

The ideal solution for commercial and industrial applications: **RADAX® VAR.**



High pressure round duct fans RADAX® VAR are suitable for various commercial and industrial applications. **Almost 150 types in 14 sizes** impress with small and large volume flows and high resistances.

Helios offers the right system for practically any building in combination with perfectly tuned accessory components.





■ Compact

RADAX® VAR impellers offer high pressure and high flow rates, despite their extremely compact casing.

The winning VAR formula lies in the combination of centrifugal fan performance characteristics with an axial flow pattern. The linear air flow improves efficiency and provides a clear reduction in space requirement as well as pipe system savings.

■ High pressure

The synergy of performance and axial flow pattern results in enormous benefits:

- Maximum performance with minimal energy costs.
- Low noise levels.
- High pressure and volume rates with very small dimensions.
- Universal applications.
- Planning freedom.
- No need for on-site deflectors and fittings with associated resistances.
- Low installation costs.

■ Universal

In addition to single-stage types, the RADAX® VAR range offers:

- Other Ø up to 1000 mm.
- B VAR types for smoke extraction according to DIN 12101-3 F300 (60 min.) and F400, F600 (120 min.).
- Parallel units with high volumes and high pressures specifically for the ventilation of garages (VDI 2053).
- Two-stage TwinVent® with the highest pressure rates.

**Request TGA catalogue
Ref. no. 86 979**

This information supplements the "General technical information".

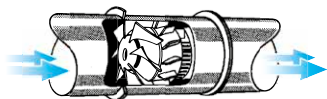
■ Features

RADAX® VAR is a series of high pressure round duct fans which ideally combine the advantageous properties of axial and centrifugal fans.

The semiaxial impeller is matched to the fixed guide wheel so that high performance is achieved in pressure and volume flow with a good level of efficiency.

■ Flow pattern

The axial flow pattern enables a low-loss linear air flow and thus improves the efficiency of the fan. There is no need for the on-site fittings and deflectors required for centrifugal fans and their resistances. This saves installation costs and energy.



■ Casing

Tubular casing with double-sided flanges in accordance with DIN 24155, p.3 with integrated guide wheel and motor mount made of galvanised steel. Types with $n = 2800 \text{ min}^{-1}$ in nominal sizes 400, 450, 500 and all types in nominal size 630, welded casing, hot-dip galvanised. Terminal box (IP55) on outside of duct.

■ Impeller

Semiaxial impeller with 8 spatially curved blades. Made of plastic up to nominal size 355; made of hot-dip galvanised steel for types with $n = 2800 \text{ min}^{-1}$ in nominal size 355 as well as all types in nominal size 400 to 630. Aluminium (extra charge) available upon request. High level of efficiency, low operating noise, high corrosion resistance, low-vibration operation through dynamic balancing in accordance with DIN ISO 21940-11 – quality grade 6.3.

■ Air flow temperatures

The standard version can be used in the range from -30°C up to at least $+40^\circ\text{C}$. See information on product page. Approval for higher continuous temperatures is possible upon request.

■ Explosion protection

The explosion-proof types correspond to unit group II, category 2G for operation in zone 1 and 2. Larger air gaps which result in a performance reduction of approx. 10% are stipulated in accordance with Directive 2014/34/EU (ATEX).

■ Air flow direction

The air flow direction cannot be changed, but it can be set by the installation method. The correct motor rotation direction and air flow direction is marked by arrows on the fan.

■ Installation position, installation, condensate outlets

A duct section with length $= 2 \times$ pipe diameter for free discharge and a corresponding straight duct section for intermediate positioning in a pipeline are required (Figure 1) to achieve the specified performance values.

- RADAX® VAR can be installed and operated in any position.
- In case of equipment with condensate drain holes, please be aware of their position.
- In case of outdoor installation, installation in permanently humid or wet environments or in case of installation with a vertical shaft, this must be indicated when placing the order.
- The installation site and mounting should be such that the fan can be mounted securely and without warping.

■ Positioning

The use of vibration dampers is recommended (accessories SDD, SDZ) to prevent vibration transmission). Larger motors may protrude from the back and cause uneven distribution due to their high weight. An extension duct VR (accessories) should be provided to adjust the centre of gravity!

■ Installation examples

□ Horizontal

- **Figure 2**
Free intake, outlet-side operation. Mounting to ceiling, wall or floor.

- **Figure 3**
Free intake, outlet-side operation with silencer provided with intermediate flanges. Duct silencers can be provided with intermediate flanges to reduce the inlet-side or outlet-side sound power.

– **Figure 4** Ceiling suspension

Figure 4 shows a typical installation in a ventilation application. The installation of VAR systems is possible through direct ceiling or wall suspension without any

