--|
|                                             |                   | <p><b>Centrifugal Roof Unit, DRVF Series, Vertical Outlet</b></p> <p>Direct motor drive type.<br/>Max. airflow temperature: 40°C<br/>Baseplate made of sendzimir-galvanized sheet steel with deep-drawn bellmouth<br/>Rugged flow-formed aluminium casing<br/>Centrifugal flow impeller, single inlet, made of sheet steel, surface-protected with a polyester powder coating, dynamically balanced according to DIN ISO 1940, quality grade G 6.3<br/>Driven by an IEC standard motor, style V1, protection class IP 54, arranged outside the airflow.<br/>Motors electrically wired to an external local isolator conforming to VDE 0113 and VBG 4.</p> <p>or</p> <p>Hazardous-duty motor, style V1, protection class IP 54<br/>Increased “Eex e II Part 3” hazardous duty rating, wired to an “Ex” terminal box.</p> <p>or</p> <p>Hazardous duty motor protection, style V1, protection class IP 55,<br/>explosion proof enclosure, increased “Eex de IIC Part 4” hazardous duty rating, wired to an “Ex” terminal box.</p> <p><b>Specifications</b></p> <table><tr><td>Volume flow</td><td>m<sup>3</sup>/h</td></tr><tr><td>Temperature</td><td>20 °C</td></tr><tr><td>Pressure increase</td><td>Pa</td></tr><tr><td>Motor speed</td><td>rpm</td></tr><tr><td>Motor output</td><td>kW</td></tr><tr><td>Motor winding</td><td>V</td></tr><tr><td>Current consumption</td><td>A</td></tr><tr><td>Operating voltage</td><td>V</td></tr><tr><td>Frequency</td><td>Hz</td></tr><tr><td>Sound pressure level LpA (outdoor, r = 4 m)</td><td>dB</td></tr><tr><td>Weight</td><td>kg</td></tr></table> <p><b>Manufacturer: TLT Turbo GmbH</b><br/><b>Type: DRVF</b></p> <p><b>Optional extras</b></p> <ul style="list-style-type: none"><li>• Surface protection “S”, all casing parts plus baseplate additionally corrosion-protected on inside and outside with a polyester powder coating (colour: RAL 7030)</li><li>• Inlet guard for free inlet configurations</li><li>• Automatic damper in the inlet duct, with flow-formed bellmouth for free inlet flow</li><li>• Automatic damper in the inlet duct, flanged type, for customer-supplied duct connection</li></ul> <p>carryover</p> | Volume flow     | m <sup>3</sup> /h | Temperature | 20 °C | Pressure increase | Pa | Motor speed | rpm | Motor output | kW | Motor winding | V | Current consumption | A | Operating voltage | V | Frequency | Hz | Sound pressure level LpA (outdoor, r = 4 m) | dB | Weight | kg |  |  |
| Volume flow                                 | m <sup>3</sup> /h |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Temperature                                 | 20 °C             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Pressure increase                           | Pa                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Motor speed                                 | rpm               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Motor output                                | kW                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Motor winding                               | V                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Current consumption                         | A                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Operating voltage                           | V                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Frequency                                   | Hz                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Sound pressure level LpA (outdoor, r = 4 m) | dB                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Weight                                      | kg                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
|                                             |                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                 |                   |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |



| Item No.                                    | Qty.  | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Unit price<br>€ | Amount<br>€ |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
|---------------------------------------------|-------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|-------------|-------|-------------------|----|-------------|-----|--------------|----|---------------|---|---------------------|---|-------------------|---|-----------|----|---------------------------------------------|----|--------|----|--|--|
|                                             |       | <p><b>Centrifugal Roof Unit, Series DRVF-H</b><br/><b>Vertical outlet type with enclosed, separately fan-ventilated motor</b></p> <p>Direct motor drive type.<br/>Max. airflow temperature: 120°C<br/>Baseplate made of sendzimir-galvanized sheet steel with deep-drawn bellmouth<br/>Rugged flow-formed aluminium casing<br/>Centrifugal flow impeller, single inlet, made of sheet steel, surface-protected with a polyester powder coating, dynamically balanced according to DIN ISO 1940, quality grade G 6.3<br/>Driven by an IEC standard motor, style V1, protection class IP 54, arranged outside the airflow.<br/>Motors electrically wired to an external local isolator conforming to VDE 0113 and VBG 4.</p> <p>or</p> <p>Hazardous-duty motor, style V1, protection class IP 54<br/>Increased “Eex e II Part 3” hazardous duty rating, wired to an “Ex” terminal box.</p> <p>or</p> <p>Hazardous duty motor protection, style V1, protection class IP 55,<br/>explosion proof enclosure, increased “Eex de IIC Part 4” hazardous duty rating, wired to an “Ex” terminal box.</p> <p><b>Specifications</b></p> <table><tr><td>Volume flow</td><td>m³/h</td></tr><tr><td>Temperature</td><td>20 °C</td></tr><tr><td>Pressure increase</td><td>Pa</td></tr><tr><td>Motor speed</td><td>rpm</td></tr><tr><td>Motor output</td><td>kW</td></tr><tr><td>Motor winding</td><td>V</td></tr><tr><td>Current consumption</td><td>A</td></tr><tr><td>Operating voltage</td><td>V</td></tr><tr><td>Frequency</td><td>Hz</td></tr><tr><td>Sound pressure level LpA (outdoor, r = 4 m)</td><td>dB</td></tr><tr><td>Weight</td><td>kg</td></tr></table> <p><b>Manufacturer: TLT-Turbo GmbH</b><br/><b>Type: DRVF</b></p> <p><b>Optional extras</b></p> <ul style="list-style-type: none"><li>• Surface protection “S”, all casing parts plus baseplate additionally corrosion-protected on inside and outside with a polyester powder coating (colour: RAL 7030)</li><li>• Inlet guard for free inlet configurations</li><li>• Automatic damper in the inlet duct, with flow-formed bellmouth for free inlet flow</li></ul> <p>or</p> <ul style="list-style-type: none"><li>• Automatic damper in the inlet duct, flanged type, for customer-supplied duct connection</li></ul> <p>or</p> <ul style="list-style-type: none"><li>• Motor-actuated damper in the inlet duct, with flow-formed bellmouth for free inlet flow.</li></ul> | Volume flow     | m³/h        | Temperature | 20 °C | Pressure increase | Pa | Motor speed | rpm | Motor output | kW | Motor winding | V | Current consumption | A | Operating voltage | V | Frequency | Hz | Sound pressure level LpA (outdoor, r = 4 m) | dB | Weight | kg |  |  |
| Volume flow                                 | m³/h  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Temperature                                 | 20 °C |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Pressure increase                           | Pa    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Motor speed                                 | rpm   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Motor output                                | kW    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Motor winding                               | V     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Current consumption                         | A     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Operating voltage                           | V     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Frequency                                   | Hz    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Sound pressure level LpA (outdoor, r = 4 m) | dB    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
| Weight                                      | kg    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |
|                                             |       | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |             |             |       |                   |    |             |     |              |    |               |   |                     |   |                   |   |           |    |                                             |    |        |    |  |  |

| Item No. | Qty.                                                        | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Unit price<br>€ | Amount<br>€ |
|----------|-------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
|          | <p>or</p> <p>or</p> <p>or</p> <p>or</p> <p>or</p> <p>or</p> | <ul style="list-style-type: none"> <li>• Motor-actuated damper in the inlet duct, with flange for customer-supplied ducting, with 230 V / 50 Hz damper actuating motor (8 W - 10 VA), operating time 80 sec., overload-protected, maintenance-free</li> <li>• Flexible connector, tissue covered with silicone-free coating, with two flanges, for direct attachment to the baseplate</li> <li>• Matching flange</li> <li>• Steel flat-roof base made of sendzimir-galvanized sheet steel, with internal insulation               <ul style="list-style-type: none"> <li>- for flat roof installation</li> <li>- for pitched roof installation, ____° gradient</li> </ul> </li> <li>• Base for corrugated aluminium roof</li> <li>• Tilting frame for hinged fan installation, for easy cleaning of the impeller and bellmouth, complete with locking devices according to German Accident Prevention Rules (UVV)</li> <li>• Only in conjunction with the tilting frame:<br/>Cone and flange for damper or customer-provided duct connection</li> <li>• SDS noise-damping base for acoustic attenuation of the fan inlet noise, consisting of the base structure with roof integration flange made of sendzimir-galvanized sheet steel and a tube-type silencer covered with a shield of perforated galvanized sheet steel. Size 224 units come with a splitter attenuator. The bases of size 250 - 710 units are fitted with an integrated cable duct for easy wiring.               <ul style="list-style-type: none"> <li>- for flat roof installation</li> <li>- for pitched roof installation, ____° gradient</li> </ul> </li> <li>• SDI outlet silencer, with vertical air outlet, consisting of an inner core made of perforated galvanized sheet metal integrated into the fan casing, and the non-combustible absorbent material covered with nonwoven glass-fiber sheeting.<br/>Insertion loss LpA: approx. 5-7 dB</li> <li>• SDV noise-damping hood with horizontal air outlet, consisting of a tubular silencer screwed to the roof fan baseplate.<br/>The damping hood comprises the internally and externally damping silencer made of incombustible, abrasion resistant absorbent material.<br/>The enclosure is made of sendzimir-galvanized sheet steel, the hood itself consists of glass-reinforced plastic or aluminium<br/>Sound attenuation rating: LpA = 11 dB</li> <li>• Additional synthetic surface coating for SDV noise damping hood</li> </ul> |                 |             |
|          |                                                             | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |             |



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## SDH/SDV NOISE DAMPING HOODS SDS NOISE DAMPING BASE

085

■ High attenuation rates

■ Low air resistance

■ Low weight

■ Compact design, small dimensions

■ Easy installation (also for retrofitting)

■ Good value for money



All DRH and DRV fans can be retrofitted with an SDH noise-damping hood. The hood consists of a round silencer with a shell of sendzimir-galvanized sheet metal. Hoods for Minivent and for sizes 224 - 400 fans are made of aluminium; size 500 and 630 units consist of glass-fibre reinforced plastic. Size 710 version is made of sendzimir-galvanized steel (note the different shape!). An additional synthetic surface coating is available as an option.



The SDV noise damping hood is designed for vertical outlet configurations. It can be retrofitted on all DRV and DRH fans. Shell and splitter cover consist of sendzimir-galvanized sheet steel. An additional synthetic surface coating can be ordered optionally. An outlet guard is available as an extra.



SDS noise damping bases are designed to attenuate the fan inlet noise. They consist of the base structure with roof integration flange made of galvanized sheet steel and the silencer with a perforated steel sheet cover. Silencers for Minivent + size 224 fans are of the splitter attenuator type.

Sizes 250 - 710 bases are equipped with an integrated cable duct for easy wiring.

SDH/SDS



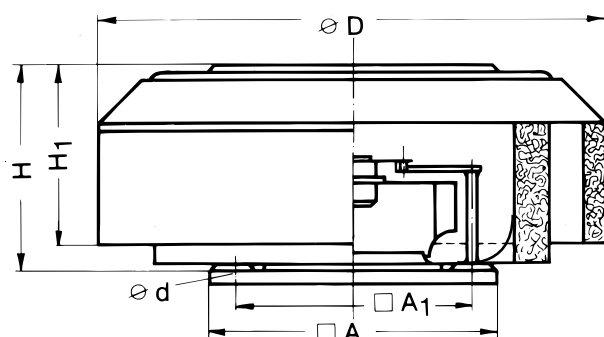
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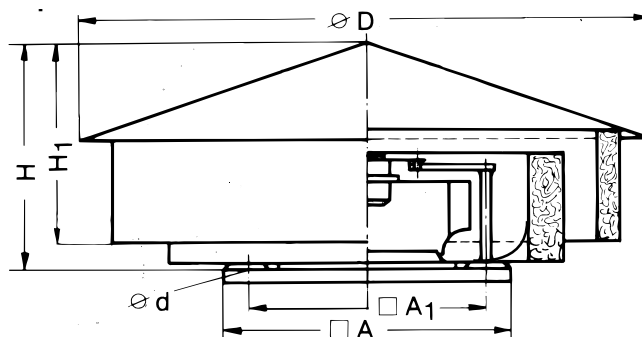
## SDH/SDV NOISE DAMPING HOOD ATTENUATION VALUES MAIN DIMENSIONS

086

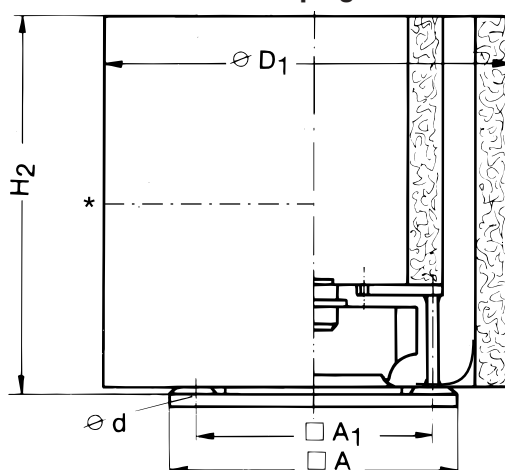
**SDH noise damping hood**



**SDH size 710 noise damping hood**

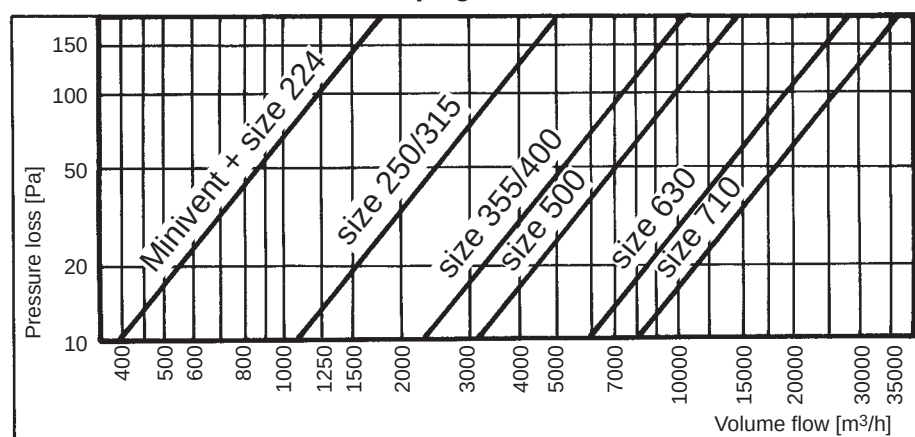


**SDV noise damping hood**



\* Horizontally split as standard from size 500 upwards

### Pressure loss in SDH noise damping hoods



### Noise attenuation across SDH damping hoods

The outlet side attenuation of the A-weighted total sound pressure level (measured above roof level) is  $L_{PA}$  – approx. 11 dB  
It varies with fan rpm.

The SDV noise-damping hood causes no additional pressure loss.

| Nominal size   | SDH noise-damping hood |      |       |             |               |                 |           | SDV noise-damping hood |       |             |               |                 |  |           |
|----------------|------------------------|------|-------|-------------|---------------|-----------------|-----------|------------------------|-------|-------------|---------------|-----------------|--|-----------|
|                | $\varnothing D$        | H    | $H_1$ | $\square A$ | $\square A_1$ | $\varnothing d$ | appr. kg* | $\varnothing D_1$      | $H_2$ | $\square A$ | $\square A_1$ | $\varnothing d$ |  | appr. kg* |
| Minivent + 224 | 638                    | 200  | 185   | 412         | 362           | 10              | 10        | 630                    | 500   | 412         | 362           | 10              |  | 29        |
| 250/315        | 993                    | 401  | 385   | 560         | 460           | 14              | 30        | 838                    | 1265  | 560         | 460           | 14              |  | 90        |
| 355/400        | 1272                   | 506  | 495   | 710         | 600           | 14              | 60        | 1008                   | 1265  | 710         | 600           | 14              |  | 110       |
| 500            | 1496                   | 716  | 678   | 1000        | 880           | 18              | 130       | 1193                   | 1265  | 1000        | 880           | 18              |  | 145       |
| 630            | 1921                   | 751  | 727   | 1000        | 880           | 18              | 260       | 1472                   | 1265  | 1000        | 880           | 18              |  | 210       |
| 710            | 2100                   | 1021 | 989   | 1160        | 1040          | 18              | 290       | 1472                   | 1265  | 1160        | 1040          | 18              |  | 210       |
| 710XL          | -                      | -    | -     | -           | -             | -               | -         | 1710                   | 1250  | 1160        | 1040          | 18              |  | 280       |

Changes in dimensions and design reserved.

\*Weights do not include fan.

Dimensions in mm.

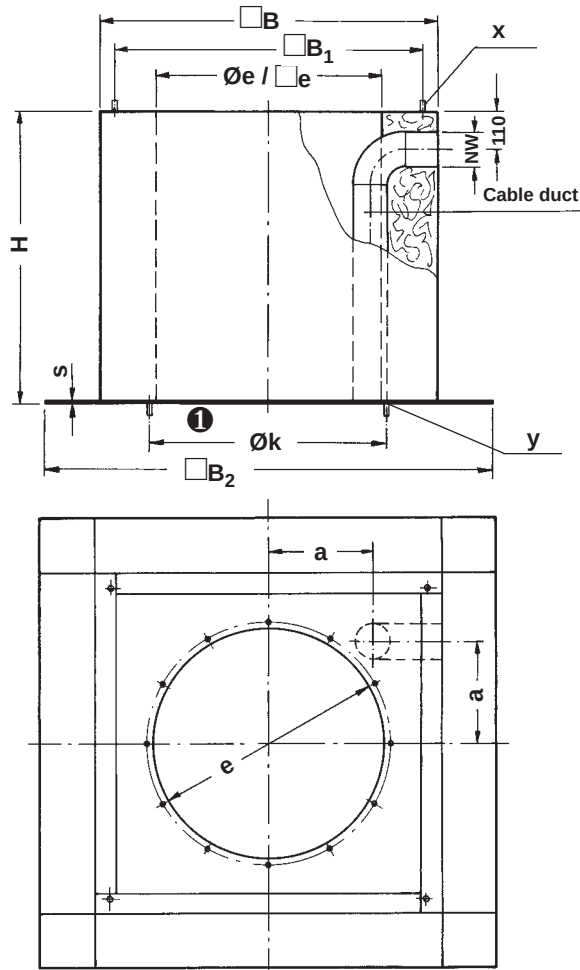


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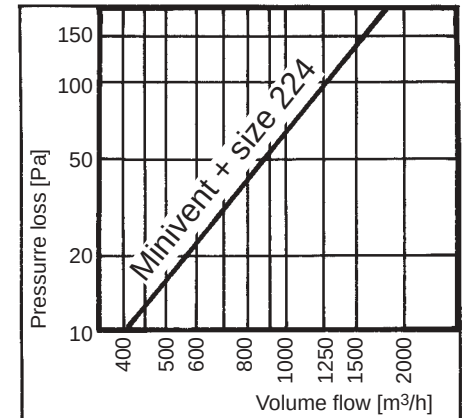
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## SDS NOISE DAMPING BASE ATTENUATION VALUES MAIN DIMENSIONS

087



### Pressure loss across the Minivent + size 224 noise-damping base. ②



② For sizes 250 to 710 no inlet-side pressure loss needs to be considered.

| Nominal size   | Attenuation at |     |     |     |      |      |      |         |
|----------------|----------------|-----|-----|-----|------|------|------|---------|
|                | 63             | 125 | 250 | 500 | 1000 | 2000 | 4000 | 8000 Hz |
| Minivent + 224 | 3              | 5   | 10  | 16  | 24   | 27   | 25   | 23      |
| 250            | 4              | 9   | 15  | 20  | 18   | 13   | 6    | 2       |
| 315            | 3              | 7   | 14  | 20  | 19   | 14   | 7    | 2       |
| 355            | 5              | 11  | 17  | 19  | 15   | 11   | 5    | 1       |
| 400            | 2              | 8   | 15  | 19  | 16   | 12   | 6    | 2       |
| 500            | 2              | 10  | 16  | 15  | 12   | 9    | 5    | 1       |
| 630            | 0              | 6   | 14  | 17  | 15   | 12   | 8    | 5       |
| 710            | 0              | 5   | 14  | 16  | 14   | 12   | 9    | 6       |

### Attenuation across the noise-damping base

Attenuation values reflect the insertion loss in relative acoustic power level as measured across the inlet (catalogue data).

| Nominal size | B    | H   | B <sub>1</sub> | B <sub>2</sub> | e   | Øe  | Øk  | a   | NW  | x     | s   | y      | Approx. weight [kg] |
|--------------|------|-----|----------------|----------------|-----|-----|-----|-----|-----|-------|-----|--------|---------------------|
| Minivent     | 385  | 350 | 362            | 631            | 283 |     | 213 |     |     | 4xM 8 | 1,5 | 3xM 6  | 14                  |
| 224          | 385  | 350 | 362            | 631            | 283 |     | 259 |     |     | 4xM 8 | 1,5 | 3xM 6  | 14                  |
| 250          | 525  | 780 | 460            | 823            |     | 260 | 286 | 172 | 80  | 4xM12 | 1,5 | 6xM 8  | 40                  |
| 315          | 525  | 780 | 460            | 823            |     | 326 | 356 | 172 | 80  | 4xM12 | 1,5 | 8xM 8  | 40                  |
| 355          | 675  | 810 | 600            | 981            |     | 365 | 395 | 200 | 80  | 4xM12 | 1,5 | 8xM 8  | 60                  |
| 400          | 675  | 810 | 600            | 981            |     | 408 | 438 | 200 | 80  | 4xM12 | 1,5 | 12xM 8 | 60                  |
| 500          | 965  | 850 | 880            | 1274           |     | 511 | 541 | 290 | 100 | 4xM16 | 2   | 12xM 8 | 120                 |
| 630          | 965  | 900 | 880            | 1274           |     | 642 | 674 | 290 | 100 | 4xM16 | 2   | 16xM10 | 120                 |
| 710          | 1125 | 930 | 1040           | 1427           |     | 719 | 751 | 325 | 100 | 4xM16 | 2   | 16xM10 | 150                 |

Changes in dimensions and design reserved

① For free inlet fans mounted on a noise-damping base we recommend the use of an inlet bellmouth.

Dimensions in mm.



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## ACCESSORIES AND OPTIONS FOR CENTRIFUGAL ROOF UNITS: DUAL BASEPLATE FOR TWIN FAN CONFIGURATIONS

088

Series DRV, DRVF and DRVF-H centrifugal roof units can be fitted on a common baseplate, provided a number of conditions are met. A configuration of this type will be found advantageous in the following cases:

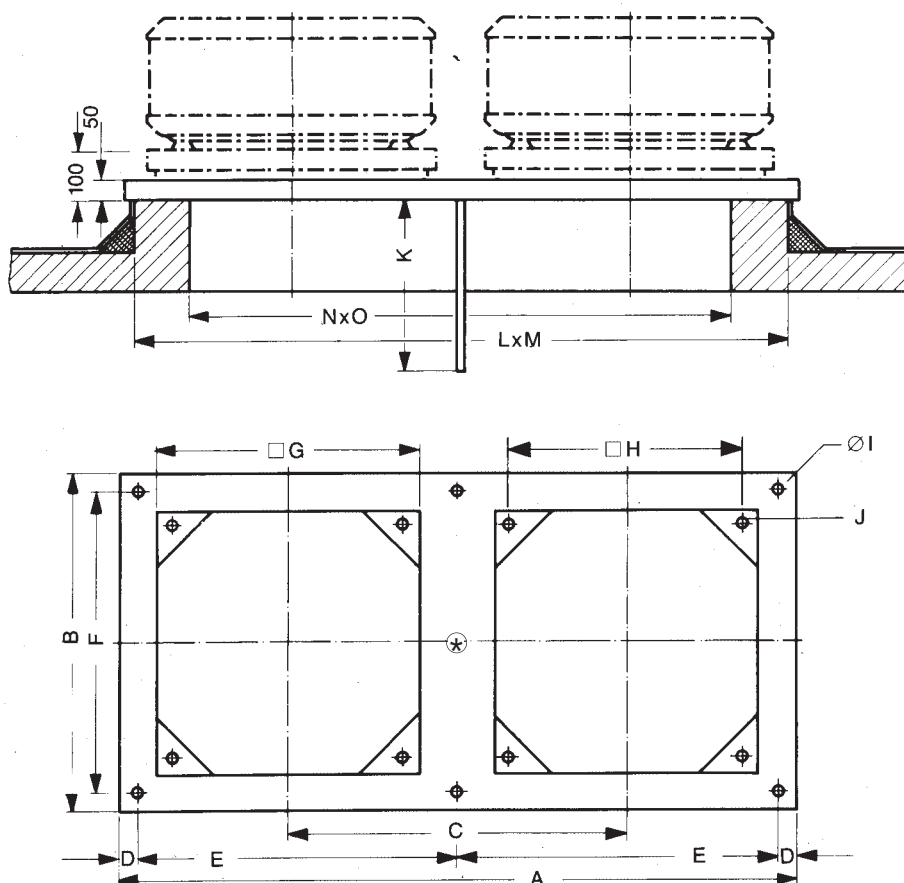
1. For extracting very large volumes per unit from one specific point. Thus, volume flows of approx. 6500-90000 m<sup>3</sup>/h can be achieved with our DRV, DRVF 710 or DRVF-H centrifugal Roof units.
2. Where a backup fan is needed for safety reasons. Both centrifugal roof units can alternately serve a common duct network, provided that certain requirements concerning dampers are observed.
3. In applications subject to particularly stringent noise requirements, a twin fan set achieves the same throughput at lower rpm than a large single unit. Taking into account the addition of two noise sources, the twin fan configuration will emit 15 dB less noise than a single fan (assuming free inlet conditions).

The common baseplate consists of galvanized sheet steel and can be supplied with a powder coating as an optional extra.

To avoid mutual inlet interference, a partition („apron“) must be provided in the inlet duct. The minimum apron dimension is referred to as „K“ in the drawing. Where two centrifugal roof units alternately serve the same ducting system, the damper of the idle fan is subject to particularly high loads. It therefore should be

motorized; alternatively, a reinforced automatic damper from our product range should be used.

**(Please state in the purchase order!)**



⊗ As of size 500 a support in the middle of the baseplate is required (customer-supplied)

| Size    | B    | D  | F    | □ G  | □ H  | I  | J*  | K    | Dimensions for<br>DRV/DRVF/DRVF-H fans ① |      |      |           |           | Dimensions for fans with SDH-V<br>damper hood |      |      |           |           |
|---------|------|----|------|------|------|----|-----|------|------------------------------------------|------|------|-----------|-----------|-----------------------------------------------|------|------|-----------|-----------|
|         |      |    |      |      |      |    |     |      | A                                        | C    | E    | LxM       | NxO       | A                                             | C    | E    | LxM       | NxO       |
| 250/315 | 745  | 50 | 645  | 545  | 460  | 14 | M12 | 600  | 1485                                     | 730  | 692  | 1450/710  | 1250/510  | 1685                                          | 930  | 792  | 1650/710  | 1450/510  |
| 355/400 | 895  | 50 | 795  | 695  | 600  | 14 | M12 | 800  | 1805                                     | 910  | 852  | 1770/860  | 1570/660  | 2005                                          | 1110 | 952  | 1970/860  | 1750/660  |
| 500     | 1225 | 60 | 1105 | 985  | 880  | 18 | M16 | 1200 | 2325                                     | 1100 | 1102 | 2290/1190 | 2090/990  | 2525                                          | 1300 | 1202 | 2490/1190 | 2290/990  |
| 630     | 1225 | 60 | 1105 | 985  | 880  | 18 | M16 | 1200 | 2605                                     | 1380 | 1242 | 2570/1190 | 2370/990  | 2805                                          | 1580 | 1342 | 2770/1190 | 2570/990  |
| 710     | 1385 | 60 | 1265 | 1145 | 1040 | 18 | M16 | 1500 | 2765                                     | 1380 | 1322 | 2730/1350 | 2530/1150 | 2965                                          | 1580 | 1422 | 2930/1350 | 2730/1150 |
| 710 XL  | 1485 | 60 | 1365 | 1145 | 1040 | 18 | M16 | 1500 | 2965                                     | 1580 | 1422 | 2930/1450 | 2530/1150 | 2965                                          | 1580 | 1422 | 2930/1450 | 2730/1150 |

\* Thread diameter of the weld-on studs. ① Dimensions for BVD Series fans available upon request.

