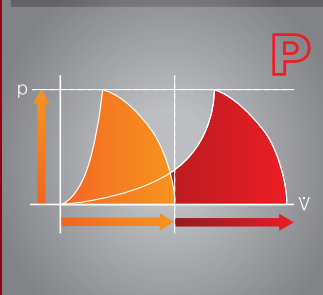


Twin units TwinVent® VAR- and B VAR-fans in a two-stage or parallel compact design. Especially suitable for ventilation of underground car parks (car enactment and VDI 2053).

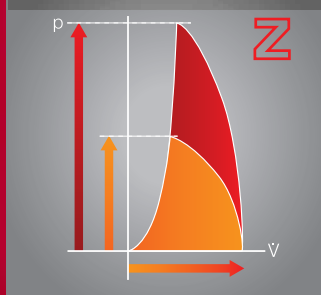
Details see pages 6 on

**Parallel units P-VAR** are advantageous, when large air flow volumes and high pressures are required in a compact design. The in-line airflow improves the efficiency of the total system, offers a considerable reduction of the required installation space and reduces the installation costs. The integrated automatic back draught shutters on the discharge prevent a backflow at partial load operation, standstill or failure of a fan.

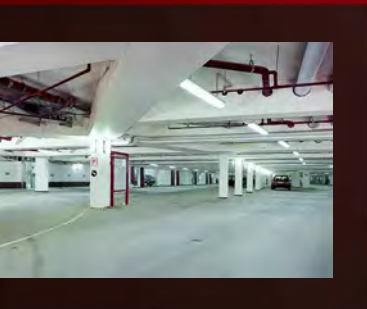
**Two-stage TwinVent® Z-VAR** are particularly versatile as "power units" with highest pressure rates in a compact design. Two mixed-flow fans in series with downstream guide vane ensure unrivalled power density and favorable installations with minimum space requirement.



Parallel units



Two-stage units



**The RADAX ®-synergy for your success.**

RADAX® VAR combines the pressure characteristics of centrifugal fans with axial air flow. The benefits are:

- Maximum power at minimum energy costs.
- Low sound levels.
- High pressure and airflow.
- Improving efficiency.
- Reduction of required installation space.
- Lower installation costs.
- Increases options at design stage.
- Energy conservation.

Das VAR series program:

■ **VAR for the ventilation mode**

- Sizes 225 to 630 mm  
Helios main catalogue
- Sizes 710 to 1 000 mm  
pages 92 on

■ **B VAR for smoke extraction to DIN 12101-3 for temperature ranges:**

- F300 from Ø 280-1 000 mm  
pages 76 on
- F400 from Ø 500-1 000 mm  
pages 86 on
- F600 from Ø 500-1 000 mm  
pages 100 on

□ **All RADAX® B VAR-models with DIBt technical approval. The types are CE certified and are delivered ready for installation.**

■ **Two-stage and parallel units**  
see on the left and pages 6 on



The aerodynamic improvement of fan impellers is the speciality of Helios.

In the compact casing the RADAX® impellers combine in an ideal way the advantages of axial and centrifugal fans and ensure high pressure at high air flow rates.

The complete VAR program includes single-stage, two-stage and parallel units, also for the smoke extraction.



■ **Application**

- Versatile application in the TGA-ventilation technology, e.g. for car park ventilation, in smoke pressure systems, etc.
- For preventive fire protection to secure smoke and heat extraction.
- For applications with air flow temperatures of 300° C for 120 minutes (F300) or 400° C and 600° C for 120 minutes (F400, F600).
- Suitable for continuous operation for temperature from -30 °C to +40 °C.

■ **Features**

RADAX® VAR and B VAR are series of high pressure cased fans combining the advantages of axial and centrifugal fans. The mixed flow impeller combined with the fixed guide vanes are designed to provide high air flows and pressures very efficiently.

■ **Casing**

Casing flanges on both sides to DIN 24155, Pt.3 with guide vanes and motor support made from galvanised steel.

■ **Impeller**

□ **Series VAR:**

Mixed flow impeller with 8 spacious curved blades made from hot-dip galvanised steel. Aluminium is available (additional price) on demand. VAR fans offer high efficiency, low operation noise, high corrosion resistance and low vibration operation through dynamical balance to DIN ISO 1940 Pt.1 - quality grade 6.3.

□ **Series B VAR:**

Mixed flow impeller with 8 spacious curved blades. Up to size 315 made from aluminium die casting. From size 355 made from hot-dip galvanised steel. B VAR fans offer high efficiency, low operation noise, high corrosion resistance and low vibration operation through dynamical balance to DIN ISO 1940 Pt.1 - quality grade 6.3

■ **Motor**

□ **Series VAR:**

Direct driven, maintenance free flange motor, totally enclosed with an aluminium casing and cooling fins, protected to IP 54. Sealed for life ball bearings with tropicalized protection of windings and radio suppression. Optional drainage holes made to order (please state installation position).

□ **Series B VAR:**

Direct driven by IEC-three phase a.c. motor (Smoke Extraction Motors F300 or F400). Protection to IP 55. Insulation class H. External cable with sheathing. Depending on the installation situation, relubrication intervals or bearing replacements must be observed (see installation and operating instructions).

■ **Motor protection**

□ **Series VAR:**

All models have thermal contacts or PTC resistors which must be connected to a motor protection unit (see type table). Models without thermal contacts must be protected by a conventional circuit breaker.

□ **Series B VAR:**

The B VAR types are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.

■ **Electrical connection**

Standard terminal box (protection to IP 55) from polymer (series VAR) or in temperature-resistant execution (series B VAR) mounted on the outside of the casing.

■ **Air flow temperatures**

VAR – suitable for ventilation to max. +40 °C continuous temperature.  
B VAR – suitable for smoke extraction to 300 °C/120 minutes (F 300), 400 °C/120 minutes (F400) and 600 °C/120 minutes (F600).  
When used in ventilation mode with operating temperatures above 40 °C, the simultaneous use as a smoke and heat exhaust fan in the event of a fire is not possible.

■ **Air performance**

- The smoke and heat exhaust fans B VAR are manufactured with a bigger gap between casing and impeller. A reduced output of approx. 5 % during ventilation mode (cold operation +40 °C) is expected with the F300 types, approx. 10 % with the F400 types. In a smoke extraction situation the gap closes and leads to the performance curves mentioned in the product pages. This has to be taken into account when dimensioning.

■ **Air flow direction**

The air flow of the fan cannot be reversed, however the fan is suitable for installation in any position. The correct direction of rotation and air flow are marked on the fan.

■ **Sound levels**

- On the product pages above the performance curves are the spectrum figures and total pound power levels for different pitch angles indicated.

■ **Certification**

The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.

CE-approval:

F300 : 0036 CPD RG 05 01  
F400 : 0036 CPD RG 05 05  
F600 : 0036 CPD RG 05 02

With DIBt technical approval:

F300 : Z-78.11-147  
F400 : Z-78.11.148  
F600 : Z-78.11-149

■ **Installation**

□ **Series VAR:**

Installation in any position. Ensure that motor drainage holes (where used) face downwards. To avoid transmission of vibration between fan and building the use of anti vibration mounts is recommended (accessory).

□ **Series B VAR:**

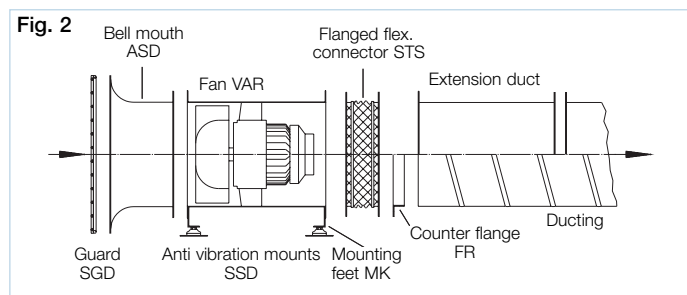
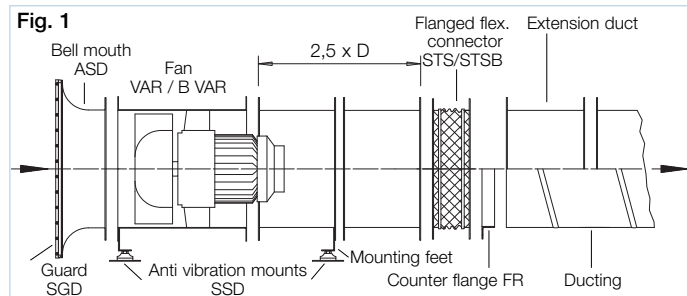
Horizontal and vertical installation depending on the place of installation:  
– Within the fire zone, without heat and sound insulation.  
– Outside of the fire zone, within the building with heat and sound insulation L 90.

- Outside of the building without heat and sound insulation. To avoid vibration transmission to building and ducting the use of anti vibration mounts (accessories SDD, SDZ) is highly recommended.

If installed outdoors, or in wet conditions or if installed with the vertical motor shaft, this must be stated when ordering.

**Compliance with the Federal, as well as the regional fire protection regulations.**

- To achieve the performance figures shown, a straight duct of 2,5 times the diameter in length downstream of the fan is required (and installed in ducting ideally the same upstream) (Fig.1).
- RADAX®-VAR can be installed in any position. Where motor condensate drainage is used, ensure the drain holes face downwards. For fans with larger motors the motor may protrude beyond the flange. In this case an extension duct (accessory VR...) is recommended to ensure the anti vibration mounts are equally loaded (Fig.1).
- **Horizontal installation**  
Free intake, ducted on exhaust. Mounted on ceiling, wall or floor (Fig.2).



□ **Horizontal installation with attenuator**

Free intake with attenuator, ducted on exhaust. To reduce inlet and exhaust noise levels, attenuator can be fitted to both ends on the fan (Fig.3).

□ **Ceiling void installation**

Figure 4 shows an in-line duct installation. VAR fans can be mounted direct in the ceiling above the void. The casing is designed for straight in-line installation using the flanged ends (to DIN 24155, Bl.3).

□ **Vertical installation**

In-line wall mounted installation with attenuator on intake. The accessories should be fixed separately to ensure that the fan may be easily removed for maintenance.

■ **Selection of anti vibration mounts**

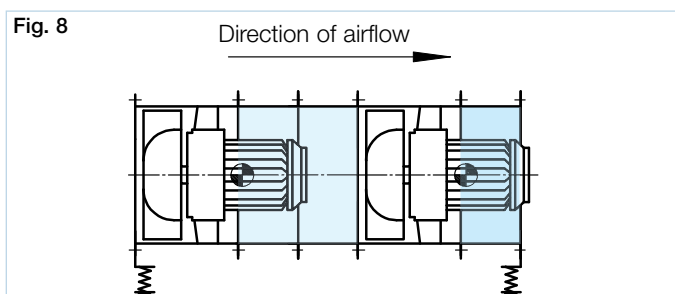
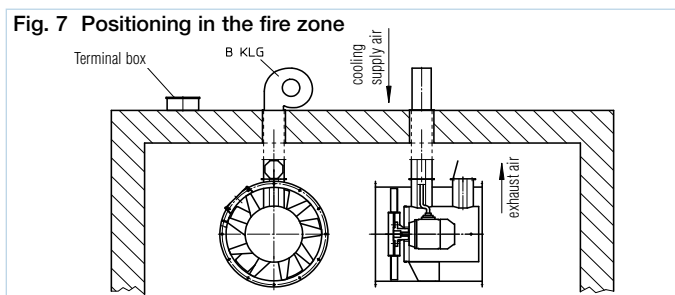
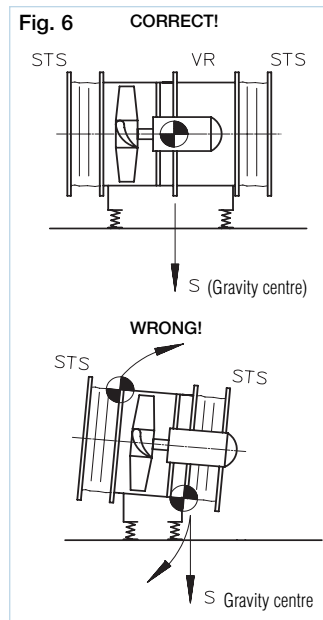
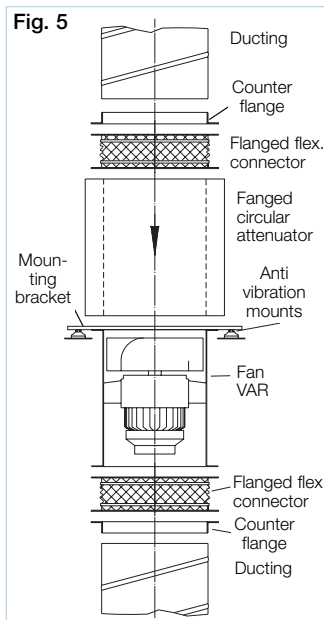
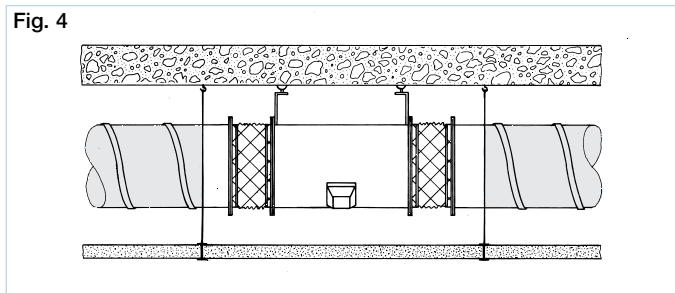
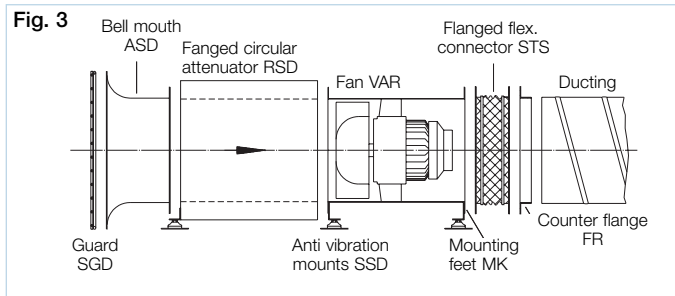
In order to reduce the vibrations caused by rotating components in the fan optimally the right selection of the anti vibration mounts is essential. The layout is based on the calculated weight of fan including accessories, which is to be damped. For this purpose, the individual weights of the components must be added.

Example:  
**B VAR 900/4 37 kW F300 as Z-unit**

1) Determining the weight to be damped	
B VAR 900/4	533 kg
B VAR 900/4	533 kg
MP-Z 900	68 kg
VR 900	34 kg
MK 900	18 kg
<b>Total weight</b>	<b>1186 kg</b>

For types B VAR 900 and 1000 as well as for B VAR 500/2 and 500/4/2 is an additional, separately to be ordered extension duct required.

2) Selection of anti vibration mounts (see page 150).  
up to 1300 kg = SDD 9



■ **Two-stage and parallel units**  
The versatile requirements with regard to pressure rise, flow rate and space requirements are fulfilled in the area of technical building equipment (TGA) often by two-stage Z- or parallel P-units. The Helios program offers suitable mounting packages for the respective units:

□ **Two-stage unit / Mounting package MP-Z (Fig.6)**

Two fans connected in series ensure unrivalled power density and favourable installation with minimum space requirements. The two fans are arranged in a row and connected by means of extension ducts.

■ **Mounting package MP-Z (Scope of delivery):**

Extension ducts (2 pcs) incl. assembly kit (Hexagon head screws, -nuts, spring washers).

□ **Parallel unit / Mounting package MP-P**

Two parallel connected fans bring high flow rates at suitable pressure rate and fulfill especially the requirements for car park ventilation and smoke extraction. Two identical fans which are arranged side by side operate in a joint duct system.

■ **Mounting package MP-P (Scope of delivery):**

Extension ducts (2 pcs), back draught shutters (2 pcs), mounting bars (2 pcs), assembly kit (Hexagon head screws, -nuts, spring washers, washers and threaded plate).

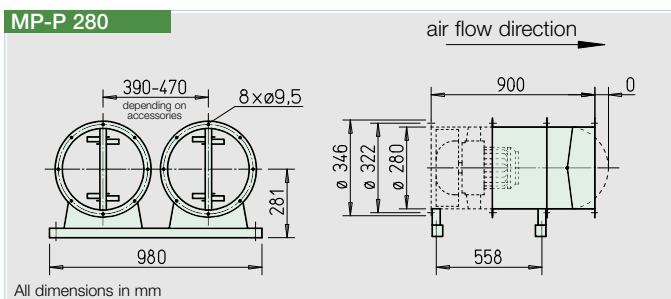
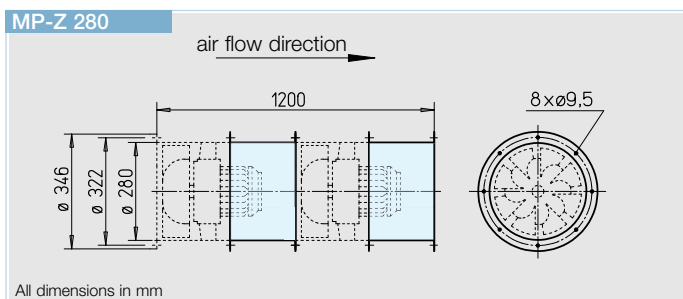
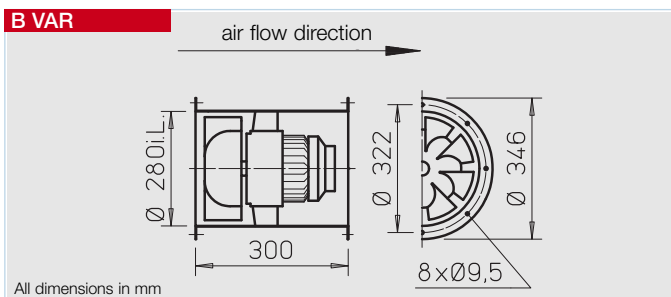
■ **Series B VAR F600**

■ **Impeller**

Specially designed impeller made from hot dip galvanized steel. Dynamically balanced to DIN 1940- Pt.1, quality grade G 6.3.

■ **Centrifugal cooling air fan**

To ensure motor cooling the centrifugal cooling air fan B KLG (Fig.7) is a necessary accessories. The cooling air fan is installed outside of the fire zone (smoke section) (Fig.7). Alternative external cooling air fan on request. Minimum cooling air flow volume see accessories on page 147.