Figure 1

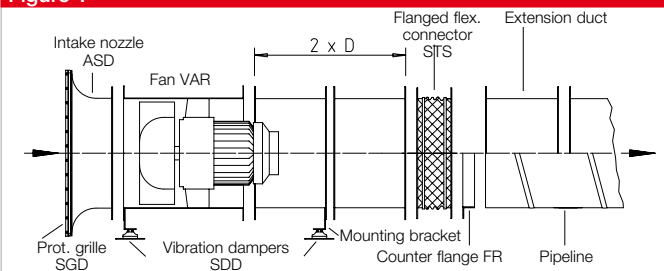


Figure 2

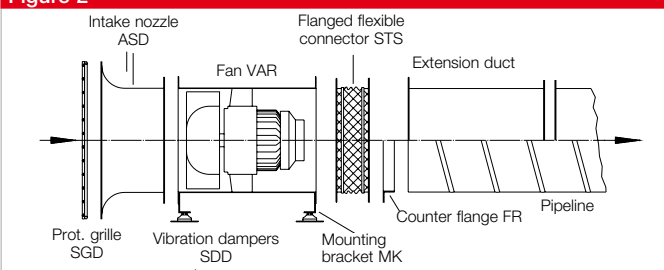


Figure 3

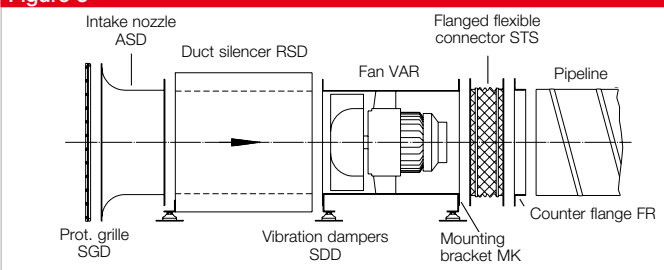
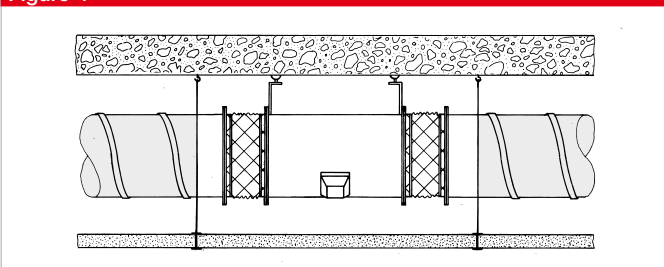


Figure 4

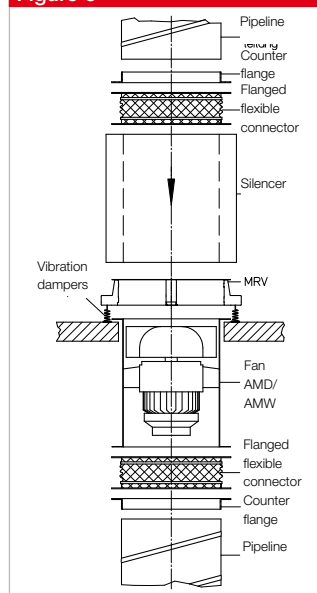


additional expenditure. The tubular casing with double-sided flanges (according to DIN 24155 p. 3) is designed for direct installation in the pipeline.

□ Vertical

- **Figure 5**
Integrated in the pipeline with inlet-side silencer. Wall mounted with brackets or through the ceiling. The elements must be suspended separately according to weight. Do not mount the fan with combined loads for inspection. Mounting rings MRV are available for the vertical attachment of the fan for size 315 and above. The fan weight including the attached accessories must not exceed the load-bearing capacity of the MRV.

Figure 5



■ Reference	Page
Planning information, acoustics, expl. protection	14 ff.
General techn. information, power control	19 ff.

By combining the parameters of static pressure increase Δp_{fa} , flow rate V , speed min^{-1} , sound pressure level dB(A) and impeller diameter DN mm, the following table facilitates the selection of

RADAX®-VAR high pressure fans.
 Sizes from $\varnothing 710$ mm as well as two-stage and parallel VAR systems are available in the TGA catalogue, Ref. no. 86 979.

Diameter	Speed	Sound pressure inlet side	Flow rate V m^3/h depending on static pressure = N / m^2 = freely available pressure												
mm	min^{-1}	L_{pA} dB(A)	(Δp_{fa}) in Pa												
		at 4 m distance	0	50	100	150	200	300	400	500	600	700	800	900	1000
225	2800	61	1770	1700	1600	1510	1400								
225	1450	46	900	730											
250	2800	64	2540	2450	2350	2250	2150	1910							
250	1450	49	1250	1050											
280	2800	68	3320	3220	3110	3010	2900	2670	2360						
280	1450	52	1630	1400	1000										
315	2800	71	4670	4550	4430	4310	4200	3930	3650	3280					
315	1450	56	2510	2300	2060	1730									
355	2800	75	7220	7080	6980	6850	6700	6450	6150	5850	5500	5050			
355	1450	60	3540	3300	3050	2750	2200								
400	2800	78	10150	10000	9850	9700	9600	9300	9000	8700	8350	7950	7500	7100	6400
400	1450	63	5260	4950	4650	4310	3930								
400	930	52	3500	3060	2290										
450	2800	83	14200	14100	13900	13750	13600	13300	12900	12500	12200	11800	11400	10800	10350
450	1450	67	7280	6950	6650	6300	5900	4800							
450	930	56	4990	4520	3870										

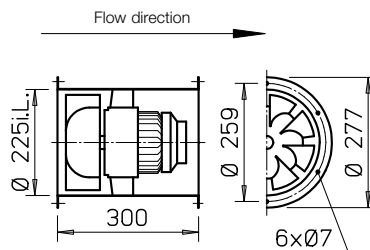
Diameter	Speed	Sound pressure inlet side	Flow rate V m^3/h depending on static pressure = N / m^2 = freely available pressure												
mm	min^{-1}	L_{pA} dB(A)	(Δp_{fa}) in Pa												
		at 4 m distance	0	50	100	150	200	300	400	500	600	700	800	900	1000
500	2800	86	22310	21800	21400	20800	20300	19750	19200	18600	17900	16000	13500		
500	1450	70	9700	8640	7300										
500	930	59	6860	5150											
560	1450	73	13550	12500	11300	9850									
560	930	63	9850	8110											
560	725	56	7510												
630	1450	77	21460	20410	19110	17610	15760								
630	930	67	14040	12190	8740										
630	725	60	10690	7810											
Please request separate catalogue for the following performance variables.															
710	1480	81	31350	30210	28920	27370	25680	23710	20790						
710	950	70	20110	18120	15390										
710	725	64	15330	12380											
800	1480	85	44870	43580	42210	40610	38810	36910	34780	32130	26670				
800	950	74	28770	26640	23850	19970									
800	725	67	21940	18810											
900	1480	88	63890	62450	60940	59300	57440	55410	53310	50990	48420	39610			
900	950	78	40990	38650	35710	32250	26830								
900	725	71	31260	27910	23160										
1000	1480	92	87640	86050	84410	82590	80770	78650	76400	74110	71650	66090	57450		
1000	950	81	56220	53690	50670	47080	42960	36050							
1000	725	74	42880	39330	34590	25090									

VAR 225



Also available in version:

Dimensions VAR 225



Dim. in mm

Casing

Duct with double-sided flange DIN 24155 p. 3. Made of galvanized steel sheet, fixed guide wheel with inner hub for mounting the flange motor.