Dimensions in mm

Changes in dimensions and design reserved.

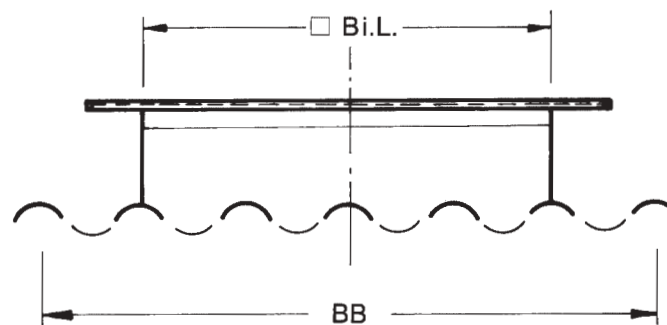
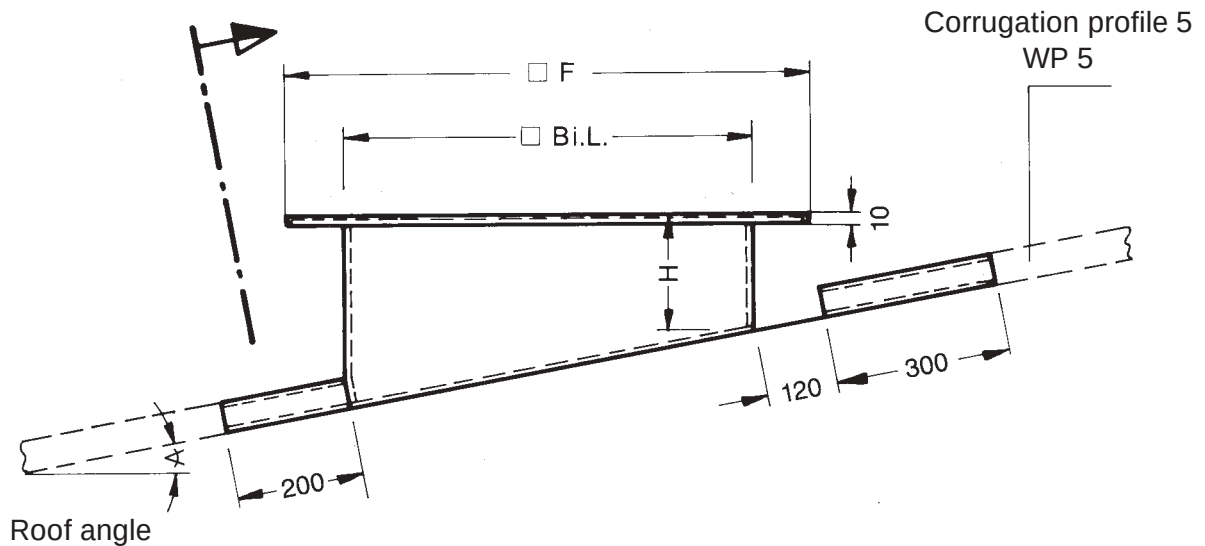


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## ACCESSORIES AND OPTIONS FOR CENTRIFUGAL ROOF UNITS: ALUMINIUM BASE FOR CORRUGATED ROOFS

089



**Material: smooth aluminium**

| Size | BB   |  | □ F  | □ Bi.L. | H   | ∠ |  | Weight [kg] |
|------|------|--|------|---------|-----|---|--|-------------|
| 250  | 708  |  | 525  | 400     | 200 |   |  |             |
| 315  | 708  |  | 525  | 400     | 200 |   |  |             |
| 355  | 885  |  | 675  | 565     | 200 |   |  |             |
| 400  | 885  |  | 675  | 565     | 200 |   |  |             |
| 500  | 1062 |  | 965  | 850     | 200 |   |  |             |
| 630  | 1062 |  | 965  | 850     | 200 |   |  |             |
| 710  | 1239 |  | 1125 | 1000    | 200 |   |  |             |

Please state when ordering.

Please enquire.



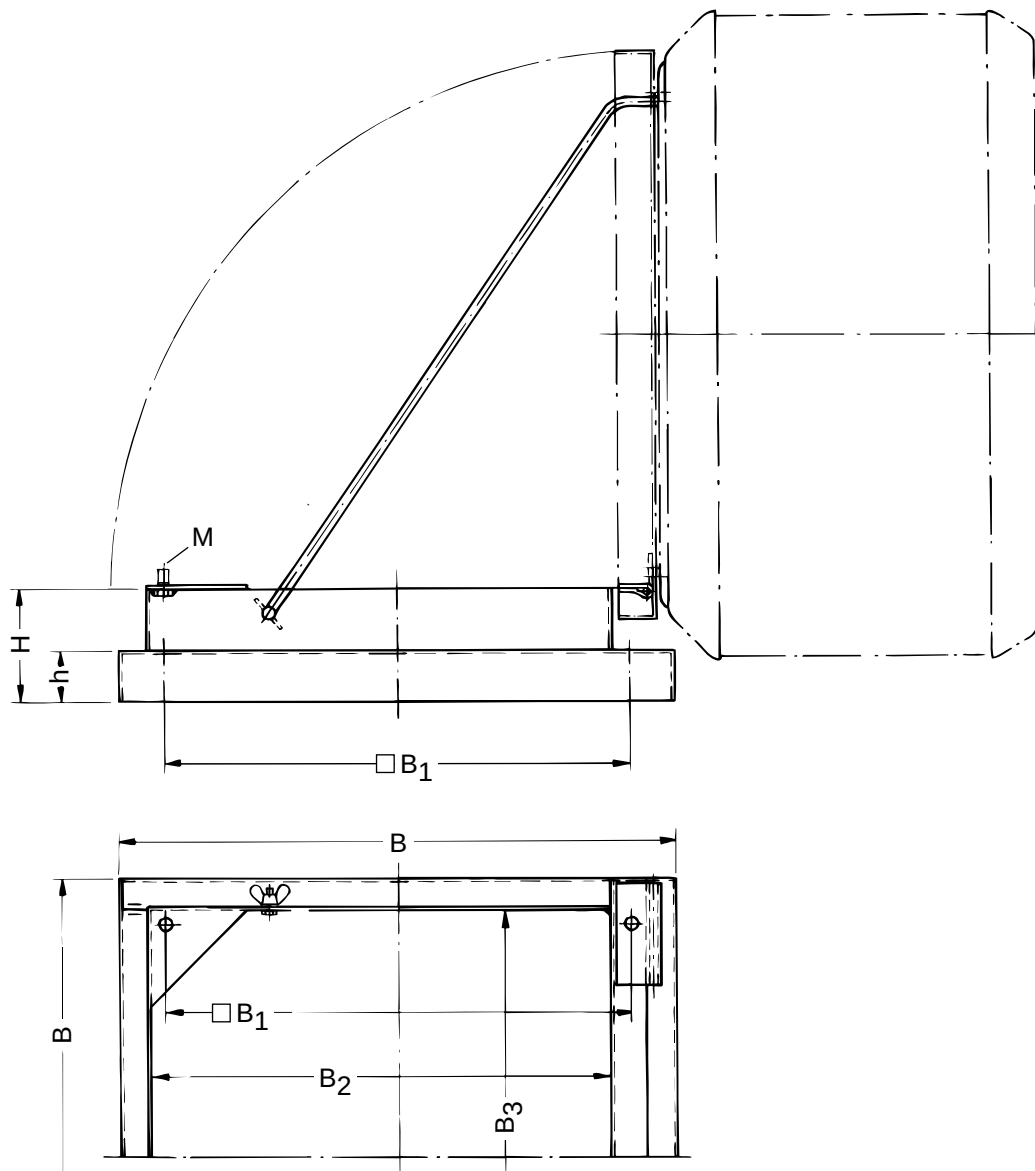
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## ACCESSORIES AND OPTIONS FOR CENTRIFUGAL ROOF UNITS: TILTING FRAME FOR MINIVENT + SIZES 224 TO 400

090

May be used for all designs  
(including units with noise-damping hood).

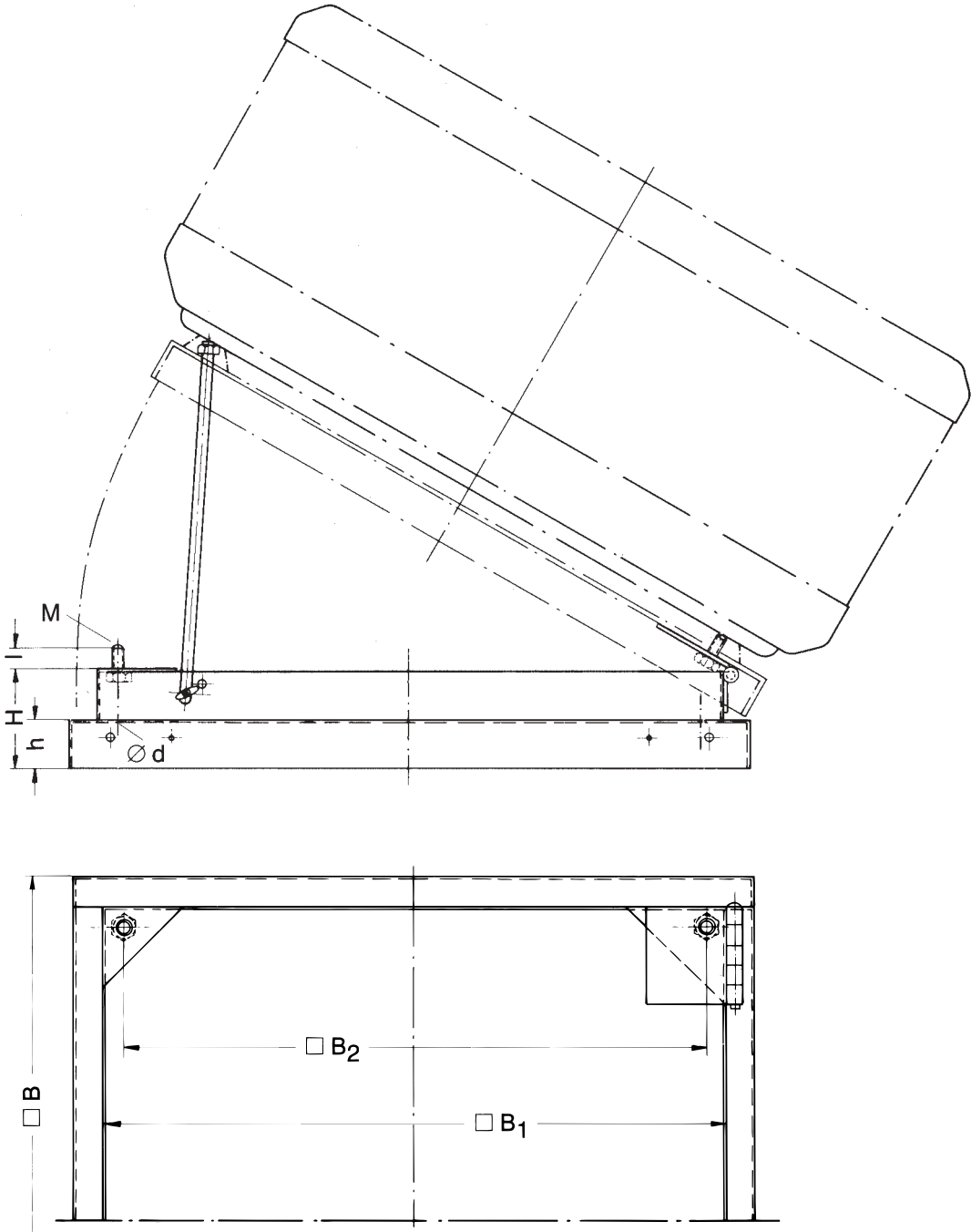


| Size           | B   | □ B <sub>1</sub> | □ B <sub>2</sub> | □ B <sub>3</sub> | H   | h  | M        | Approx. weight [kg] |
|----------------|-----|------------------|------------------|------------------|-----|----|----------|---------------------|
| Minivent + 224 | 412 | 362              | 324              | 324              | 85  | 35 | M8 x 20  | 5,0                 |
| 250/315        | 550 | 460              | 455              | 490              | 112 | 50 | M12 x 20 | 6,0                 |
| 355/400        | 715 | 600              | 603              | 640              | 112 | 50 | M12 x 20 | 7,0                 |

Changes in dimensions and design reserved.

Dimensions in mm

Suitable for use with all types (except fans with noise-damping hood).



| Size    | $\square B$ | $\square B_1$ | $\square B_2$ | H   | h   | l  | M  | $\varnothing d$ | Approx.weight [kg] |
|---------|-------------|---------------|---------------|-----|-----|----|----|-----------------|--------------------|
| 500/630 | 990         | 930           | 880           | 152 | 100 | 25 | 16 | 18              | 16                 |
| 710     | 1150        | 1090          | 1040          | 152 | 100 | 25 | 16 | 18              | 22                 |

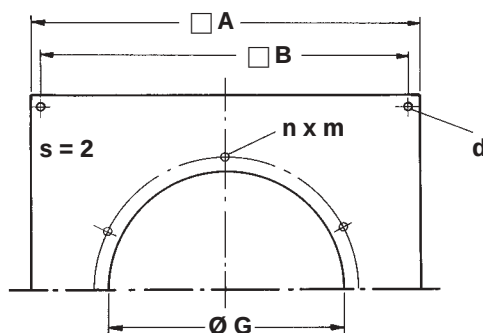
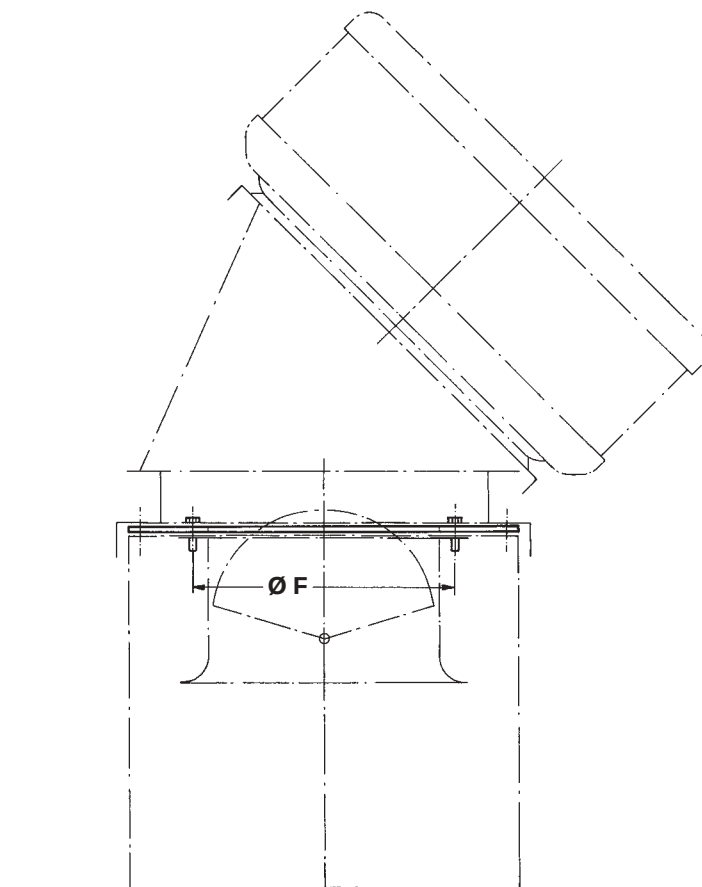


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## ACCESSORIES AND OPTIONS CENTRIFUGAL ROOF UNITS: HINGE FOR TILTING FRAME

092



| Size     | □ A  | □ B  | Ø G | Ø F | Ø d | n x m <sup>1)</sup> |  | Weight [kg] |
|----------|------|------|-----|-----|-----|---------------------|--|-------------|
| Minivent | 385  | 362  | 187 | 213 | 10  | 3 x M6              |  |             |
| 224      | 385  | 362  | 233 | 259 | 10  | 3 x M6              |  |             |
| 250      | 525  | 460  | 260 | 286 | 14  | 6 x M8              |  |             |
| 315      | 525  | 460  | 326 | 356 | 14  | 8 x M8              |  |             |
| 355      | 675  | 600  | 367 | 395 | 14  | 8 x M8              |  |             |
| 400      | 675  | 600  | 408 | 438 | 14  | 12 x M8             |  |             |
| 500      | 965  | 880  | 511 | 541 | 18  | 12 x M8             |  |             |
| 630      | 965  | 880  | 642 | 674 | 18  | 16 x M10            |  |             |
| 710      | 1125 | 1040 | 719 | 751 | 18  | 16 x M10            |  |             |



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## PLASTIC ROOF UNITS VERTICAL OUTLET DRVF-K SERIES TECHNICAL DESCRIPTION / RANGE OVERVIEW

093



### Range

11 sizes

33 types

Volume flow up to 30.000 m<sup>3</sup>/h

Pressure increase up to about  
1.000 Pa

### Uses / Overview of types

We supply vertical-outlet centrifugal roof units (DRVF-K) in 11 sizes, with inlet diameters ranging from 160 to 710 mm. The range provides maximum flexibility for every industrial demand situation.

Volume flow: 200 - 30000 m<sup>3</sup>/h

Pressure increase: 50 - 1000 Pa

The ability to adapt fans retroactively to performance changes in the individual air handling system and their rugged compact design are the key features of these products.

### Design

DRVF-K series centrifugal roof units are designed as vertical-outlet, direct driven fans for use in aggressive gas and vapour environments. The medium is axially aspirated, after leaving the horizontal impeller axially deflected around the enclosed drive motor and driven to the outlet duct. Casings of size 160 to 315 fans are made by deep-drawing and are split horizontally. Sizes 160 and 200 share the same casing, as do our 250 and 315 size units. The complete drive assembly comprises the motor bearing bracket, drive motor, motor cover, cooling air duct and impeller. The motor bearing bracket is designed to accommodate four B5 style motor sizes (63 to 112); the impeller is mounted overhung on the motor shaft.

Sizes 355 to 710 are of welded construction; the unit comprising casing, motor support, impeller, bellmouth, and inlet duct. Motor support and the top and bottom casing sections are joined by welding. Size 355 and 400, 450 and 500 and 560 and 630 use an identical casing. Once supplied and installed, they can thus be adapted retroactively to changing needs simply by replacing the impeller and bellmouth section.

The motor support can accommodate six B5 style motor sizes (71 to 132). The motor is shielded against the medium, receiving its cooling air via flexible air supply hoses. Casing, motor support and impeller are made of thermoplastic material. Maximum acceptable operating temperatures, that must not be exceeded, depend on the plastic material and are as follows:

PVC 50 °C  
PP 70 °C

As a rule, these fans require inlet ducting to attain their nominal performance (please refer to the characteristic curves).

### Types

DRVK-K fans are available as series 45 (sizes 160 to 250) and series 63 (sizes 160 to 710) units, differing in terms of impeller design.



#### Series 45

Impeller with 12 forward curved blades, impeller diameter = 1.4 times the inlet diameter.



#### Series 63

Impeller with 8 backward curved blades, impeller diameter = 1.25 times the inlet diameter.

All impellers are statically and dynamically balanced in two planes, at least to ISO 1940 grade Q 6.3.

DRVF-K



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## PLASTIC ROOF UNITS VERTICAL OUTLET DRVF-K SERIES TECHNICAL DESCRIPTION

094

### Drive

In their standard version, these centrifugal roof units are powered by three-phase a.c. motors conforming to IEC recommendations, protection class IP 54 or Eexe, style B5. Fans are generally supplied with drive motor installed. A post-assembly trial run attests to each fan's functionality and operating safety. Installation of a drive motor by the customer results in forfeiture of our product liability.

### Conversion options

DRVF-K series fans are designed to permit changes in impeller rpm by replacing the motor in order to accommodate changing performance requirements within the air handling system. In addition, the

following conversion options exist for all sizes (160 to 630)

#### Impeller change:

Example: conversion of a fan to another series, e.g., DRVF-K 45-200 to DRVF-K 63-200 or vice versa

#### Impeller change with inlet duct replacement:

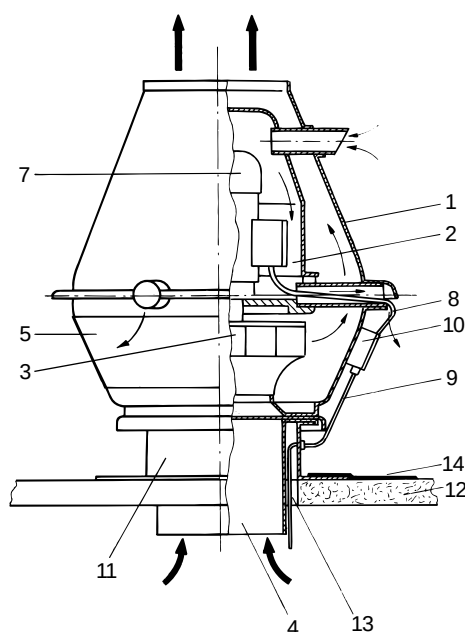
Conversion of the fan to another size, e.g., 160 to 200, 250 to 315, or vice versa. This can be combined with a retrofit to another series, e.g., DRVF-K 45-160 to DRVF-K 63-200, etc.

All conversion options listed above can also be carried out following installation of the fan.

### Accessories

- Roof mounting bases for flat, pitched, and corrugated roofs
- Inlet ducts for passage through the roof
- Soft PVC sleeves with and without clamping bands for connection to the ducting
- Automatic louvre-type dampers
- Impellers and inlet ducts for the respective conversion options

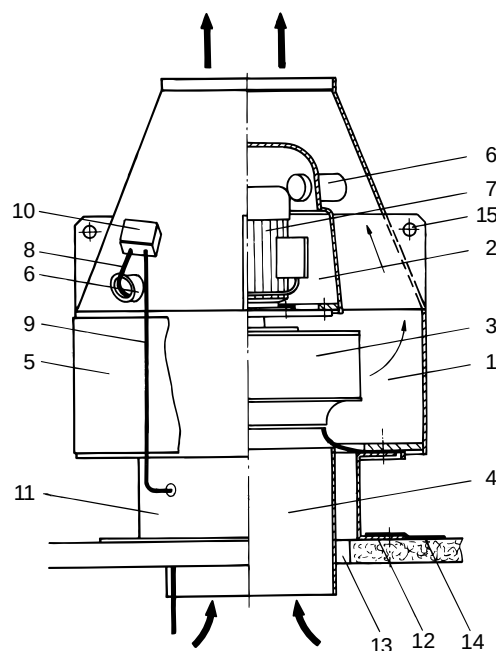
Size 160 to 315



- 1 – Casing
- 2 – Motor support
- 3 – Impeller
- 4 – Inlet duct
- 5 – Splinter guard

- 6 – Air supply hose
- 7 – Motor
- 8 – Motor cable
- 9 – Fan power supply cable
- 10 – Terminal box

Size 355 to 710



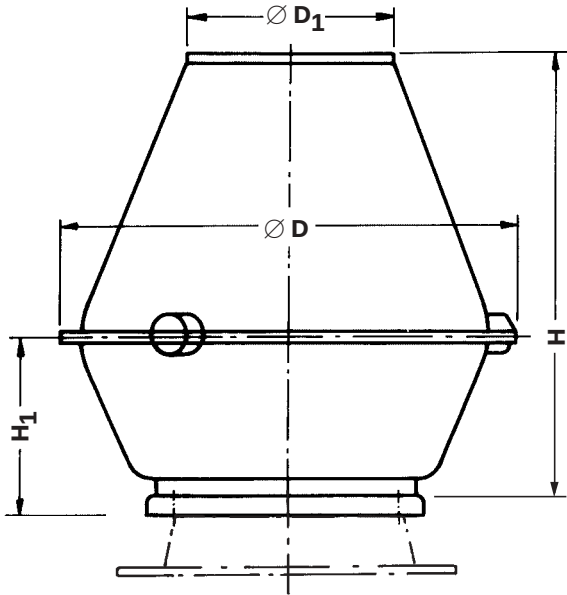
- 11 – Roof mounting base
- 12 – Roof cover
- 13 – Roof lead-through assembly
- 14 – Roof skin
- 15 – Lifting eyelet

### Mounting

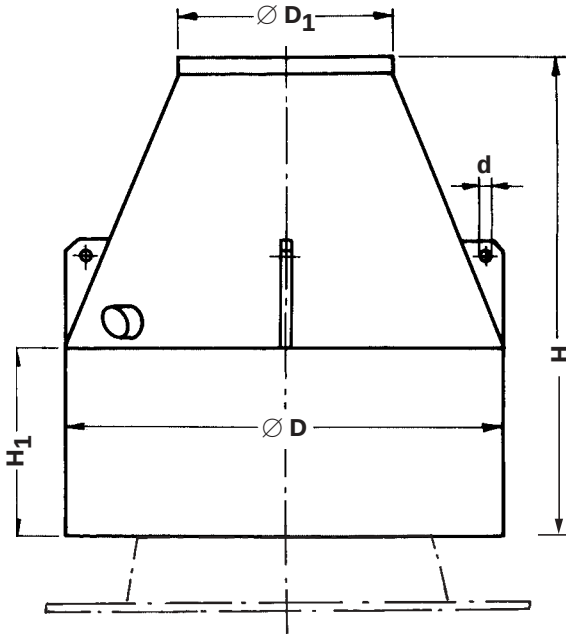
On flat and pitched roofs the DRVF-K fan is installed on a roof-mounting base sealed by the roof skin.

The fan-inlet is connected to the inlet duct passed through the roof lead-through assembly; for this connection flexible connectors (compensator) are compulsory.