- Casing**  
Manufactured in galvanised sheet steel with flanges on both sides to DIN 24155, Pt. 3, with fixed guide vanes and motor support.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from aluminium die casting.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
Installation in any position. Suitable for installation within and outside of the fire zone.
- Electrical connection**  
Standard terminal box in temperature-resistant execution (protection to IP 54) mounted on the outside of the casing.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Sound levels**  
Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

- Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 6,5 kg

**MP-Z 280** Ref. No. 4902

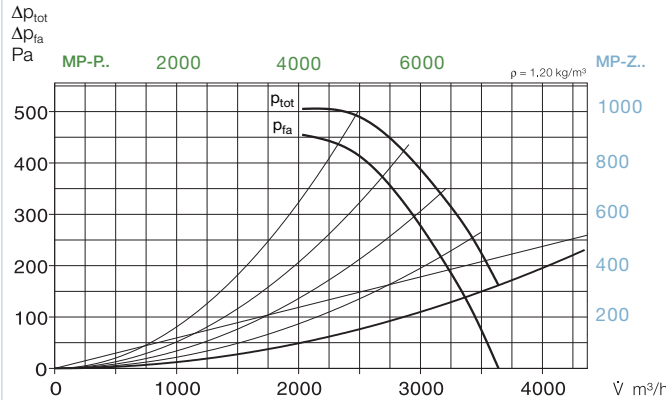
- Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 22 kg

**MP-P 280** Ref. No. 4886

### B VAR 280/2

R.P.M.=2800

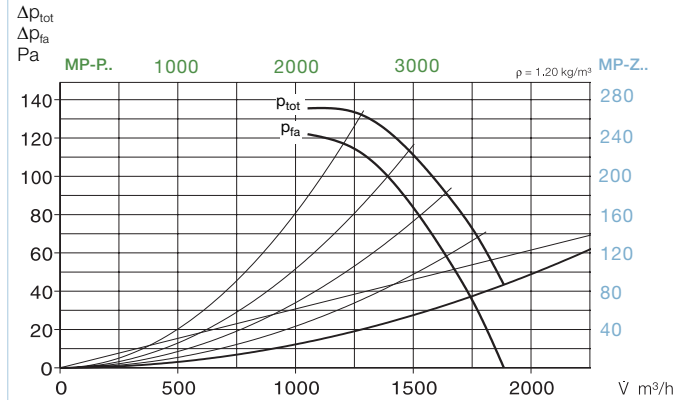
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	88	58	69	80	83	83	79	70
L <sub>PA,4m</sub>	Air noise	dB(A)	68	38	49	60	63	63	59	50



### B VAR 280/4

R.P.M.=1450

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	72	48	62	66	69	66	59	49
L <sub>PA,4m</sub>	Air noise	dB(A)	52	28	42	46	49	46	39	29



#### Certification

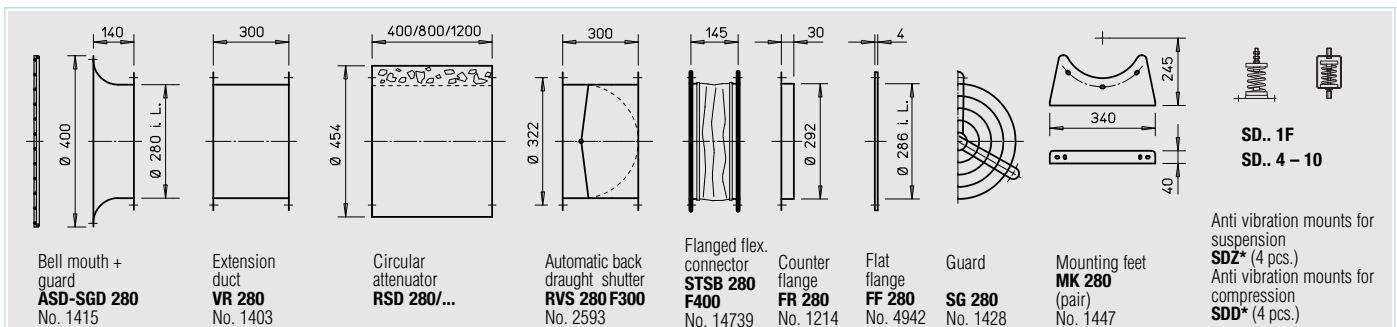
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
With DIBt technical approval:  
F300 : Z-78.11-147

#### Information

Information	Pages
Technical description	47 on
Design of systems	3 on

#### Accessory details

Accessory details	Pages
Mounting accessories	146 on
Attenuators	151
Gas warning systems, circuitry and control technology	152 on



Accessories pages 146 on

\* Type assignment see table, last column

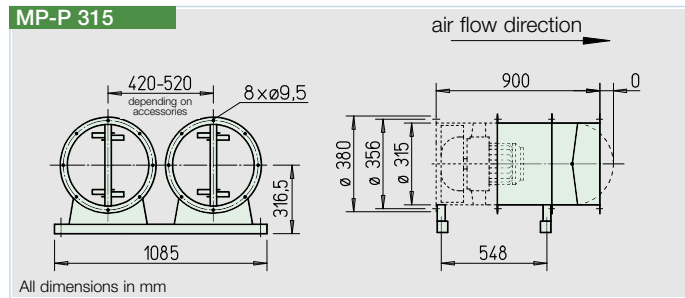
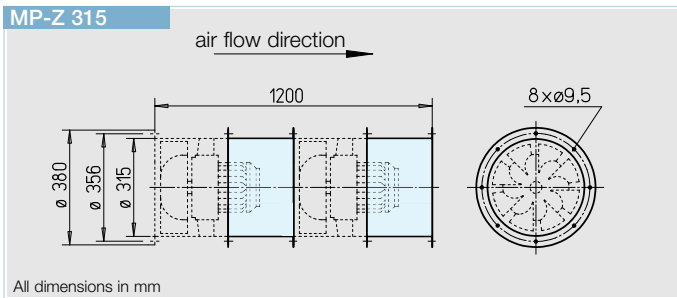
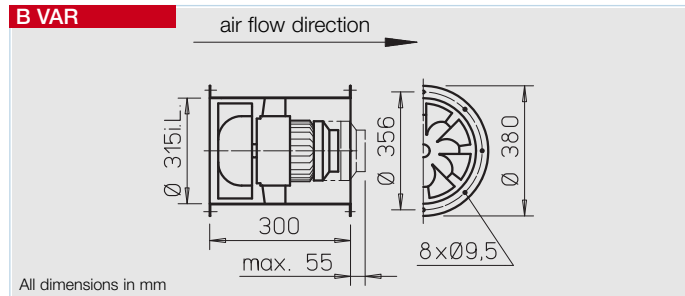
Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted	Anti vibration mounts <sup>4)</sup>				
											Compression		Suspension		
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
<b>F300 3 Phase motor, 50 Hz, protection to IP 54</b>															
B VAR 280/2 F300	2300	2790	3700	1,10	400	2,32	776	40 <sup>2)</sup> / 300	23	—	—	SDD 1F	1942	SDZ 1F	1943
<b>F300 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph. / 50 Hz, protection to IP 54</b>															
B VAR 280/4/2 F300	2301	1390/2810	1810/3700	0,25/1,1	400	0,75/2,41	471	40 <sup>2)</sup> / 300	24	PDA 12 <sup>3)</sup>	5081	SDD 1F	1942	SDZ 1F	1943

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes).

<sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

<sup>3)</sup> Flush mounted version see product page switches

<sup>4)</sup> With Z-/P-design due to higher total weight, type assignment according to tables on page 150.



- Casing**  
Manufactured in galvanised sheet steel with flanges on both sides to DIN 24155, Pt. 3, with fixed guide vanes and motor support.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from aluminium die casting.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
Installation in any position. Suitable for installation within and outside of the fire zone.
- Electrical connection**  
Standard terminal box in temperature-resistant execution (protection to IP 54) mounted on the outside of the casing.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Sound levels**  
Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

- Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 7,5 kg

**MP-Z 315** Ref. No. 4903

- Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 25 kg

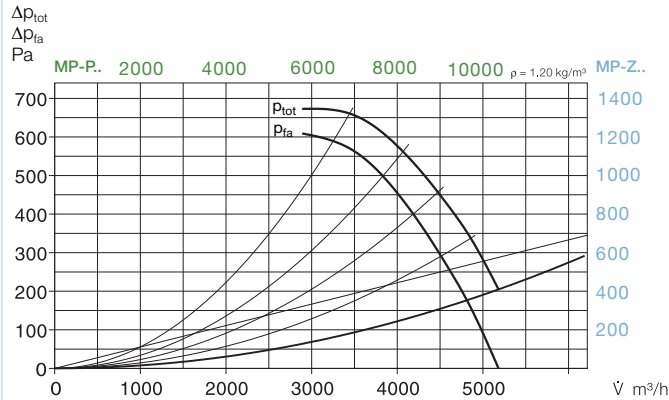
**MP-P 315** Ref. No. 4887



### B VAR 315/2

R.P.M.=2800

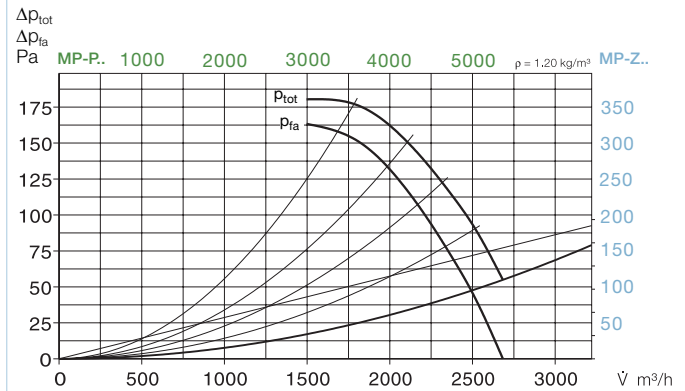
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	91	62	73	84	86	87	82	74
L <sub>PA,4m</sub>	Air noise	dB(A)	71	42	53	64	66	67	62	54



### B VAR 315/4

R.P.M.=1450

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	76	52	65	70	72	70	63	53
L <sub>PA,4m</sub>	Air noise	dB(A)	56	32	45	50	52	50	43	33



#### Certification

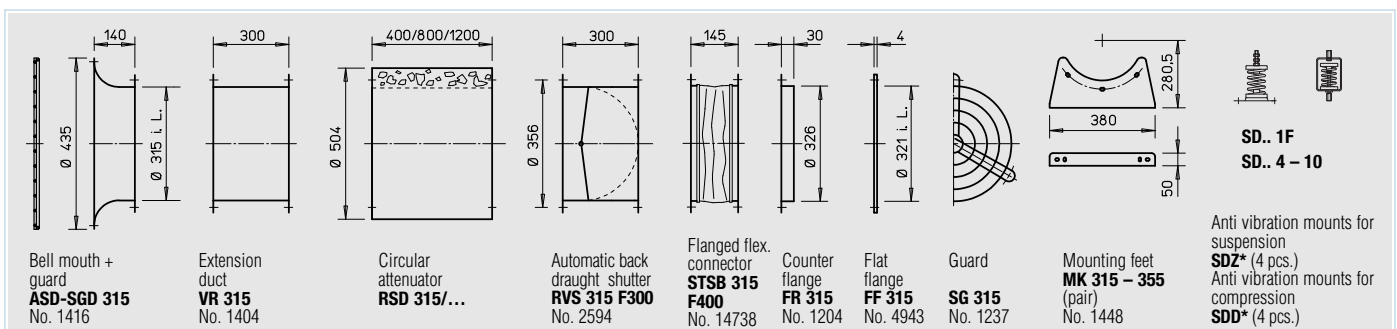
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
With DIBt technical approval:  
F300 : Z-78.11-147

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Accessories pages 146 on

\* Type assignment see table, last column

Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted	Anti vibration mounts <sup>4)</sup>				
											Compression		Suspension		
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
<b>F300 3 Phase motor, 50 Hz, protection to IP 54</b>															
B VARD 315/4 F300	2302	1410	2590	0,55	400	1,27	776	40 <sup>2)</sup> / 300	22	—	—	SDD 1F	1942	SDZ 1F	1943
B VARD 315/2 F300	2303	2790	5270	1,1	400	2,32	776	40 <sup>2)</sup> / 300	25	—	—	SDD 1F	1942	SDZ 1F	1943
<b>F300 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54</b>															
B VARD 315/4/2 F300	2304	1390/2810	2590/5270	0,25/1,1	400	0,75/2,41	471	40 <sup>2)</sup> / 300	26	PDA 12 <sup>3)</sup>	5081	SDD 1F	1942	SDZ 1F	1943

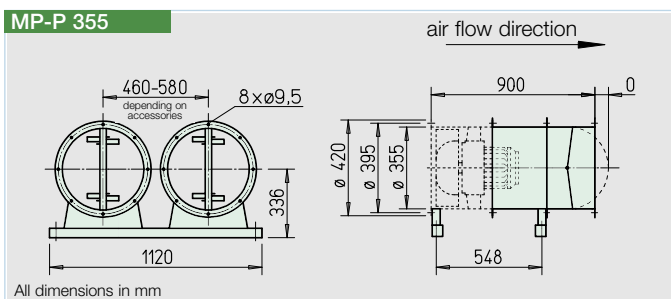
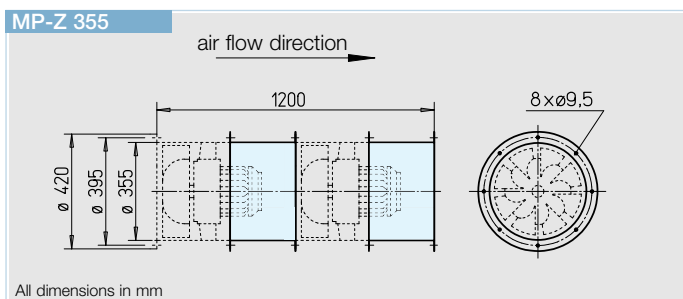
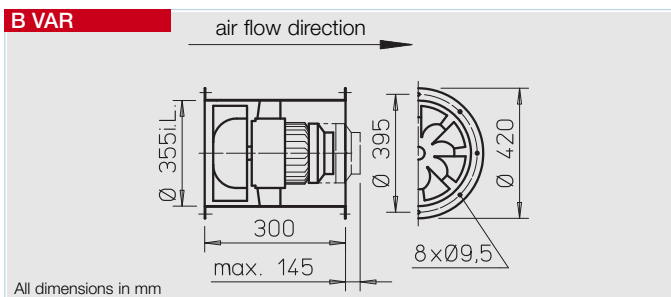
<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes).

<sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

<sup>3)</sup> Flush mounted version see product page switches

<sup>4)</sup> With Z-/P-design due to higher total weight, type assignment according to tables on page 150.





- Casing**  
Manufactured in galvanised sheet steel with flanges on both sides to DIN 24155, Pt. 3, with fixed guide vanes and motor support.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dipped galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
Installation in any position. Suitable for installation within and outside of the fire zone.
- Electrical connection**  
Standard terminal box in temperature-resistant execution (protection to IP 54) mounted on the outside of the casing.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Sound levels**  
Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

- Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 8 kg

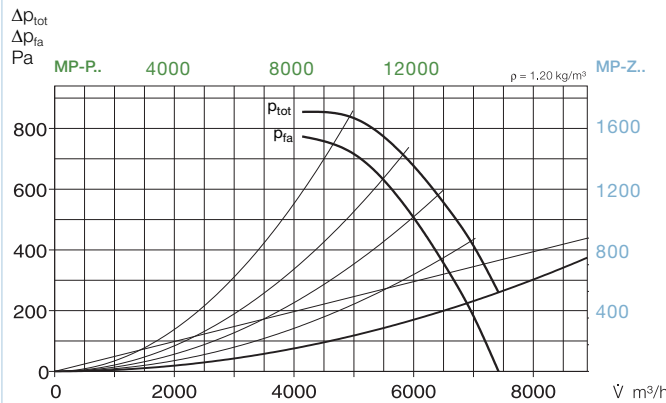
**MP-Z 355** Ref. No. 4904

- Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 27 kg

**MP-P 355** Ref. No. 4888

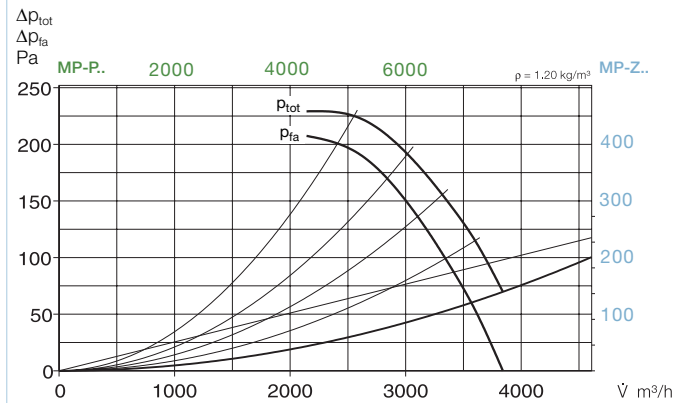
### B VAR 355/2 R.P.M.=2800

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Air noise	dB(A)	95	65	76	88	90	86	77
L <sub>PA,4m</sub>	Air noise	dB(A)	75	45	56	68	70	66	57



### B VAR 355/4 R.P.M.=1450

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Air noise	dB(A)	80	55	69	73	76	73	66
L <sub>PA,4m</sub>	Air noise	dB(A)	60	35	49	53	56	53	46



#### Certification

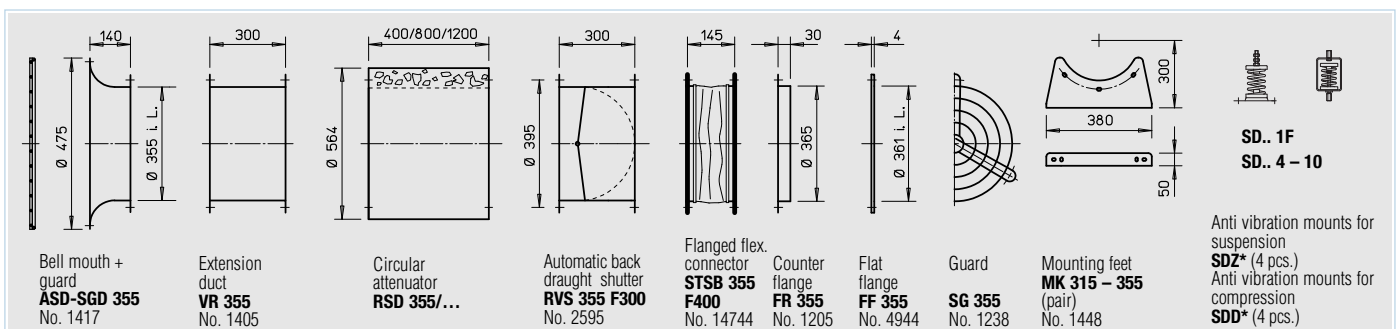
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
With DIBt technical approval:  
F300 : Z-78.11-147

#### Information Pages

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Accessories pages 146 on

\* Type assignment see table, last column

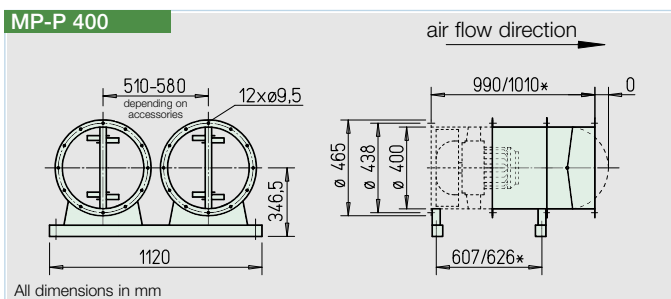
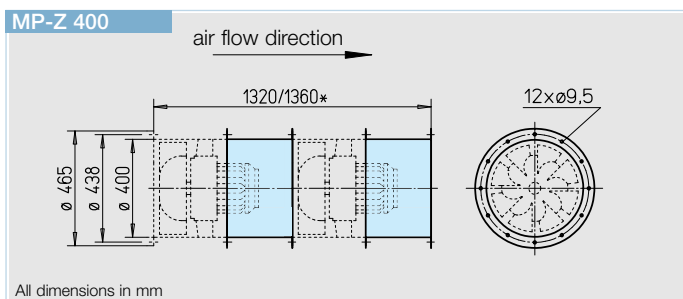
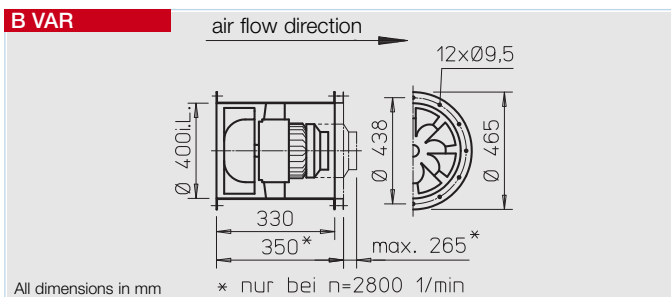
Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted	Anti vibration mounts <sup>4)</sup>				
											Compression		Suspension		
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
<b>F300</b> 3 Phase motor, 50 Hz, protection to IP 54															
B VARD 355/4 F300	2305	1410	3700	0,55	400	1,27	776	40 <sup>2)</sup> / 300	24	—	—	SDD 1F	1942	SDZ 1F	1943
B VARD 355/2 F300	2306	2840	7625	2,20	400	5,48	776	40 <sup>2)</sup> / 300	34	—	—	SDD 1F	1942	SDZ 1F	1943
<b>F300</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54															
B VARD 355/4/2 F300	2307	1435/2890	3750/7545	0,65/2,5	400	1,66/5,18	471	40 <sup>2)</sup> / 300	43	PDA 12 <sup>3)</sup>	5081	SDD 1F	1942	SDZ 1F	1943

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes).

<sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

<sup>3)</sup> Flush mounted version see product page switches

<sup>4)</sup> With Z-/P-design due to higher total weight, type assignment according to tables on page 150.