Impeller

Optimised for high pressure and volume performance. Special development with spatially curved blades made of high-quality plastic.

Drive

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

Power control

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

Electrical connection

Standard terminal box (protection category IP55) on outside of duct.

Installation

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

Motor protection

All types (except for 3~ explosion-proof) are equipped with thermal contacts. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. For 1~ explosion-proof types, the thermal contacts are wired in series with the winding, automatic deactivation and re-activation after cool down. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

Noise levels

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

Reference

Page

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Special design

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Speed controller 5-step Pole chang. switch		Motor protection circuit breaker for connecting built-in thermal contacts	Vibration dampers		
						at rated voltage	with control		at rated voltage	with control		Type	Ref. no.		Type	Tens.	
		min ⁻¹	ℳ m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	Type	Ref. no.	Type	Ref. no.	Type	Type
Single-phase alternating current.50 Hz, protection category IP54																	
VARW 225/4	06660	1450	900	0.10	230	0.50	0.55	966	60	40	10.5	MWS 1.5 ¹⁾	01947	MW	01579	SDD 1	SDZ 1
VARW 225/2	06661	2770	1778	0.35	230	1.90	2.50	966	60	40	10.5	MWS 3 ¹⁾	01948	MW	01579	SDD 1	SDZ 1
Three-phase current, 50 Hz, protection category IP54																	
VARD 225/4	06662	1420	880	0.10	400	0.20	0.20	469	60	40	10.5	RDS 1 ¹⁾ a)	01314	MD	05849	SDD 1	SDZ 1
VARD 225/2	06663	2720	1750	0.28	400	0.60	0.60	469	60	40	10.5	RDS 1 ¹⁾ a)	01314	MD	05849	SDD 1	SDZ 1
Pole-changeable, 2 speeds (Dahlander winding Y/Y), Three-phase current, 50 Hz, protection category IP54												Pole chang. switch					
VARD 225/4/2	06771	1460/2800	880/1800	0.06/0.30	400	0.22/0.57	–	472	60	–	10.5	PDA 12 ²⁾	05081	M 3 ²⁾	01293	SDD 1	SDZ 1
Ex Ex Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex d, alternating current 230 Volt, 50 Hz, protection category IP55																	
VARW 225/4 Ex	06733	1400	950	0.06	230	0.70	–	757	40	–	12.0	not permitted		–		SDD 1	SDZ 1
VARW 225/2 Ex	06734	2650	1780	0.18	230	1.23	–	757	40	–	12.5	not permitted		–		SDD 1	SDZ 1
Ex Ex Explosion-proof, II 2G Ex h IIB + H ₂ T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																	
VARD 225/4 Ex	06664	1400	940	0.12	400	0.41	–	470	40	–	12.5	not permitted		not permitted		SDD 1	SDZ 1
VARD 225/2 Ex	06665	2850	1930	0.25	400	0.72	–	470	40	–	12.5	not permitted		not permitted		SDD 1	SDZ 1

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker. ²⁾ includes operating and speed switch.

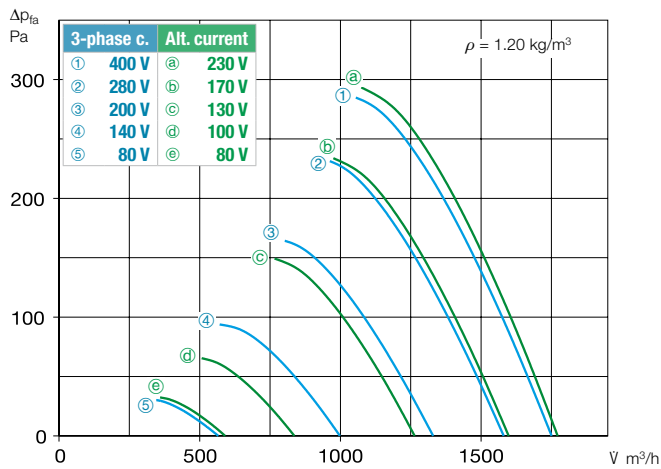
³⁾ Flush-m. version see Switch product page.

⁴⁾ Frequency inverter with integrated sine filter, Type FU-BS 2.5, No. 05459, see FU product page.