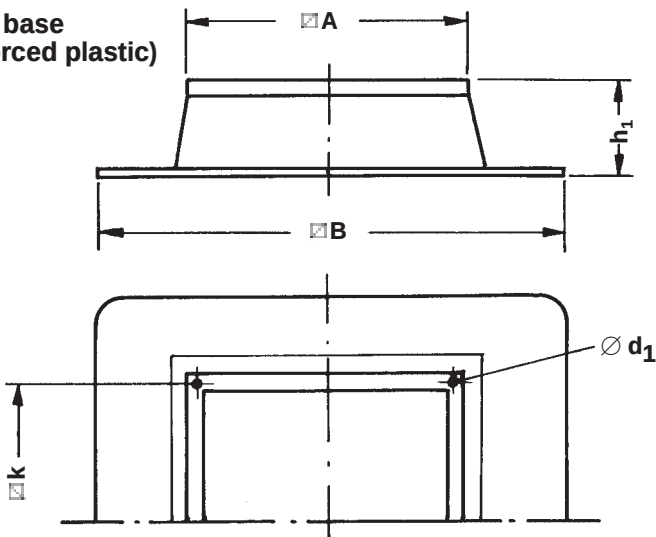
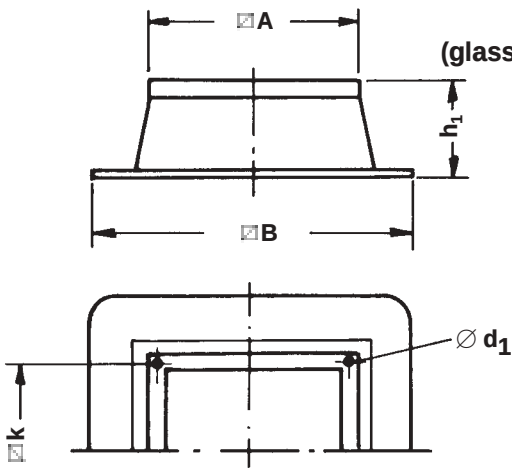
**Sizes 160 to 315**  
 (Deep-drawn casing)



**Sizes 355 to 710**  
 (Welded casing)



**Roof base**  
 (glass-reinforced plastic)



| Size | Ø D  | Ø D <sub>1</sub> | H    | H <sub>1</sub> | ▣ A  | ▣ B  | h <sub>1</sub> <sup>1)</sup> | h <sub>1</sub> <sup>1)</sup> |  | ▣ k  | Ø d | Ø d <sub>1</sub> |  |  |  |  |
|------|------|------------------|------|----------------|------|------|------------------------------|------------------------------|--|------|-----|------------------|--|--|--|--|
| 160  | 550  | 250              | 550  | 220            | 280  | 550  | 200                          | 350                          |  | 245  | –   | M8               |  |  |  |  |
| 200  | 550  | 250              | 550  | 220            | 280  | 550  | 200                          | 350                          |  | 245  | –   | M8               |  |  |  |  |
| 250  | 740  | 315              | 730  | 305            | 370  | 720  | 200                          | 350                          |  | 330  | –   | M8               |  |  |  |  |
| 315  | 740  | 315              | 730  | 305            | 370  | 720  | 200                          | 350                          |  | 330  | –   | M8               |  |  |  |  |
| 355  | 800  | 400              | 870  | 340            | 680  | 1020 | 200                          |                              |  | 600  | 25  | M12              |  |  |  |  |
| 400  | 800  | 400              | 870  | 340            | 680  | 1020 | 200                          |                              |  | 600  | 25  | M12              |  |  |  |  |
| 450  | 1000 | 500              | 1040 | 390            | 840  | 1210 | 200                          |                              |  | 750  | 25  | M12              |  |  |  |  |
| 500  | 1000 | 500              | 1040 | 390            | 840  | 1210 | 200                          |                              |  | 750  | 25  | M12              |  |  |  |  |
| 560  | 1200 | 630              | 1210 | 470            | 1195 | 1520 | 200                          |                              |  | 1050 | 25  | M16              |  |  |  |  |
| 630  | 1200 | 630              | 1210 | 470            | 1195 | 1520 | 200                          |                              |  | 1050 | 25  | M16              |  |  |  |  |
| 710  | 1400 | 710              | 1420 | 530            | 1195 | 1520 | 200                          |                              |  | 1050 | 30  | M16              |  |  |  |  |

Changes in dimensions and design reserved.

1) When ordering please advise height of base

Dimensions in mm.



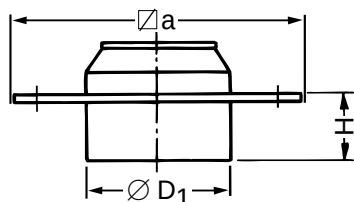
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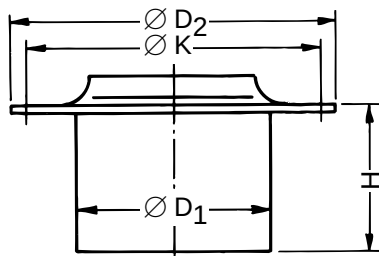
## PLASTIC ROOF UNITS SERIES DRVF-K 45+63 MAIN DIMENSIONS ACCESSORIES

096

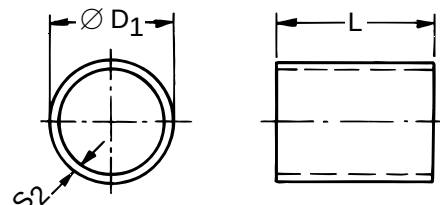
**Inlet duct** (sizes 160 + 250)



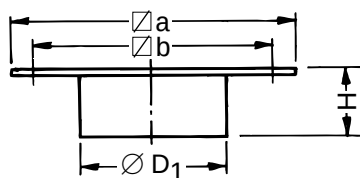
**Inlet duct** (sizes 355 - 500)



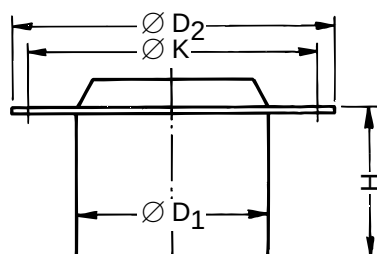
**Sleeve** (sizes 160 to 710)  
Material: soft PVC



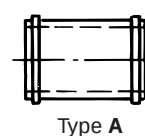
**Inlet duct** (sizes 200 + 315)



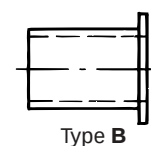
**Inlet duct** (sizes 560 - 710)



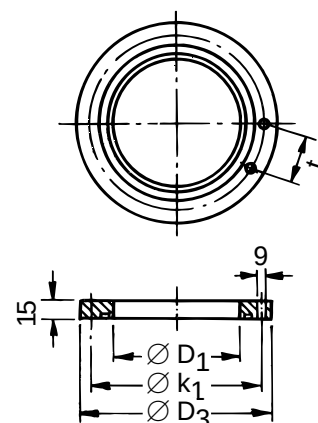
With and without  
clamping bands



Flanged on  
one side



**Flange** (sizes 160 to 710)



| Size | Ø D <sub>1</sub> | Ø D <sub>2</sub> | Ø D <sub>3</sub> | H   | Ø d | L   | S <sub>2</sub> | ▣ a | ▣ b | Ø K  | Ø k <sub>1</sub> | n x t      |  |  |  |
|------|------------------|------------------|------------------|-----|-----|-----|----------------|-----|-----|------|------------------|------------|--|--|--|
| 160  | 160              | –                | 238              | 300 | 9   | 160 | 2              | 310 | 270 | –    | 200              | 8 x 76,5   |  |  |  |
| 200  | 200              | –                | 279              | 300 | 9   | 160 | 2              | 310 | 270 | –    | 241              | 8 x 92,2   |  |  |  |
| 250  | 250              | –                | 330              | 300 | 9   | 160 | 2              | 410 | 330 | –    | 292              | 12 x 75,6  |  |  |  |
| 315  | 315              | –                | 406              | 300 | 9   | 160 | 2              | 410 | 330 | –    | 366              | 12 x 94,7  |  |  |  |
| 355  | 355              | 680              | 445              | 350 | 14  | 160 | 3              | –   | –   | 620  | 405              | 16 x 79    |  |  |  |
| 400  | 400              | 680              | 488              | 350 | 14  | 200 | 3              | –   | –   | 620  | 448              | 12 x 116   |  |  |  |
| 450  | 450              | 860              | 530              | 420 | 14  | 200 | 3              | –   | –   | 792  | 497              | 16 x 97    |  |  |  |
| 500  | 500              | 860              | 580              | 420 | 14  | 200 | 3              | –   | –   | 792  | 551              | 16 x 107,5 |  |  |  |
| 560  | 560              | 1150             | 660              | 420 | 17  | 200 | 3              | –   | –   | 1020 | 628              | 18 x 109   |  |  |  |
| 630  | 630              | 1150             | 730              | 500 | 17  | 200 | 3              | –   | –   | 1020 | 697              | 24 x 91    |  |  |  |
| 710  | 710              | 1270             | 810              | 500 | 17  | 200 | 3              | –   | –   | 1130 | 774              | 24 x 101   |  |  |  |

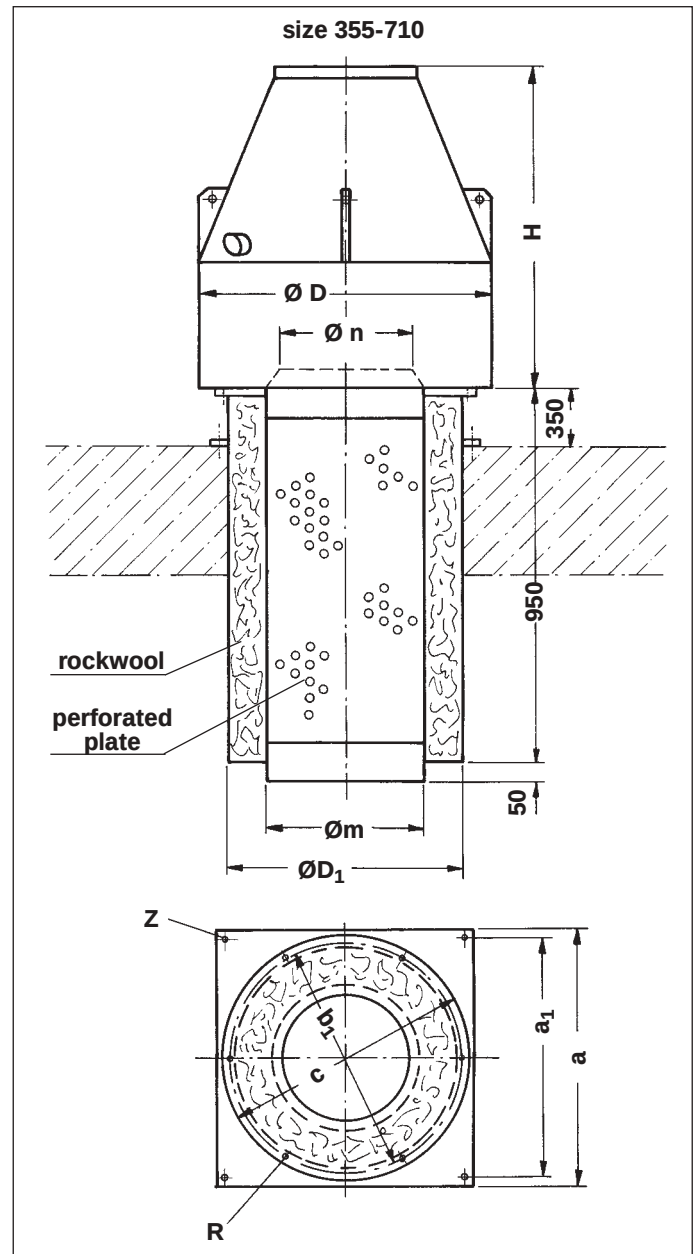
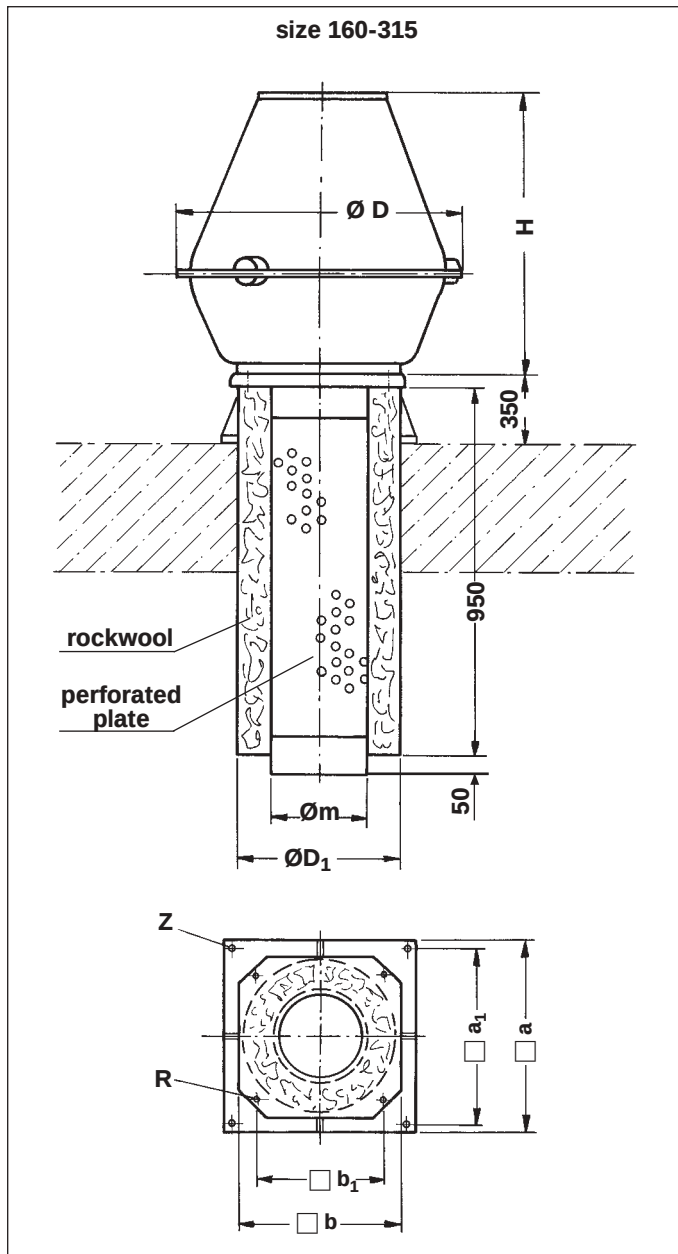


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**PLASTIC ROOF UNITS  
SERIES DRVF-K 45+63  
MAIN DIMENSIONS  
TUBULAR SILENCER \***

**097**



**\* Attenuation appr. 8 dB**

| size | Ø D  | H    | Ø D <sub>1</sub> | Ø m | Ø n | a    | a <sub>1</sub> | b   | b <sub>1</sub> | Ø c  | Ø b <sub>1</sub> | R      | Z      | Weight [kg] |
|------|------|------|------------------|-----|-----|------|----------------|-----|----------------|------|------------------|--------|--------|-------------|
| 160  | 550  | 550  | 355              | 160 | 133 | 400  | 360            | 315 | 270            |      |                  | 4 x M8 | 4 x 10 |             |
| 200  | 550  | 550  | 400              | 200 |     | 470  | 360            | 315 | 270            |      |                  | 4 x M8 | 4 x 10 |             |
| 250  | 740  | 730  | 450              | 250 | 218 | 500  | 450            | 420 | 330            |      |                  | 4 x M8 | 6 x 10 |             |
| 315  | 740  | 730  | 500              | 315 |     | 605  | 550            | 400 | 330            |      |                  | 4 x M8 | 4 x 10 |             |
| 355  | 800  | 870  | 560              | 355 | 331 | 690  | 640            |     |                | 670  | 620              | 6 x 14 | 8 x 12 |             |
| 400  | 800  | 870  | 600              | 400 | 331 | 690  | 640            |     |                | 670  | 620              | 6 x 14 | 8 x 12 |             |
| 450  | 1000 | 1040 | 650              | 450 | 370 | 880  | 830            |     |                | 850  | 792              | 6 x 14 | 8 x 12 |             |
| 500  | 1000 | 1040 | 700              | 500 | 433 | 880  | 830            |     |                | 880  | 792              | 6 x 14 | 8 x 12 |             |
| 560  | 1200 | 1210 | 760              | 560 | 490 | 1170 | 1110           |     |                | 1130 | 1020             | 6 x 20 | 6 x 15 |             |
| 630  | 1200 | 1210 | 800              | 630 | 560 | 1170 | 1110           |     |                | 1130 | 1020             | 6 x 20 | 6 x 15 |             |
| 710  | 1400 | 1420 | 900              | 710 | 620 | 1290 | 1230           |     |                | 1250 | 1130             | 6 x 20 | 6 x 15 |             |

Changes in dimensions and design reserved

Dimensions in mm

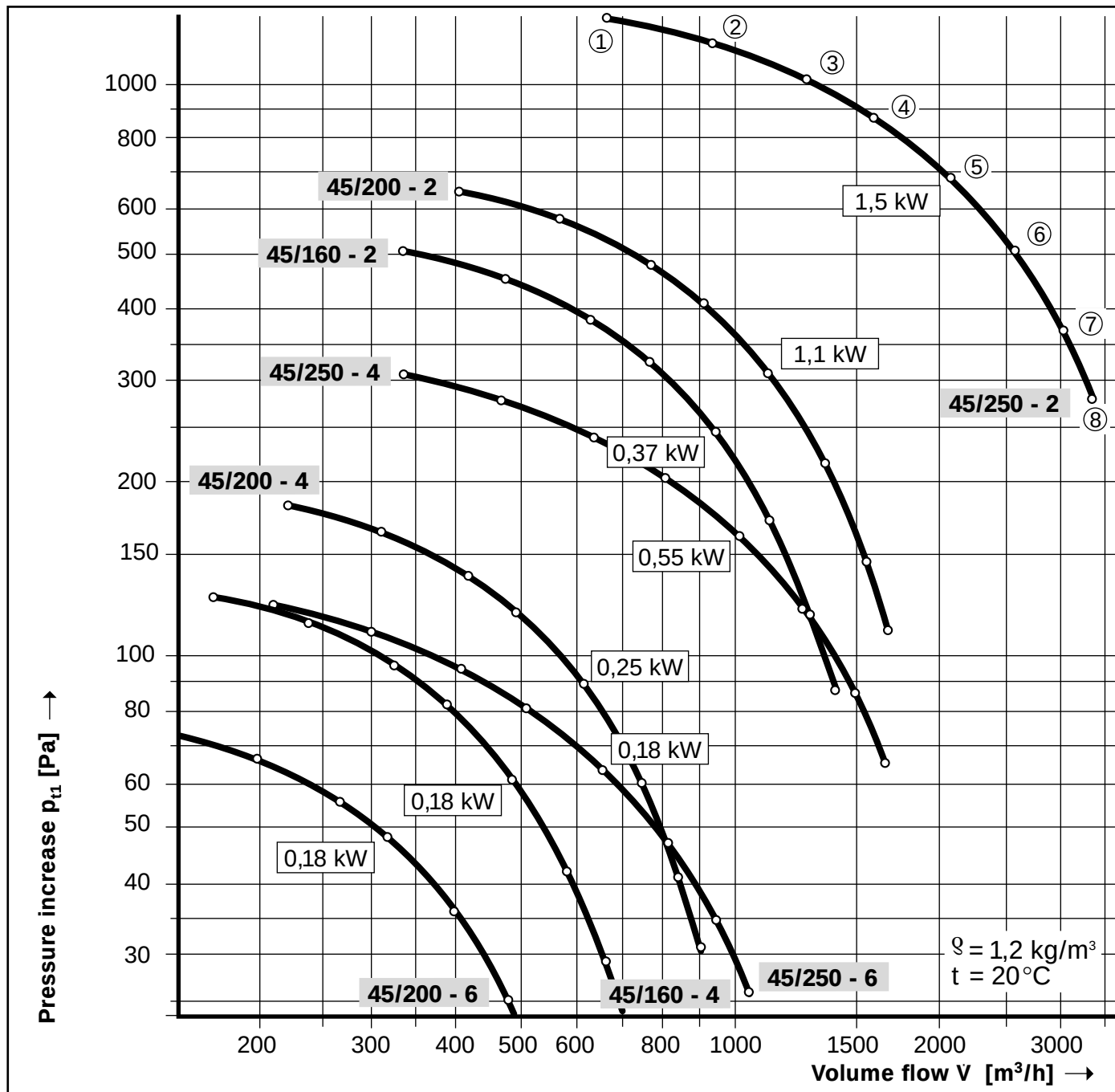


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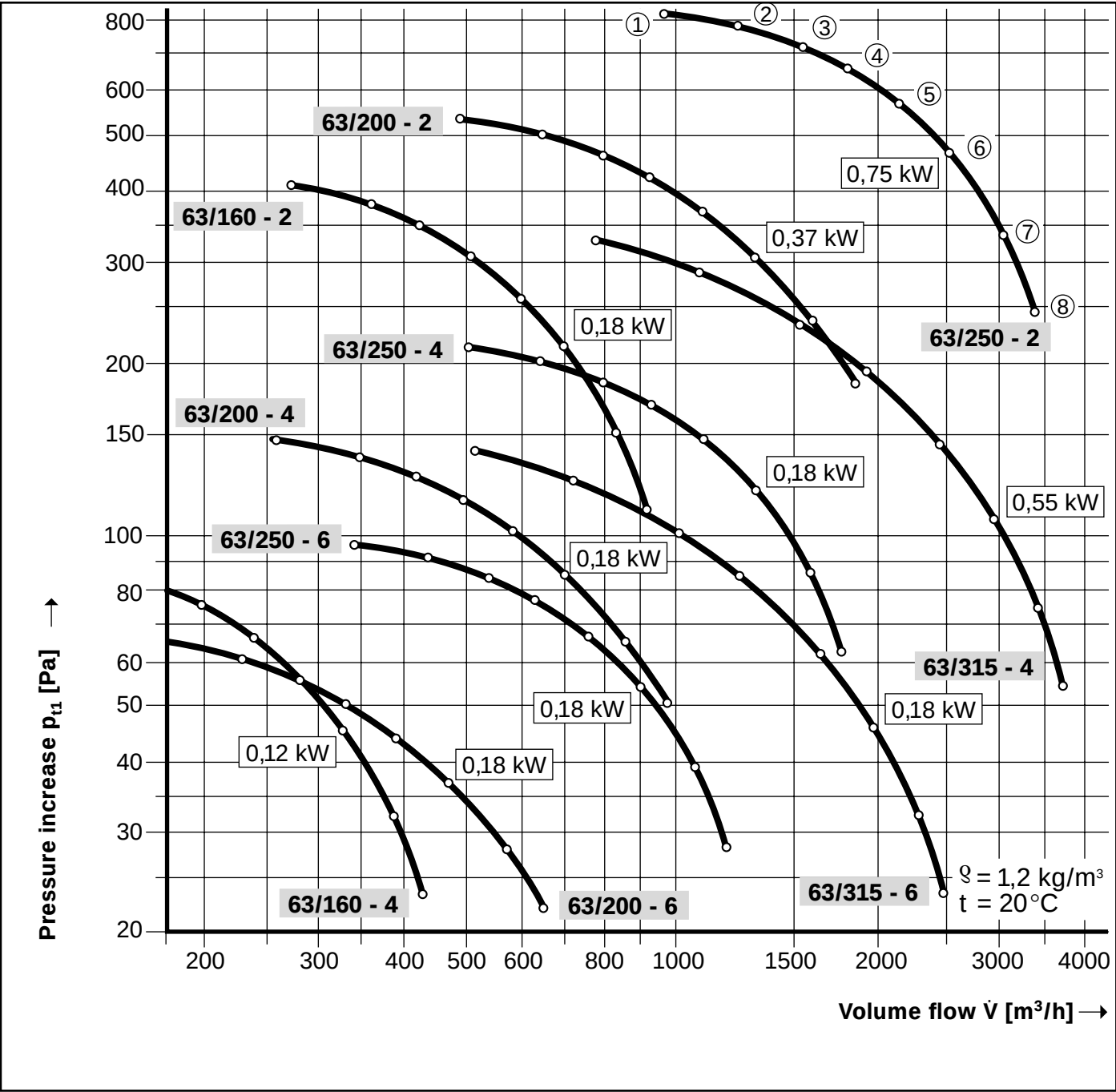
PLASTIC ROOF UNITS  
SERIES DRVF-K 45/160-250  
CHARACTERISTIC CURVES · SPECIFICATION

098



| Type              | Nominal speed [rpm] | Motor output [kW] | Total acoustic power level<br>$L_{W \text{ vent}}$ [dB] at point |    |    |    |    |    |    |     | A-weighted acoustic power level<br>$L_{PA}^*$ [dB] at point |    |    |    |    |    |    |    | Approx. weight [kg] |      |
|-------------------|---------------------|-------------------|------------------------------------------------------------------|----|----|----|----|----|----|-----|-------------------------------------------------------------|----|----|----|----|----|----|----|---------------------|------|
|                   |                     |                   | ①                                                                | ②  | ③  | ④  | ⑤  | ⑥  | ⑦  | ⑧   | ①                                                           | ②  | ③  | ④  | ⑤  | ⑥  | ⑦  | ⑧  | PVC                 | PPS  |
| DRVF-K 45/160 - 2 | 3000                | 0,37              | 76                                                               | 77 | 78 | 80 | 81 | 83 | 85 | 87  | 43                                                          | 44 | 45 | 47 | 48 | 50 | 52 | 54 | 16,5                | 15,5 |
| DRVF-K 45/160 - 4 | 1500                | 0,18              | 62                                                               | 63 | 64 | 66 | 68 | 70 | 71 | 73  | 29                                                          | 30 | 31 | 33 | 35 | 37 | 38 | 40 | 15,5                | 14,5 |
| DRVF-K 45/200 - 2 | 3000                | 1,1               | 81                                                               | 83 | 84 | 87 | 89 | 90 | 91 | 93  | 48                                                          | 50 | 51 | 54 | 56 | 57 | 58 | 60 | 21                  | 20   |
| DRVF-K 45/200 - 4 | 1500                | 0,25              | 68                                                               | 70 | 71 | 74 | 75 | 77 | 78 | 80  | 35                                                          | 37 | 38 | 41 | 42 | 44 | 45 | 47 | 15,5                | 15,5 |
| DRVF-K 45/200 - 6 | 1000                | 0,18              | 60                                                               | 62 | 64 | 66 | 68 | 69 | 71 | 73  | 27                                                          | 29 | 31 | 33 | 35 | 36 | 38 | 40 | 16,5                | 15,5 |
| DRVF-K 45/250 - 2 | 3000                | 1,5               | 88                                                               | 90 | 91 | 93 | 95 | 97 | 99 | 101 | 55                                                          | 57 | 58 | 60 | 62 | 64 | 66 | 68 | 28                  | 26,5 |
| DRVF-K 45/250 - 4 | 1500                | 0,55              | 76                                                               | 78 | 79 | 82 | 84 | 85 | 86 | 88  | 43                                                          | 45 | 46 | 49 | 51 | 52 | 53 | 55 | 24                  | 22,5 |
| DRVF-K 45/250 - 6 | 1000                | 0,18              | 68                                                               | 70 | 72 | 74 | 76 | 77 | 78 | 80  | 35                                                          | 37 | 39 | 41 | 43 | 44 | 45 | 47 | 20,5                | 19   |
|                   |                     |                   |                                                                  |    |    |    |    |    |    |     |                                                             |    |    |    |    |    |    |    |                     |      |
|                   |                     |                   |                                                                  |    |    |    |    |    |    |     |                                                             |    |    |    |    |    |    |    |                     |      |

\* Measured above roof level at a distance of 4 m. Values are stated with a tolerance of  $\pm 3$  dB (A)



| Type              | Nominal speed [rpm] | Motor output [kW] | Total acoustic power level $L_{W \text{ vent}}$ [dB] at point |    |    |    |    |    |    |    | A-weighted acoustic power level $L_{PA}^*$ [dB] at point |    |    |    |    |    |    |    | Approx. weight [kg] |      |
|-------------------|---------------------|-------------------|---------------------------------------------------------------|----|----|----|----|----|----|----|----------------------------------------------------------|----|----|----|----|----|----|----|---------------------|------|
|                   |                     |                   | ①                                                             | ②  | ③  | ④  | ⑤  | ⑥  | ⑦  | ⑧  | ①                                                        | ②  | ③  | ④  | ⑤  | ⑥  | ⑦  | ⑧  | PVC                 | PPS  |
| DRVF-K 63/160 - 2 | 3000                | 0,18              | 77                                                            | 75 | 73 | 73 | 75 | 77 | 78 | 80 | 44                                                       | 42 | 40 | 40 | 42 | 44 | 45 | 47 | 15                  | 14   |
| DRVF-K 63/160 - 4 | 1500                | 0,12              | 63                                                            | 62 | 60 | 60 | 61 | 62 | 64 | 65 | 30                                                       | 29 | 27 | 27 | 28 | 29 | 31 | 32 | 15                  | 14   |
| DRVF-K 63/200 - 2 | 3000                | 0,37              | 81                                                            | 79 | 78 | 78 | 79 | 81 | 82 | 84 | 48                                                       | 46 | 45 | 45 | 46 | 48 | 49 | 51 | 16,5                | 15,5 |
| DRVF-K 63/200 - 4 | 1500                | 0,18              | 66                                                            | 65 | 64 | 64 | 65 | 66 | 67 | 68 | 33                                                       | 32 | 31 | 31 | 32 | 33 | 34 | 35 | 15,5                | 14,5 |
| DRVF-K 63/200 - 6 | 1000                | 0,18              | 59                                                            | 58 | 57 | 57 | 58 | 59 | 60 | 62 | 26                                                       | 25 | 24 | 24 | 25 | 26 | 27 | 29 | 16,5                | 15,5 |
| DRVF-K 63/250 - 2 | 3000                | 0,75              | 79                                                            | 77 | 76 | 76 | 77 | 78 | 79 | 81 | 46                                                       | 44 | 43 | 43 | 44 | 45 | 46 | 48 | 20                  | 19   |
| DRVF-K 63/250 - 4 | 1500                | 0,18              | 74                                                            | 72 | 71 | 72 | 72 | 73 | 74 | 76 | 41                                                       | 39 | 38 | 39 | 39 | 40 | 41 | 43 | 15,5                | 18   |
| DRVF-K 63/250 - 6 | 1000                | 0,18              | 67                                                            | 65 | 63 | 64 | 64 | 65 | 66 | 68 | 34                                                       | 32 | 30 | 31 | 31 | 32 | 33 | 35 | 20,5                | 19   |
| DRVF-K 63/315 - 4 | 1500                | 0,55              | 79                                                            | 78 | 76 | 77 | 79 | 80 | 81 | 83 | 48                                                       | 50 | 49 | 47 | 48 | 50 | 51 | 54 | 26                  | 24,5 |
| DRVF-K 63/315 - 6 | 1000                | 0,18              | 71                                                            | 70 | 69 | 70 | 71 | 72 | 73 | 75 | 42                                                       | 41 | 40 | 41 | 42 | 43 | 44 | 46 | 22,5                | 21   |