- Casing**  
Manufactured in galvanised sheet steel with flanges on both sides to DIN 24155, Pt. 3, with fixed guide vanes and motor support.  
Type 400/2 with welded casing made from hot dip-galvanised steel.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
Installation in any position. Suitable for installation within and outside of the fire zone.
- Electrical connection**  
Standard terminal box in temperature-resistant execution (protection to IP 54) mounted on the outside of the casing.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Sound levels**  
Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

**■ Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 12 kg

**MP-Z 400** Ref. No. 4905

**■ Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**

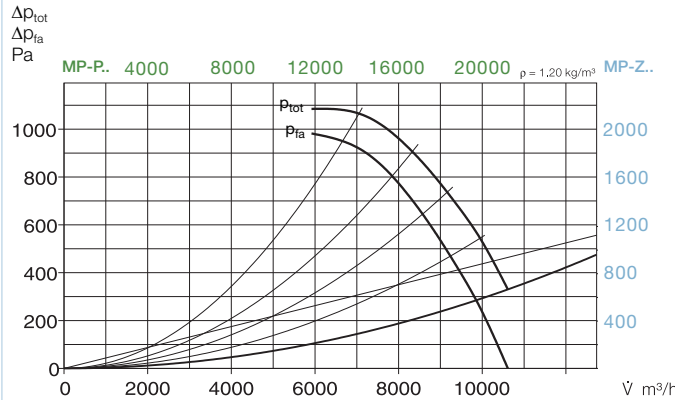
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 35 kg

**MP-P 400** Ref. No. 4889

### B VAR 400/2

R.P.M.=2800

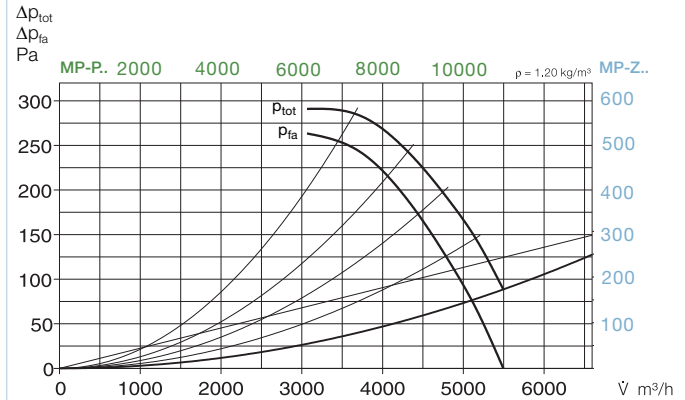
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	98	69	80	91	94	94	90	81
L <sub>PA,4m</sub>	Air noise	dB(A)	78	49	60	71	74	74	70	61



### B VAR 400/4

R.P.M.=1450

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	83	59	72	77	79	77	70	60
L <sub>PA,4m</sub>	Air noise	dB(A)	63	39	52	57	59	57	50	40



#### Certification

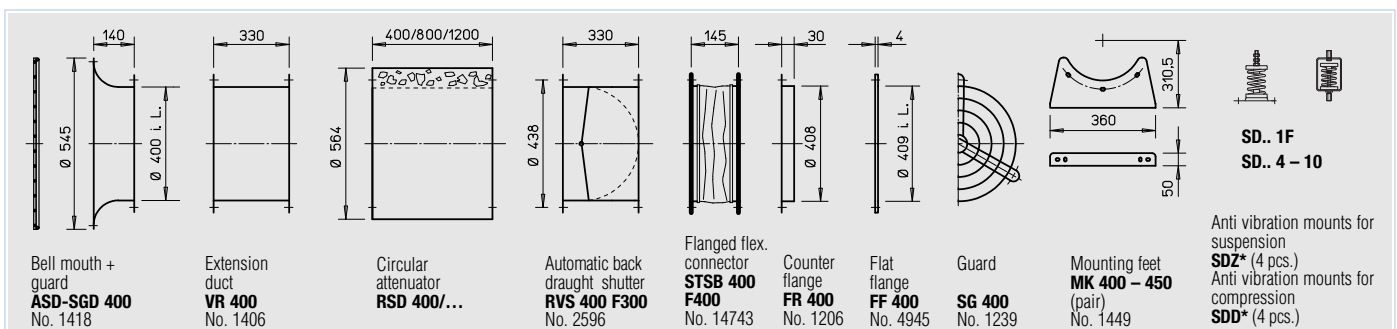
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
With DIBt technical approval:  
F300 : Z-78.11-147

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Accessories pages 146 on

\* Type assignment see table, last column

Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts <sup>4)</sup>			
										Type	Ref.No.	Type	Ref. No.	Type	Ref. No.
<b>F300 3 Phase motor, 50 Hz, protection to IP 54</b>															
B VARD 400/4 F300	2308	1410	5300	0,55	400	1,27	776	40 <sup>2)</sup> / 300	28	—	—	SDD 1F	1942	SDZ 1F	1943
B VARD 400/2 F300	2309	2870	11010	4,00	400	7,72	776	40 <sup>2)</sup> / 300	71	—	—	SDD 1F	1942	SDZ 4	1945
<b>F300 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54</b>															
B VARD 400/4/2 F300	2310	1440/2890	5450/10900	1,1/4,4	400	2,79/8,59	471	40 <sup>2)</sup> / 300	76	PDA 12 <sup>3)</sup>	5081	SDD 1F	1942	SDZ 4	1945

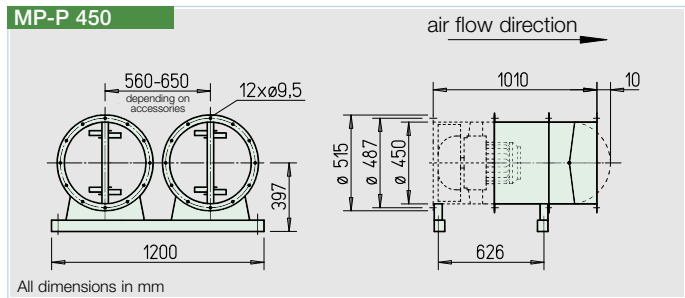
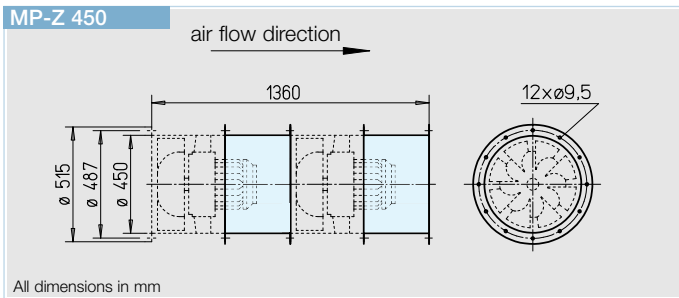
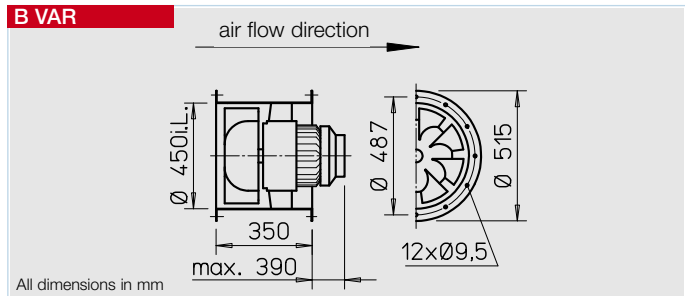
<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes).

<sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

<sup>3)</sup> Flush mounted version see product page switches

<sup>4)</sup> With Z-/P-design due to higher total weight, type assignment according to tables on page 150.





- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
Installation in any position. Suitable for installation within and outside of the fire zone.
- Electrical connection**  
Standard terminal box in temperature-resistant execution (protection to IP 54) mounted on the outside of the casing.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Sound levels**  
Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

**■ Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 14 kg

**MP-Z 450** Ref. No. 4906

**■ Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**

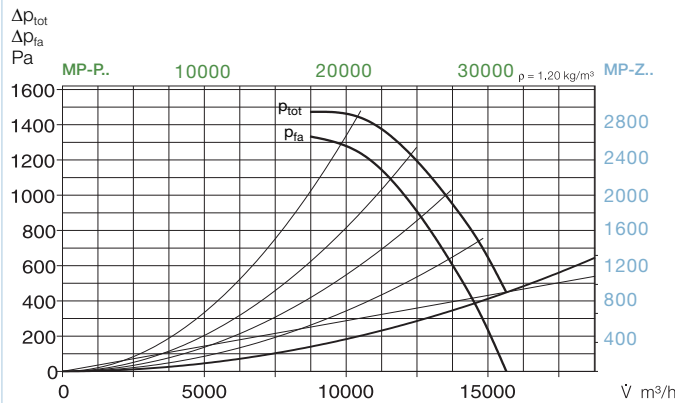
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 43 kg

**MP-P 450** Ref. No. 4890

### B VAR 450/2

R.P.M. = 2900

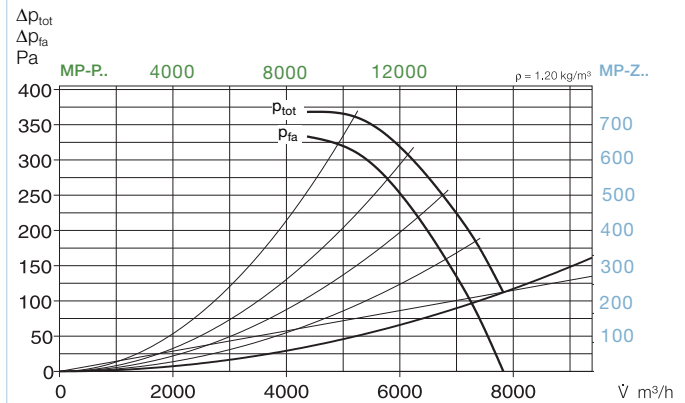
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	103	73	84	95	98	98	94	85
L <sub>PA,4m</sub>	Air noise	dB(A)	83	53	64	75	78	78	74	65



### B VAR 450/4

R.P.M. = 1450

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	87	62	76	81	83	80	74	64
L <sub>PA,4m</sub>	Air noise	dB(A)	67	42	56	61	63	60	54	44



#### Certification

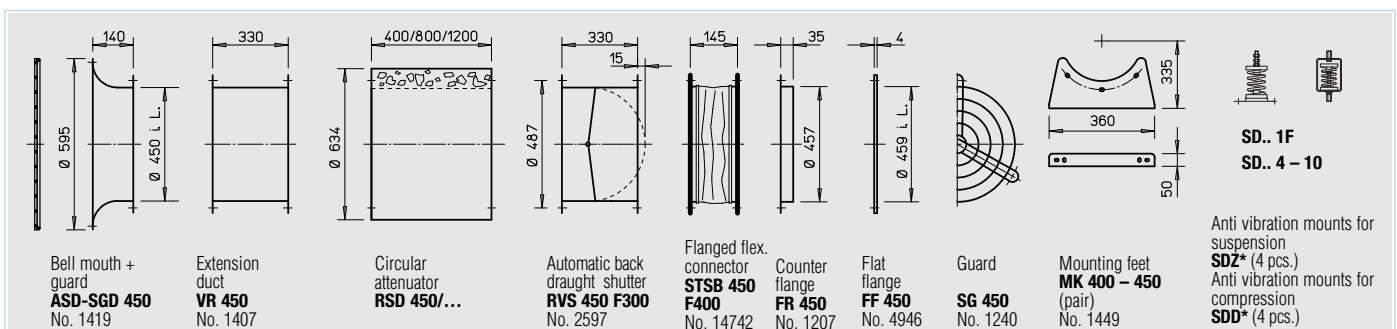
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
With DIBt technical approval:  
F300 : Z-78.11-147

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Accessories pages 146 on

\* Type assignment see table, last column

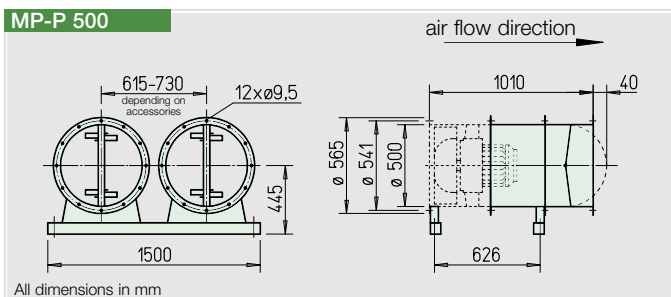
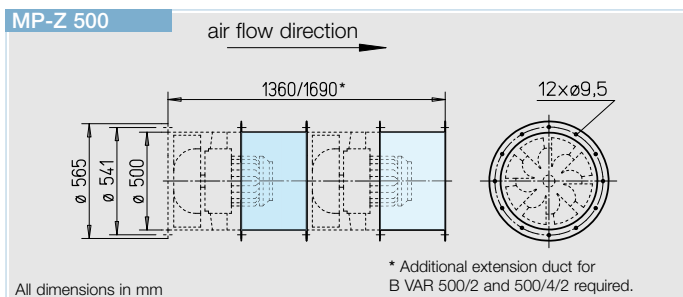
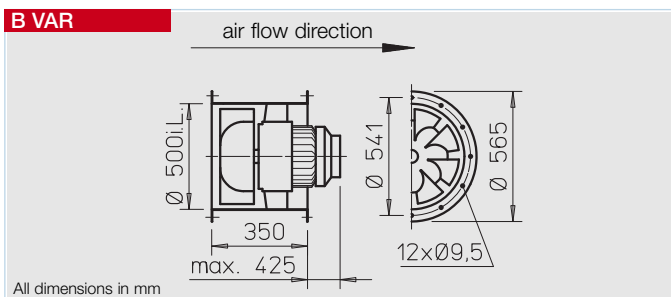
Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts <sup>4)</sup>			
										Type	Ref. No.	Compression		Suspension	
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg			Type	Ref. No.	Type	Ref. No.
<b>F300 3 Phase motor, 50 Hz, protection to IP 54</b>															
B VARD 450/4 F300	2311	1440	7600	1,1	400	2,4	776	40 <sup>2)</sup> / 300	58	—	—	SDD 1F	1942	SDZ 1F	1943
B VARD 450/2 F300	2312	2910	15805	7,5	400	14,1	776	40 <sup>2)</sup> / 300	102	—	—	SDD 4	1944	SDZ 4	1945
<b>F300 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph. / 50 Hz, protection to IP 54</b>															
B VARD 450/4/2 F300	2313	1470/2930	7815/15765	2,0/8,0	400	4,83/15,3	471	40 <sup>2)</sup> / 300	106	PDA 25	5060	SDD 4	1944	SDZ 4	1945

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes).

<sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

<sup>3)</sup> Flush mounted version see product page switches

<sup>4)</sup> With Z-/P-design due to higher total weight, type assignment according to tables on page 150.



- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
Installation in any position. Suitable for installation within and outside of the fire zone.
- Electrical connection**  
Standard terminal box in temperature-resistant execution (protection to IP 54) mounted on the outside of the casing.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Sound levels**  
Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

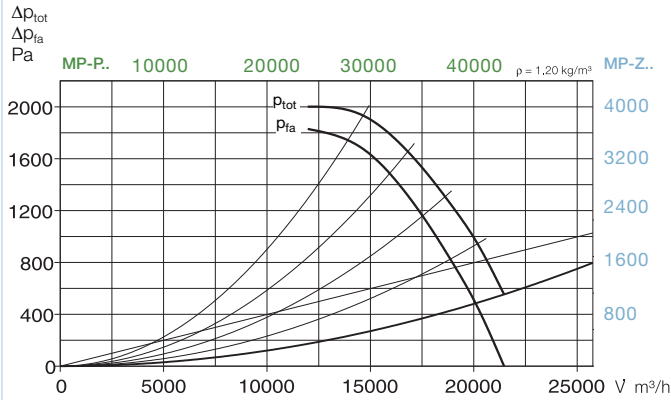
- Mounting package MP-Z for two-stage Z-unit**  
To arrange two identical fans in a row, for highest pressure rates.  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 15 kg  
**MP-Z 500** Ref. No. 4907  
Additional extension duct for B VAR 500/2 and 500/4/2 required.  
**VR 500** Ref. No. 1408

- Mounting package MP-P for parallel P-unit**  
To arrange two identical fans side by side, for highest air flow rates.  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 55 kg  
**MP-P 500** Ref. No. 4891

### B VAR 500/2

R.P.M.=2900

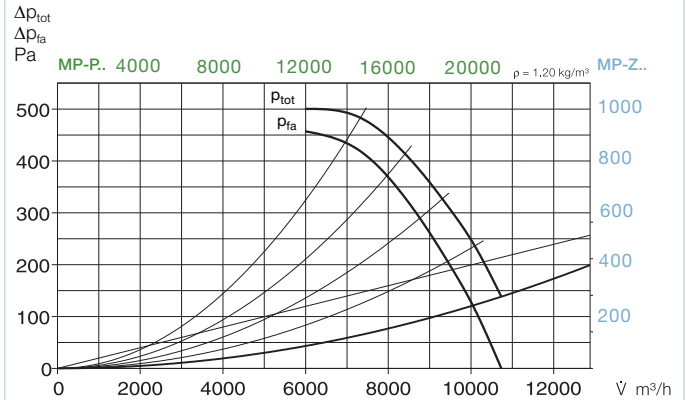
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Air noise	dB(A)	106	76	87	99	101	97	89
L <sub>PA,4m</sub>	Air noise	dB(A)	86	56	67	79	81	77	69



### B VAR 500/4

R.P.M.=1450

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Air noise	dB(A)	90	66	79	84	86	84	77
L <sub>PA,4m</sub>	Air noise	dB(A)	70	46	59	64	66	64	57



#### Certification

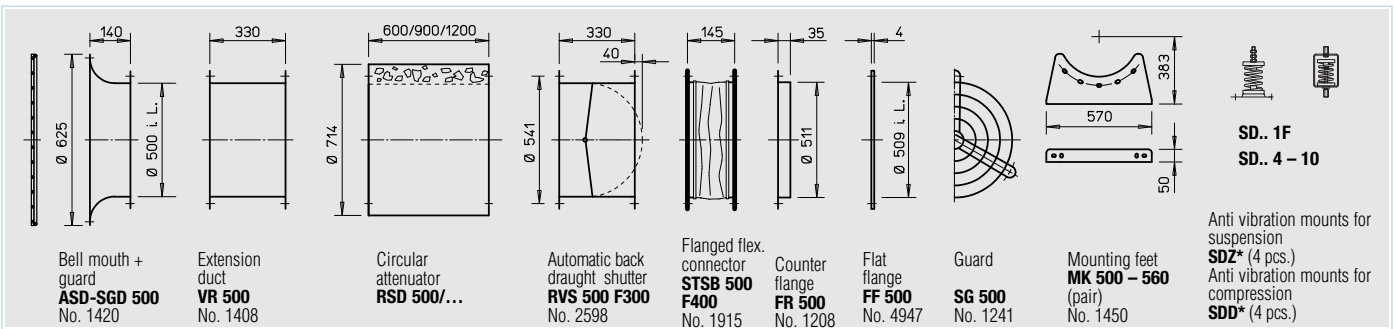
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
F400 : 0036 CPD RG 05 05  
With DIBt technical approval:  
F300 : Z-78.11-147  
F400 : Z-78.11.148

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Accessories pages 146 on

\* Type assignment see table, last column

Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts <sup>4)</sup>			
										Type	Ref. No.	Compression		Suspension	
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
<b>F300</b> 3 Phase motor, 50 Hz, protection to IP 54															
B VAR 500/4 F300	2322	1440	10510	1,5	400	3,26	776	40 <sup>2)</sup> / 300	76	—	—	SDD 4	1944	SDZ 1F	1943
B VAR 500/2 F300	2296	2940	21760	15,0	400	27,6	776	40 <sup>2)</sup> / 300	168	—	—	SDD 5	1924	SDZ 5	1925
<b>F300</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54															
B VAR 500/8/4 F300	2323	700/1430	4960/10430	0,55/2,2	400	2,0/4,84	471	40 <sup>2)</sup> / 300	84	PDA 12 <sup>3)</sup>	5081	SDD 4	1944	SDZ 1F	1943
B VAR 500/4/2 F300	2299	1470/2950	10840/21760	4,0/16,0	400	9,75/30,5	471	40 <sup>2)</sup> / 300	191	PDA 25	5060	SDD 5	1924	SDZ 5	1925
<b>F400</b> 3 Phase motor, 50 Hz, protection to IP 54															
B VAR 500/4 F400	2404	1440	10510	1,5	400	3,26	776	40 <sup>2)</sup> / 400	76	—	—	SDD 4	1944	SDZ 1F	1943
<b>F400</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54															
B VAR 500/8/4 F400	2405	700/1430	4960/10430	0,55/2,2	400	2,0/4,84	471	40 <sup>2)</sup> / 400	84	PDA 12 <sup>3)</sup>	5081	SDD 4	1944	SDZ 1F	1943

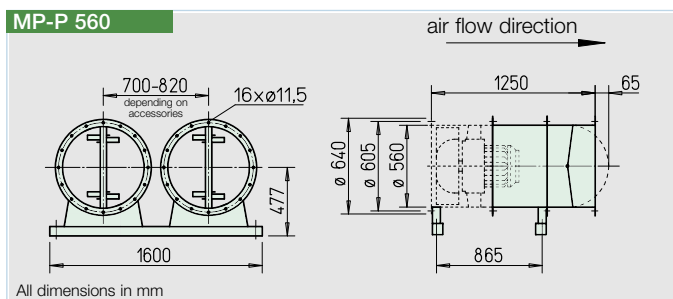
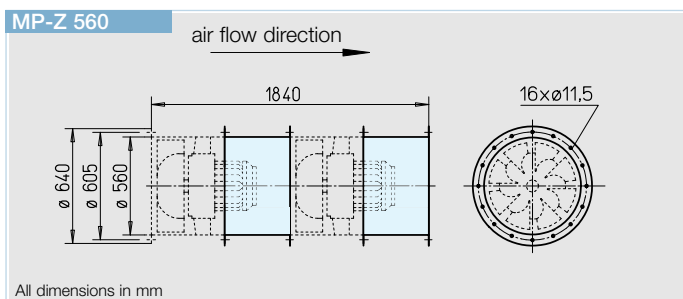
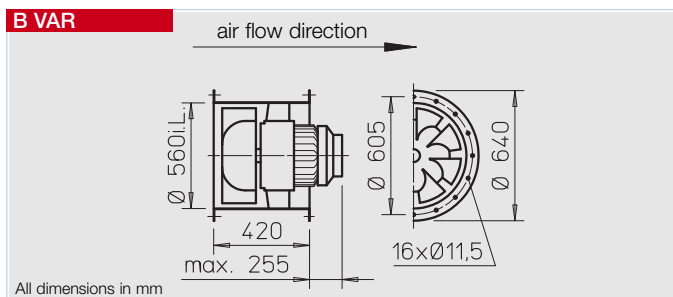
<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes).

<sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

<sup>3)</sup> Flush mounted version see product page switches

<sup>4)</sup> With Z-/P-design due to higher total weight, type assignment according to tables on page 150.





- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
Installation in any position. Suitable for installation within and outside of the fire zone.
- Electrical connection**  
Standard terminal box in temperature-resistant execution (protection to IP 54) mounted on the outside of the casing.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Sound levels**  
Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

- Mounting package MP-Z for two-stage Z-unit for highest pressure rates.**  
To arrange two identical fans in a row, for highest pressure rates.  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 32 kg

**MP-Z 560** Ref. No. 4908

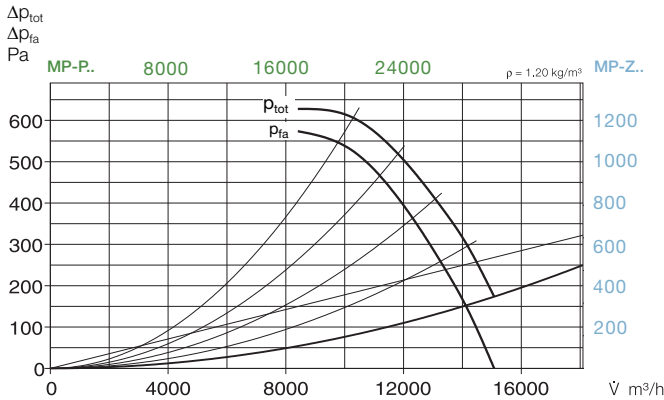
- Mounting package MP-P for parallel P-unit for highest air flow rates.**  
To arrange two identical fans side by side, for highest air flow rates.  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 82 kg

**MP-P 560** Ref. No. 4892

### B VAR 560/4

R.P.M.=1450

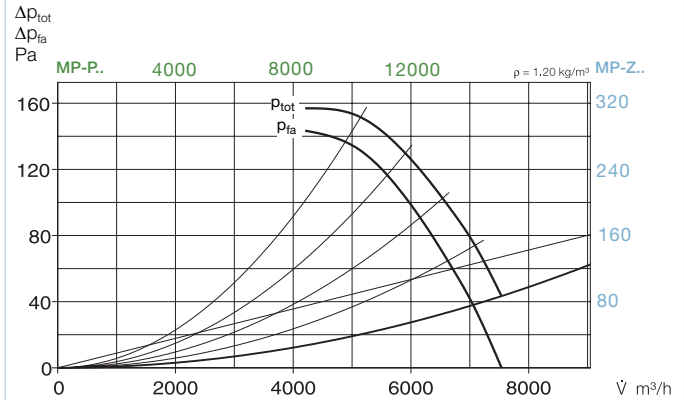
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	93	69	83	87	90	87	80	70
L <sub>PA,4m</sub>	Air noise	dB(A)	73	49	63	67	70	67	60	50



### B VAR 560/8

R.P.M.=725

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	83	67	72	78	79	75	67	58
L <sub>PA,4m</sub>	Air noise	dB(A)	63	47	52	58	59	55	47	38



#### Certification

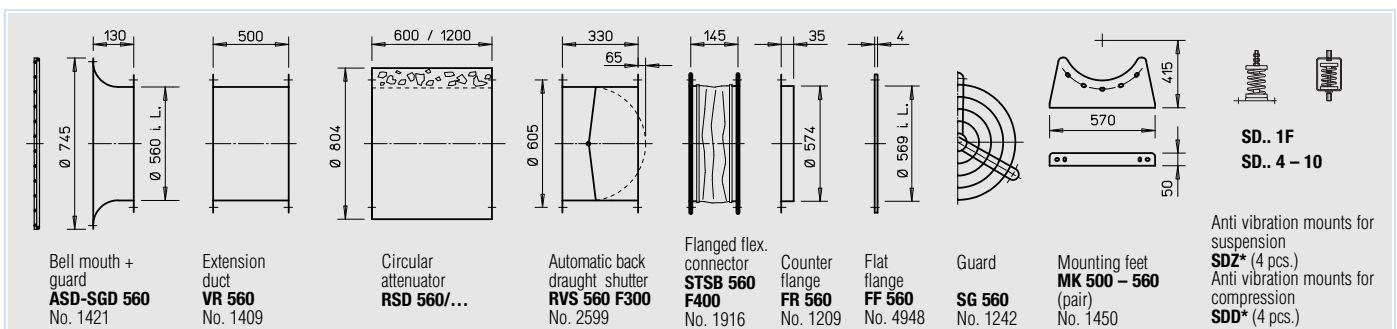
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
F400 : 0036 CPD RG 05 05  
With DIBt technical approval:  
F300 : Z-78.11-147  
F400 : Z-78.11.148

#### Information

Information	Pages
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#### Accessory details

Accessory details	Pages
Mounting accessories	146 on
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Accessories pages 146 on

\* Type assignment see table, last column

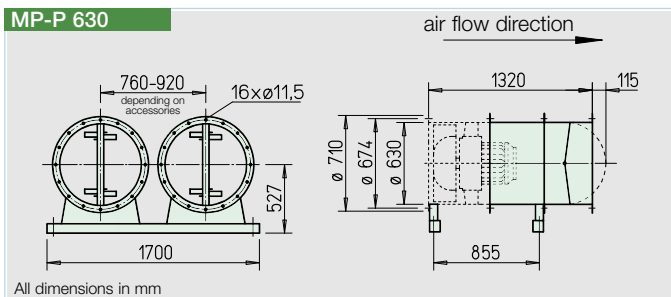
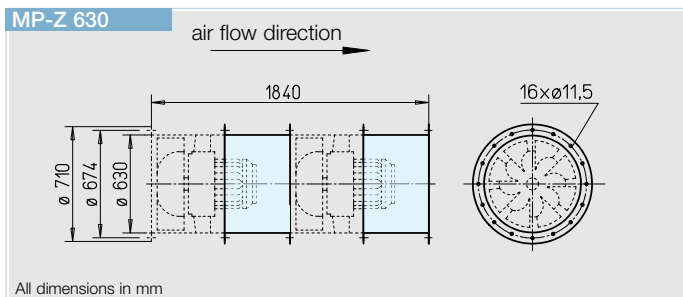
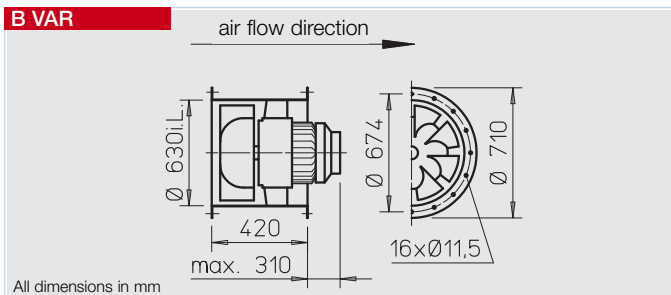
Type	Ref. No.	R.P.M.	Air flow volume (FID) <sup>d</sup>	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts <sup>4)</sup>					
										Type	Ref. No.	Compression	Suspension	Type	Ref. No.	Type	Ref. No.
<b>F300</b> 3 Phase motor, 50 Hz, protection to IP 54																	
<b>B VAR 560/4 F300</b>	2330	1420	14710	3,0	400	6,17	776	40 <sup>2)</sup> / 300	106	—	—	<b>SDD 4</b>	1944	<b>SDZ 4</b>	1945		
<b>F300</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54																	
<b>B VAR 560/8/4 F300</b>	2331	690/1410	7380/14970	0,7/2,8	400	2,41/6,01	471	40 <sup>2)</sup> / 300	106	<b>PDA 12<sup>3)</sup></b>	5081	<b>SDD 4</b>	1944	<b>SDZ 4</b>	1945		
<b>F400</b> 3 Phase motor, 50 Hz, protection to IP 54																	
<b>B VAR 560/4 F400</b>	2412	1420	14710	3,0	400	6,17	776	40 <sup>2)</sup> / 400	106	—	—	<b>SDD 4</b>	1944	<b>SDZ 4</b>	1945		
<b>F400</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54																	
<b>B VAR 560/8/4 F400</b>	2413	690/1410	7380/14970	0,7/2,8	400	2,41/6,01	471	40 <sup>2)</sup> / 400	106	<b>PDA 12<sup>3)</sup></b>	5081	<b>SDD 4</b>	1944	<b>SDZ 4</b>	1945		

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes).

<sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

<sup>3)</sup> Flush mounted version see product page switches

<sup>4)</sup> With Z-/P-design due to higher total weight, type assignment according to tables on page 150.



- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
Installation in any position. Suitable for installation within and outside of the fire zone.
- Electrical connection**  
Standard terminal box in temperature-resistant execution (protection to IP 54) mounted on the outside of the casing.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Sound levels**  
Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

- Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 36 kg

**MP-Z 630** Ref. No. 4909

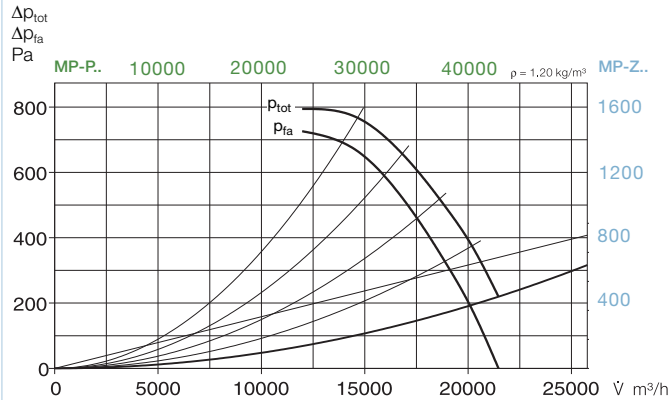
- Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 110 kg

**MP-P 630** Ref. No. 4893

### B VAR 630/4

R.P.M.=1450

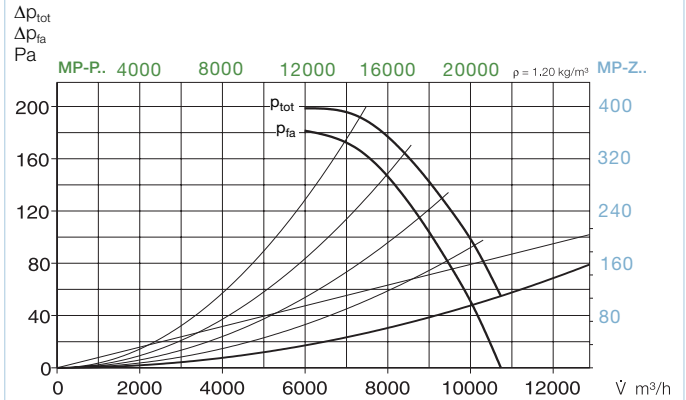
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	97	73	89	91	93	91	84	74
L <sub>PA,4m</sub>	Air noise	dB(A)	77	53	69	71	73	71	64	54



### B VAR 630/8

R.P.M.=725

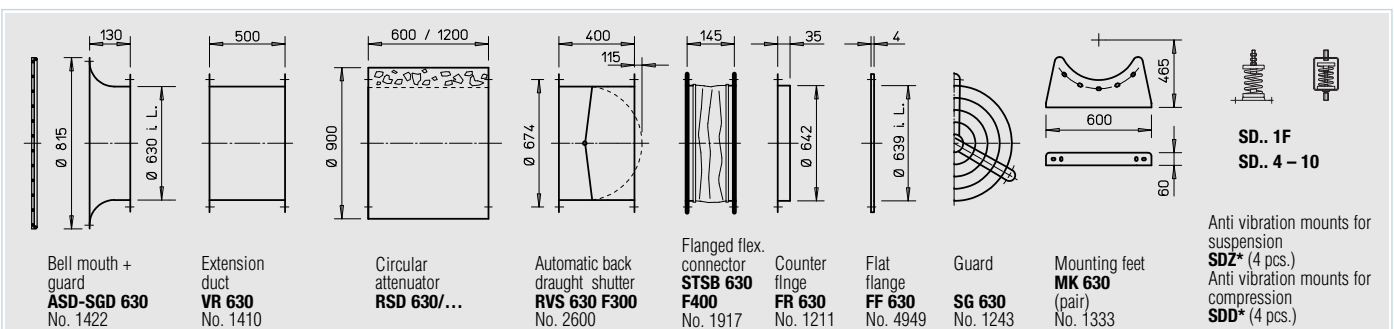
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k	
L <sub>WA</sub>	Air noise	dB(A)	87	70	76	82	83	78	70	62
L <sub>PA,4m</sub>	Air noise	dB(A)	67	50	56	62	63	58	50	42



#### Certification

The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
F400 : 0036 CPD RG 05 05  
With DIBt technical approval:  
F300 : Z-78.11-147  
F400 : Z-78.11.148

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Accessories pages 146 on

\* Type assignment see table, last column

Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts <sup>4)</sup>					
										Type	Ref. No.	Compression	Suspension	Type	Ref. No.	Type	Ref. No.
<b>F300</b> 3 Phase motor, 50 Hz, protection to IP 54																	
<b>B VARD 630/4 F300</b>	2341	1460	21460	5,5	400	10,5	776	40 <sup>2)</sup> / 300	150	—	—	<b>SDD 5</b>	1924	<b>SDZ 5</b>	1925		
<b>F300</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54																	
<b>B VARD 630/8/4 F300</b>	2342	725/1430	10660/21460	1,8/7,2	400	4,64/14,4	471	40 <sup>2)</sup> / 300	167	<b>PDA 25</b>	5060	<b>SDD 5</b>	1924	<b>SDZ 5</b>	1925		
<b>F400</b> 3 Phase motor, 50 Hz, protection to IP 54																	
<b>B VARD 630/4 F400</b>	2423	1460	21460	5,5	400	10,5	776	40 <sup>2)</sup> / 400	150	—	—	<b>SDD 5</b>	1924	<b>SDZ 5</b>	1925		
<b>F400</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54																	
<b>B VARD 630/8/4 F400</b>	2424	725/1430	10660/21460	1,8/7,2	400	4,64/14,4	471	40 <sup>2)</sup> / 400	167	<b>PDA 25</b>	5060	<b>SDD 5</b>	1924	<b>SDZ 5</b>	1925		

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes).

<sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

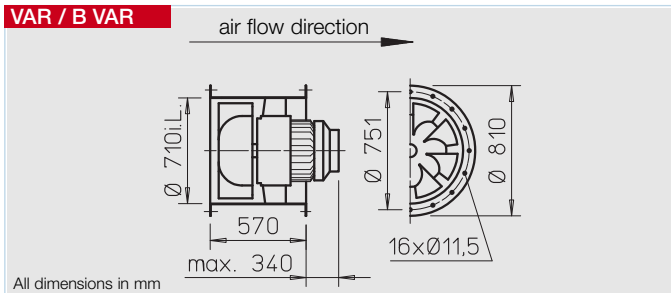
<sup>3)</sup> Flush mounted version see product page switches

<sup>4)</sup> With Z-P-design due to higher total weight, type assignment according to tables on page 150.

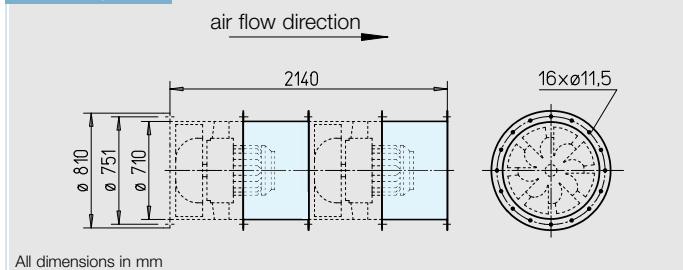




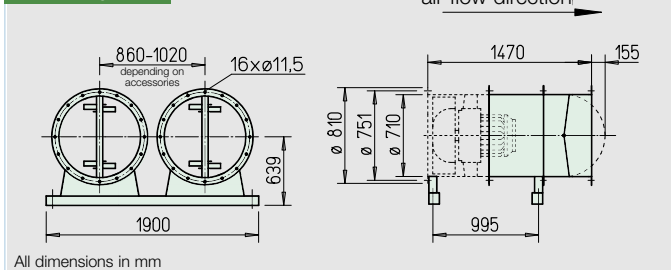
**VAR / B VAR**



**MP-Z 710**



**MP-P 710**



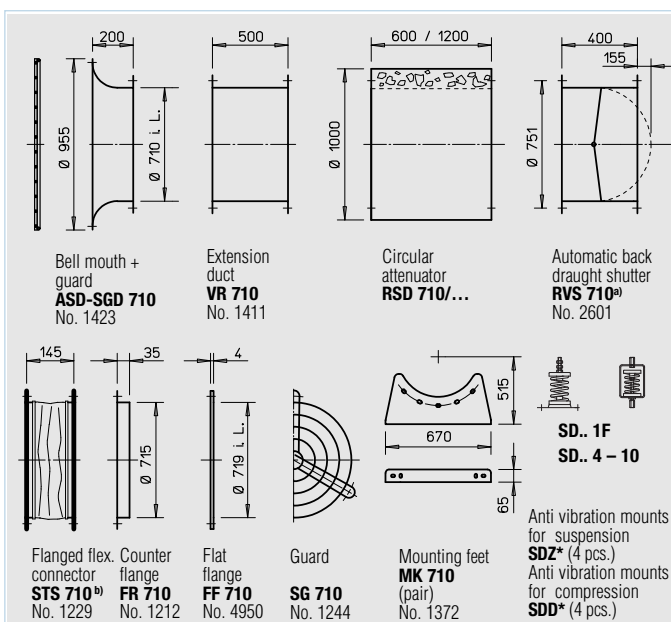
- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor.
- Series VAR**  
Totally enclosed, protected to IP 54. Optional drainage holes made to order (please state installation position).
- Series B VAR**  
Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
**- Baureihe VAR**  
All types (except explosion proof and pole-switching) have PTC resistors which must be connected to a motor protection unit (see type table). Models without PTC resistors must be protected by a conventional circuit breaker.
- Series B VAR**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible.
- Series VAR**  
Ensure that motor drainage holes (where used) face downwards.
- Series B VAR**  
**Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Standard terminal box (protection to IP 55) from polymer (series VAR) or in temperature-resistant execution (series B VAR) mounted on the outside of the casing.
- Protection / Guard for B VAR**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.

- Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 43 kg

**MP-Z 710** Ref. No. 4910

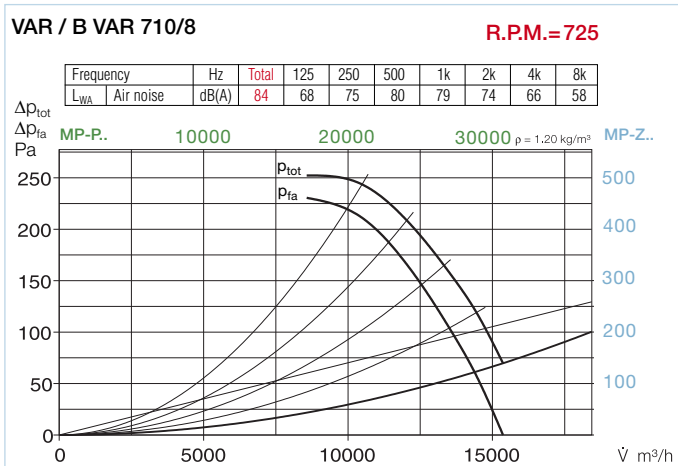
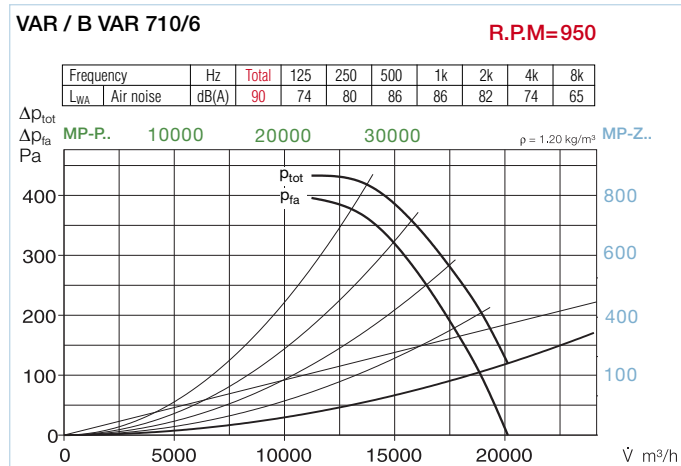
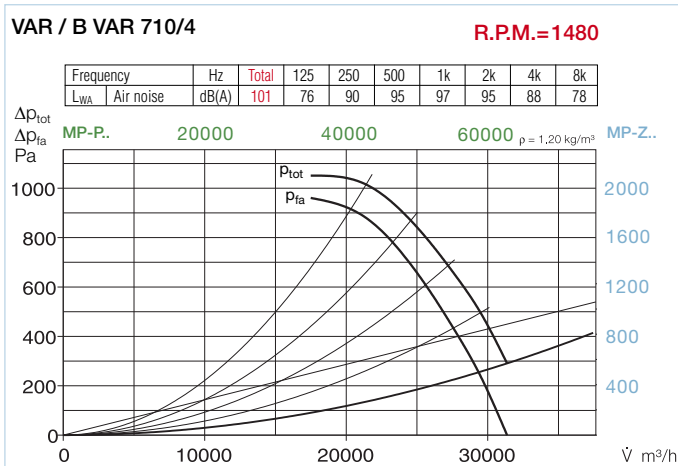
- Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 145 kg

**MP-P 710** Ref.-No. 4894



<sup>a)</sup> Motorised shutters, for ventilation mode, see accessory pages

<sup>b)</sup> Type for B VAR: STSB 710 F400, No. 1918



**Certification**

The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
F400 : 0036 CPD RG 05 05  
With DIBt technical approval:  
F300 : Z-78.11-147  
F400 : Z-78.11.148

**Information**

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**Accessory details**

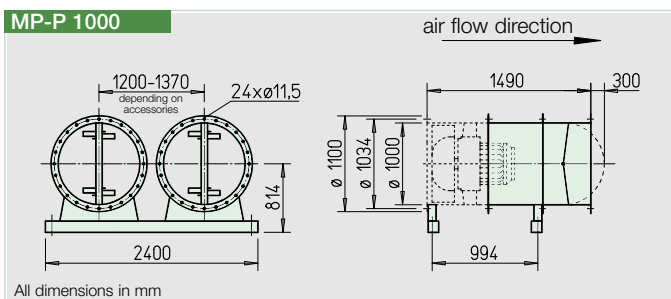
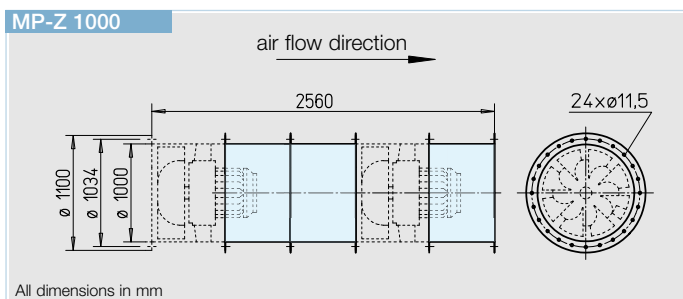
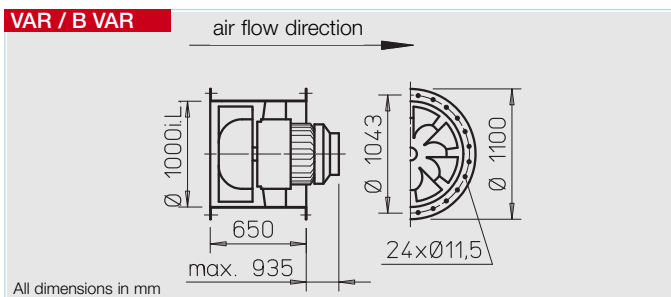
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**Sound levels**

Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	full load	Current	speed controlled	Wiring diagram	Maximum air flow temp. standard supply	air flow temp. speed controlled	Nominal weight (net) <sup>4)</sup>	Frequency inverter Pole switch	Full motor protection unit using motor PTC-resistors	
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	A	No.	+°C	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.
<b>40°</b> 3 Phase motor, 50 Hz, protection to IP 54															
<b>VAR 710/4</b>	6723	1450	31050	11,0	400	21,6/12,6	—	776	60	—	280,0	<b>FU-CS 22<sup>2)</sup></b>	5470	<b>MSA<sup>3)</sup></b>	1289
<b>40°</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54													Pole switch		
<b>VAR 710/8/4</b>	6794	730/1470	15470/31160	3,00/11,00	400	8,90/24,0	—	471	60	—	230,0	<b>PDA 25</b>	5060	—	—
<b>40°</b> Explosion proof, E Exe II, 3 Phase motor, 50 Hz, temperature class T 3, protection to IP 54															
<b>VAR 710/8 Ex<sup>1)</sup></b>	6724	680	14410	1,30	400	3,65	—	470	40	—	165,0	not permitted	—	not permitted	—
<b>VAR 710/6 Ex<sup>1)</sup></b>	6725	955	20240	2,60	400	6,8/3,9	—	498	40	—	190,0	not permitted	—	not permitted	—
<b>VAR 710/4 Ex<sup>1)</sup></b>	6726	1465	31050	10,00	400	19,3/11,2	—	498	40	—	255,0	not permitted	—	not permitted	—
<b>F300</b> 3 Phase motor, 50 Hz, protection to IP 54															
<b>B VAR 710/4 F300</b>	2350	1470	30940	11,00	400	21,2	—	776	40 / 300 <sup>3)</sup>	—	230,0	—	—	—	—
<b>F300</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54													Pole switch		
<b>B VAR 710/8/4 F300</b>	2351	725/1455	15460/30940	3,0/11,0	400	7,0/21,0	—	471	40 / 300 <sup>3)</sup>	—	230,0	<b>PDA 25</b>	5060	—	—
<b>F400</b> 3 Phase motor, 50 Hz, protection to IP 54															
<b>B VAR 710/4 F400</b>	2433	1470	30940	11,0	400	21,2	—	776	40 / 400 <sup>3)</sup>	—	230,0	—	—	—	—
<b>F400</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54													Pole switch		
<b>B VAR 710/8/4 F400</b>	2434	725/1455	15460/30940	3,0/11,0	400	7,0/21,0	—	471	40 / 400 <sup>3)</sup>	—	230,0	<b>PDA 25</b>	5060	—	—

<sup>1)</sup> A vibration monitoring shall be provided (on site) according to DIN EN 14986. <sup>2)</sup> incl. full motor protection unit & sine filter <sup>3)</sup> During ventilation mode (higher air flow temperatures during continuous operation on request.) / smoke extraction (nonrecurring 120 minutes at 300 °C or 120 minutes at 400 °C). <sup>4)</sup> Anti vibration mounts based on weight see page 150



- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor.

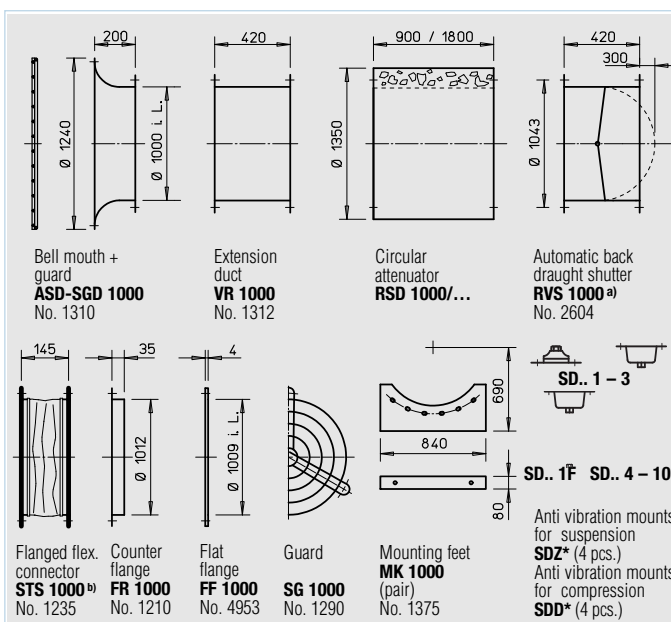
  - **Series VAR**  
Totally enclosed, protected to IP 54. Optional drainage holes made to order (please state installation position).
  - **Series B VAR**  
Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**

  - **Baureihe VAR**  
All types (except explosion proof and pole-switching) have PTC resistors which must be connected to a motor protection unit (see type table). Models without PTC resistors must be protected by a conventional circuit breaker.
- **Series B VAR**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible.

  - **Series VAR**  
Ensure that motor drainage holes (where used) face downwards.
  - **Series B VAR**  
**Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Standard terminal box (protection to IP 55) from polymer (series VAR) or in temperature-resistant execution (series B VAR) mounted on the outside of the casing.
- Protection / Guard for B VAR**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.

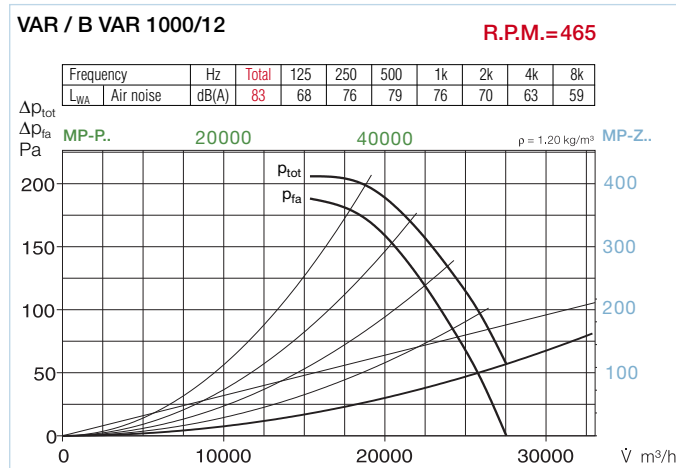
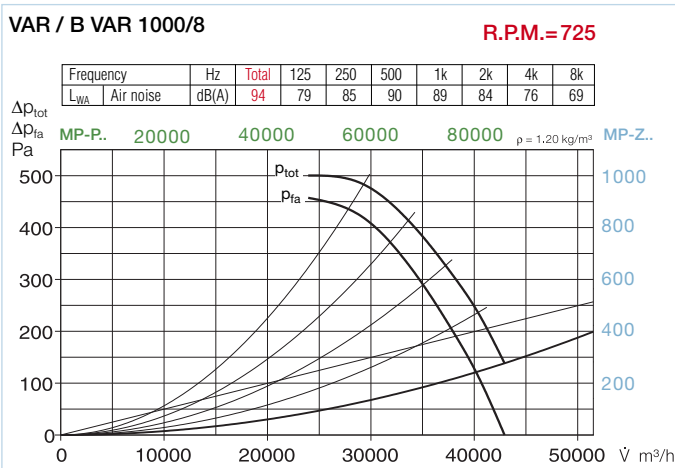
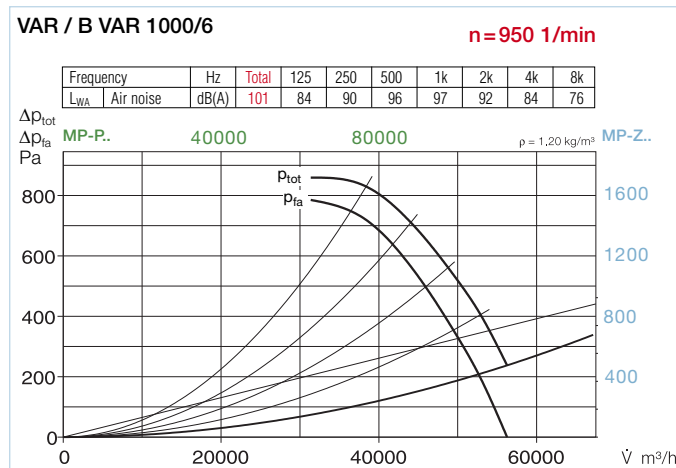
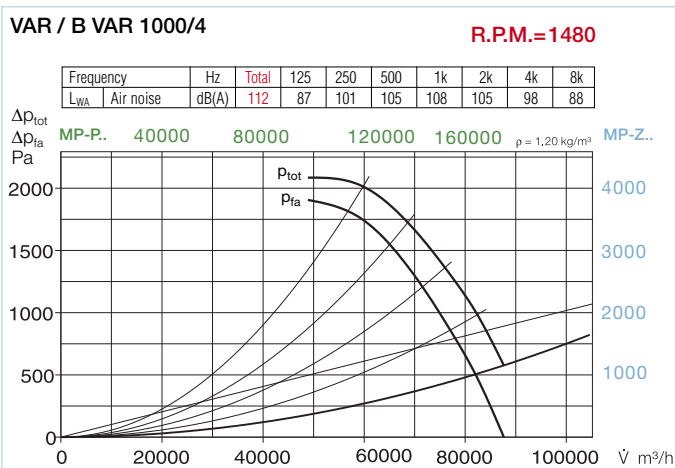
- Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 75 kg  
**MP-Z 1000** Ref.No. 4913  
Additional extension duct required.
- VR 1000** Ref.No. 1312

- Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 255 kg  
**MP-P 1000** Ref.No. 4897



<sup>a)</sup> Motorised shutters, for ventilation mode, see accessory pages

<sup>b)</sup> Type for B VAR: STSB 900 F400, No. 1920 up to 2000 Pa



### Certification

The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
F400 : 0036 CPD RG 05 05  
With DIBt technical approval:  
F300 : Z-78.11-147  
F400 : Z-78.11.148

### Information

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### Sound levels

Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	full load	Current speed controlled	Wiring diagram	Maximum air flow temp. standard supply	air flow temp. speed controlled	Nominal weight (net) <sup>4)</sup>
		min <sup>-1</sup>	Ū m <sup>3</sup> /h	kW	V	A	A	No.	+°C	+°C	ca. kg
<b>40°</b> 3 Phase motor, 50 Hz, protection to IP 54											
<b>VAR 1000/4</b>	6750	1480	87640	55,00	400	106,0/61,3	—	498	60	—	660,0
<b>40°</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54											
<b>VAR 1000/8/4</b>	6804	730/1450	43230/85860	17,00/68,00	400	48,0/126,0	—	471	60	—	870,0
<b>40°</b> Explosion proof, E Exe II, 3 Phase motor, 50 Hz, temperature class T 3, protection to IP 54											
<b>VAR 1000/8 Ex<sup>1)</sup></b>	6751	735	43520	9,80	400	24,0/13,9	—	498	40	—	435,0
<b>VAR 1000/6 Ex<sup>1)</sup></b>	6752	980	58030	16,50	400	34,0/19,7	—	498	40	—	485,0
<b>VAR 1000/4 Ex<sup>1)</sup></b>	6753	1485	87940	58,00	400	105,0/60,7	—	498	40	—	780,0
<b>F300</b> 3 Phase motor, 50 Hz, protection to IP 54											
<b>B VAR 1000/4 F300</b>	2381	1470	87050	55,0	400	97,1	—	776	40 / 300 <sup>3)</sup>	—	702,0
<b>F300</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54											
<b>B VAR 1000/8/4 F300</b>	2382	735/1475	43525/87050	14,7/55,0	400	36,5/100,0	—	471	40 / 300 <sup>3)</sup>	—	708,0
<b>F400</b> 3 Phase motor, 50 Hz, protection to IP 54											
<b>B VAR 1000/4 F400</b>	2468	1470	87050	55,0	400	97,1	—	776	40 / 400 <sup>3)</sup>	—	702,0
<b>F400</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54											
<b>B VAR 1000/8/4 F400</b>	2469	735/1475	43525/87050	14,7/55,0	400	36,5/100,0	—	471	40 / 400 <sup>3)</sup>	—	708,0

<sup>1)</sup> A vibration monitoring shall be provided (on site) according to DIN EN 14986. <sup>2)</sup> incl. full motor protection unit & sine filter <sup>3)</sup> During ventilation mode (higher air flow temperatures during continuous operation on request.) / smoke extraction (nonrecurring 120 minutes at 300 °C or 120 minutes at 400 °C). <sup>4)</sup> Anti vibration mounts based on weight see page 150



**F600 – The temperature category for increased requirements.**

**If particularly high requirements are made within the range of mechanical smoke extraction to projects like high fire loads, low ceiling heights or other unfavourable circumstances, then one option is to use fans with temperature class F600.**

The Helios program includes the two - F600 series B AVD F600 with sizes 500-1250 and B VAR F600 in sizes 500 - 1000 mm.