Performance curves VAR 225/2

n=2800 1/min

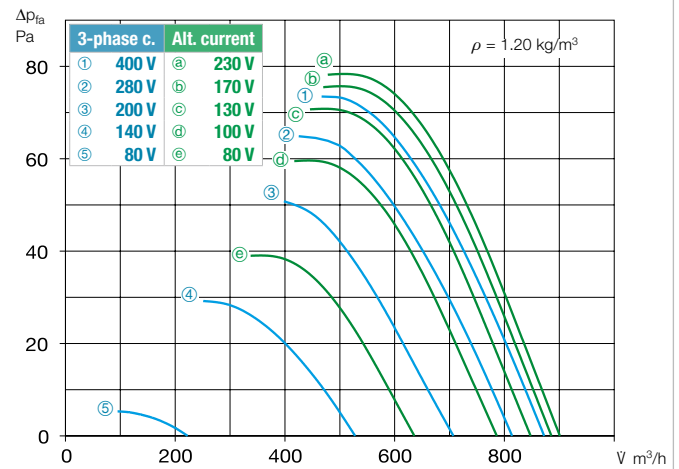
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	81	51	62	74	76	72	63
L _{PA, 4m}	Air noise	dB(A)	61	31	42	54	56	52	43



Performance curves VAR 225/4

n=1450 1/min

Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	66	41	55	60	62	59	52
L _{PA, 4m}	Air noise	dB(A)	46	21	35	40	42	39	32



Accessories VAR 225 Description see page 276 ff.

Intake nozzle
with prot. grille
ASD-SGD 225
No. 01413

Extension duct
VR 225
No. 01401

Duct silencer-
RSD 225/..

Duct shutter, auto-
matic
RVS 225 a)
No. 02591

Flanged
flexible
connector
STS 225 b)
No. 01218

Counter
flange
FR 225
No. 01201

Flexible
connecting
sleeve
FM 225 b)
No. 01671

Protection
grille
duct side
SG 225
No. 01215

Mounting bra-
ckets
MK 225
(1 Set = 2 pcs)
No. 01446

Vibration dampers
for tensile load
SDZ 1 (1 set = 4 Pcs) No. 01454
Vibration dampers
for compression load
SDD 1 (1 set = 4 Pcs) No. 01452

a) Shutter, motorised see Accessories product pages. b) Types for explosion-proof fans see above.

Other accessories Page

Access. for expl.-proof fans

Flanged flexible connector STS 225 Ex	Ref. no. 02500
Flexible connecting sleeve FM 225 Ex	Ref. no. 01687

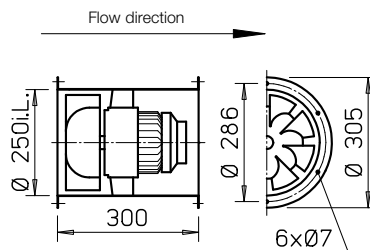
Filters and silencers	481 ff.
Shutters and ventilation grilles	561 ff.
Speed controllers, controllers and switches	599 ff.

VAR 250



Also available in version:

Dimensions VAR 250



Dim. in mm

■ **Casing**

Duct with double-sided flange DIN 24155 p. 3. Made of galvanized steel sheet, fixed guide wheel with inner hub for mounting the flange motor.

■ **Impeller**

Optimised for high pressure and volume performance. Special development with spatially curved blades made of high-quality plastic.

■ **Drive**

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

■ **Power control**

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

■ **Electrical connection**

Standard terminal box (protection category IP55) on outside of duct.

■ **Installation**

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

■ **Motor protection**

All types (except for 3~ explosion-proof) are equipped with thermal contacts. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. For 1~ explosion-proof types, the thermal contacts are wired in series with the winding, automatic deactivation and re-activation after cool down. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

■ **Noise levels**

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

Reference	Page
Techn. description	254
Selection table	255
Planning information	14 ff.

■ **Special design**

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Speed controller 5-step Pole chang. switch		Motor protection circuit breaker for connecting built-in thermal contacts		Vibration dampers	
						at rated voltage	with control		at rated voltage	with control		Type	Ref. no.	Type	Ref. no.	Compr.	Tens.
		min ⁻¹	V m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg					Type	Type
Single-phase alternating current 50 Hz, protection category IP54																	
VARW 250/4	06666	1420	1210	0.12	230	0.46	0.60	966	60	40	11.5	MWS 1.5 ¹⁾ 01947	01579	MW	01579	SDD 1	SDZ 1
VARW 250/2	06667	2840	2540	0.55	230	2.60	3.90	966	60	40	13.0	MWS 5 ¹⁾ 01949	01579	MW	01579	SDD 1	SDZ 1
Three-phase current, 50 Hz, protection category IP54																	
VARD 250/4	06668	1410	1250	0.09	400	0.30	0.30	469	60	40	11.5	RDS 1 ^{1) 4)} 01314	05849	MD	05849	SDD 1	SDZ 1
VARD 250/2	06669	2800	2450	0.47	400	1.10	1.10	469	60	40	11.5	RDS 2 ^{1) 4)} 01315	05849	MD	05849	SDD 1	SDZ 1
Pole-changeable, 2 speeds (Dahlander winding Y/Y), Three-phase current, 50 Hz, protection category IP54																	
VARD 250/4/2	06773	1425/2750	1200/2400	0.75/0.49	400	0.24/0.94	—	472	60	—	13.0	PDA 12 ³⁾ 05081	01293	M 3 ²⁾	01293	SDD 1	SDZ 1
Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex d, alternating current 230 Volt, 50 Hz, protection category IP55																	
VARW 250/4 Ex	06735	1400	1290	0.06	230	0.70	—	757	40	—	13.0	not permitted	—	—	—	SDD 1	SDZ 1
Explosion-proof, II 2G Ex h IIB + H₂ T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP5																	
VARD 250/4 Ex	06670	1400	1300	0.12	400	0.41	—	470	40	—	13.0	not permitted	—	not permitted	—	SDD 1	SDZ 1
VARD 250/2 Ex	06671	2825	2590	0.37	400	0.95	—	470	40	—	15.5	not permitted	—	not permitted	—	SDD 1	SDZ 1

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker. ²⁾ includes operating and speed switch.