\* Measured above roof level at a distance of 4 m. Values are stated with a tolerance of  $\pm 3 \text{ dB (A)}$

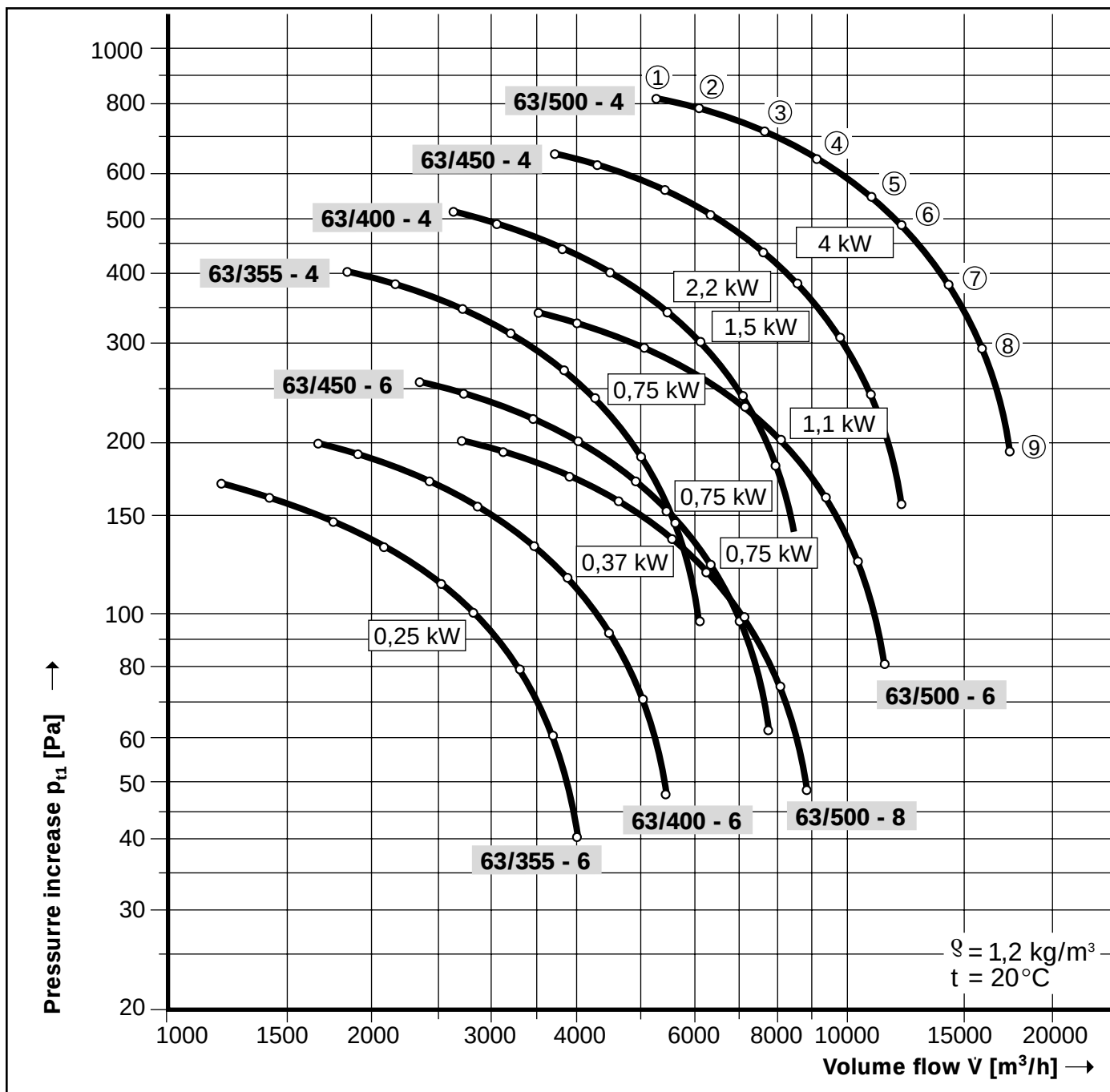


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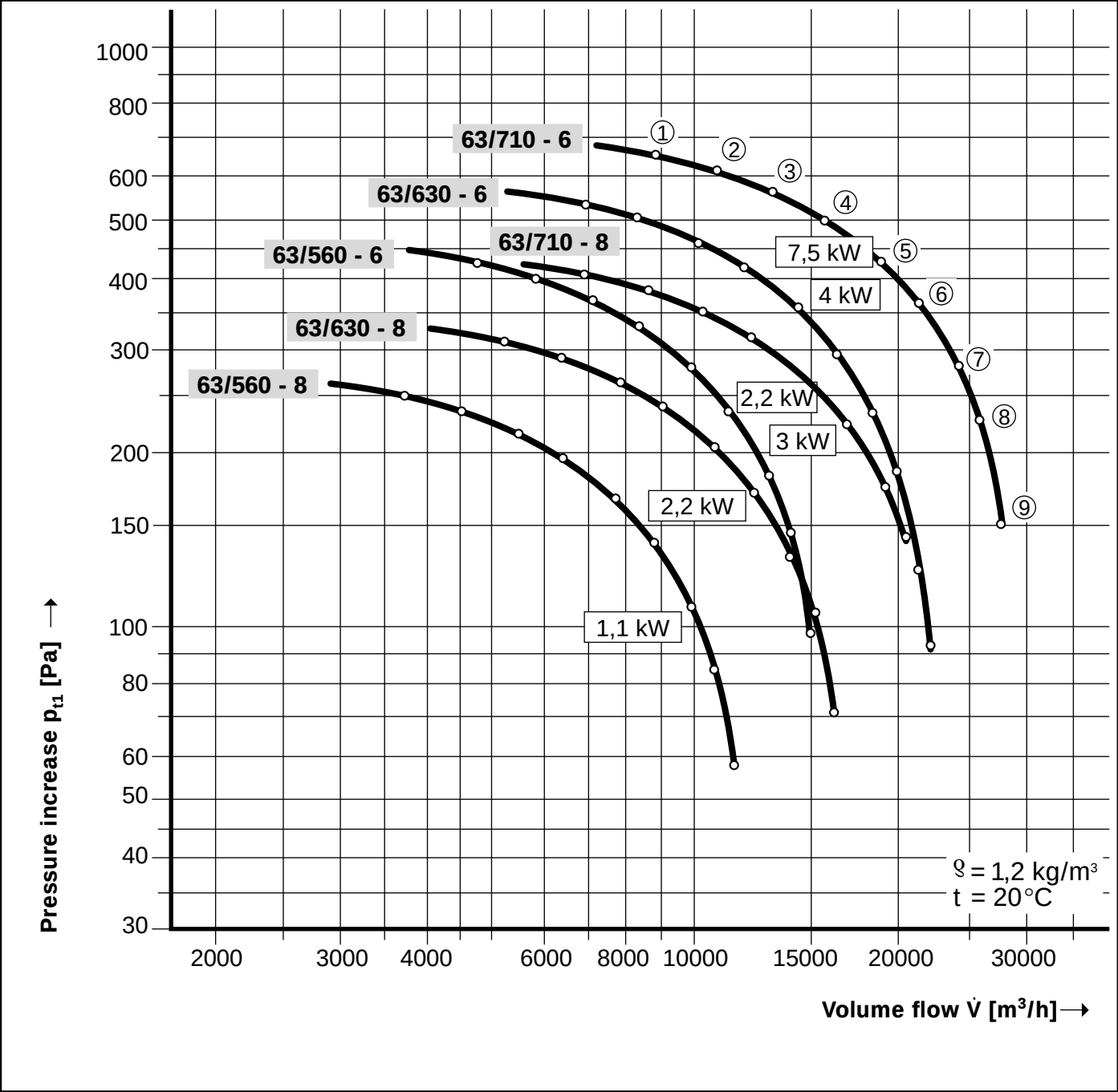
PLASIC ROOF UNITS  
SERIES DRVF-K 63/355-500  
CHARACTERISTIC CURVES · SPECIFICATIONS

100



| Type              | Nominal speed [rpm] | Motor output [kW] | Total acoustic power level<br>L <sub>W vent</sub> [dB] at point |    |    |    |    |     |     |     |     | A-weighted acoustic power level<br>L <sub>PA</sub> * [dB] at point |    |    |    |    |    |    |    |    | Approx. weight [kg] |      |
|-------------------|---------------------|-------------------|-----------------------------------------------------------------|----|----|----|----|-----|-----|-----|-----|--------------------------------------------------------------------|----|----|----|----|----|----|----|----|---------------------|------|
|                   |                     |                   | ①                                                               | ②  | ③  | ④  | ⑤  | ⑥   | ⑦   | ⑧   | ⑨   | ①                                                                  | ②  | ③  | ④  | ⑤  | ⑥  | ⑦  | ⑧  | ⑨  | PVC                 | PPS  |
| DRVF-K 63/355 - 4 | 1500                | 0,75              | 87                                                              | 86 | 86 | 87 | 88 | 89  | 89  | 91  | 93  | 58                                                                 | 57 | 57 | 58 | 59 | 60 | 60 | 62 | 64 | 55                  | 50   |
| DRVF-K 63/355 - 6 | 1000                | 0,25              | 78                                                              | 77 | 77 | 78 | 79 | 81  | 81  | 83  | 84  | 49                                                                 | 48 | 48 | 49 | 50 | 52 | 52 | 54 | 55 | 51,5                | 46,5 |
| DRVF-K 63/400 - 4 | 1500                | 1,5               | 90                                                              | 89 | 89 | 90 | 91 | 92  | 92  | 93  | 95  | 61                                                                 | 60 | 60 | 61 | 62 | 63 | 63 | 64 | 66 | 65,5                | 60,5 |
| DRVF-K 63/400 - 6 | 1000                | 0,37              | 82                                                              | 81 | 81 | 82 | 83 | 84  | 84  | 85  | 86  | 53                                                                 | 52 | 52 | 53 | 54 | 55 | 55 | 56 | 57 | 59                  | 54   |
| DRVF-K 63/450 - 4 | 1500                | 2,2               | 93                                                              | 92 | 92 | 93 | 94 | 95  | 95  | 96  | 98  | 63                                                                 | 62 | 62 | 63 | 64 | 65 | 65 | 66 | 68 | 100                 | 95   |
| DRVF-K 63/450 - 6 | 1000                | 0,75              | 83                                                              | 82 | 82 | 83 | 84 | 85  | 85  | 87  | 89  | 53                                                                 | 52 | 52 | 53 | 54 | 55 | 55 | 57 | 59 | 73                  | 68   |
| DRVF-K 63/500 - 4 | 1500                | 4,0               | 97                                                              | 96 | 96 | 97 | 99 | 100 | 100 | 101 | 103 | 67                                                                 | 66 | 66 | 67 | 69 | 70 | 70 | 71 | 73 | 116                 | 110  |
| DRVF-K 63/500 - 6 | 1000                | 1,1               | 87                                                              | 86 | 86 | 87 | 89 | 91  | 91  | 93  | 95  | 57                                                                 | 56 | 56 | 57 | 59 | 61 | 61 | 63 | 65 | 86                  | 80   |
| DRVF-K 63/500 - 8 | 750                 | 0,75              | 84                                                              | 83 | 83 | 84 | 85 | 87  | 87  | 88  | 90  | 54                                                                 | 53 | 53 | 54 | 55 | 57 | 57 | 58 | 60 | 106                 | 96   |

\* Measured above roof level at a distance of 4 m. Values are stated with a tolerance of ± 3 dB (A)



| Type              | Nominal speed [rpm] | Motor output [kW] | Total acoustic power level $L_{W \text{ vent}}$ [dB] at point |    |    |    |    |     |     |     |     | A-weighted acoustic power level $L_{PA}^*$ [dB] at point |    |    |    |    |    |    |    |    | Approx. weight [kg] |     |
|-------------------|---------------------|-------------------|---------------------------------------------------------------|----|----|----|----|-----|-----|-----|-----|----------------------------------------------------------|----|----|----|----|----|----|----|----|---------------------|-----|
|                   |                     |                   | ①                                                             | ②  | ③  | ④  | ⑤  | ⑥   | ⑦   | ⑧   | ⑨   | ①                                                        | ②  | ③  | ④  | ⑤  | ⑥  | ⑦  | ⑧  | ⑨  | PVC                 | PPS |
| DRVF-K 63/560 - 6 | 1000                | 2,2               | 91                                                            | 90 | 90 | 91 | 93 | 94  | 94  | 95  | 96  | 61                                                       | 60 | 60 | 61 | 63 | 64 | 64 | 65 | 66 | 119                 | 113 |
| DRVF-K 63/560 - 8 | 750                 | 1,1               | 87                                                            | 86 | 86 | 87 | 88 | 89  | 89  | 90  | 92  | 57                                                       | 56 | 56 | 57 | 58 | 59 | 59 | 60 | 62 | 105                 | 99  |
| DRVF-K 63/630 - 6 | 1000                | 4,0               | 95                                                            | 94 | 94 | 95 | 96 | 97  | 97  | 99  | 101 | 65                                                       | 64 | 64 | 65 | 66 | 67 | 67 | 69 | 71 | 155                 | 149 |
| DRVF-K 63/630 - 8 | 750                 | 2,2               | 90                                                            | 89 | 89 | 90 | 91 | 93  | 93  | 94  | 96  | 60                                                       | 59 | 59 | 60 | 61 | 63 | 63 | 64 | 66 | 145                 | 138 |
| DRVF-K 63/710 - 6 | 1000                | 7,5               | 97                                                            | 96 | 96 | 97 | 98 | 100 | 100 | 101 | 103 | 68                                                       | 67 | 67 | 68 | 69 | 71 | 71 | 72 | 74 | 215                 | 205 |
| DRVF-K 63/710 - 8 | 750                 | 3,0               | 91                                                            | 90 | 90 | 91 | 92 | 94  | 94  | 95  | 97  | 62                                                       | 61 | 61 | 62 | 63 | 65 | 65 | 66 | 68 | 177                 | 167 |
|                   |                     |                   |                                                               |    |    |    |    |     |     |     |     |                                                          |    |    |    |    |    |    |    |    |                     |     |
|                   |                     |                   |                                                               |    |    |    |    |     |     |     |     |                                                          |    |    |    |    |    |    |    |    |                     |     |
|                   |                     |                   |                                                               |    |    |    |    |     |     |     |     |                                                          |    |    |    |    |    |    |    |    |                     |     |
|                   |                     |                   |                                                               |    |    |    |    |     |     |     |     |                                                          |    |    |    |    |    |    |    |    |                     |     |

\* Measured above roof level at a distance of 4 m. Values are stated with a tolerance of  $\pm 3 \text{ dB (A)}$

DRVF-K

| Item No. | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Unit price<br>€ | Amount<br>€ |
|----------|------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
|          |      | <p><b>Plastic centrifugal roof fan, DRVF-K series</b><br/><b>Vertical outlet</b></p> <p>Made of corrosion-resistant plastic with enclosed drive motor.</p> <p>Centrifugal roof fan, consisting of high-grade certified thermoplastics. Structural elements are likewise made of synthetic material or plastic-coated steel, depending on fan size and load rating.</p> <p>The impeller is mounted overhung on the motor shaft and dynamically balanced to DIN ISO 1940, grade G 6.3 specifications.</p> <p>The IEC standard motor is fully and durably protected against the conveyed medium and weather influences. Cooling air is supplied to the motor via hollow section webbing and a ventilation duct.</p> <p><b>Accessories</b></p> <p>Inlet duct</p> <p><input type="checkbox"/> Standard PVC (hard)</p> <p><input type="checkbox"/> PPs</p> <p><input type="checkbox"/> Optional material</p> <p>Automatic butterfly valve fitted in the inlet duct, made of the same material as the duct.</p> <p>Glass-reinforced plastic (GRP)/stainless steel roof-mounting base</p> <p><input type="checkbox"/> for flat roof (Glass-reinforced plastic)</p> <p><input type="checkbox"/> for pitched roof (stainless steel)</p> <p>Plastic roof-mounting base</p> <p><input type="checkbox"/> for corrugated roof</p> <p>Sleeve with clamping band</p> <p><input type="checkbox"/> made of PVC (soft) material</p> <p><input type="checkbox"/> Splinter guard</p> |                 |             |
|          |      | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |             |

| Item No. | Qty. | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Unit price<br>€ | Amount<br>€ |
|----------|------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------|
|          |      | <p><b>Materials:</b></p> <p>Housing<br/><i>Standard material</i><br/><input type="checkbox"/> PVC (hard)<br/><input type="checkbox"/> PP<br/><input type="checkbox"/> PPs</p> <p><i>Optional material</i><br/><input type="checkbox"/> PVDF<br/><input type="checkbox"/> PE</p> <p>Impeller<br/><i>Standard material</i><br/><input type="checkbox"/> PVC (hard)<br/><input type="checkbox"/> PP<br/><input type="checkbox"/> PPs<br/><input type="checkbox"/> Steel, painted<br/><input type="checkbox"/> Steel, coated<br/><input type="checkbox"/> CFTEE<br/><input type="checkbox"/> Steel, rubberized<br/><input type="checkbox"/> Tegen</p> <p><i>Optional material</i><br/><input type="checkbox"/> PVDF<br/><input type="checkbox"/> Stainless steel</p> <p><b>Specifications</b><br/>Volume flow ..... m<sup>3</sup>/h<br/>Temperature .....20 °C<br/>Pressure increase ..... Pa<br/>Motor speed ..... rpm<br/>Motor output ..... kW<br/>Motor winding ..... V<br/>Current consumption ..... A<br/>Operating voltage ..... V<br/>Frequency ..... Hz<br/>Sound pressure level LpA,<br/>measured above roof level, r = 4 m ..... dB<br/>Weight ..... kg</p> <p><b>Manufacturer: TLT-Turbo GmbH</b><br/><b>Series / type: DRVF-K</b></p> |                 |             |
|          |      | carryover                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                 |             |



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## CENTRIFUGAL ROOF UNITS SWITCHGEAR OVERVIEW

104

Our range includes switchgear and control equipment for all centrifugal roof units offered.

When installing motor protection switch sets, care should be taken to prevent external interferences such

as shock, heat emitted by heating pipes, etc.

|                                                                                                                                                                                                                                                                                                                                                                                                       | Designation                                                                                                                                                                                                                                        | Type                                                                       | Circuit diagram on page  | Suitable for roof mounting fans with suffix | Current consumption                              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------|---------------------------------------------|--------------------------------------------------|
| 230 V single-phase a.c.                                                                                                                                                                                                                                                                                                                                                                               | <b>Motor protection switch set</b> for single-speed motor with thermal overload contacts (single-phase a.c. type)                                                                                                                                  | <b>FP 745 *</b>                                                            | 107                      | 4E, 6E, 8E                                  |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Speed control switch</b> for 2 speeds (does not accommodate MVS** connection) (for Minivent fans)                                                                                                                                               | <b>MZS 1/2 *</b>                                                           | 108                      | for Minivent 2 and DRH/DRV 224/35-4E only   |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Electronic speed controller</b> for manual rpm adjustment (does not accommodate MVS** connection) (for single-phase a.c. motors)                                                                                                                | <b>EDS-2-AP *</b><br>(EDS-2-UP)                                            | 109                      |                                             |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Electronic speed controller</b> (does not accommodate MVS** connection) for setting either of two presettable fan speeds via a contacting unit (for single-phase a.c. motors)                                                                   | <b>PE-5-AP</b><br><b>EDS-2-Z-AP *</b><br>(EDS-2-Z-UP)                      | 109                      |                                             |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Electronic speed controller</b> for setting either of two presettable fan speeds via a contacting unit (for single-phase a.c. motors with thermal overload contacts)                                                                            | <b>EDS 10-Z *</b>                                                          | 110                      |                                             |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Transformer-type speed controller</b> , with full motor protection, additional connection for contacting unit and actuating motor, Speed control in 5 stages. (for single-phase A.C. motors with thermal overload contacts)                     | <b>R-ET 3,5</b><br><b>R-ET 6</b><br><b>R-ET 7,5</b>                        | 111<br>111<br>111        |                                             | max. 3,5A<br>max. 6,0A<br>max. 7,5A              |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Transformer</b><br>(does not accommodate MVS** connection) for switchgear cabinet/panel installation, (with 7 taps (for single-phase a.c. motors)                                                                                               | <b>ETE 1,4</b><br><b>ETE 2,1</b><br><b>ETE 4</b><br><b>ETE 7,5</b>         | –<br>–<br>–<br>–         |                                             | max. 1,4A<br>max. 2,1A<br>max. 4,0A<br>max. 7,5A |
| 400 V three-phase a.c.                                                                                                                                                                                                                                                                                                                                                                                | <b>Motor protection switch set</b> for single-speed motor with thermal overload contacts, three-phase a.c.                                                                                                                                         | <b>FP 746 *</b><br>(FP 748)                                                | 112                      | 4, 6, 8, 12                                 |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection switch set</b> for single-speed motor with thermal overload contacts, three-phase a.c., with additional terminals for contacting unit and actuating motor                                                                      | <b>FP 747 *</b><br>(FP 749)                                                | 113                      | 4, 6, 8, 12                                 |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection switch set</b> for pole-reversible motor (Dahlander system) with thermal overload contacts, three-phase a.c., two speeds                                                                                                       | <b>FP 750 *</b><br>(FP 752)                                                | 114                      | 4/8, 6/12                                   |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection switch set</b> for pole-reversible motor (Dahlander system) with thermal overload contacts, three-phase a.c., and additional terminals for contacting unit and actuating motor, 2 speeds                                       | <b>FP 751 *</b><br>(FP 753)                                                | 115                      | 4/8, 6/12                                   |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection switch set</b> for motor with two separate windings and thermal overload contacts, three-phase a.c., 2 speeds                                                                                                                  | <b>FP 754 *</b><br>(FP 756)                                                | 116                      | 4/6, 6/8, 8/12                              |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection switch set</b> for motor with two separate windings and thermal overload contacts, three-phase a.c., and additional terminals for contacting unit and actuating motor, 2 speeds                                                | <b>FP 755 *</b><br>(FP 757)                                                | 117                      | 4/6, 6/8, 8/12                              |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection speed set</b> for three-speed motors with thermal overload contacts, three-phase a.c., low and high speed via Dahlander system, medium speed via separate winding                                                              | <b>FP 762</b><br>(FP 764)                                                  | 118                      | 4/6/8, 6/8/12                               |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection speed</b> for three-speed motors with thermal overload contacts, three-phase a.c., low and high speed via Dahlander system, medium speed via separate winding, with separate terminals for contacting unit and actuating motor | <b>FP 763</b><br>(FP 765)                                                  | 119                      | 4/6/8, 6/8/12                               |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection speed set</b> for star-delta switchable motors with thermal overload contacts, three-phase a.c., 2 speeds                                                                                                                      | <b>FP 758 *</b><br>(FP 760)                                                | 120                      | 4/4, 6/6                                    |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection speed set</b> for star-delta switchable motors with thermal overload contacts, three-phase a.c., with additional terminals for contacting unit and actuating motor, 2 speeds                                                   | <b>FP 759 *</b><br>(FP 761)                                                | 121                      | 4/4, 6/6                                    |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection switch</b> for single-speed motors without thermal overload contacts, three-phase a.c.                                                                                                                                         | <b>PKZ M0</b>                                                              | 122                      | 2, 4, 6, 8, 12                              | max. 10A                                         |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection switch set</b> for 2-speed pole-change motor (Dahlander system) without thermal overload contacts                                                                                                                              | <b>SF 2697</b>                                                             | 123                      | 4/8, 6/12                                   |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Motor protection switch set</b> for 2-speed pole-change motor with separate windings, without thermal overload contacts                                                                                                                         | <b>SF 3017</b>                                                             | 124                      | 4/6, 6/8, 8/12                              |                                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Fan speed controller</b> for manual rpm adjustment (for three-phase a.c. motors with thermal overload contacts), 5-stage, thermostat connection<br>R-DT: add. connection for contact unit actuating motor                                       | <b>R-DT 1*</b><br><b>R-DT 2*</b><br><b>RTRD 4 E *</b><br><b>RTRD 7 E *</b> | 111<br>111<br>125<br>125 |                                             | max. 1,0A<br>max. 2,0A<br>max. 4,0A<br>max. 7,0A |
|                                                                                                                                                                                                                                                                                                                                                                                                       | <b>Transformer</b><br>(does not accommodate MVS** connection), for switch gear cabinet/panel installation, with 5 taps, for a.c. motors                                                                                                            | <b>DTV 1</b><br><b>DTV 2</b><br><b>DTV 4</b><br><b>DTV 7</b>               | –<br>–<br>–<br>–         | please ask for version with 7 taps          | max. 1,0A<br>max. 2,0A<br>max. 4,0A<br>max. 7,0A |
| <b>Local isolator</b><br>All roof units (except BVD + DRV-F-K and hazardous duty types) are supplied with an external local isolator as standard.<br>Specification: max. 660 V, plastic housing, protection class IP 65, for 3-lock interlocking in "O" position, connection for central control system (1 NO, 1 NC) and motor thermal overload contacts, conforming to VDE 0113 - IEC 204 and VBG 4. |                                                                                                                                                                                                                                                    |                                                                            |                          |                                             |                                                  |

\* Available ex stock.

Equipment in brackets is intended for cabinet/panel installation.

\*\*= thermistor-type motor protection



**Motor protection switch PKZ M0**  
 for single-speed motors without thermal overload contacts

Single-speed motors without thermal overload contacts are connected to mains by this motor protection switch via a bimetallic element and an instantaneous tripping device.

The switches must be customer-adjusted to the appropriate nominal motor current.

Protection class: IP 44  
 Dimensions: 130x70x 92mm (WxHxD)



**Local isolator**  
 Externally mounted and freely accessible, these switches are also equipped for special circuit configurations (e.g., three-lock interlocking, connection to a centralized control system, etc.). They can thus be used as emergency stop devices and are fully in compliance with VDE 0113 - IEC 204 and VGB 4 (standard except on BVD, DRV-F-K and hazardous duty fans).



**Electronic speed controller EDS 2 / EDS 2-Z**  
 for single-phase a.c. motors without thermal overload contacts and current ratings below 2 A.