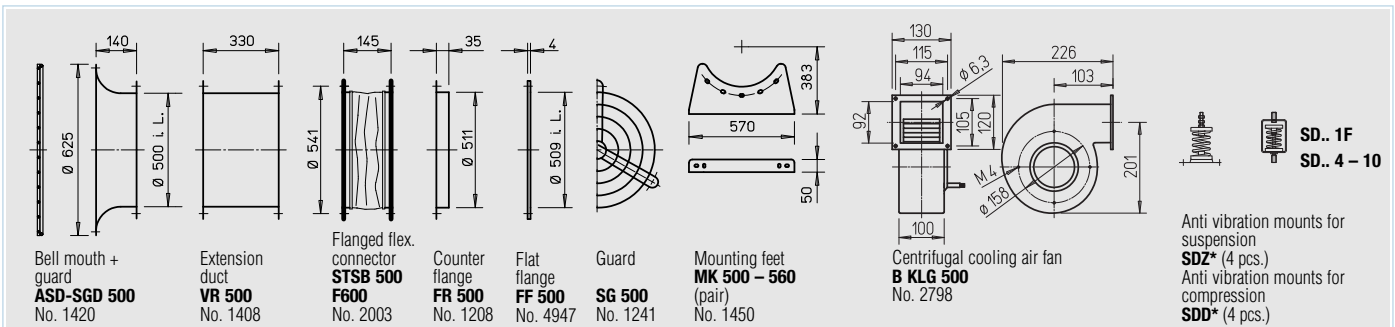
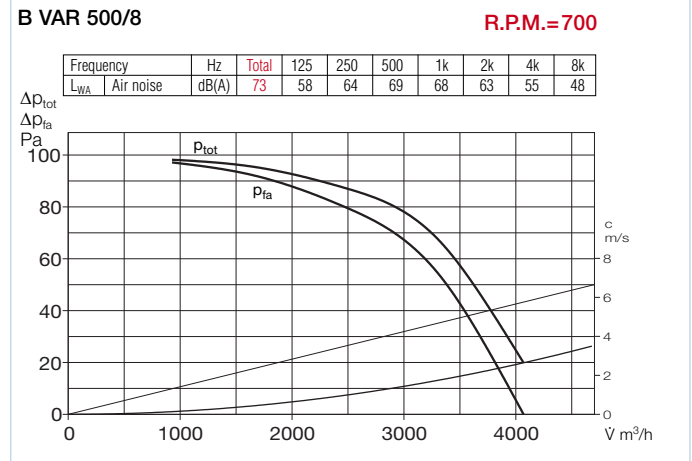
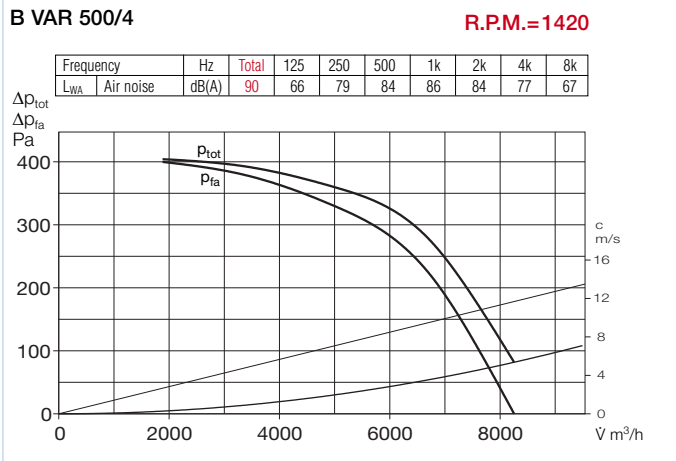
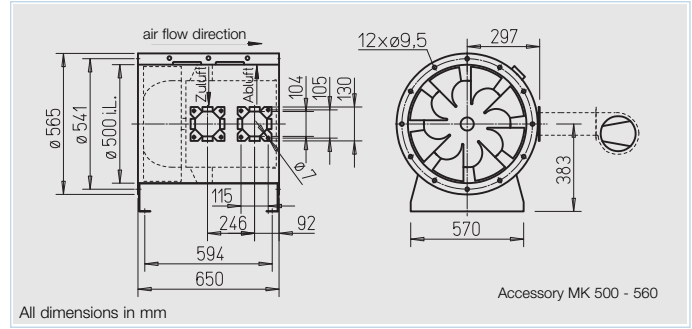
Due to the large variety of types in finest gradations almost any project requirement is ideally solved. The F600 fans are suitable for installation within and outside of the fire zone. It can be installed in any position and this guarantees a flexible and demand-specific project

planning. The required cooling air to the fan drive is carried out via separate centrifugal cooling air fan(B KLG 500 and B KLG 1000, accessories, page 147).

As a perfect addition to the F600 program from Helios is the smoke exhaust control (EVS) in special F600 execution available, which regulates additionally the centrifugal cooling air fan.







Accessories pages 146 on

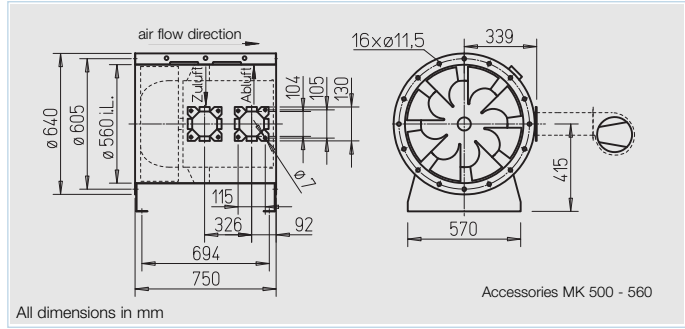
\* Type assignment see table, last column

- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible. **Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Terminal box (IP 55) are fitted as standard for installation outside of the fire zone.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Centrifugal cooling air fan**  
To ensure the motor cooling the centrifugal cooling air fan B KLG is a necessary accessories. Alternative forced ventilation fan on request. Minimum cooling air flow  $\dot{V} = 250 \text{ m}^3/\text{h}$ .
- Certification**  
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F600 : 0036 CPD RG 05 02  
With DIBt technical approval:  
F600 : Z-78.11-149

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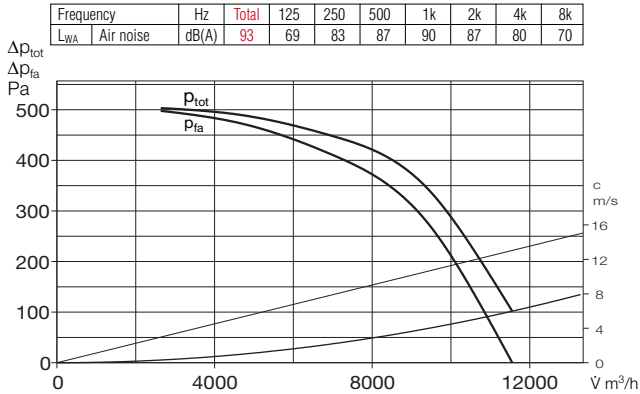
Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts			
										Type	Ref. No.	Compression		Suspension	
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
<b>F600 3 Phase motor, 50 Hz, protection to IP 55</b>															
<b>B VAR 500/4 F600</b>	2813	1440	8370	1,50	400	3,26	776	40 <sup>2)</sup> / 600	93	—	—	<b>SDD 4</b>	1944	<b>SDZ 4</b>	1945
<b>F600 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 55</b>															
<b>B VAR 500/8/4 F600</b>	2814	700/1430	4070/8310	0,55/2,2	400	2,0/4,84	471	40 <sup>2)</sup> / 600	96	<b>PDA 12<sup>3)</sup></b>	5081	<b>SDD 4</b>	1944	<b>SDZ 4</b>	1945

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes). <sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request. <sup>3)</sup> Flush mounted version product page switches



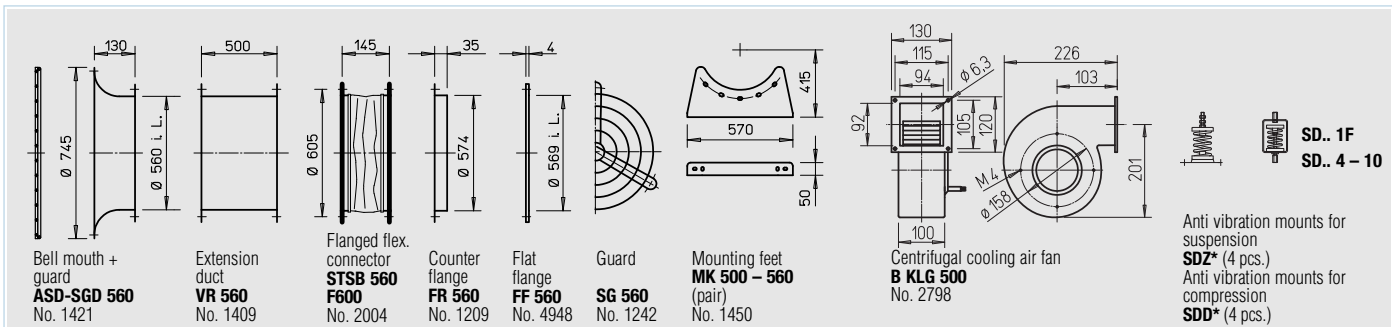
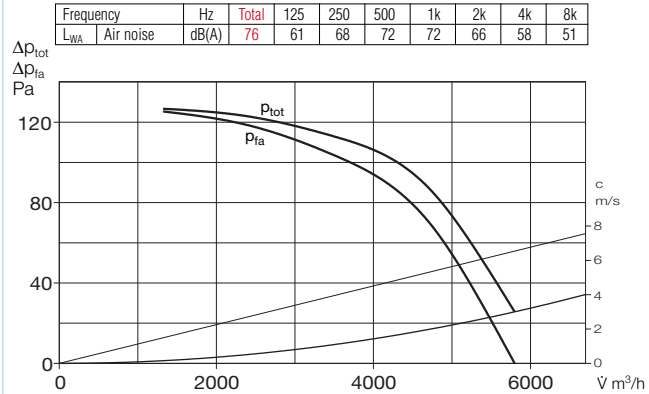
**B VAR 560/4**

**R.P.M.=1415**



**B VAR 560/8**

**R.P.M.=710**



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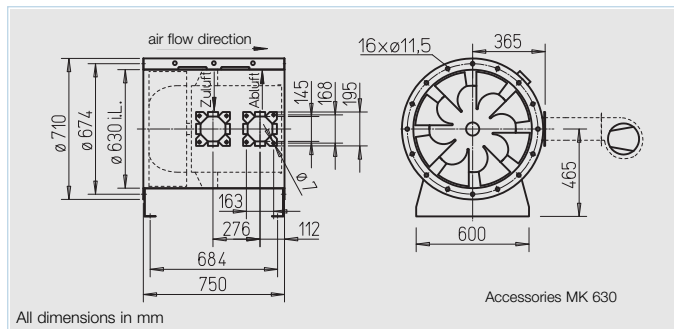
\* Type assignment see table, last column

- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible. **Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Terminal box (IP 55) are fitted as standard for installation outside of the fire zone.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Centrifugal cooling air fan**  
To ensure the motor cooling the centrifugal cooling air fan B KLG is a necessary accessories. Alternative forced ventilation fan on request. Minimum cooling air flow  $\dot{V} = 340 \text{ m}^3/\text{h}$ .
- Certification**  
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F600 : 0036 CPD RG 05 02  
With DIBt technical approval:  
F600 : Z-78.11-149

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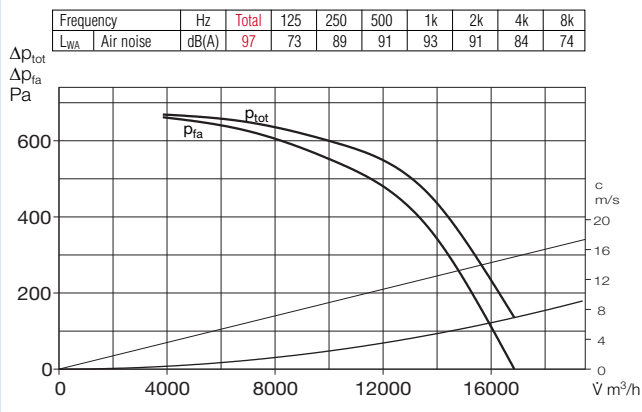
Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts			
										Type	Bestell-Nr.	Compression		Suspension	
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Bestell-Nr.	Type	Bestell-Nr.	Type	Bestell-Nr.
<b>F600</b> 3 Phase motor, 50 Hz, protection to IP 55															
<b>B VARD 560/4 F600</b>	2828	1420	11470	3,0	400	6,17	776	40 <sup>2)</sup> / 600	129	—	—	<b>SDD 4</b>	1944	<b>SDZ 4</b>	1945
<b>F600</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 55															
<b>B VARD 560/8/4 F600</b>	2829	710/1440	5800/11760	1,0/3,8	400	2,75/8,25	471	40 <sup>2)</sup> / 600	134	<b>PDA 12<sup>3)</sup></b>	5081	<b>SDD 5</b>	1924	<b>SDZ 5</b>	1925

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes). <sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request. <sup>3)</sup> Flush mounted version product page switches



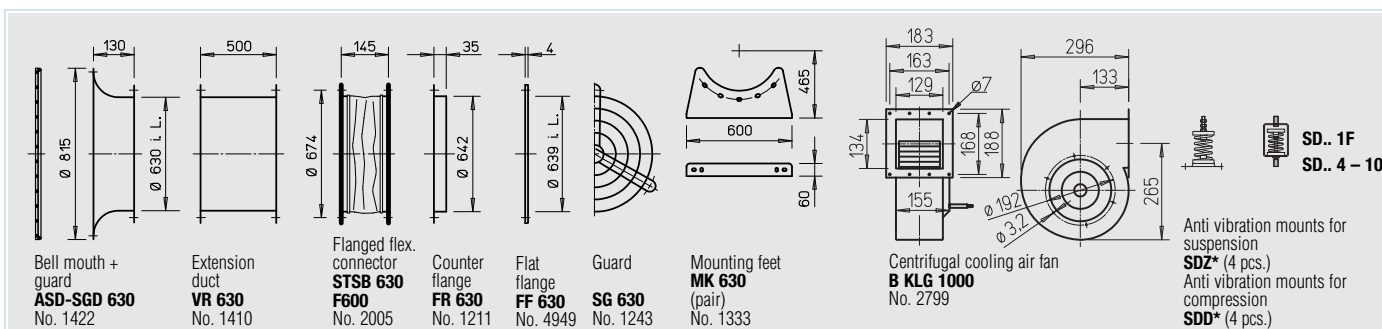
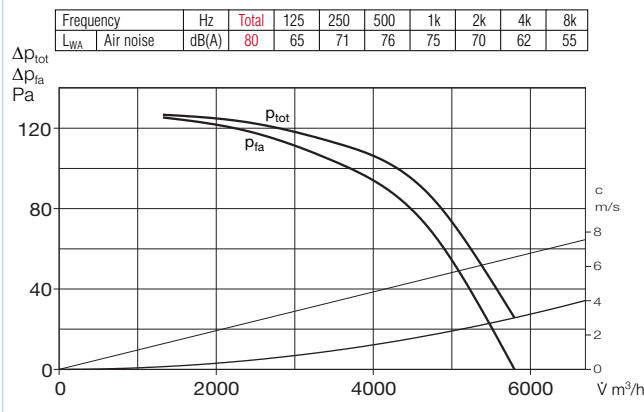
### B VAR 630/4

R.P.M.=1450



### B VAR 630/8

R.P.M.=720



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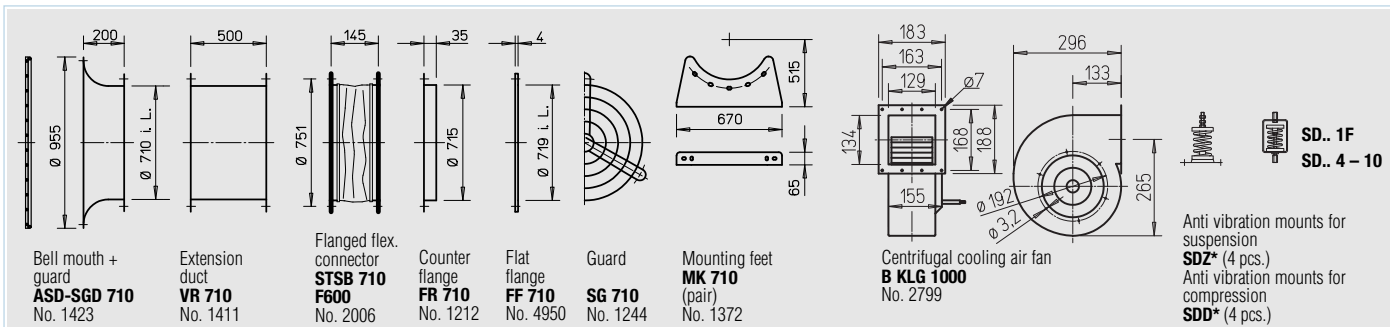
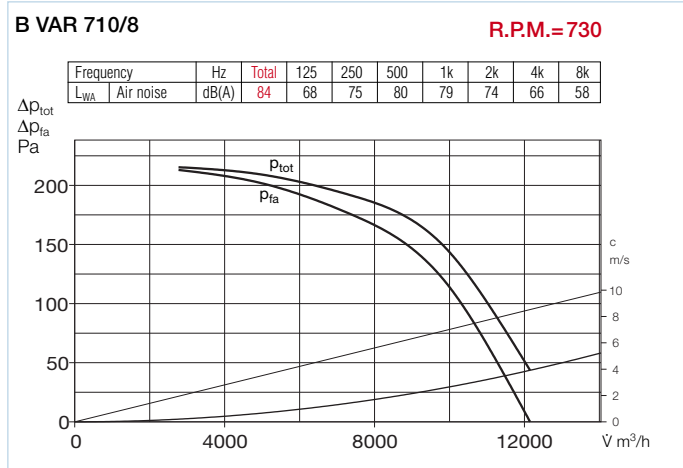
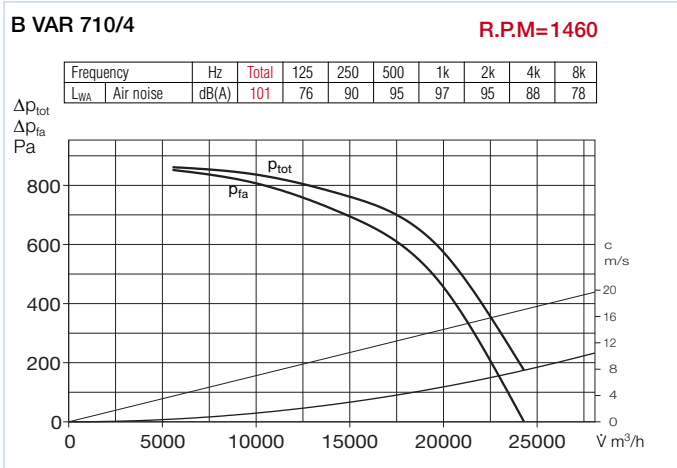
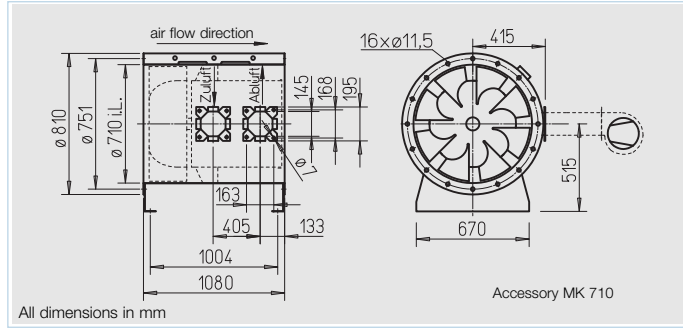
\* Type assignment see table, last column

- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible. **Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Terminal box (IP 55) are fitted as standard for installation outside of the fire zone.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Centrifugal cooling air fan**  
To ensure the motor cooling the centrifugal cooling air fan B KLG is a necessary accessories. Alternative forced ventilation fan on request. Minimum cooling air flow  $\dot{V} = 445 \text{ m}^3/\text{h}$ .
- Certification**  
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F600 : 0036 CPD RG 05 02  
With DIBt technical approval:  
F600 : Z-78.11-149

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Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts			
										Type	Ref. No.	Compression		Suspension	
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
<b>F600 3 Phase motor, 50 Hz, protection to IP 55</b>															
B VAR 630/4 F600	2843	1460	16980	5,5	400	10,5	776	40 <sup>2)</sup> / 600	179	—	—	SDD 5	1924	SDZ 5	1925
<b>F600 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 55</b>															
B VAR 630/8/4 F600	2844	700/1430	8080/16740	1,8/7,2	400	4,64/14,4	471	40 <sup>2)</sup> / 600	196	PDA 25	5060	SDD 5	1924	SDZ 5	1925

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes). <sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.



Accessories pages 146 on

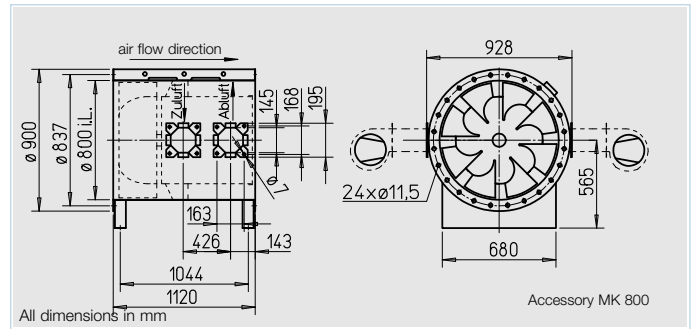
\* Type assignment see table, last column

- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor suport, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible. **Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Terminal box (IP 55) are fitted as standard for installation outside of the fire zone.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Centrifugal cooling air fan**  
To ensure the motor cooling the centrifugal cooling air fan B KLG is a necessary accessories. Alternative forced ventilation fan on request. Minimum cooling air flow  $\dot{V} = 565 \text{ m}^3/\text{h}$ .
- Certification**  
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F600 : 0036 CPD RG 05 02  
With DIBt technical approval:  
F600 : Z-78.11-149

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Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts				
										Type	Ref.No.	Compression		Suspension		
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref.No.	Type	Ref.No.	Type	Ref.No.	
<b>F600</b> 3 Phase motor, 50 Hz, protection to IP 55																
<b>B VARD 710/4 F600</b>	2853	1470	24460	11,0	400	21,2	776	40 <sup>2)</sup> / 600	283	—	—	<b>SDD 6</b>	1926	<b>SDZ 6</b>	1927	
<b>F600</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 55																
<b>B VARD 710/8/4 F600</b>	2854	725/1455	14250/24220	3,0/11,0	400	7,0/21,0	471	40 <sup>2)</sup> / 600	297	<b>PDA 25</b>	5060	<b>SDD 6</b>	1926	<b>SDZ 6</b>	1927	

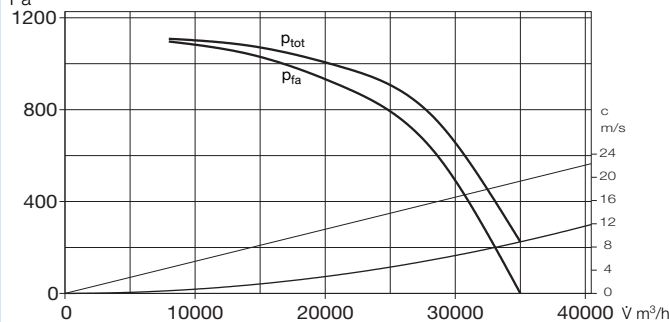
<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes). <sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.