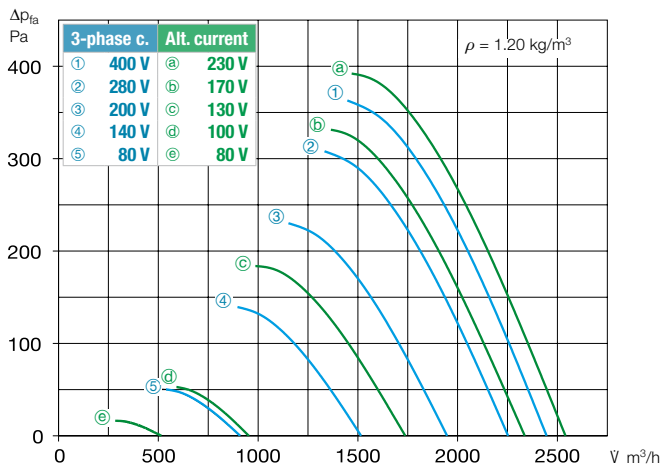
³⁾ Flush-m. version see Switch product page.

⁴⁾ Frequency inverter with integrated sine filter, Type FU-BS 2.5, No. 05459, see product page FU.

Performance curves VAR 250/2

n=2800 1/min

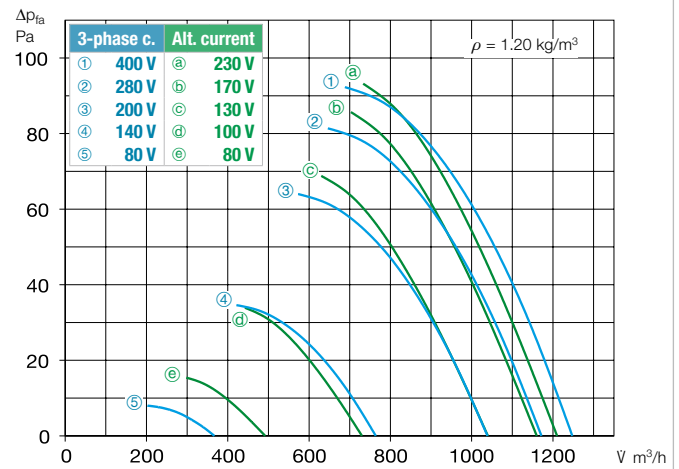
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	84	55	65	77	79	80	75	67
L _{PA, 4m}	Air noise	dB(A)	64	35	45	57	59	60	55	47



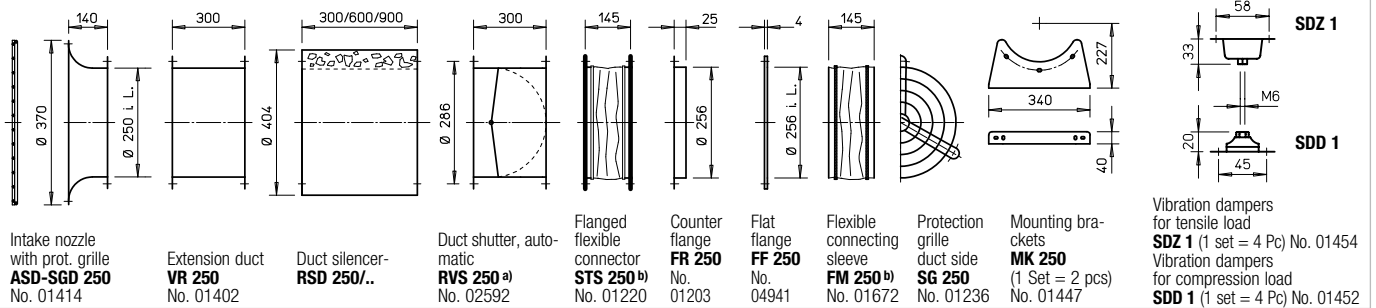
Performance curves VAR 250/4

n=1450 1/min

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	69	44	58	63	65	63	56	46
L _{PA, 4m}	Air noise	dB(A)	49	24	38	43	45	43	36	26



Accessories VAR 250 Description see page 276 ff.



a) Shutter, motorised see Accessories product pages. b) Types for explosion-proof fans see above.

Other accessories Page

Access. for expl.-proof fans

Flanged flexible connector
STS 250 Ex Ref. no. 02501

Flexible connecting sleeve
FM 250 Ex Ref. no. 01688

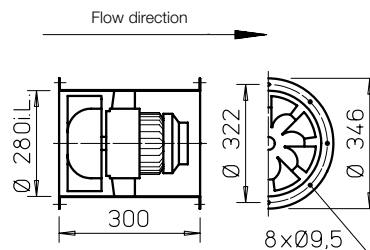
Filters and silencers 481 ff.
Shutters and ventilation grilles 561 ff.
Speed controllers, controllers and switches 599 ff.

VAR 280



Also available in version:

Dimensions VAR 280



Dim. in mm

■ **Casing**

Duct with double-sided flange DIN 24155 p. 3. Made of galvanized steel sheet, fixed guide wheel with inner hub for mounting the flange motor.

■ **Impeller**

Optimised for high pressure and volume performance. Special development with spatially curved blades made of high-quality plastic.

■ **Drive**

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

■ **Power control**

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

■ **Electrical connection**

Standard terminal box (protection category IP55) on outside of duct.

■ **Installation**

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

■ **Motor protection**

All types (except for 3~ explosion-proof) are equipped with thermal contacts. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. For 1~ explosion-proof types, the thermal contacts are wired in series with the winding, automatic deactivation and re-activation after cool down. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

■ **Noise levels**





See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

Reference	Page
Techn. description	254
Selection table	255
Planning information	14 ff.