In its EDS 2 configuration this controller permits an infinitely variable manual speed adjustment; its EDS 2-Z counterpart allows any two fan speeds to be selected via a contacting unit.

Suitable for DRH-Minivent and DRV-Minivent series fans.

Available for concealed (UP) and apparent mounting (AP) (photo shows the AP type). Both versions conform to protection class IP 44 and are waterproof (WD).



**Speed controller R-ET**  
 Transformer-type speed controller for single-phase a.c. motors with external thermal overload contacts. May be used for manual speed-control in 5 stages with full motor protection. Connection of contacting unit and actuating motor is possible.



**RTRD series speed controller**  
 Fans marked with an asterisk (\*) in the specification tables are equipped with variable-speed motors. They can be speed-controlled in 5 stages via this controller (with full motor protection based on built-in thermal overload contacts). The fan speed can thus be reduced to about 50% of the nominal rpm value.

| Type                             | max. current at 400 V [A] | Dimensions [mm] |     |     | weight [kg] | Protection class |
|----------------------------------|---------------------------|-----------------|-----|-----|-------------|------------------|
|                                  |                           | W               | H   | D   |             |                  |
| RTRD 1 EG                        | 1,0                       | 190             | 255 | 110 | 3,2         | IP 54            |
| RTRD 2 EG                        | 2,0                       | 190             | 255 | 110 | 7,5         | IP 54            |
| RTRD 4 E                         | 4,0                       | 262             | 309 | 135 | 15          | IP 21            |
| RTRD 7 E                         | 7,0                       | 262             | 309 | 135 | 19,6        | IP 21            |
| RTRD 14E                         | 14                        | 450             | 290 | 174 | 30,5        | IP 21            |
| * max. Nennstrom 10A (bei 400 V) |                           |                 |     |     |             |                  |

| Typ      | max. current at 400 V [A] | Dimensions [mm] |     |     | weight [kg] | Protection class |
|----------|---------------------------|-----------------|-----|-----|-------------|------------------|
|          |                           | W               | H   | D   |             |                  |
| R-ET 3,5 | 3,5                       | 160             | 230 | 120 | 3,6         | IP 54            |
| R-ET 6   | 6,0                       | 160             | 230 | 120 | 5,1         | IP 54            |
| R-ET 7,5 | 7,5                       | 190             | 290 | 135 | 6,1         | IP 54            |



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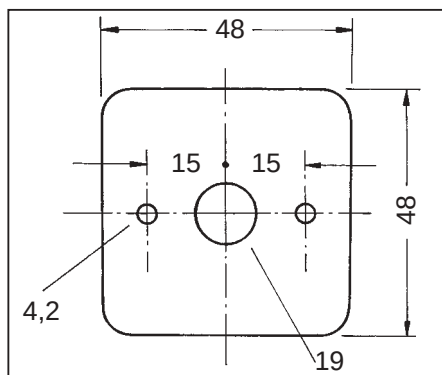
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### Motor protection switch sets - FP Series

These switchgear devices are enclosed in a plastic housing meeting IP 54 specifications. They consist of a control switch (speed switch) and a contactor actuated by the thermal overload contacts embedded in the motor winding. An indicator lamp is lit when the motor is running. When installing these motor protection switch sets, care should be taken to prevent external interferences such as shock, heat emitted by hot air current or heating pipes, etc..

FP series motor protection switch sets are also available for switchgear cabinet/panel installation. These versions are supplied without the indicator lamp, which will be supplied by the panel manufacturer for improved visual uniformity.

|                                       |                                   |
|---------------------------------------|-----------------------------------|
| Nominal voltage:                      | max. 400 Volt<br>three-phase a.c. |
| Nominal current:                      | max. 14 A                         |
| Permissible motor output<br>at 400 V: | 5,5 kW                            |
| Dimensions:                           | 270 x 220 x 150 mm<br>(W x H x D) |



### Mounting hole pattern

### Electronic speed controller

Variable-speed single-phase a.c. motors can be controlled with this electronic speed controller (with full motor protection via built-in thermal overload contacts).

### Specifications:

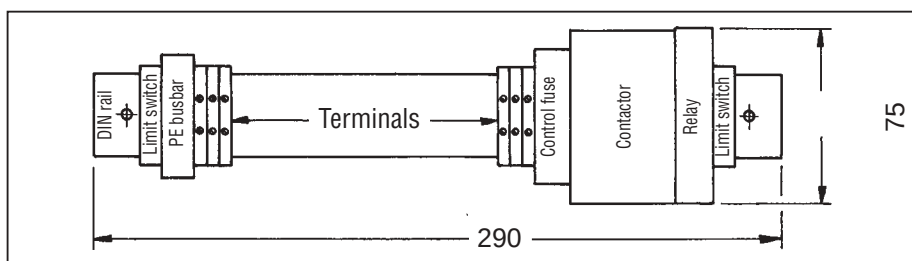
|                   |                                   |
|-------------------|-----------------------------------|
| Nominal voltage:  | max. 230 V                        |
| Nominal current:  | max. 10 A                         |
| Protection class: | IP 44                             |
| Dimensions:       | 257 x 214 x 130 mm<br>(W x H x D) |

## CENTRIFUGAL ROOF UNITS SWITCHGEAR AND CONTROL ACCESSORIES MOTOR PROTECTION SWITCHES

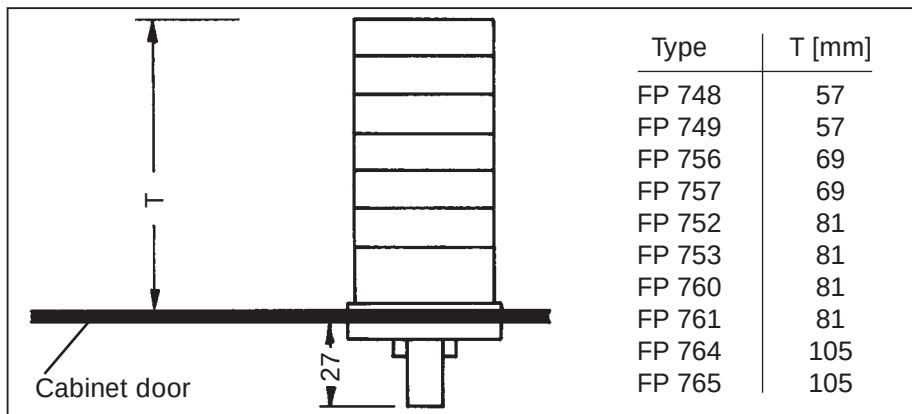
106



FP series motor protection switch set



Mounting rail configuration (for mounting plate installation)



Switch assembly (speed selector switch for door installation is loosely supplied).



Electronic speed controller EDS 10-Z



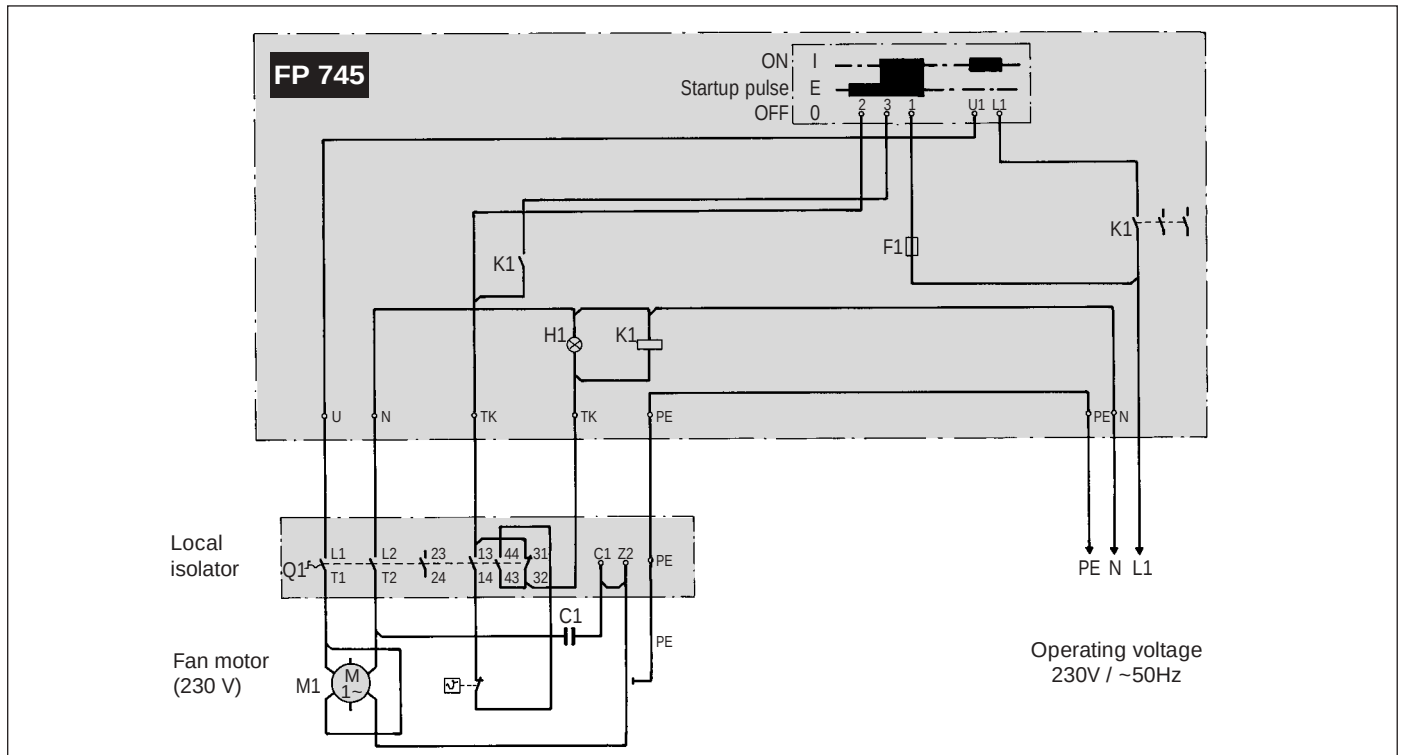
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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET

**FP 745**

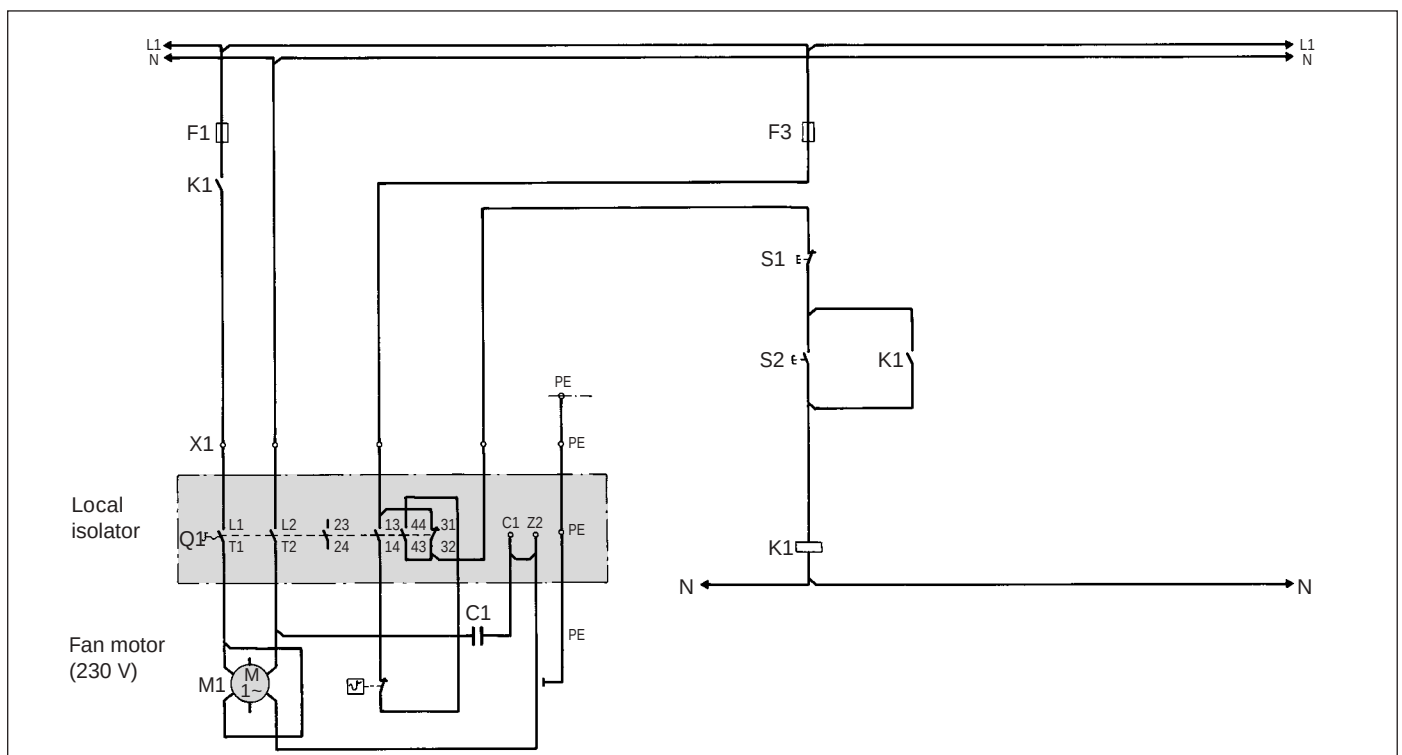
107



### Motor protection switch set FP 745

Motor protection switch set for  
single-speed single-phase a.c. motor  
with thermal overload contacts.

Used for DRH and DRV types with  
suffixes -4E and -6E  
(except 224/35--E)



**Contactor control circuit** for a  
single-speed a. c. motor with  
thermal overload contacts.



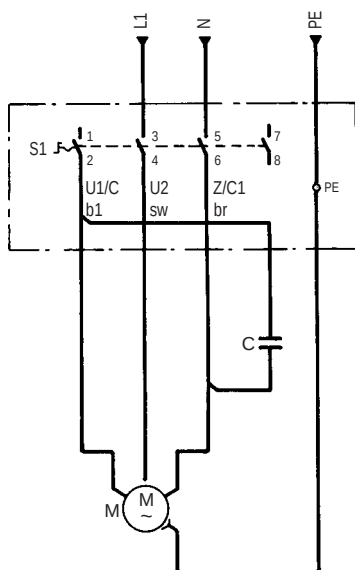
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## CENTRIFUGAL ROOF UNITS WIRING DIAGRAMS FOR MINIVENT + DRH/DRV 224

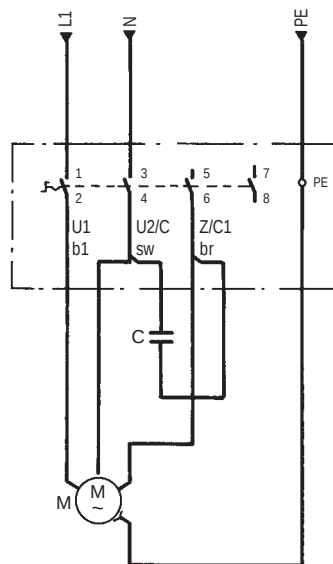
108

### Single-Speed-Connection



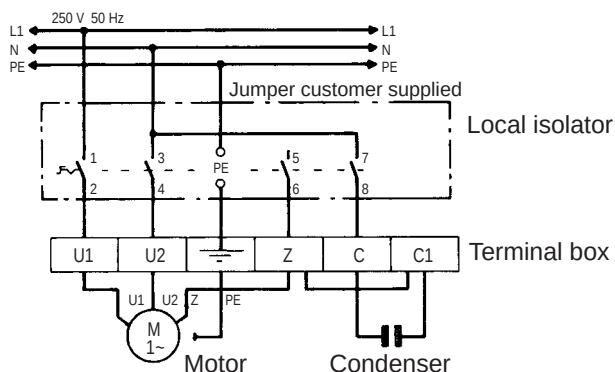
**Minivent 1**

Local isolator



**Minivent 2/3/6**

### high speed



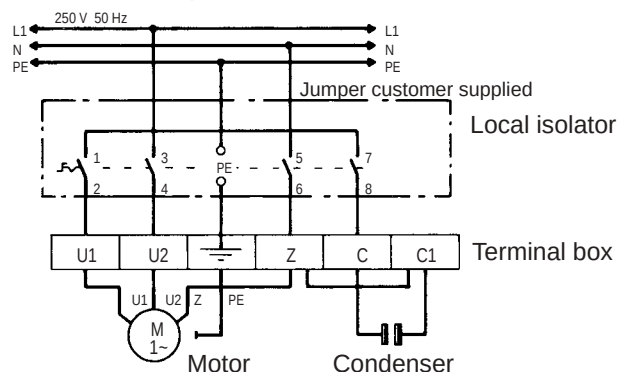
Local isolator

Terminal box

Motor

Condenser

### low speed



Local isolator

Terminal box

Motor

Condenser

### Speed switch MZS 1/2

Special speed switch for single-phase  
AC motors without thermal contacts.

### Used for:

**Minivent 2 + DRV 224** with single-  
phase AC-motors 230 volts - 50 Hz



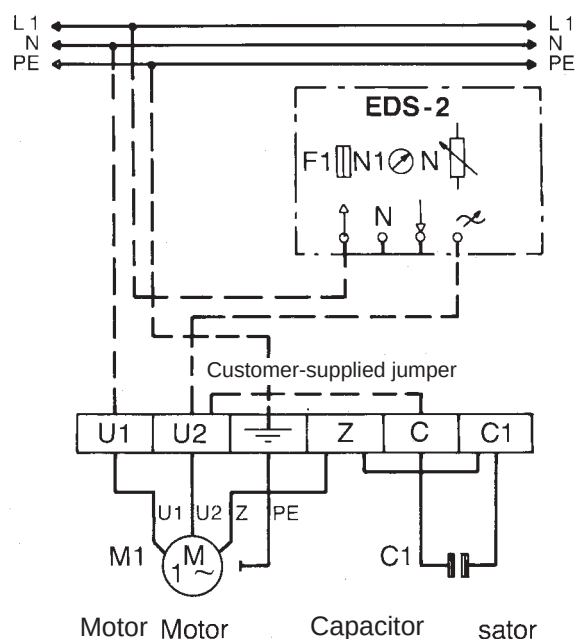
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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS ELECTRONIC SPEED CONTROLLER **EDS - 2 / EDS - 2 Z**

109

### Infinitely variable rpm control elbar



### Electronic speed controllers EDS-2 and EDS-2Z

These controllers are used to provide an infinitely variable rpm control of Minivent fans driven by single-phase a.c. motors without thermal overload contacts. In case of use with DRH/DRV fans, a separate motor protection circuit must be configured around the thermal overload contacts.

#### Specifications:

Nominal voltage: 230/240 V a.c., 50 Hz

Nominal current range: 0.1 - 2.5 A

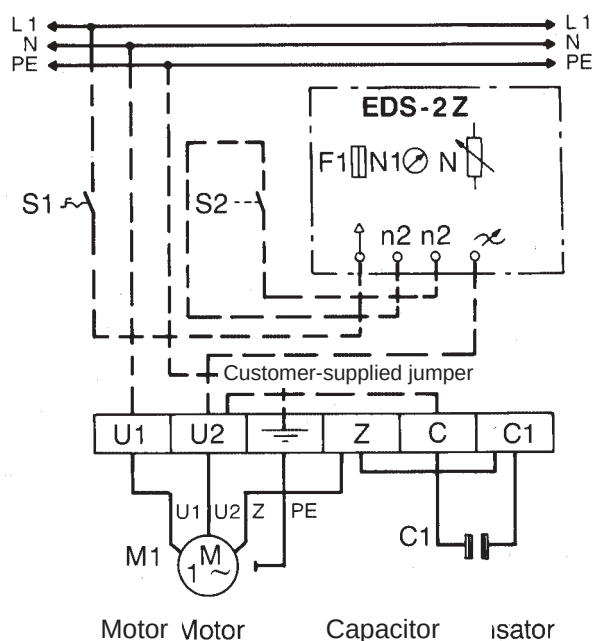
Short-circuit protection: G-fuse F 2  
E DIN 41660

Radio interference suppression:  
according to VDE 0875/6.77, grade N

#### EDS-2

To energize the controller, turn the control knob all the way clockwise, then back to the desired speed. To deactivate, turn the knob all the way counterclockwise. The desired speed can be selected between the presettable basic rpm setting and the maximum speed. Basic rpm is adjusted to a point where the motor still starts smoothly, using a potentiometer under the control knob.

### Infinitely variable rpm control elbar



#### EDS-2Z

To energize the controller, turn the control knob all the way clockwise, then back to the desired maximum speed. To deactivate, turn the knob all the way counterclockwise. The desired minimum speed is adjusted such that the motor still starts smoothly, using a potentiometer under the control knob. Once the unit is energized it can also be switched on and off via the external switch S1. The changeover between the minimum and maximum speed is made via the contacting unit S2.

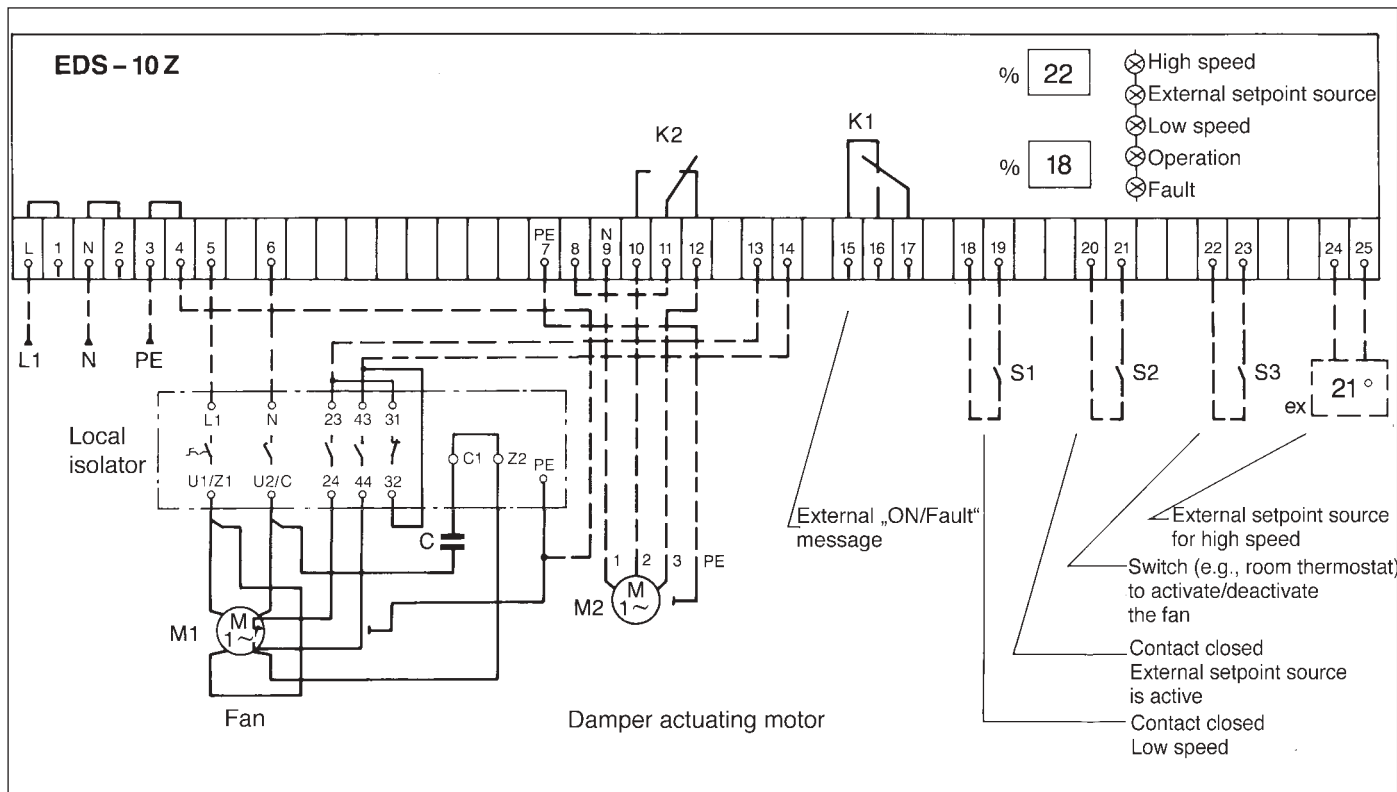


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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS ELECTRONIC SPEED CONTROLLER **EDS - 10 Z**

110



### Operation

Operating the main switch causes the fault relay 1 to pick up, and the “ON” lamp lights up. Closing or opening the circuit between terminals 22 and 23, e.g., by a room thermostat, will start or stop the fan. Concurrently, a damper actuating motor can be operated via the relay K2.

Depending on the circuit configuration across terminals 18 and 19, a percentage rpm setting is applied to the single-phase a.c. motor (contact closed = low speed).

Closing the circuit across terminals 20 and 21 deactivates the setpoint generator for the high fan speed by switching over to an external setpoint source. If the circuit at terminals 13 and 14 is interrupted by the thermal overload contacts, the fault relay K1 drops out and a fault condition is indicated. A reset can only be performed by de-energizing the main switch. All operating conditions are indicated by LEDs.