### B VAR 800/4

R.P.M.=1470

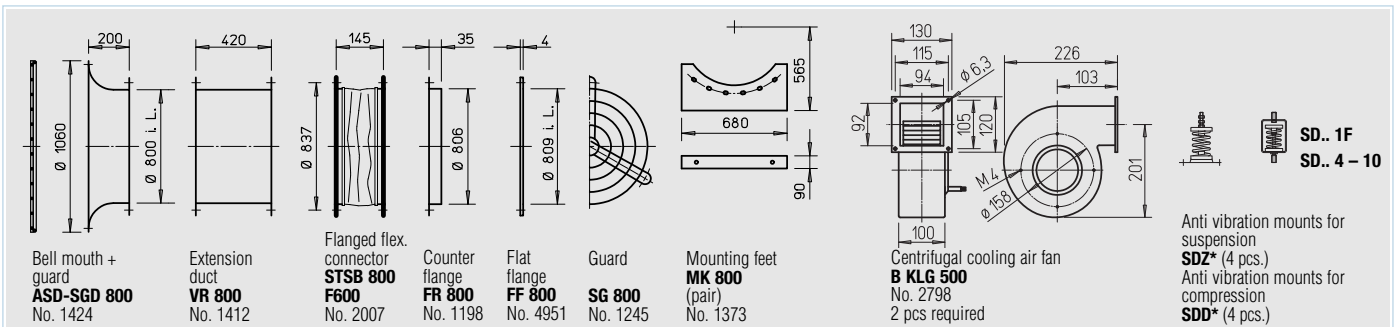
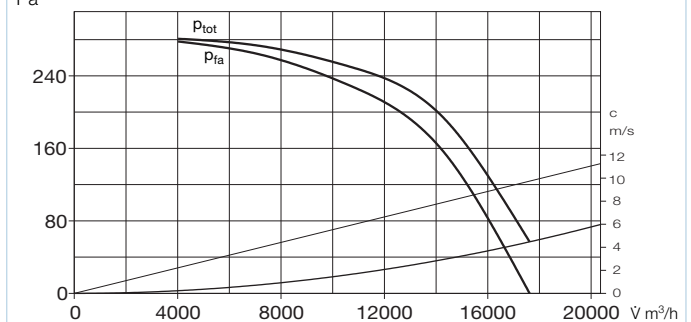
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
$\Delta P_{tot}$			105	80	94	98	101	98	92
$\Delta P_{fa}$									
L <sub>WA</sub>	Air noise	dB(A)							



### B VAR 800/8

R.P.M.=740

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
$\Delta P_{tot}$			87	72	79	83	83	77	69
$\Delta P_{fa}$									
L <sub>WA</sub>	Air noise	dB(A)							



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\* Type assignment see table, last column

#### □ Casing

Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.

#### □ Impeller

Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.

#### □ Motor

Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.

#### □ Motor protection

For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.

#### □ Installation

In any position possible. **Suitable for installation within and outside the fire zone.**

#### □ Electrical connection

Terminal box (IP 55) are fitted as standard for installation outside of the fire zone.

#### □ Protection / Guard

Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.

#### □ Centrifugal cooling air fan

To ensure the motor cooling the centrifugal cooling air fan B KLG is a necessary accessories. Alternative forced ventilation fan on request. Minimum cooling air flow  $\dot{V} = 1000 \text{ m}^3/\text{h}$ .

#### □ Certification

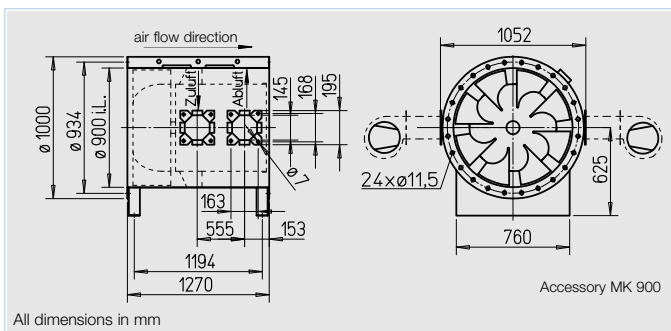
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3. CE-approval: F600 : 0036 CPD RG 05 02 With DIBt technical approval: F600 : Z-78.11-149

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Type	Ref.No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts				
										Type	Ref. No.	Compression		Suspension		
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.	
<b>F600</b> 3 Phase motor, 50 Hz, protection to IP 55																
<b>B VAR 800/4 F600</b>	2863	1465	34880	18,5	400	35,1	776	40 <sup>2)</sup> / 600	394	—	—	<b>SDD 7</b>	1928	<b>SDZ 7</b>	1929	
<b>F600</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 55																
<b>B VAR 800/8/4 F600</b>	2864	730/1470	17380/34760	5,0/20,0	400	14,1/38,6	471	40 <sup>2)</sup> / 600	407	<b>PDA 63</b>	1283	<b>SDD 7</b>	1928	<b>SDZ 7</b>	1929	

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes). <sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.

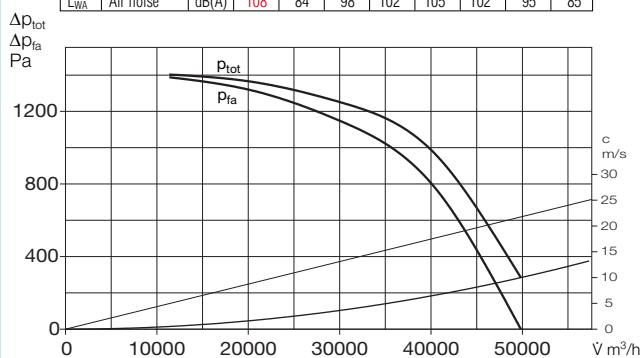




**B VAR 900/4**

**R.P.M.=1470**

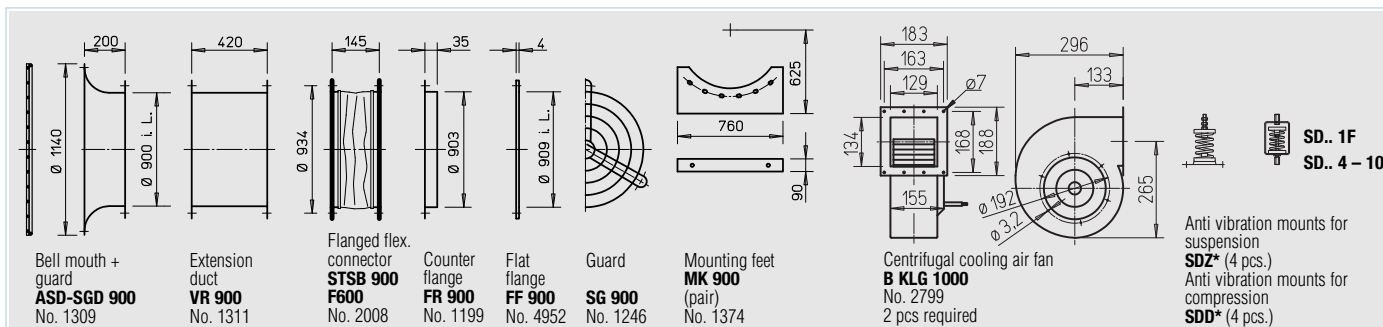
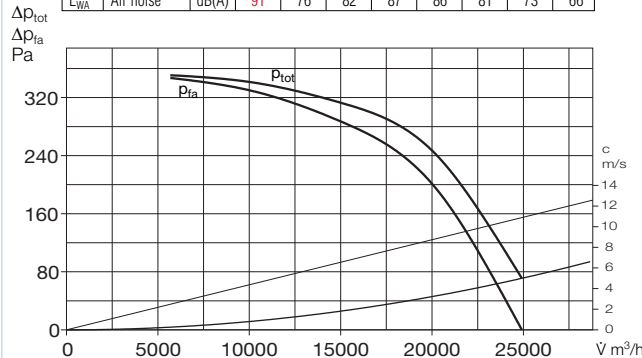
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Air noise	dB(A)	108	84	98	102	105	95	85



**B VAR 900/8**

**R.P.M.=735**

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L <sub>WA</sub>	Air noise	dB(A)	91	76	82	87	86	81	73



Accessories pages 146 on

- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor suport, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.

- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible. **Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Terminal box (IP 55) are fitted as standard for installation outside of the fire zone.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Centrifugal cooling air fan**  
To ensure the motor cooling the centrifugal cooling air fan B KLG is a necessary accessories. Alternative forced ventilation fan on request. Minimum cooling air flow  $\dot{V} = 850 \text{ m}^3/\text{h}$ .

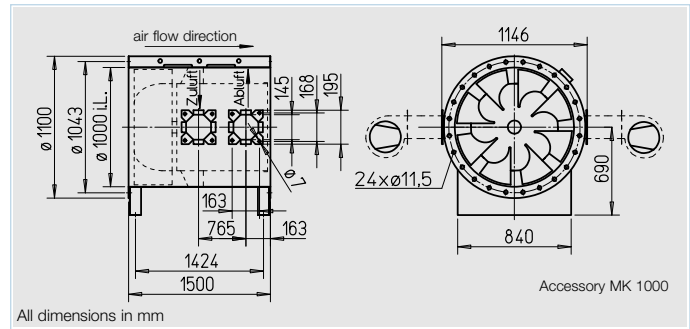
\* Type assignment see table, last column

- Certification**  
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F600 : 0036 CPD RG 05 02  
With DIBt technical approval:  
F600 : Z-78.11-149

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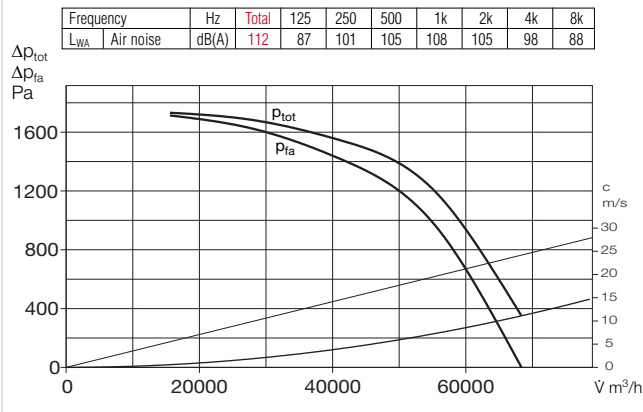
Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts				
										Type	Ref.No.	Compression		Suspension		
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	No.	+°C	ca. kg	Type	Ref.No.	Type	Ref.No.	Type	Ref.No.	
<b>F600</b> 3 Phase motor, 50 Hz, protection to IP 55																
<b>B VARD 900/4 F600</b>	2873	1475	50000	37,0	400	66,6	776	40 <sup>2)</sup> / 600	630	—	—	<b>SDD 8</b>	1930	<b>SDZ 8</b>	1930	
<b>F600</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 55																
<b>B VARD 900/8/4 F600</b>	2874	740/1485	25080/50340	9,2/37,0	400	25,4/74,2	471	40 <sup>2)</sup> / 600	648	<b>PDA 63</b>	1283	<b>SDD 8</b>	1930	<b>SDZ 8</b>	1930	

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes). <sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.



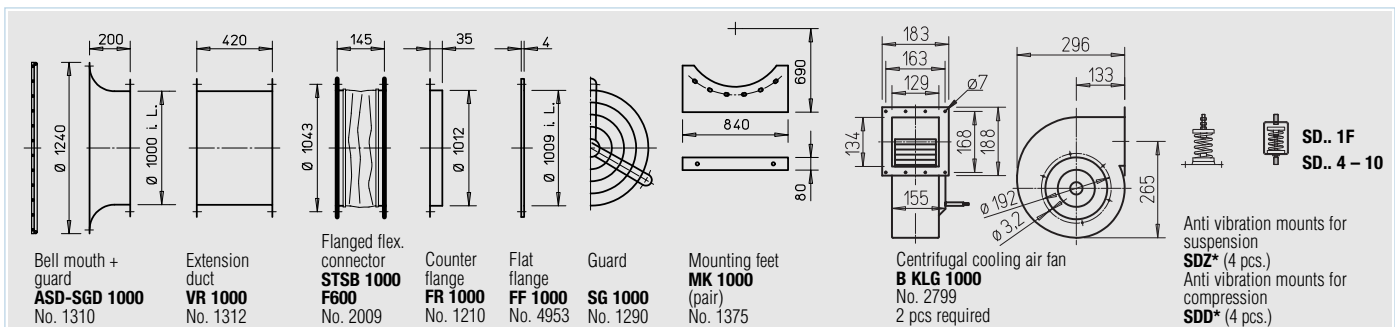
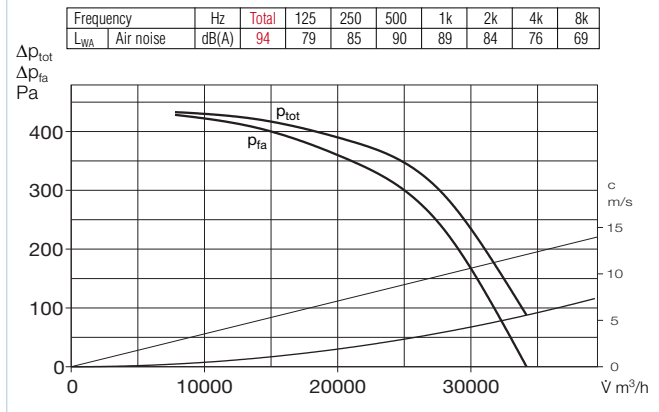
### B VAR 1000/4

R.P.M.=1470



### B VAR 1000/8

R.P.M.=735



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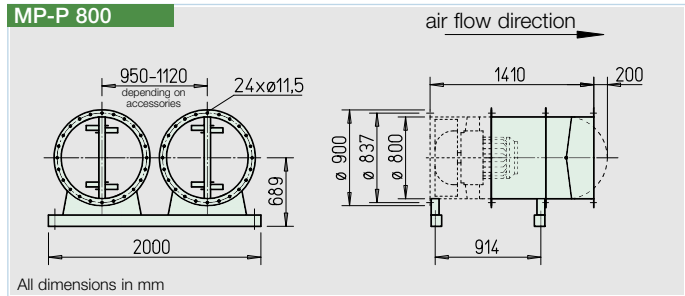
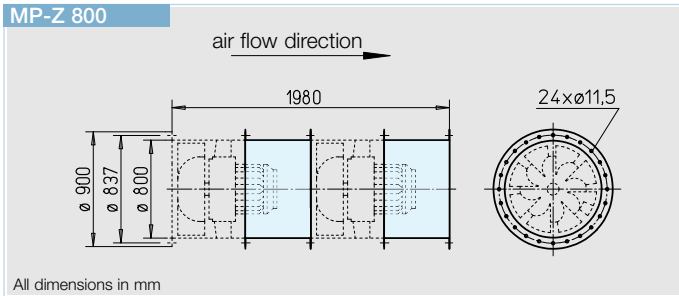
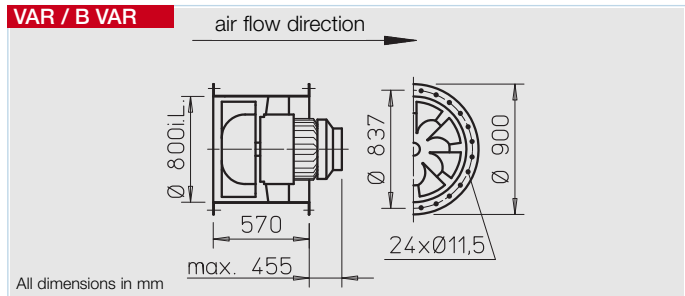
\* Type assignment see table, last column

- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor. Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible. **Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Terminal box (IP 55) are fitted as standard for installation outside of the fire zone.
- Protection / Guard**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.
- Centrifugal cooling air fan**  
To ensure the motor cooling the centrifugal cooling air fan B KLG is a necessary accessories. Alternative forced ventilation fan on request. Minimum cooling air flow  $\dot{V} = 1000 \text{ m}^3/\text{h}$ .
- Certification**  
The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F600 : 0036 CPD RG 05 02  
With DIBt technical approval:  
F600 : Z-78.11-149

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Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Wiring diagram	Max. air flow temp. <sup>1)</sup>	Nominal weight (net)	Pole switch surface mounted		Anti vibration mounts			
										Type	Ref. No.	Compression		Suspension	
		min <sup>-1</sup>	$\text{m}^3/\text{h}$	kW	V	A	No.	+°C	ca. kg	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
<b>F600 3 Phase motor, 50 Hz, protection to IP 55</b>															
B VARD 1000/4 F600	2883	1480	68820	55,0	400	95,2	776	40 <sup>2)</sup> / 600	865	—	—	SDD 8	1930	SDZ 8	1930
<b>F600 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 55</b>															
B VARD 1000/8/4 F600	2884	735/1480	34180/68820	14,7/55,0	400	36,5/100,0	471	40 <sup>2)</sup> / 600	838	PDA 115	1352	SDD 8	1930	SDZ 8	1930

<sup>1)</sup> During ventilation / smoke extraction (nonrecurring 120 minutes). <sup>2)</sup> Higher air flow temperatures during continuous operation (ventilation mode) on request.



- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor.
- Series VAR**  
Totally enclosed, protected to IP 54. Optional drainage holes made to order (please state installation position).
- Series B VAR**  
Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**

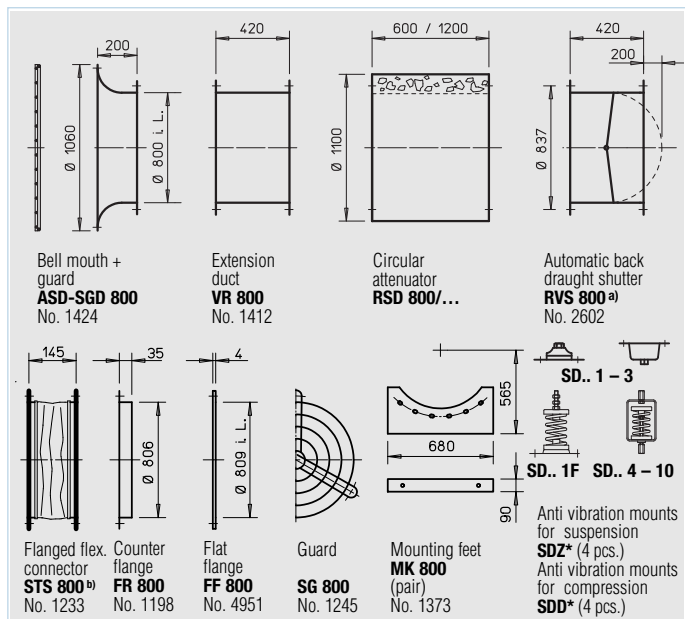
  - Baureihe VAR**  
All types (except explosion proof and pole-switching) have PTC resistors which must be connected to a motor protection unit (see type table). Models without PTC resistors must be protected by a conventional circuit breaker.
- Series B VAR**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible.
- Series VAR**  
Ensure that motor drainage holes (where used) face downwards.
- Series B VAR**  
**Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Standard terminal box (protection to IP 55) from polymer (series VAR) or in temperature-resistant execution (series B VAR) mounted on the outside of the casing.
- Protection / Guard for B VAR**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.

- Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 60 kg

**MP-Z 800** Ref. No. 4911

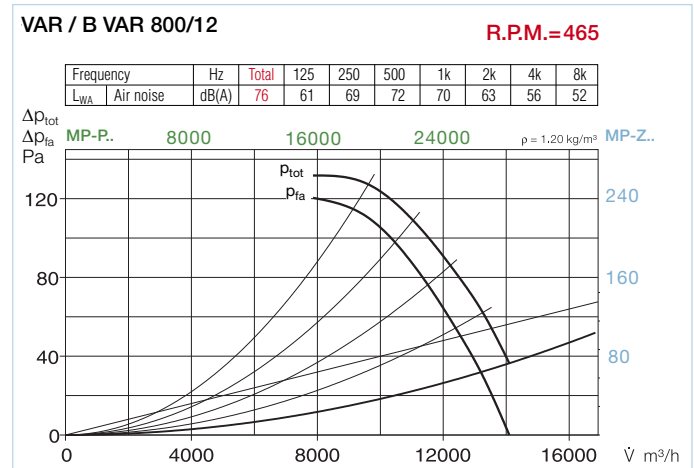
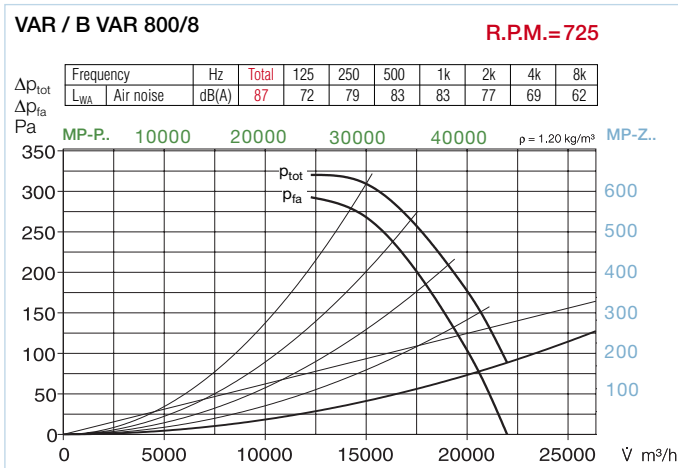
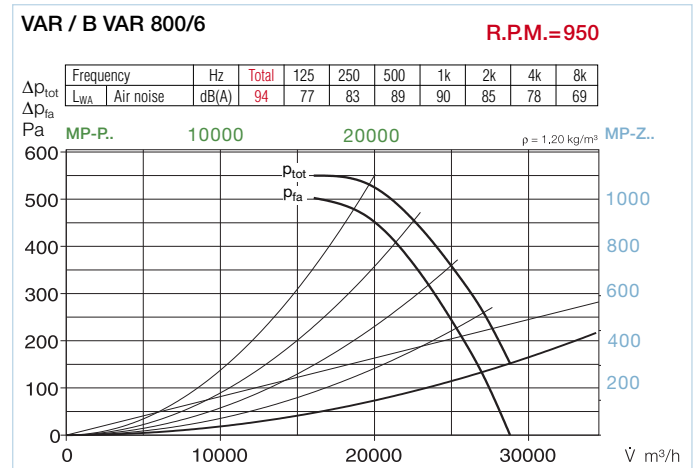
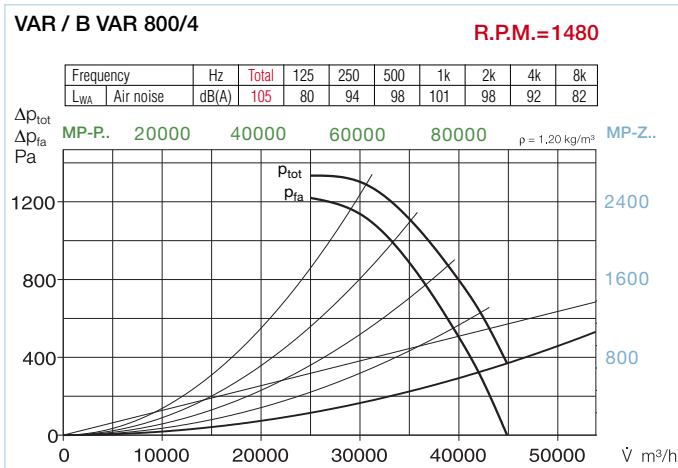
- Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 205 kg

**MP-P 800** Ref. No. 4895



<sup>a)</sup> Motorised shutters, for ventilation mode, see accessory pages

<sup>b)</sup> Type for B VAR: STSB 800 F400, No. 1919



**Certification**

The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
F400 : 0036 CPD RG 05 05  
With DIBt technical approval:  
F300 : Z-78.11-147  
F400 : Z-78.11.148

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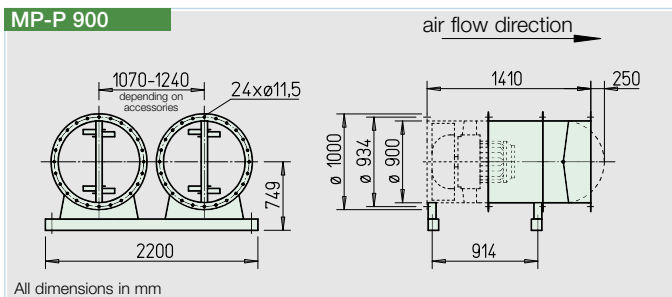
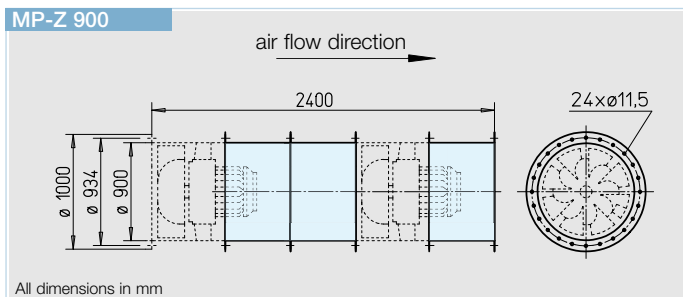
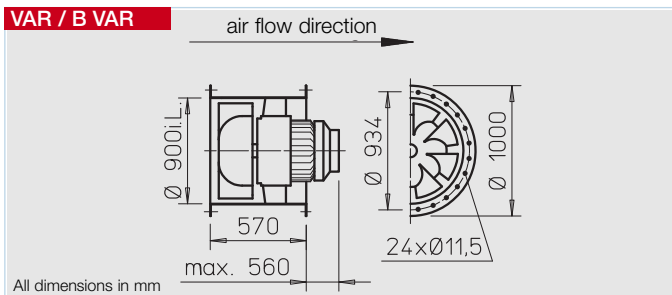
**Sound levels**

Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

Type	Ref. No.	R.P.M.	Air flow volume (FID) <sup>d</sup>	Motor power (nominal)	Voltage	full load	Current	speed controlled	Wiring diagram	Maximum air flow temp. standard supply	air flow temp. speed controlled	Nominal weight (net) <sup>4)</sup>	Frequency inverter Pole switch	Full motor protection unit using motor PTC-resistors
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	A		No.	+°C	+°C	ca. kg	Type Ref. No.	Type Ref. No.
<b>40°</b> 3 Phase motor, 50 Hz, protection to IP 54														
<b>VAR 800/4</b>	6729	1460	44720	18,50	400	34,4/20	—	776	776	60	—	310,0	<b>FU-CS 40<sup>2)</sup></b> 5472	<b>MSA</b> 1289
<b>40°</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54													Pole switch	
<b>VAR 800/8/4</b>	6796	735/1470	22280/44570	5,50/20,00	400	12,0/40,0	—	471	471	60	—	325,0	<b>PDA 63</b> 1283	—
<b>40°</b> Explosion proof, E Exe II, 3 Phase motor, 50 Hz, temperature class T 3, protection to IP 54														
<b>VAR 800/8 Ex<sup>1)</sup></b>	6730	710	21530	2,60	400	6,6/3,8	—	470	470	40	—	240,0	not permitted	not permitted
<b>VAR 800/6 Ex<sup>1)</sup></b>	6731	970	29410	6,60	400	15,0/8,7	—	498	498	40	—	280,0	not permitted	not permitted
<b>VAR 800/4 Ex<sup>1)</sup></b>	6732	1475	44720	17,50	400	33,5/19,4	—	498	498	40	—	370,0	not permitted	not permitted
<b>F300</b> 3 Phase motor, 50 Hz, protection to IP 54														
<b>B VAR 800/4 F300</b>	2360	1465	44570	18,5	400	35,1	—	776	776	40 / 300 <sup>3)</sup>	—	230,0	—	—
<b>F300</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54													Pole switch	
<b>B VAR 800/8/4 F300</b>	2361	740/1470	22430/44570	5,0/20,0	400	14,1/38,6	—	471	471	40 / 300 <sup>3)</sup>	—	230,0	<b>PDA 63</b> 1283	—
<b>F400</b> 3 Phase motor, 50 Hz, protection to IP 54														
<b>B VAR 800/4 F400</b>	2444	1465	44570	18,5	400	35,1	—	776	776	40 / 400 <sup>3)</sup>	—	230,0	—	—
<b>F400</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54													Pole switch	
<b>B VAR 800/8/4 F400</b>	2445	740/1470	22430/44570	5,0/20,0	400	14,1/38,6	—	471	471	40 / 400 <sup>3)</sup>	—	230,0	<b>PDA 63</b> 1283	—

<sup>1)</sup> A vibration monitoring shall be provided (on site) according to DIN EN 14986. <sup>2)</sup> incl. full motor protection unit & sine filter <sup>3)</sup> During ventilation mode (higher air flow temperatures during continuous operation on request.) / smoke extraction (nonrecurring 120 minutes at 300 °C or 120 minutes at 400 °C). <sup>4)</sup> Anti vibration mounts based on weight see page 150



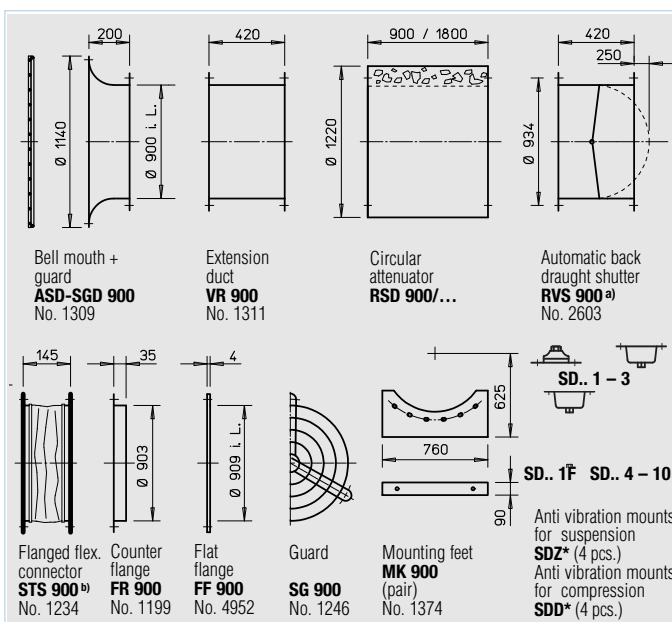


- Casing**  
Manufactured with flanges on both sides to DIN 24155, Pt. 3. Welded construction, hot dip-galvanised. With welded guide vanes and motor support, hot dip-galvanised.
- Impeller**  
Specially developed mixed-flow curved impeller, dynamically balanced, manufactured from hot dip-galvanised steel.
- Motor**  
Direct driven by IEC-three phase a.c. motor.
- Series VAR**  
Totally enclosed, protected to IP 54. Optional drainage holes made to order (please state installation position).
- Series B VAR**  
Protection to IP 55. Insulation class H. External cable with sheathing.
- Motor protection**

  - Baureihe VAR**  
All types (except explosion proof and pole-switching) have PTC resistors which must be connected to a motor protection unit (see type table). Models without PTC resistors must be protected by a conventional circuit breaker.
- Series B VAR**  
For effective motor protection the motors are to be protected by means of motor protection switch on site. In case of smoke extraction this must be bridged.
- Installation**  
In any position possible.
- Series VAR**  
Ensure that motor drainage holes (where used) face downwards.
- Series B VAR**  
**Suitable for installation within and outside the fire zone.**
- Electrical connection**  
Standard terminal box (protection to IP 55) from polymer (series VAR) or in temperature-resistant execution (series B VAR) mounted on the outside of the casing.
- Protection / Guard for B VAR**  
Guard for impeller according to EN ISO 13857 is to be guaranteed by the installation.

- Mounting package MP-Z for two-stage Z-unit**  
**To arrange two identical fans in a row, for highest pressure rates.**  
Scope of delivery: Extension ducts (2 pcs) and assembly kit.  
Weight: 68 kg  
**MP-Z 900** Ref.No. 4912  
Additional extension duct required.  
**VR 900** Ref.No. 1311

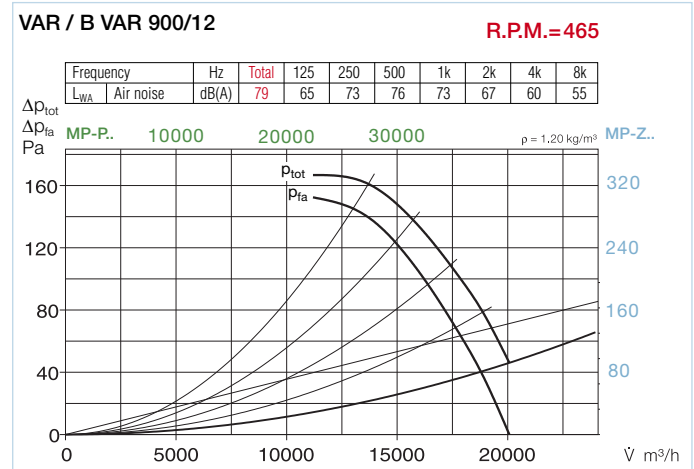
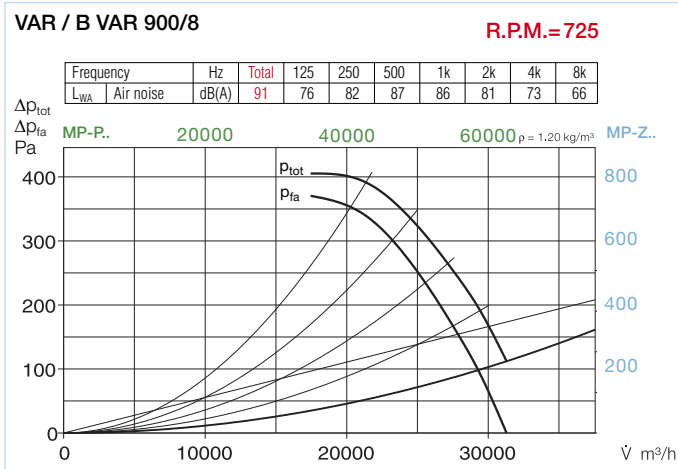
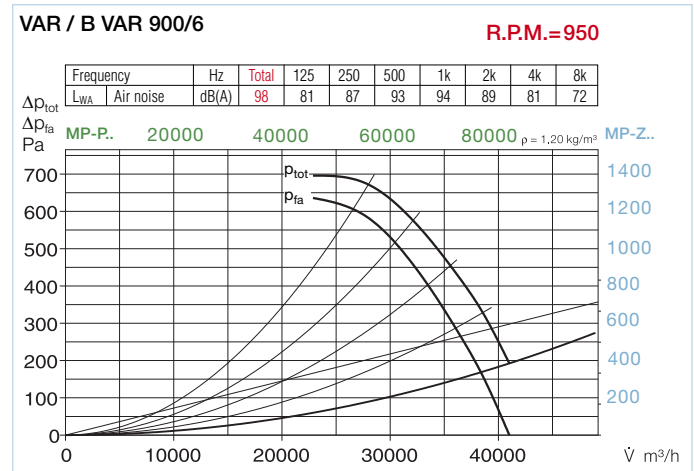
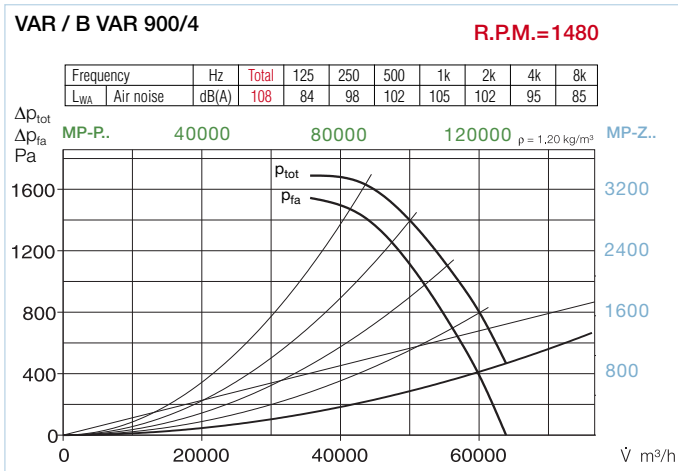
- Mounting package MP-P for parallel P-unit**  
**To arrange two identical fans side by side, for highest air flow rates.**  
Scope of delivery: Extension ducts, back draught shutters, mounting bars (2 pcs), mounting feet (4 pcs) and assembly kits.  
Weight: 235 kg  
**MP-P 900** Ref.No. 4896



<sup>a)</sup> Motorised shutters, for ventilation mode, see accessory pages

<sup>b)</sup> Type for B VAR: STSB 900 F400, No. 1920 up to 2000 Pa





**Certification**

The smoke and heat exhaust fans B VAR were tested to DIN EN 12101-3.  
CE-approval:  
F300 : 0036 CPD RG 05 01  
F400 : 0036 CPD RG 05 05  
With DIBt technical approval:  
F300 : Z-78.11-147  
F400 : Z-78.11.148

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**Sound levels**

Data shown within the performance curves refer to sound power levels. For determination of the lower sound pressure levels refer to acoustic information on page 5.

Type	Ref. No.	R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current full load	Current speed controlled	Wiring diagram	Maximum air flow temp. standard supply	Nominal weight (net) <sup>4)</sup>
		min <sup>-1</sup>	V m <sup>3</sup> /h	kW	V	A	A	No.	+°C	ca. kg
<b>40°</b> 3 Phase motor, 50 Hz, protection to IP 54										
<b>VAR 900/4</b>	6743	1480	63890	37,00	400	73,0/42,2	—	498	60	500,0
<b>40°</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54										
<b>VAR 900/8/4</b>	6800	730/1450	31510/62600	9,50/40,00	400	35,0/80,0	—	471	60	540,0
<b>40°</b> Explosion proof, E Exe II, 3 Phase motor, 50 Hz, temperature class T 3, protection to IP 54										
<b>VAR 900/8 Ex<sup>1)</sup></b>	6744	725	31300	4,80	400	11,8/6,8	—	498	40	325,0
<b>VAR 900/6 Ex<sup>1)</sup></b>	6745	980	42310	13,20	400	28,0/16,2	—	498	40	390,0
<b>VAR 900/4 Ex<sup>1)</sup></b>	6746	1475	63670	36,00	400	67,0/38,7	—	498	40	545,0
<b>F300</b> 3 Phase motor, 50 Hz, protection to IP 54										
<b>B VAR 900/4 F300</b>	2370	1470	63460	37,0	400	66,6	—	776	40 / 300 <sup>3)</sup>	533,0
<b>F300</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54										
<b>B VAR 900/8/4 F300</b>	2371	740/1485	31730/63460	9,2/37,0	400	25,4/74,2	—	471	40 / 300 <sup>3)</sup>	551,0
<b>F400</b> 3 Phase motor, 50 Hz, protection to IP 54										
<b>B VAR 900/4 F400</b>	2456	1470	63460	37,0	400	66,6	—	776	40 / 400 <sup>3)</sup>	533,0
<b>F400</b> 2 speed motor, pole-switching (Dahlander winding Y/YY), 400 V / 3 ph./ 50 Hz, protection to IP 54										
<b>B VAR 900/8/4 F400</b>	2457	740/1485	31730/63460	9,2/37,0	400	25,4/74,2	—	471	40 / 400 <sup>3)</sup>	551,0

<sup>1)</sup> A vibration monitoring shall be provided (on site) according to DIN EN 14986. <sup>2)</sup> incl. full motor protection unit & sine filter <sup>3)</sup> During ventilation mode (higher air flow temperatures during continuous operation on request.) / smoke extraction (nonrecurring 120 minutes at 300 °C or 120 minutes at 400 °C). <sup>4)</sup> Anti vibration mounts based on weight see page 150