■ **Special design**

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Speed controller 5-step Pole chang. switch	Motor protection circuit breaker for connecting built-in thermal contacts	Vibration dampers			
						at rated voltage	with control		at rated voltage	with control				Compr.	Tens.		
		min ⁻¹	∇ m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	Type	Ref. no.	Type	Ref. no.	Type	Type
Single-phase alternating current.50 Hz, protection category IP54																	
VARW 280/4	06672	1330	1600	0.11	230	0.50	0.60	966	60	40	12.0	MWS 1.5 ¹⁾ 01947	MW	01579	SDD 1	SDZ 1	
VARW 280/2	06659	2715	3350	0.79	230	3.70	4.90	967	60	40	14.0	MWS 7.5 ¹⁾ 01950	MW	01579	SDD 1	SDZ 1	
Three-phase current, 50 Hz, protection category IP54																	
VARD 280/4	06673	1370	1650	0.12	400	0.35	0.35	469	60	40	12.0	RDS 1 ^{1) 4)} 01314	MD	05849	SDD 1	SDZ 1	
VARD 280/2	06674	2705	3315	0.80	400	1.52	1.64	469	60	40	13.5	RDS 2 ^{1) 4)} 01315	MD	05849	SDD 1	SDZ 1	
Pole-changeable, 2 speeds (Dahlander winding γ/γ), Three-phase current, 50 Hz, protection category IP54												Pole chang. switch					
VARD 280/4/2	06775	1405/2810	1760/3500	0.14/0.91	400	0.44/1.78	—	472	60	—	16.0	PDA 12 ³⁾ 05081	M 3 ²⁾	01293	SDD 1	SDZ 1	
 	Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex d, alternating current 230 Volt, 50 Hz, protection category IP55																
VARW 280/4 Ex	06737	1330	1720	0.18	230	1.25	—	757	40	—	14.0	not permitted	—	—	SDD 1	SDZ 1	
 	Explosion-proof, II 2G Ex h IIB + H ₂ T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																
VARD 280/4 Ex	06675	1400	1820	0.12	400	0.41	—	470	40	—	16.0	not permitted	not permitted		SDD 1	SDZ 1	
VARD 280/2 Ex	06676	1860	3720	0.75	400	1.65	—	470	40	—	18.0	not permitted	not permitted		SDD 1	SDZ 1	

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker. ²⁾ includes operating and speed switch.

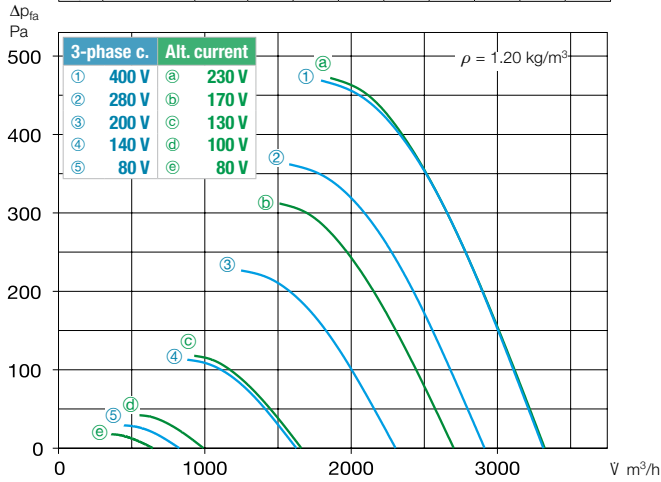
³⁾ Flush-m. version see Switch product page.

⁴⁾ Frequency inverter with integrated sine filter, Type FU-BS 2.5, No. 05459, see product page FU.

Performance curves VAR 280/2

n=2800 1/min

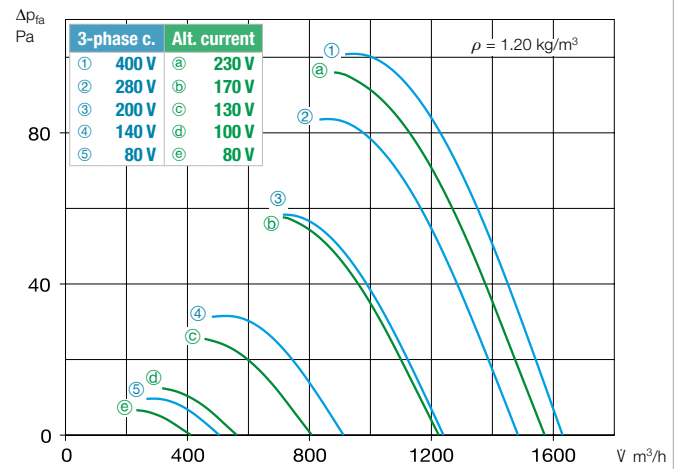
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	88	58	69	80	83	83	79	70
L _{PA, 4m}	Air noise	dB(A)	68	38	49	60	63	63	59	50



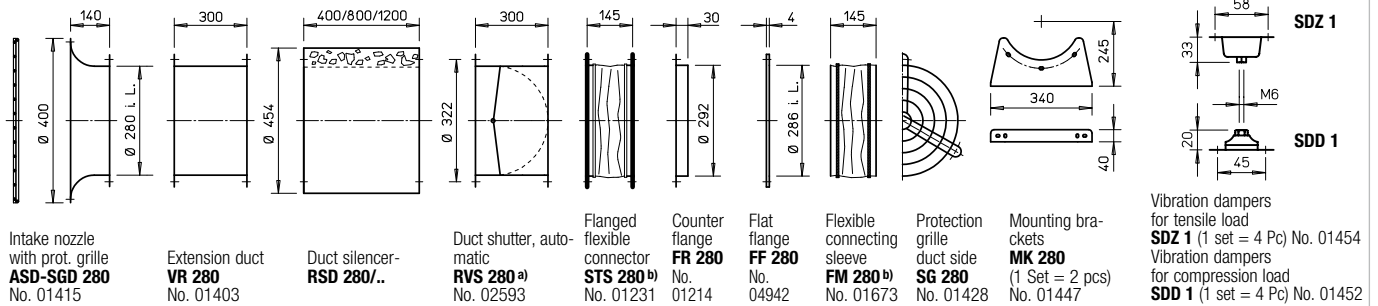
Performance curves VAR 280/4

n=1450 1/min

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	72	48	62	66	69	66	59	49
L _{PA, 4m}	Air noise	dB(A)	52	28	42	46	49	46	39	29



Accessories VAR 280 Description see page 276 ff.