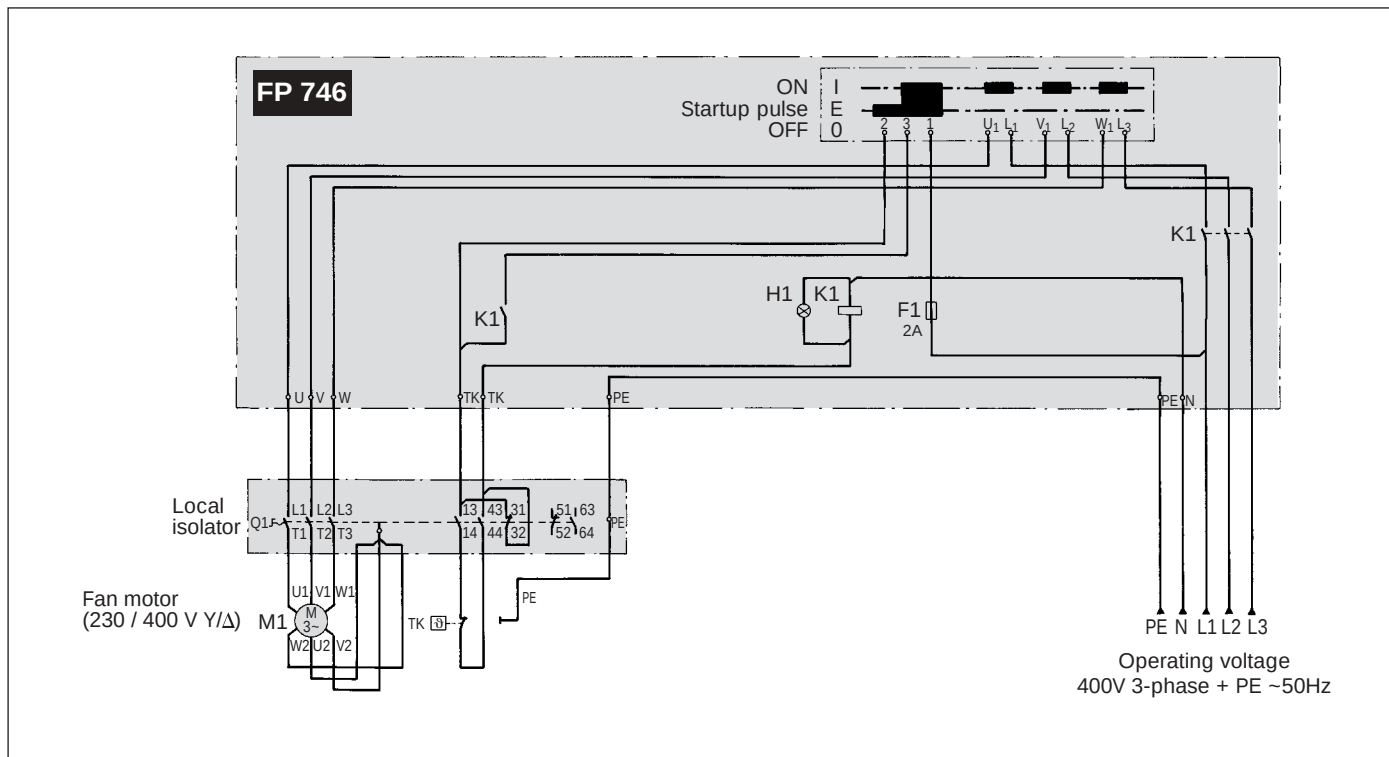


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# CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET FP 746

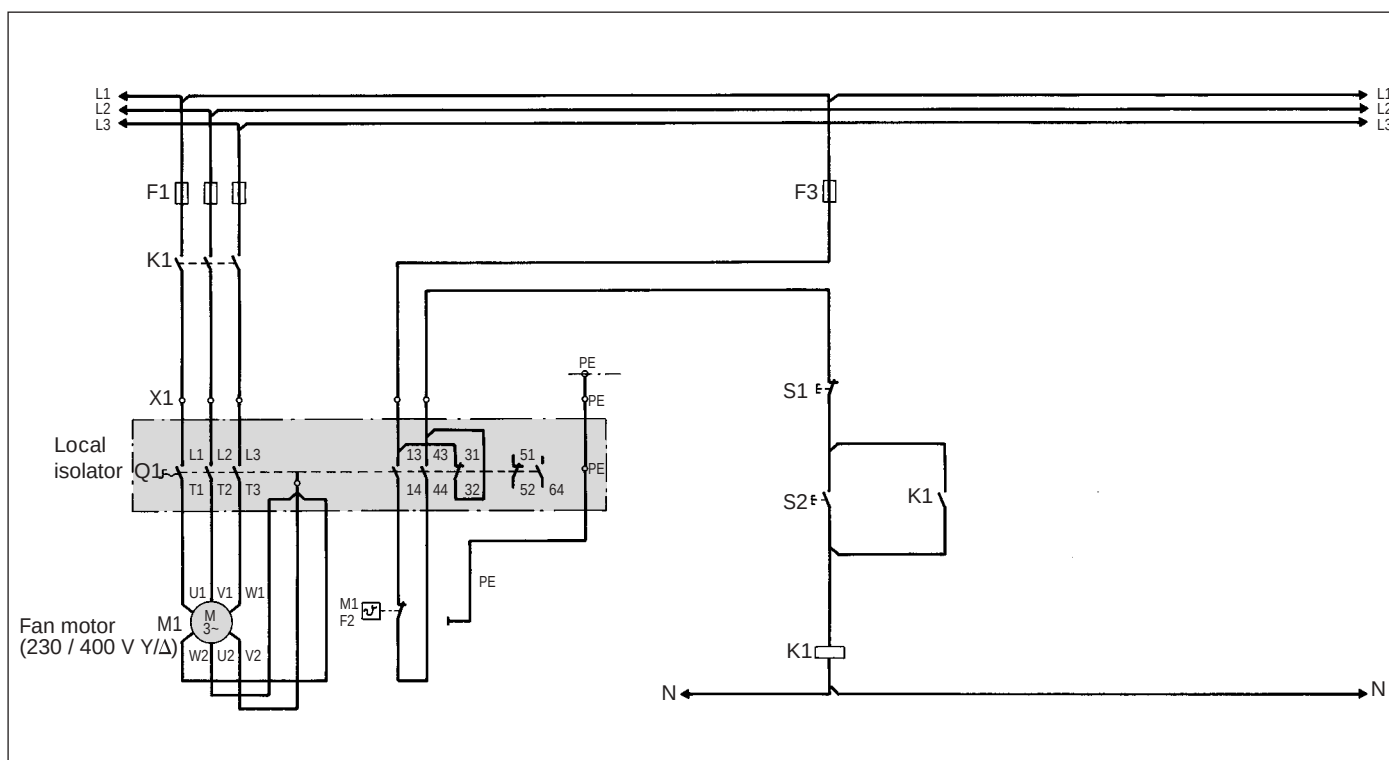
112



**Motor protection switch set  
FP 746**

Motor protection switch set for  
single-speed single-phase a.c. motor  
with thermal overload contacts.

Used for DRH and DRV types with  
suffixes -12, -8, -6 und -4.



**Contactor control circuit** for a  
single-speed a.c. motor with thermal  
overload contacts.





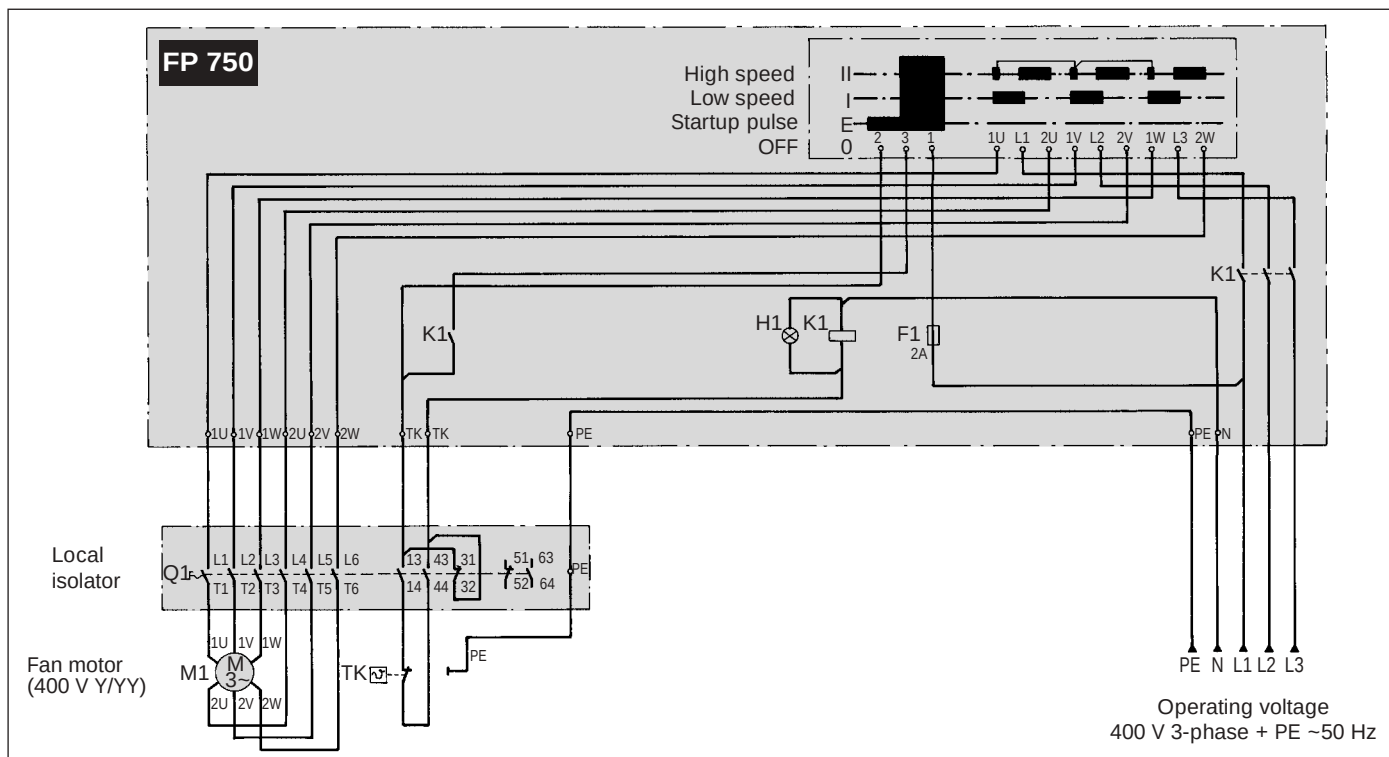
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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET

**FP 750**

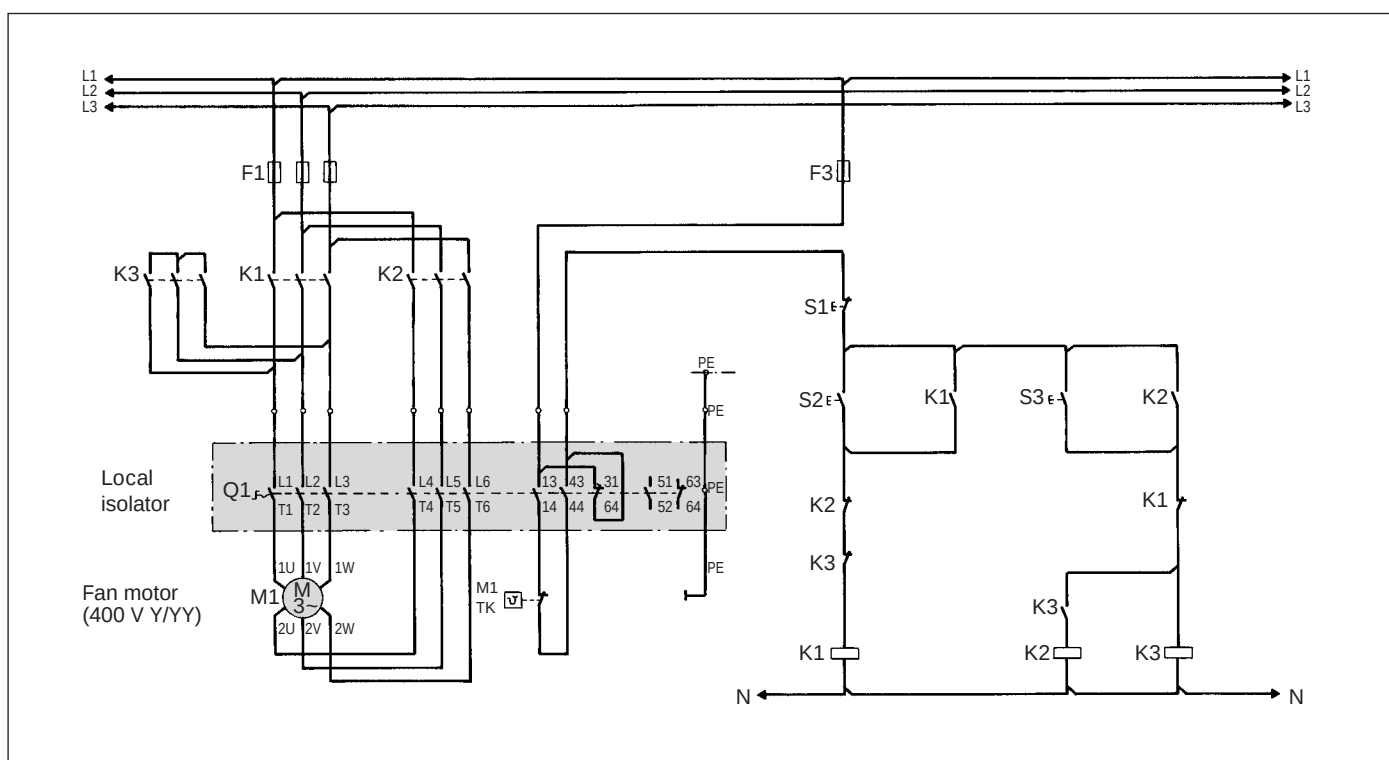
114



### Motor protection switch set FP 750

Motor protection switch set for a two-speed motor fitted with a Dahlander change-pole winding and thermal overload contacts.

Used for types DRH and DRV with suffixes -6/12 and -4/8.



**Contactor control circuit** for a two-speed motor fitted with a Dahlander change-pole winding and thermal overload contacts.

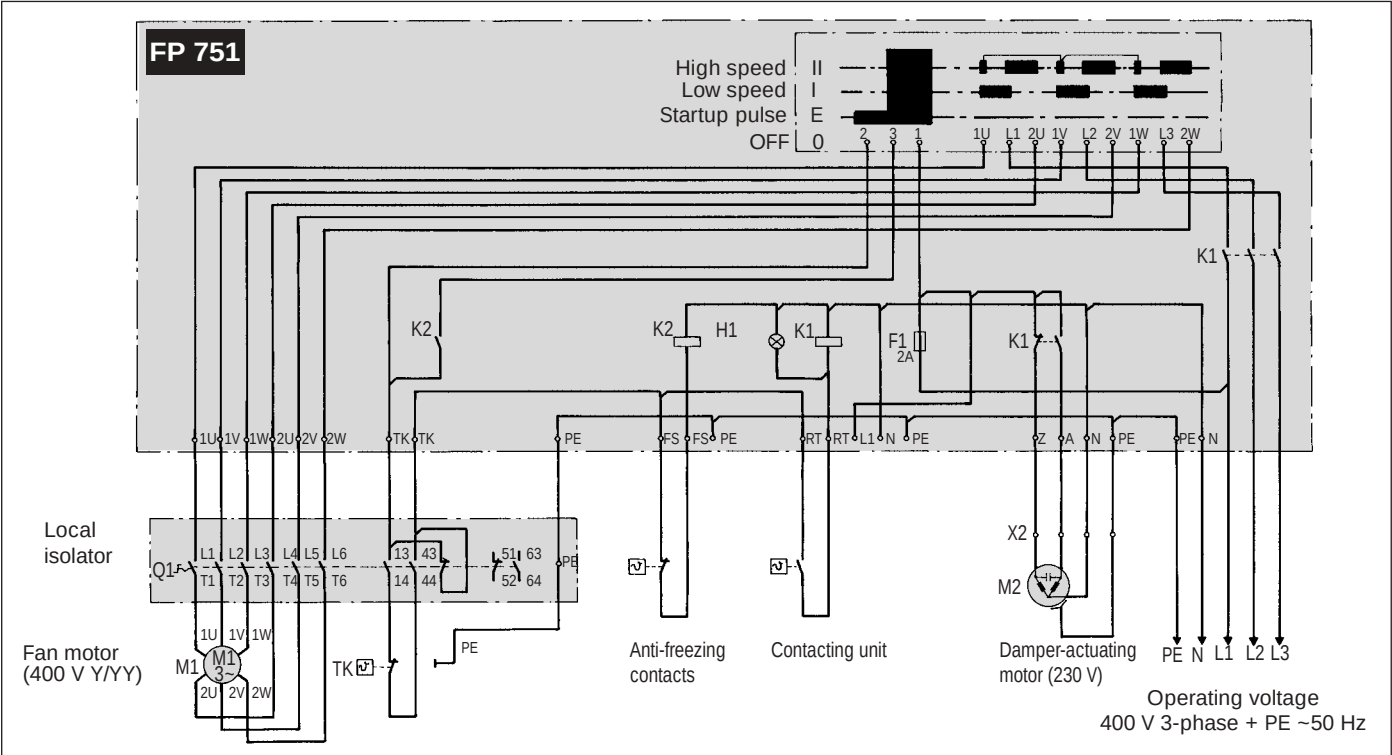


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**CENTRIFUGAL ROOF UNITS**  
**CIRCUIT DIAGRAMS**  
**MOTOR PROTECTION SWITCH SET**  
**FP 751**

115



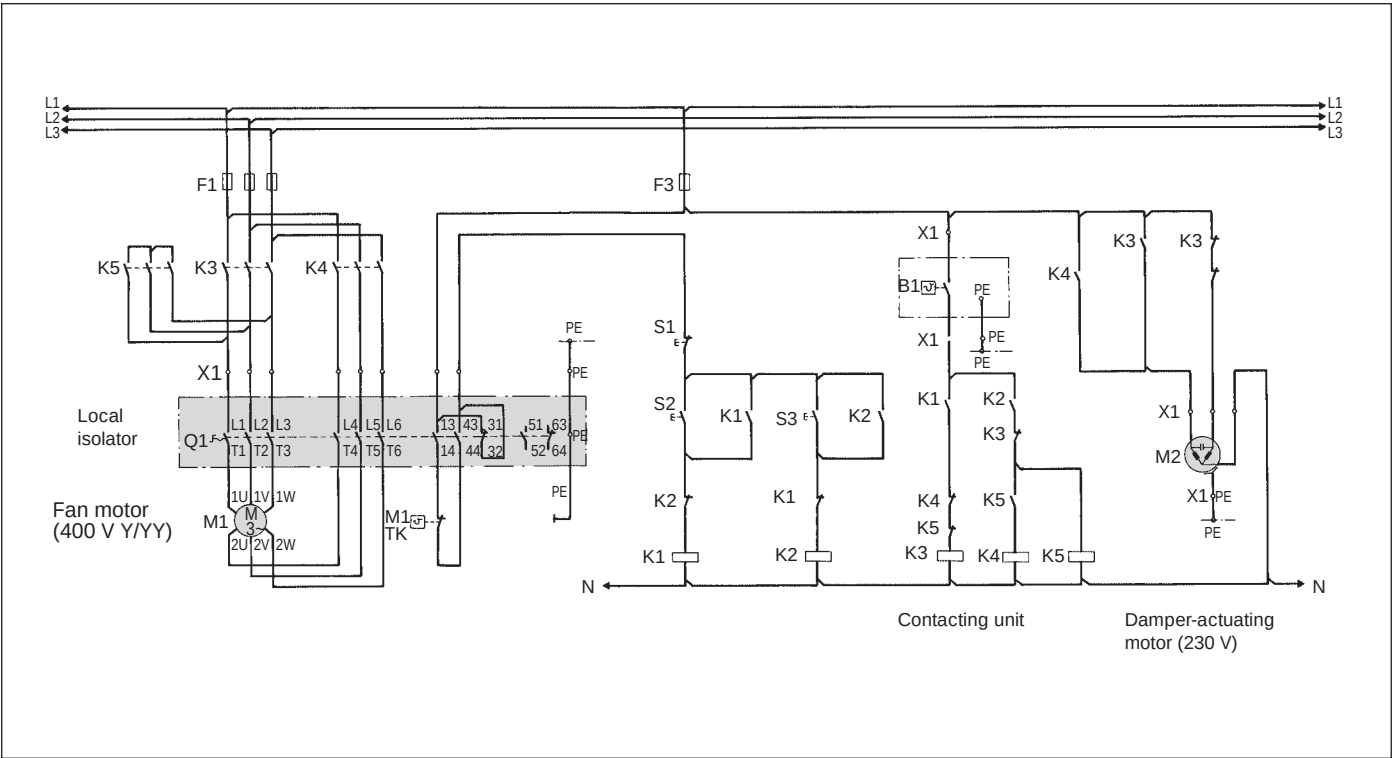
**Motor protection switch set**  
**FP 751**

Motor protection switch set for a two-speed motor fitted with a Dahlander change-pole winding and thermal overload contacts. Provides auxiliary contacts, e.g., for opening

a damper when the fan is running, and closing it, when the motor is stationary.

Additionally equipped for connection of a contacting unit for starting/stopping the fan motor.

Used for types DRH and DRV with suffixes -6/12 and -4/8.



**Motor protection switch set for a two-speed motor fitted with a Dahlander change-pole winding and thermal overload contacts.**

CIRCUIT DIAGRAMS

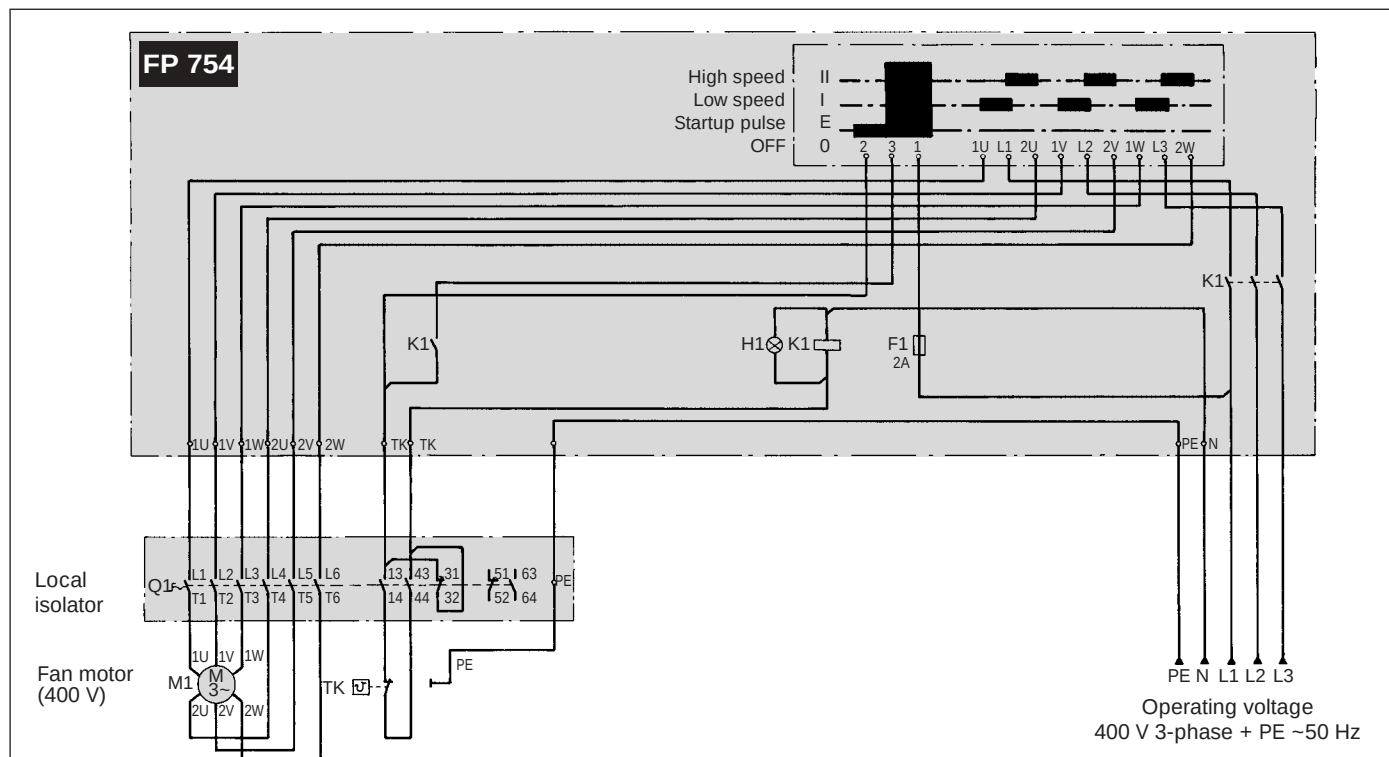


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# CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET **FP 754**

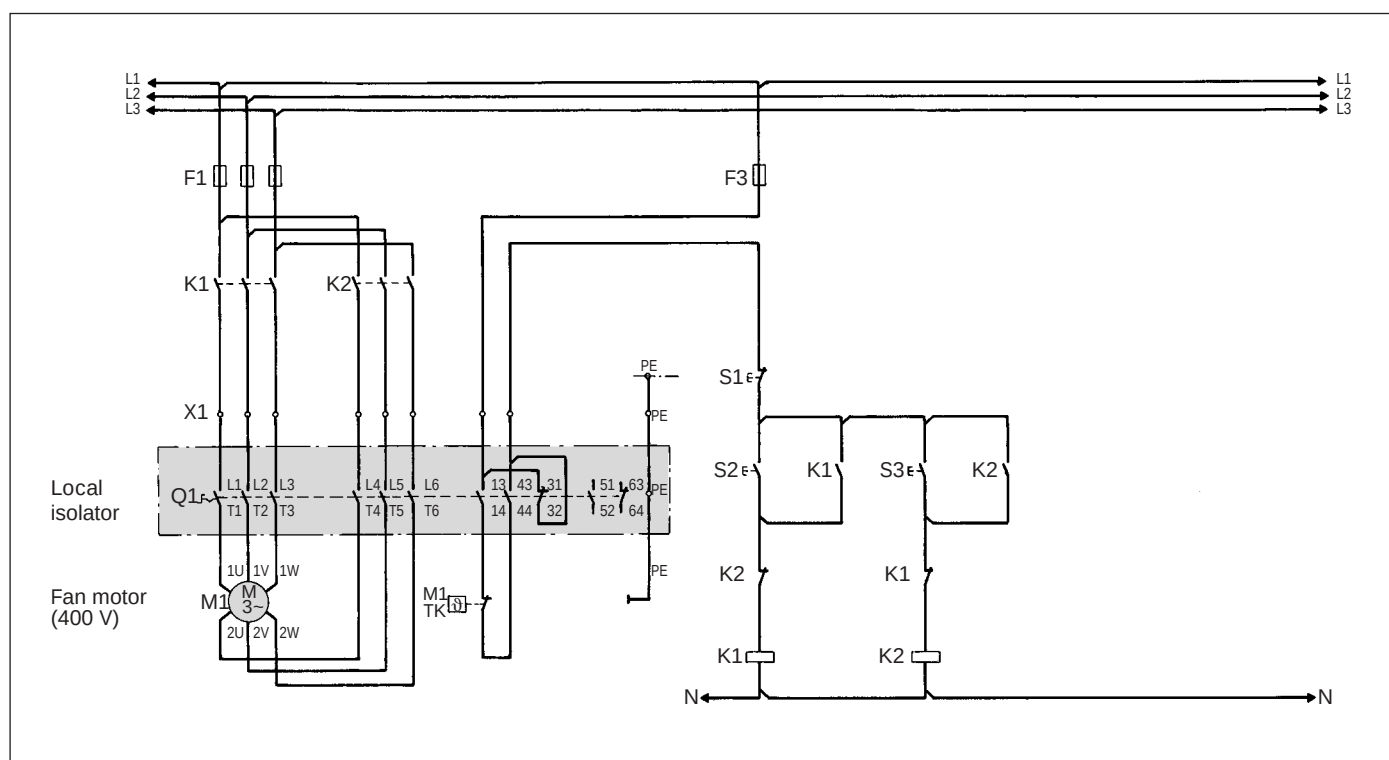
116



## Motor protection switch set FP 754

Motor protection switch set for a two-speed motor with separate windings and thermal overload contacts.

Used for types DRH and DRV with suffixes -8/12, -6/8 and -4/6.