^{a)} Shutter, motorised see Accessories product pages. ^{b)} Types for explosion-proof fans see above.

Other accessories Page

^{b)}Access. for expl.-proof fans

Flanged flexible connector
STS 280 Ex Ref. no. 02502

Flexible connecting sleeve
FM 280 Ex Ref. no. 01689

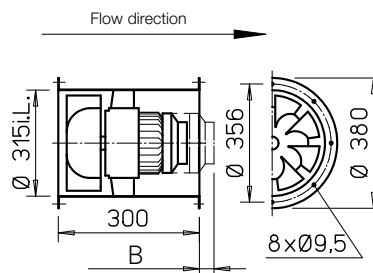
Filters and silencers 481 ff.
Shutters and ventilation grilles 561 ff.
Speed controllers, controllers and switches 599 ff.

VAR 315



Also available in version:

Dimensions VAR 315



Dim. B see table
Dim. in mm

Casing

Duct with double-sided flange DIN 24155 p. 3. Made of galvanized steel sheet, fixed guide wheel with inner hub for mounting the flange motor.

Impeller

Optimised for high pressure and volume performance. Special development with spatially curved blades made of high-quality plastic.

Drive

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

Power control

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

Electrical connection

Standard terminal box (protection category IP55) on outside of duct.

Installation

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

Motor protection

All types (except for 3~ explosion-proof) are equipped with thermal contacts. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. For 1~ explosion-proof types, the thermal contacts are wired in series with the winding, automatic deactivation and re-activation after cool down. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

Noise levels

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.





Reference

Techn. description	Page
Selection table	254
Planning information	255

Special design

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Dim. B Motor protru- sion	Speed controller 5-step Pole chang. switch		Motor pro- tection circuit breaker for connecting built-in thermal contacts		Vibration dampers	
						at rated voltage	with control		at rated voltage	with control			Type	Ref. no.	Type	No.	Compr.	Tens.
		min ⁻¹	ℓ m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	mm	Type	Ref. no.	Type	No.	Type	Type
Single-phase alternating current, 50 Hz, protection category IP54																		
VARW 315/4	06677	1440	2480	0.23	230	1.10	1.17	966	60	40	13.0	–	MWS 3 ¹⁾	01948	MW	01579	SDD 1	SDZ 1
Three-phase current, 50 Hz, protection category IP54																		
VARD 315/4	06678	1450	2510	0.22	400	0.60	0.70	469	60	40	13.0	–	RDS 1 ¹⁾ 4)	01314	MD	05849	SDD 1	SDZ 1
Two-speed, three-phase current, 50 Hz, Y/Δ connection, protection category IP54																		
VARD 315/2/2	06679	2150/2650	3580/4670	0.9/1.35	400Y/Δ	1.5/2.4	2.5	520	60	40	20.5	66	RDS 4 ¹⁾	01316	M 4 ²⁾	01571	SDD 1	SDZ 1
Pole-changeable, 2 speeds (Dahlander winding Y/Y), Three-phase current, 50 Hz, protection category IP54																		
VARW 315/4/2	06777	1480/2890	2730/5340	0.42/1.83	400	1.2/3.3	–	472	60	–	20.5	54	PDA 12 ³⁾	05081	–	–	SDD 1	SDZ 1
  Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex d, alternating current 230 Volt, 50 Hz, protection category IP55																		
VARW 315/4 Ex	06738	1450	2680	0.18	230	1.25	–	757	40	–	15.0	6	not permitted	–	–	SDD 1	SDZ 1	
  Explosion-proof, II 2G Ex h IIB + H ₂ T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																		
VARD 315/4 Ex	06680	1420	2610	0.37	400	1.14	–	470	40	–	17.0	–	not permitted	not permitted	SDD 1	SDZ 1		
VARD 315/2 Ex	06681	2860	5260	1.50	400	3.15	–	470	40	–	23.0	44	not permitted	not permitted	SDD 1	SDZ 1		

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker. ²⁾ includes operating and speed switch.

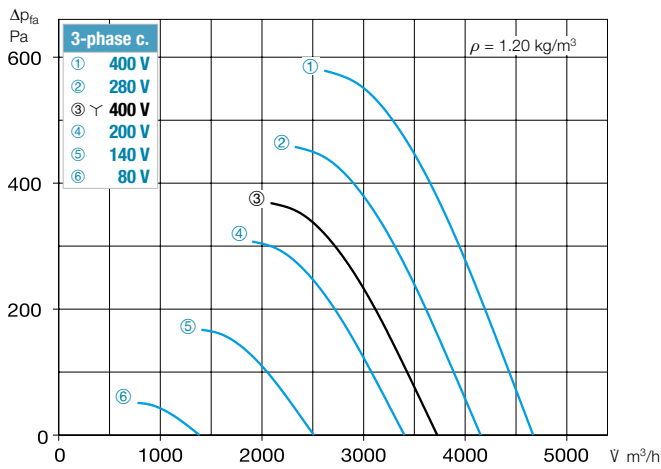
³⁾ Flush-m. version see Switch product page.