**Contactor control circuit** for a two-speed motor with separate windings and thermal overload contact.

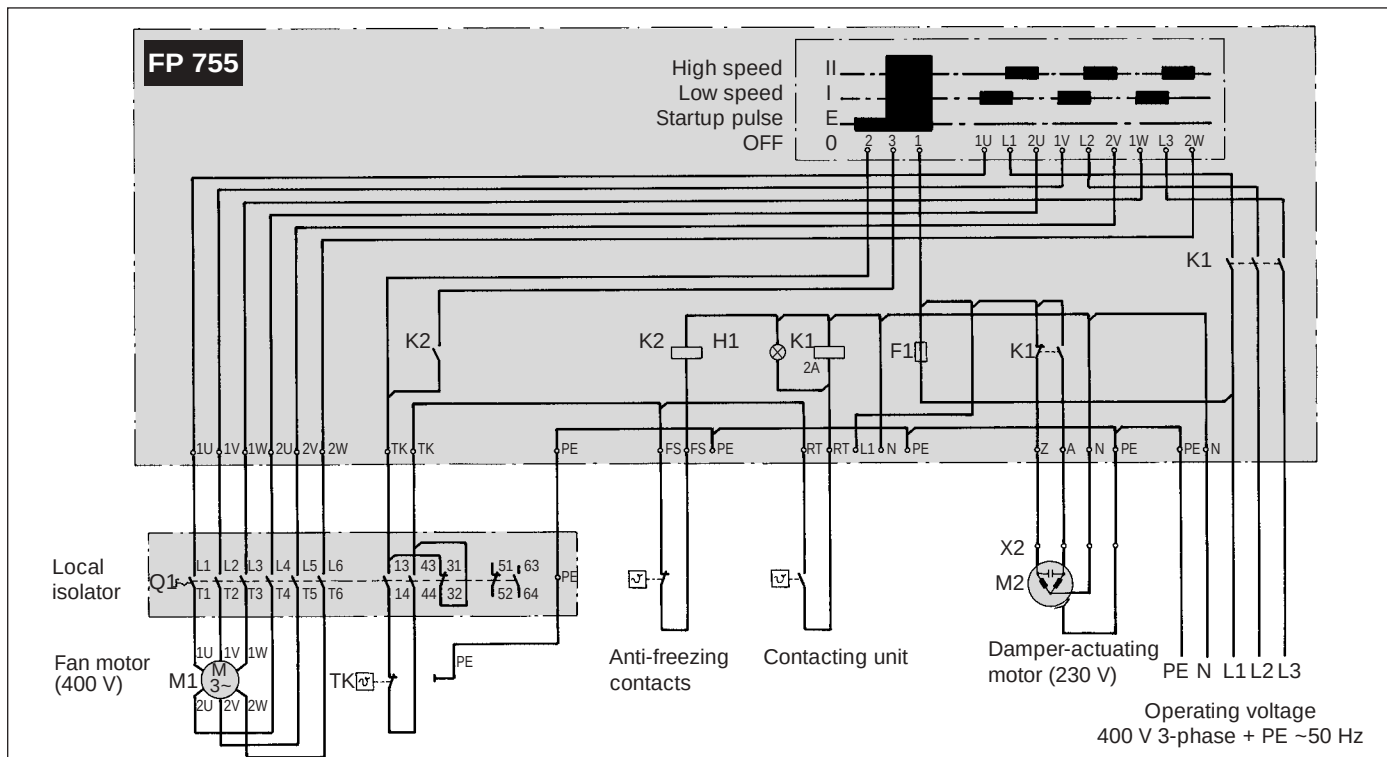


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# CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET FP 755

117



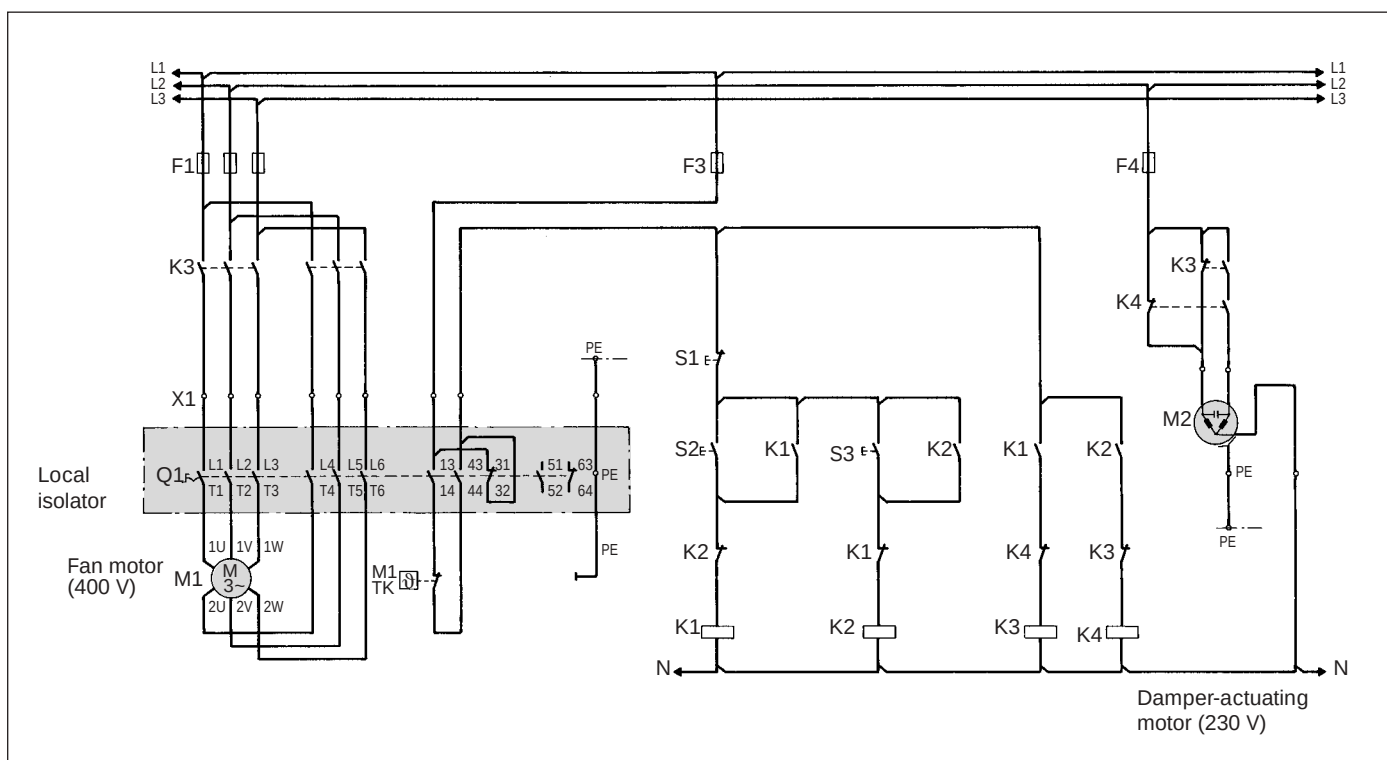
## Motor protection switch set FP 755

Motor protection switch set for a two-speed motor with separate windings and thermal overload contacts. Provides auxiliary contacts, e.g., for opening a damper

when the fan is running, and closing it, when the motor is stationary.

Additionally equipped for connection of a contacting unit for starting/stopping the fan motor.

Used for DRH and DRV fan types with suffixes -8/12, -6/8 and -4/6.



**Contactor control circuit** for a two-speed motor with separate windings and thermal overload contacts.

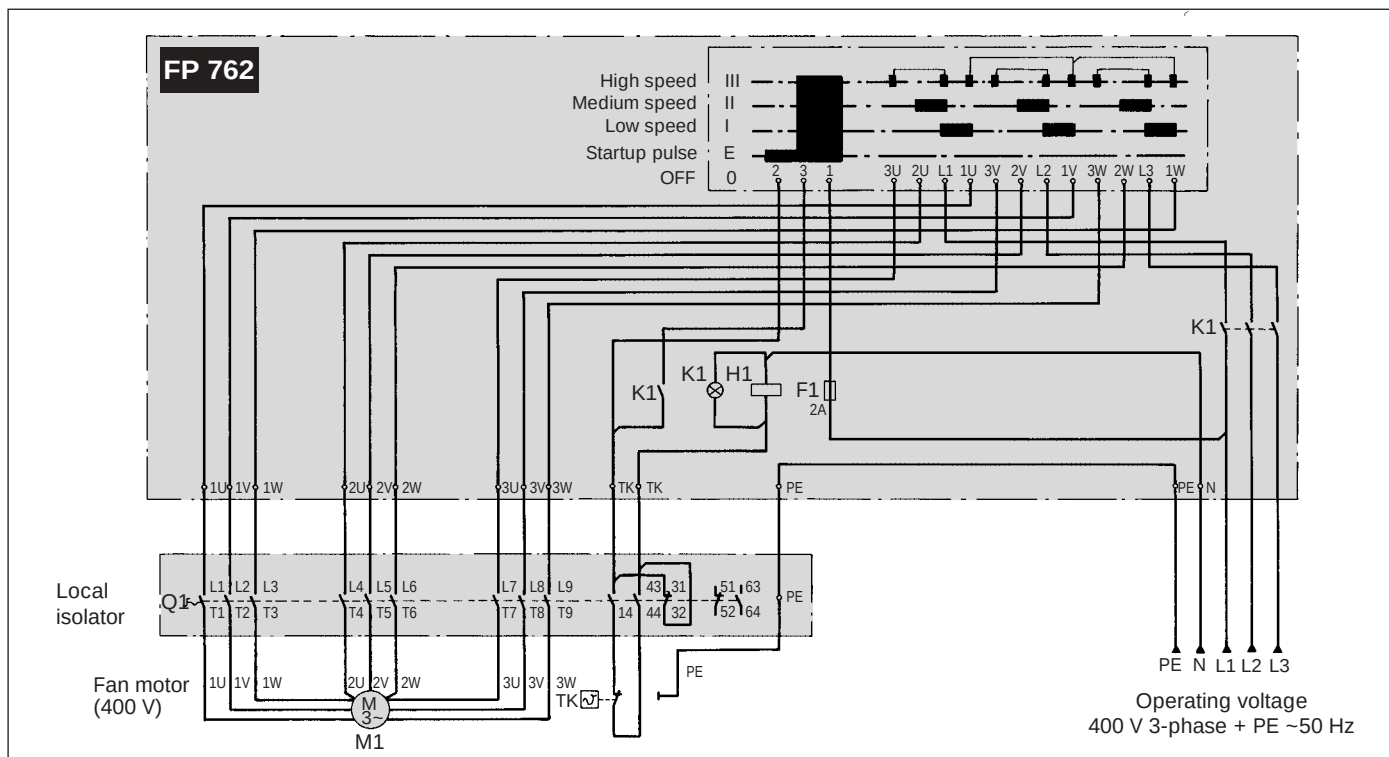


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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET **FP 762**

118

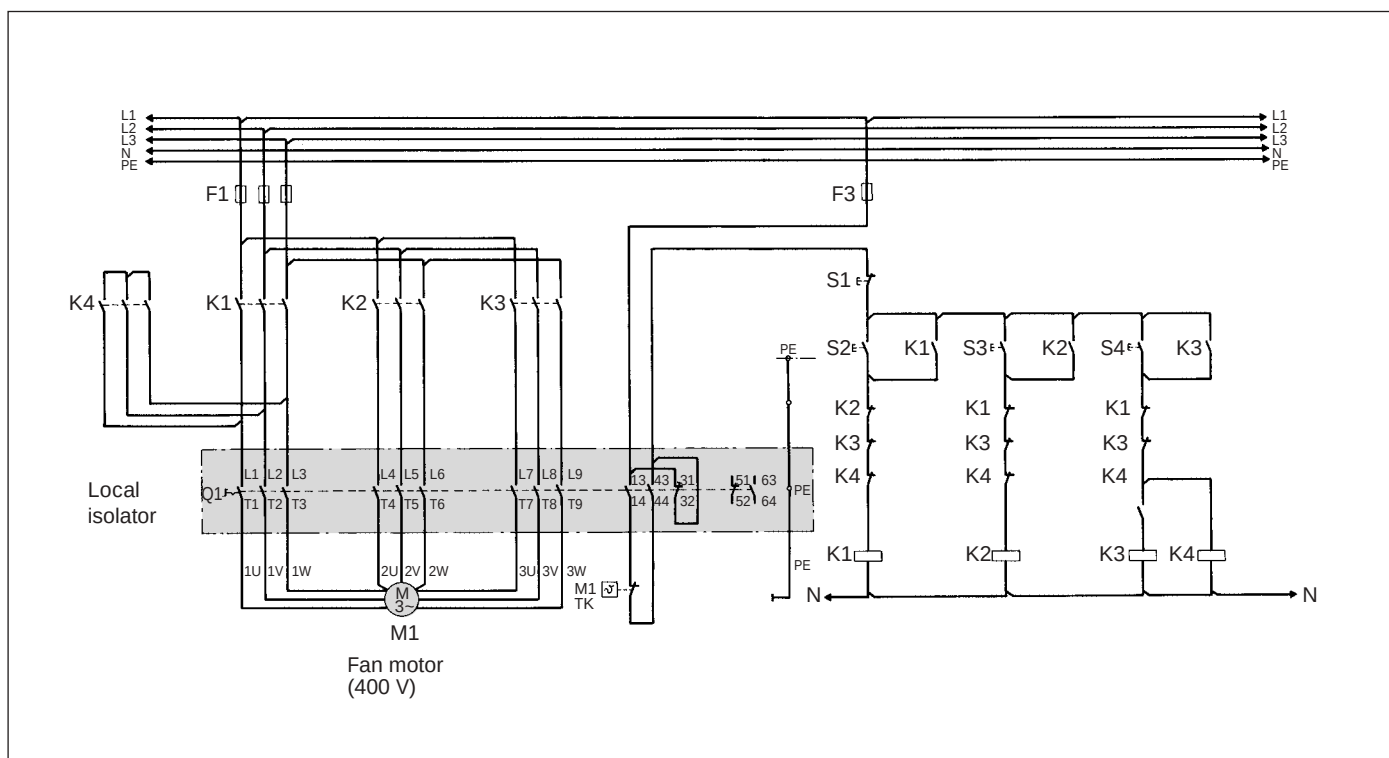


### Motor protection switch set FP 762

Motor protection switch set for a three-speed motor with thermal overload contacts.

The low and high speeds are switched by the Dahlander method;

the medium speed has a separate winding.



**Contactor control circuit** for a three-speed motor with thermal overload contacts. The low and high speeds are switched by the

Dahlander method; the medium speed has a separate winding.

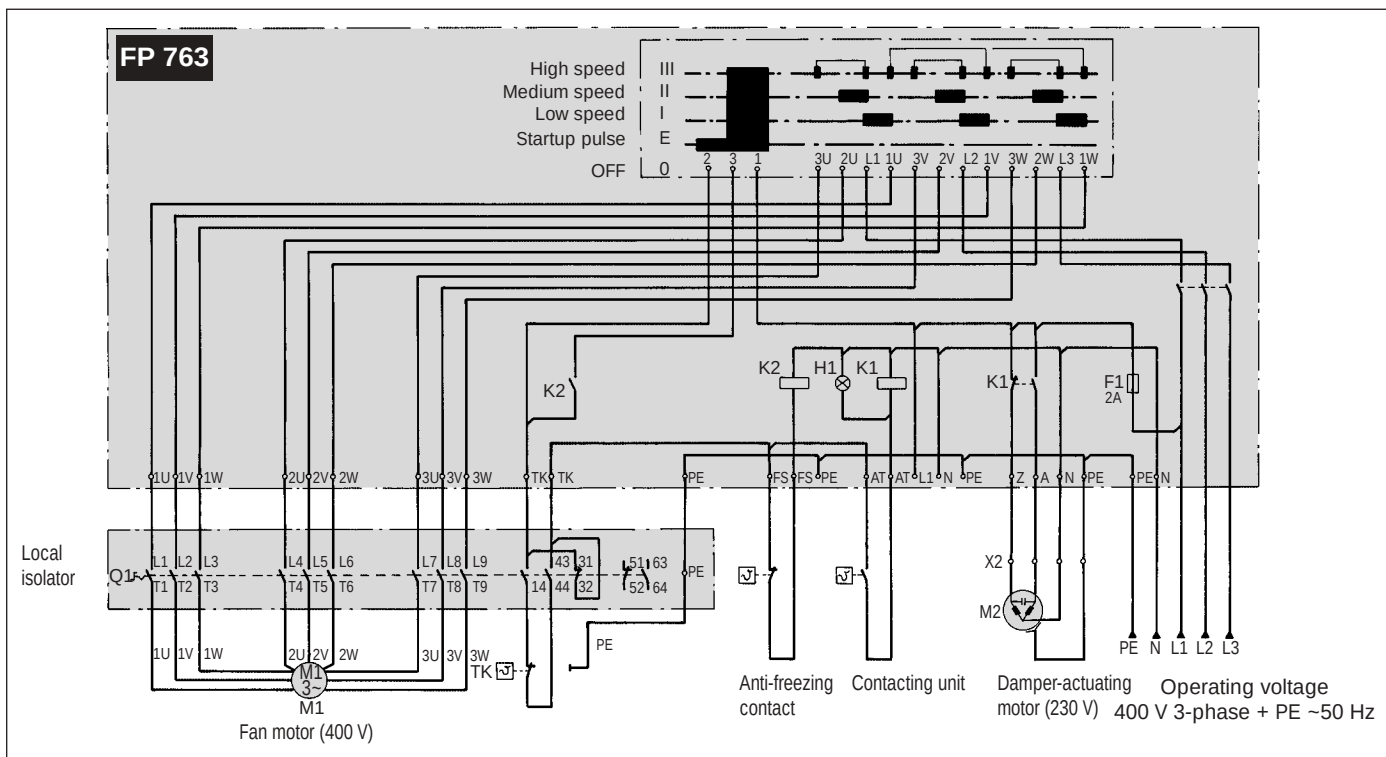


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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET FP 763

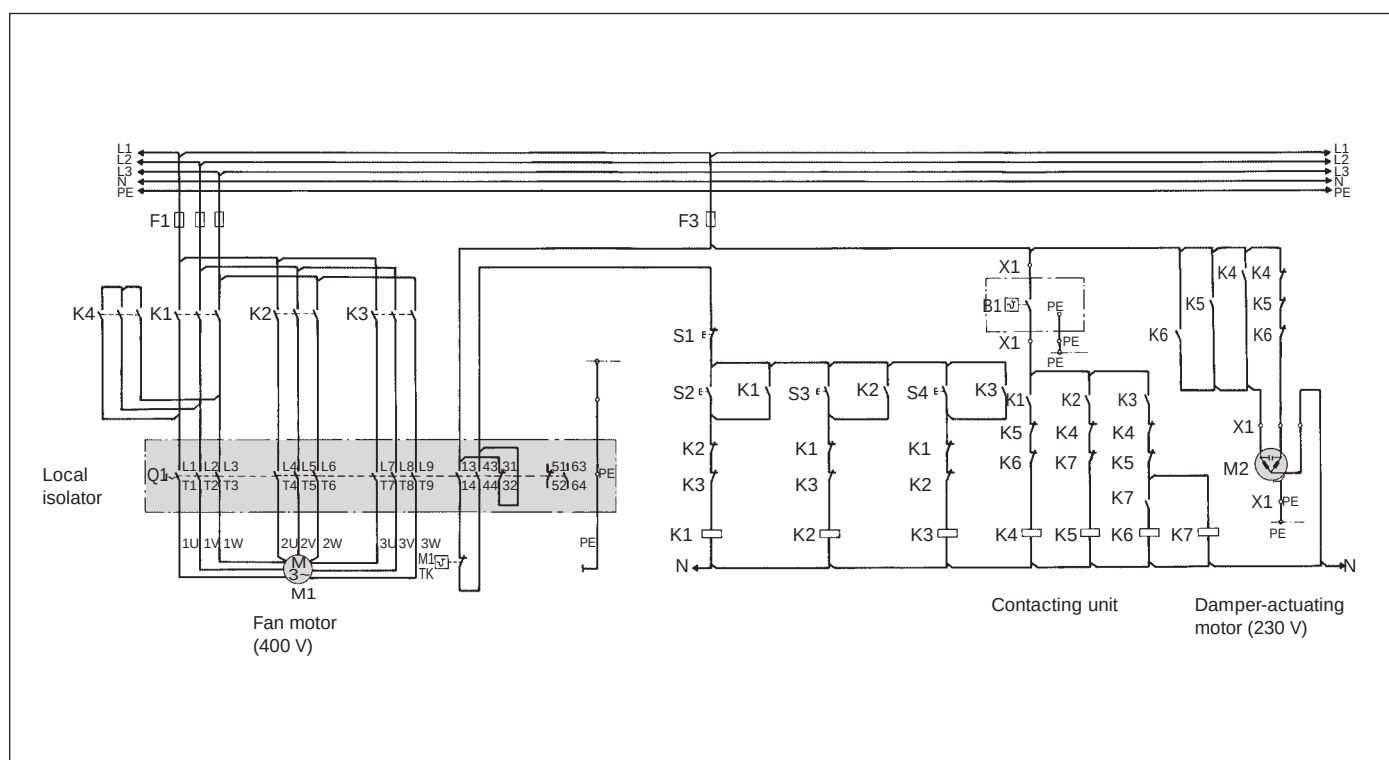
119



### Motor protection switch set FP 763

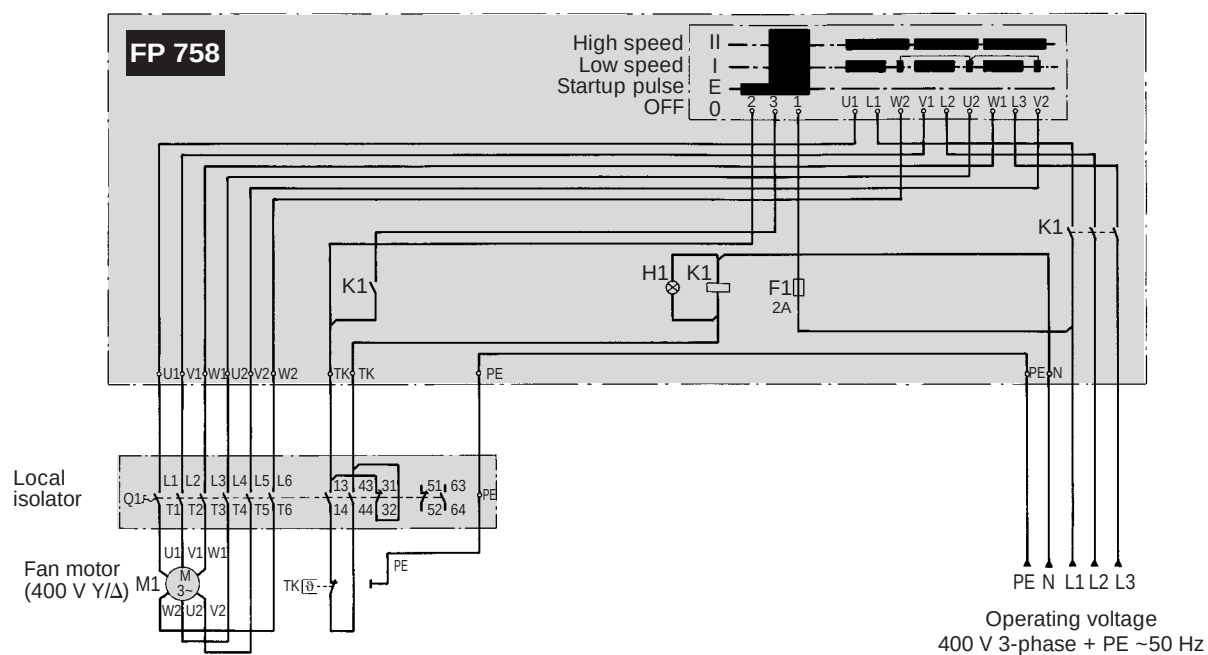
Motor protection switch set for a three-speed motor with thermal overload contacts. The low and high speeds are switched by the Dahlander method; the medium speed

has a separate winding. Provides auxiliary contacts, e.g., for closing a damper when the fan is running and closing it when the motor is stationary. Additionally equipped for connection of a contacting unit for starting/stopping the fan motor.



Motor protection switch set for a three-speed motor with thermal overload contacts. The low and high speeds are switched by the

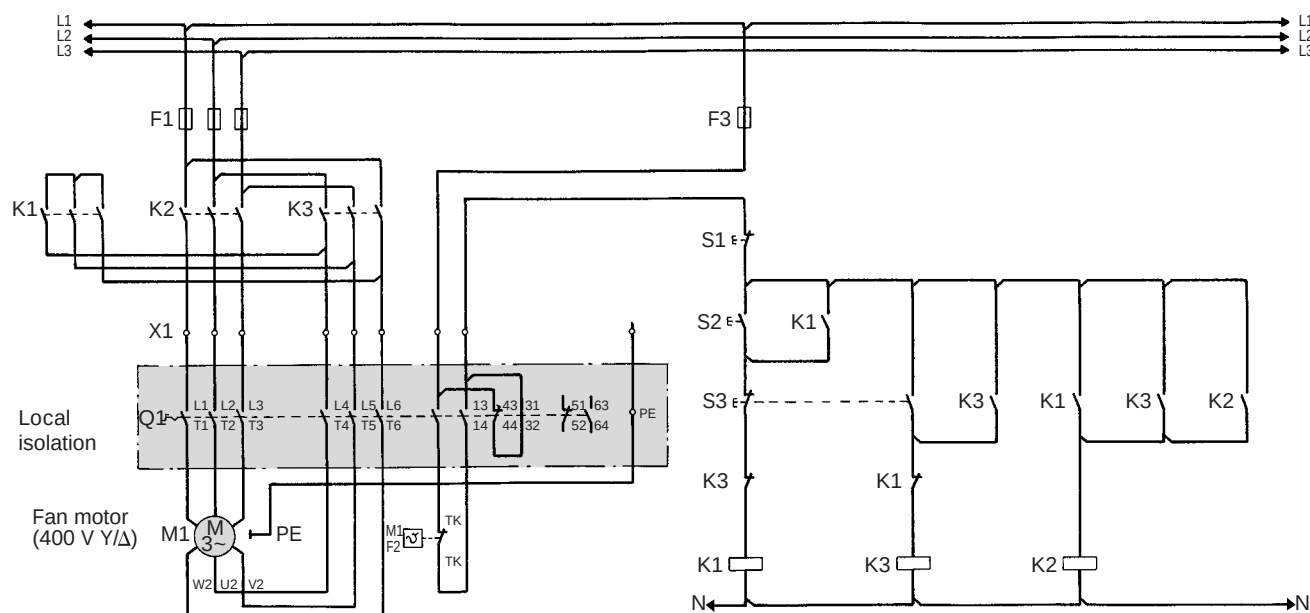
Dahlander method; the medium speed has a separate winding.



## Motor protection switch set FP 758

Motor protection switch set for a **two-speed motor** with wye-delta-connection and thermal overload contacts.

Used for DRH and DRV fan types  
with suffixes -4/4, -6/6 and -8/8.



**Contactor control circuit** for a **two-speed** wye-delta-connected motor with thermal overload contacts.



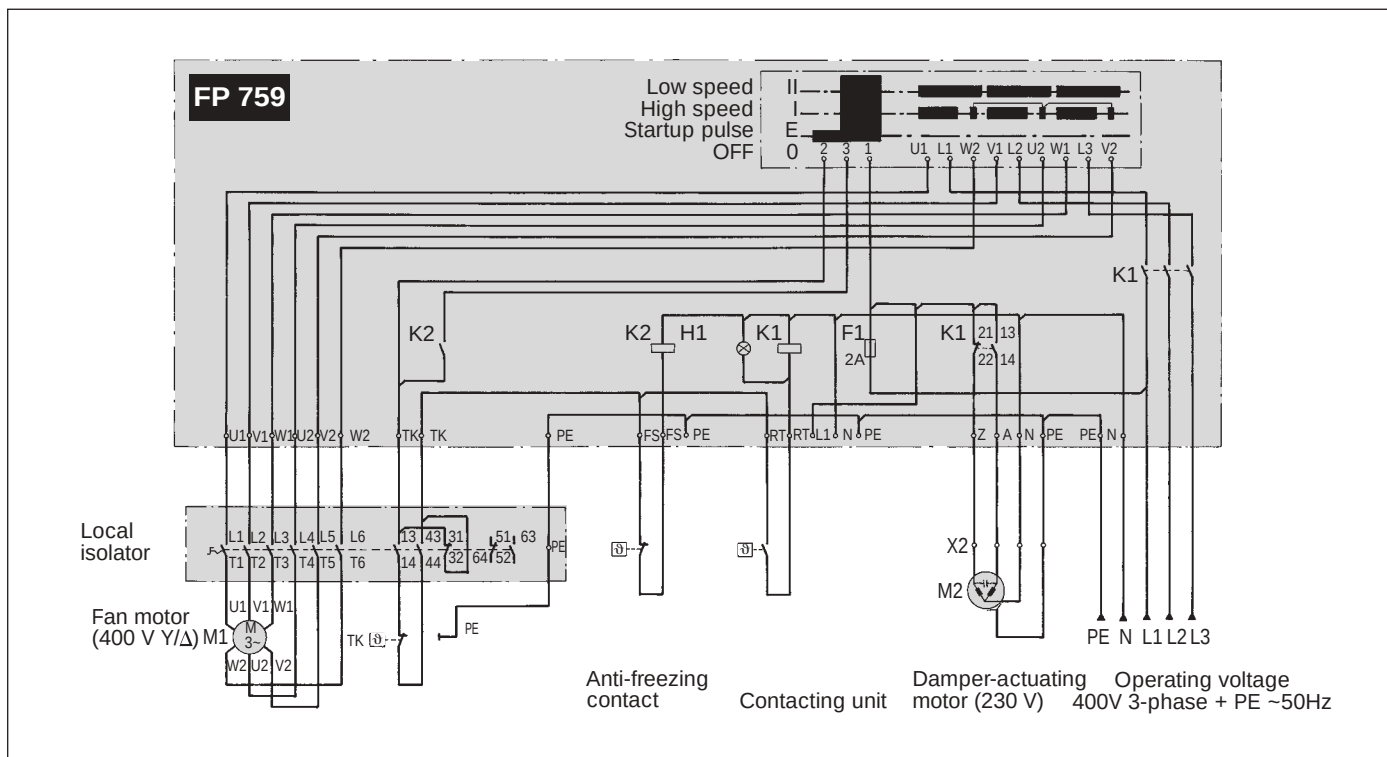
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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET

FP 759

121

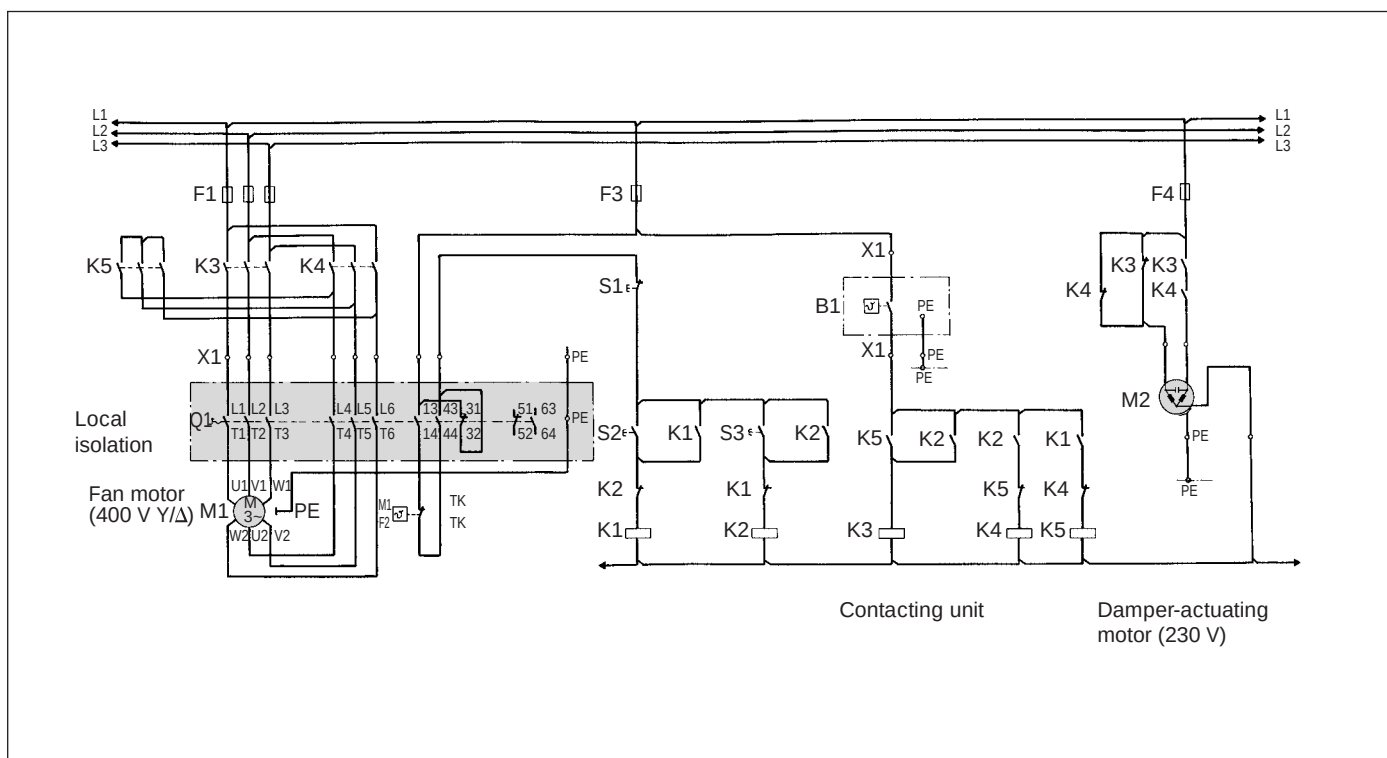


### Motor protection switch set FP 759

Motor protection switch set for a two-speed motor with wye-delta-connection and thermal overload contacts. Provides auxiliary contacts, e.g., for opening a damper

when the fan is running, and closing it, when the motor is stationary.

Additionally equipped for connection of a contacting unit for starting/stopping the fan motor.



**Contactor control circuit** for a two-speed motor with wye-delta-connection and thermal overload contacts.



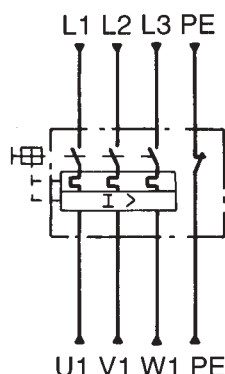
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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET **PKZ M0**

122

Motor protection switch PKZ M0

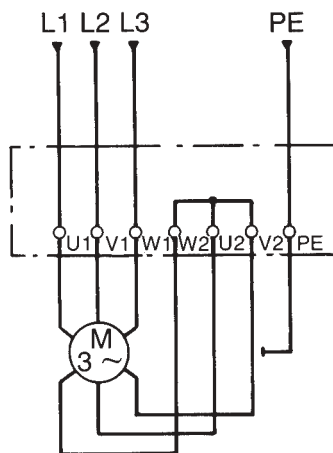


### Motor protection switch PKZ M0

Motor protection switch set for a **single-speed motor** without thermal overload contacts. (Standard commercial motor protection switch sets are not rated for hazardous duty environments. They may still be used for hazardous-duty fans though, but must be mounted outside the room containing the explosive atmosphere).

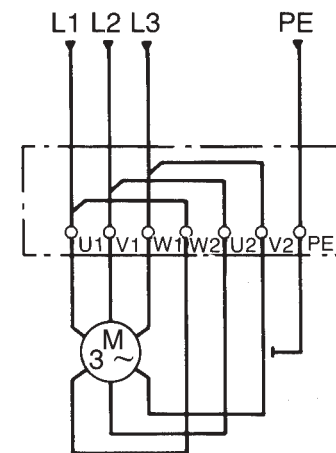
Used for DRVF + DRVF-H-type fans with the suffixes -8, -6 and -4. Also suitable for DRH, DRV and DRVF fans with the suffixes -8ex, -6ex and -4ex.

Fan motor  
Star connection

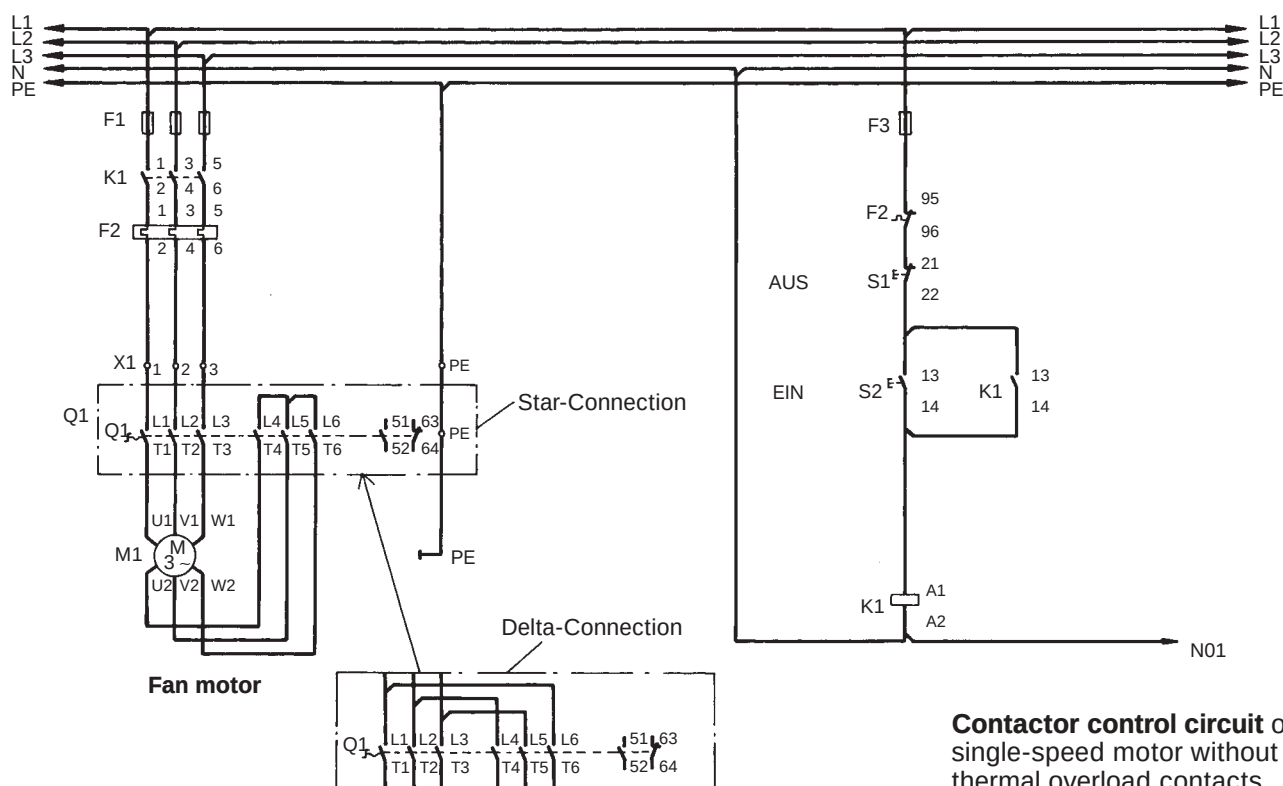


Block diagram of a star connection for a single-speed motor without thermal overload contacts.

Fan motor  
Delta connection



Block diagram of a delta connection for a single-speed motor without thermal overload contacts.



**Contactor control circuit** of a single-speed motor without thermal overload contacts.

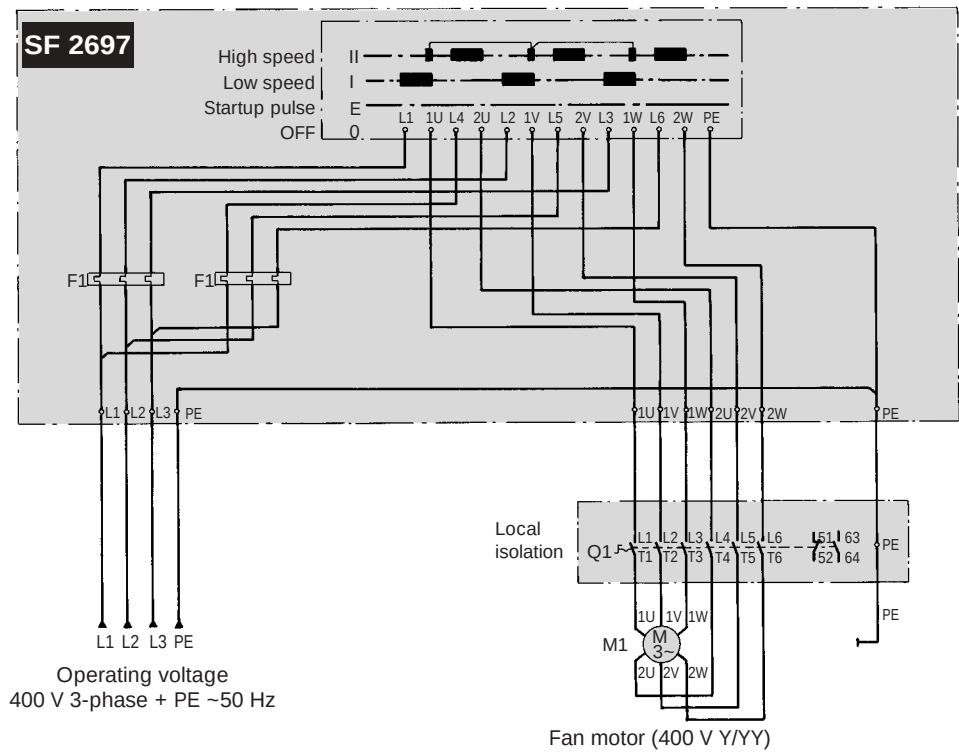


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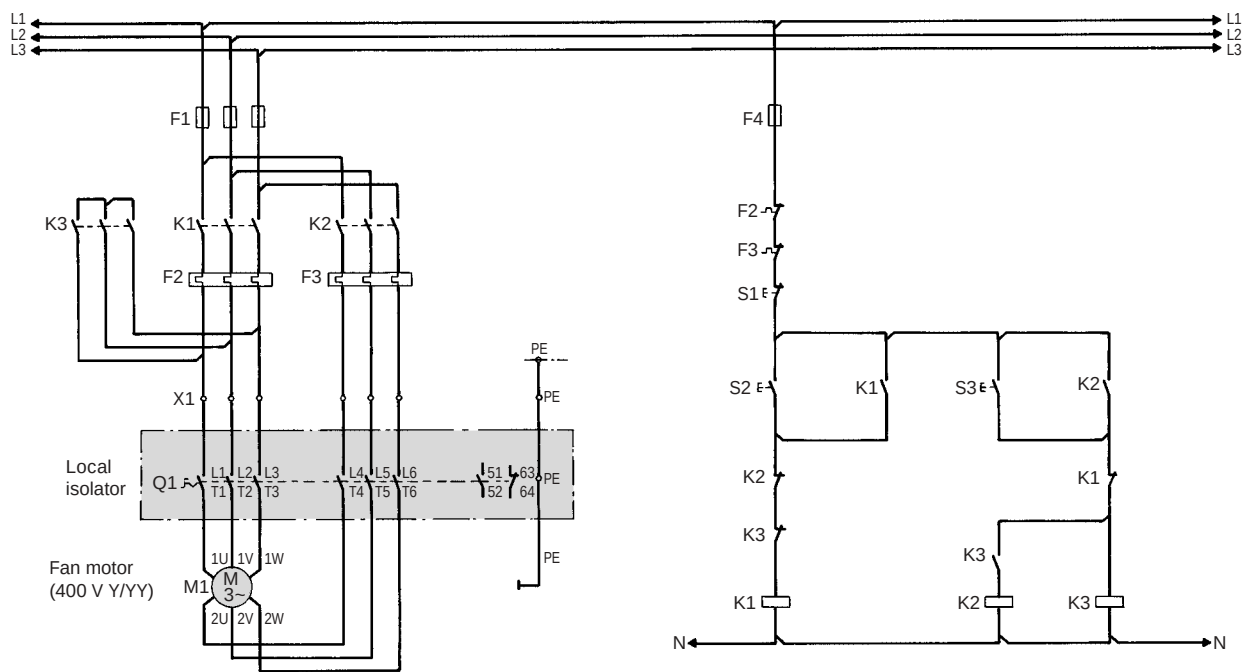
**CENTRIFUGAL ROOF UNITS  
CIRCUIT DIAGRAMS  
MOTOR PROTECTION SWITCH SET  
SF 2697**

123



**Motor protection switch set  
SF 2697**  
For fans with 2-speed motors  
(Dahlander system) without thermal  
overload contacts.

Used for fan types with suffixes -4/8  
or -6/12.



**Contactor control circuit**

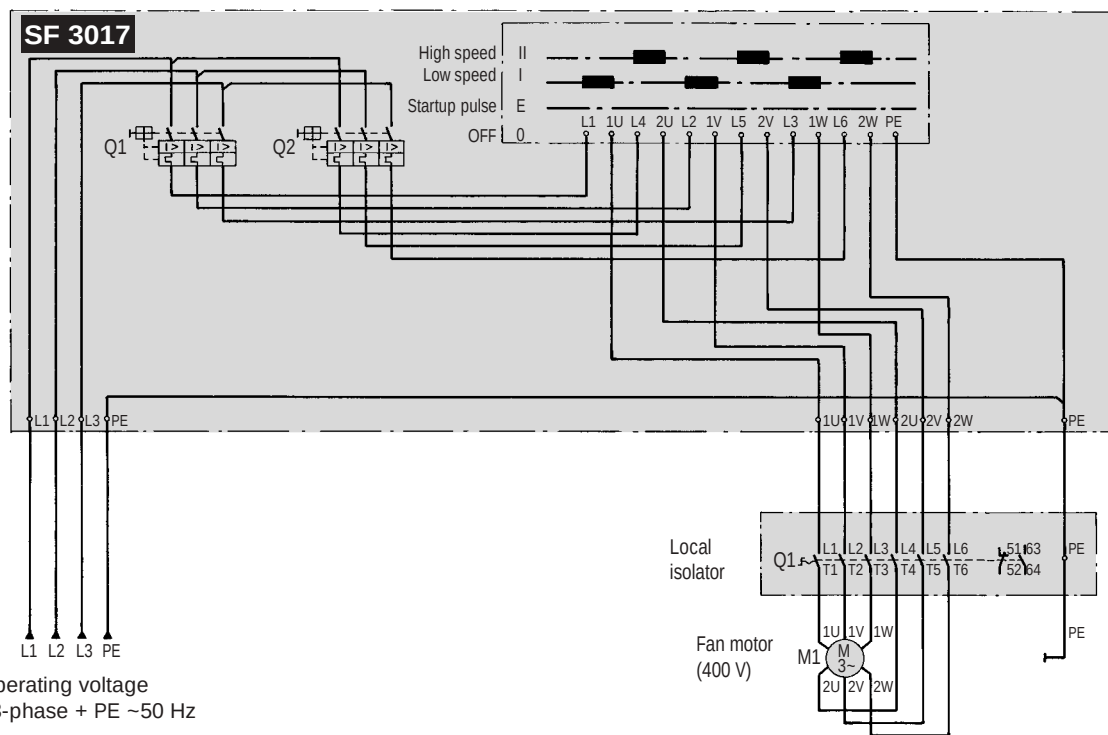


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# CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS MOTOR PROTECTION SWITCH SET **SF 3017**

124



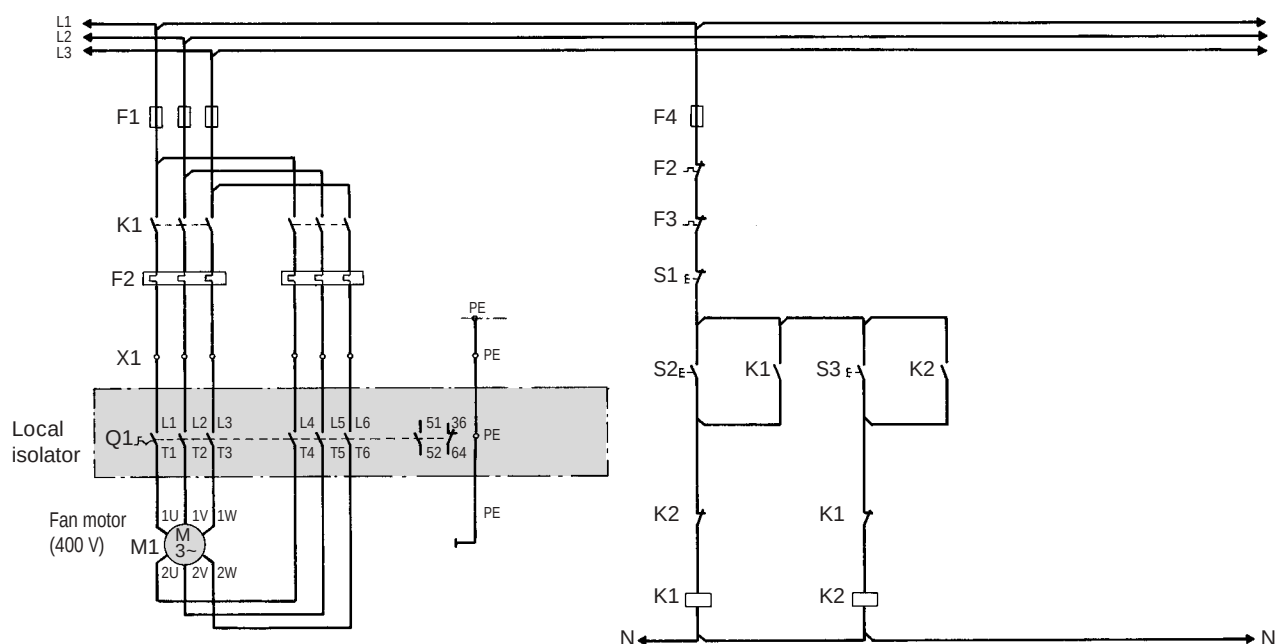
## Motor protection set

### SF 3017

For fans with a 2-speed motor  
having two separate windings and  
no thermal overload contacts.

Used for fans with suffixes

-8/12, -6/8 oder -4/6



**Contactor control circuit**



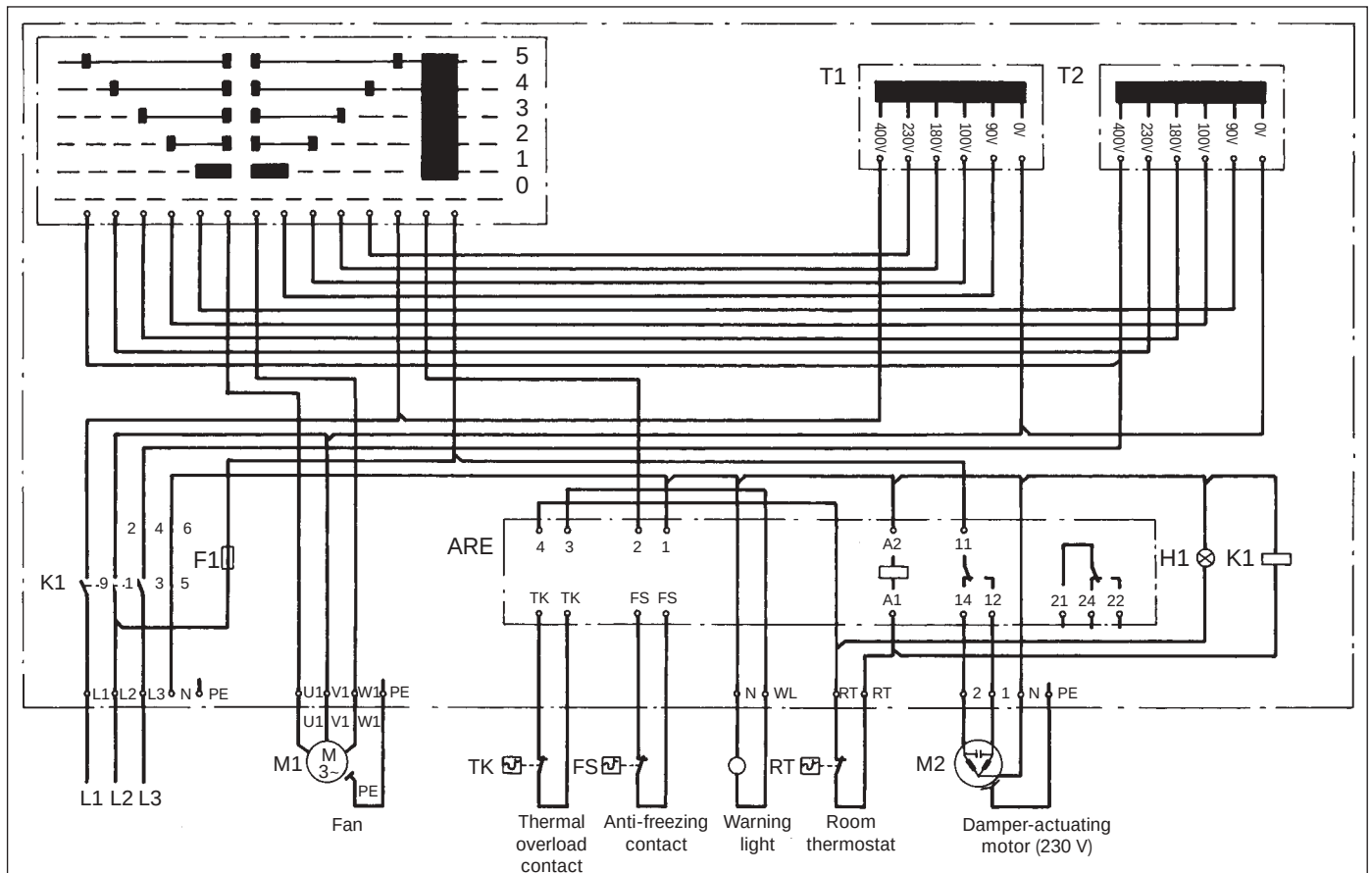
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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS SPEED CONTROLLER

**RTRD...**

125



### Speed controller RTRD

Speed controller for three-phase a.c. motors with built-in thermal overload contacts.

Used for DRH and DRV type fans with the suffixes -8, -6 and -4 that are marked as "speed controllable" in the specification tables.

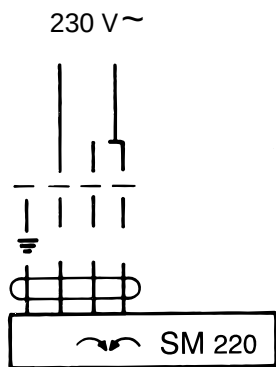


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## CENTRIFUGAL ROOF UNITS CIRCUIT DIAGRAMS DAMPER ACTUATING MOTOR

126



### Specifications

|                                      |                                  |                   |
|--------------------------------------|----------------------------------|-------------------|
| Operating voltage                    | 230 V~ ± 10 %                    | 50...60 Hz        |
| Power consumption                    | 8 W                              |                   |
| Rating                               | 10 VA                            |                   |
| Connection                           | 0,9 m cable                      | 0,75 <sup>□</sup> |
| Angle of rotation                    | mechanically limited to 95° deg. |                   |
| Torque at nominal voltage            | mind. 15 Nm                      | (50 Hz)           |
|                                      | mind. 10 Nm                      | (60 Hz)           |
| Position indication                  | 0...10 (0 = CCW end position ↺)  |                   |
| Operating time                       | approx. 80 s                     |                   |
| Enclosure                            | IP 54                            |                   |
| Safety class                         | I (with PE conductor)            |                   |
| Ambient temperature                  | -20° C... + 50° C                |                   |
| Radio interference suppression level | K                                |                   |
| Sound power level                    | max. 45 dB (A)                   |                   |
| Maintenance                          | maintenance-free                 |                   |

### Damper actuating motor

This motor is equipped with a standard terminal block and mounts directly on the damper axis. An adaptable piece of steel bar with stud bolts is included for use as a wrong rotation prevention. The motor is overload-protected and requires no limit switches. Its angle of rotation is mechanically limited to 95 deg. The motor stops automatically upon reaching the damper or motor stop position. The transmission can be disconnected by operating a pushbutton in the housing cover (damper can be manually actuated as long as this button is pressed). A reversible OPEN/SHUT control is to be provided via contactor or manual switching.



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## CENTRIFUGAL ROOF UNITS APPLICATION EXAMPLES / REFERENCES

127



**BVD roof-mounted smoke exhaust fans and DRH roof units** with noise-damping base on a residential building complex (Wasserstadt, Berlin-Spandau)



**DRV roof units** on the social services building of Maschinenfabrik Brose, Coburg



Various **roof units** on a technical building at the Free University of Berlin



**DVRF-H and BVD roof units** on a shopping mall in Leipzig-Paunsdorf



**BVD roof-mounted smoke exhaust fans and DRV Minivent units** on a building at the Franz-Josef-Strauß airport Munich



**BVD smoke exhaust fans** on a terminal roof at Düsseldorf Airport, gate C.



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