⁴⁾ Frequency inverter with integrated sine filter, Type FU-BS 2.5, No. 05459, see product page FU.

Performance curves VAR 315/2

n=2700 1/min

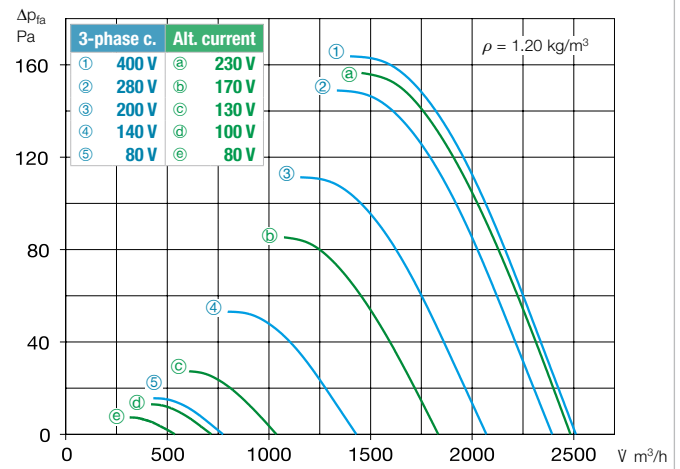
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k	
L _{WA}	Air noise	dB(A)	91	62	73	84	86	87	82	74
L _{PA, 4m}	Air noise	dB(A)	71	42	53	64	66	67	62	54



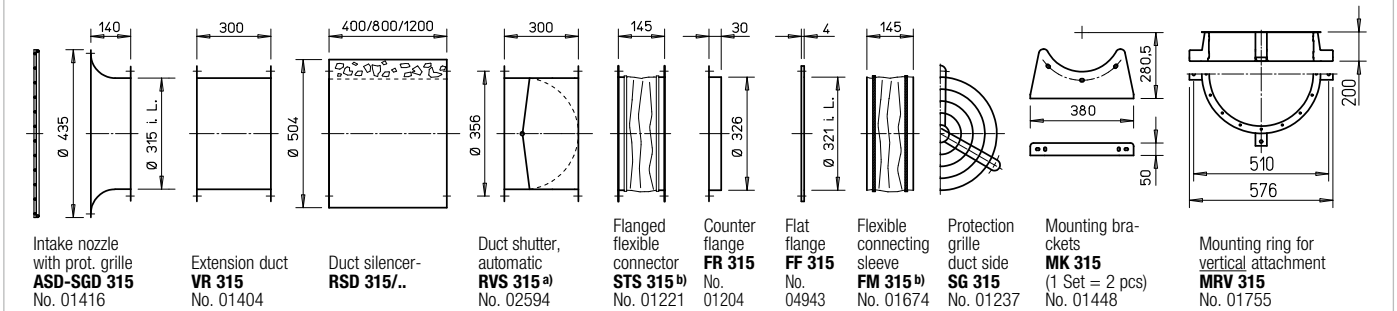
Performance curves VAR 315/4

n=1450 1/min

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	76	52	65	70	72	70	63	53
L _{PA, 4m}	Air noise	dB(A)	56	32	45	50	52	50	43	33



Accessories VAR 315 Description see page 276 ff.



^{a)} Shutter, motorised see Accessories product pages. ^{b)} Types for explosion-proof fans see above.

Other accessories Page

^{b)}Access. for expl.-proof fans

Flanged flexible connector	
STS 315 Ex	Ref. no. 02503
Flexible connecting sleeve	
FM 315 Ex	Ref. no. 01690

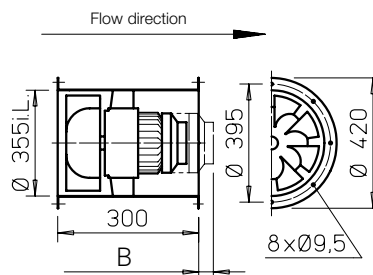
Filters and silencers	481 ff.
Shutters and ventilation grilles	561 ff.
Speed controllers, controllers and switches	599 ff.

VAR 355



Also available in version:

Dimensions VAR 355



Dim. B see table
Dim. in mm

■ Casing

Duct with double-sided flange DIN 24155 p. 3. Made of galvanised steel sheet, fixed guide wheel with inner hub for mounting the flange motor.

■ Impeller

Optimised for high pressure and volume performance. Special development with spatially curved blades made of high-quality plastic; made of hot-dip galvanised steel for types with $n = 2800 \text{ min}^{-1}$.

■ Drive

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

■ Power control

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

■ Electrical connection

Standard terminal box (protection category IP55) on outside of duct.

■ Installation

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

■ Motor protection

All types (except for explosion-proof models and type VARD 355/4/2) are equipped with thermal contacts. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

■ Noise levels

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

■ Reference

	Page
Techn. description	254
Selection table	255
Planning information	14 ff.

■ Special design

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Dim. B Motor protru- sion	Speed controller 5-step Pole chang. switch		Motor pro- tection circuit breaker for connecting built-in thermal contacts	Vibration dampers		
						at rated voltage	with control		at rated voltage	with control			Type	Ref. no.		Type	No.	Compr.
		min ⁻¹	ṽ m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	mm	Type	Ref. no.	Type	No.	Type	Type
Single-phase alternating current,50 Hz, protection category IP54																		
VARW 355/4	06682	1380	3470	0.37	230	3.30	2.35	966	60	40	21.0	22	MWS 3 ¹⁾	01948	MW	01579	SDD 1	SDZ 1
Three-phase current, 50 Hz, protection category IP54																		
VARD 355/4	06683	1440	3550	0.40	400	0.87	1.20	469	60	40	15.5	12	RDS 1 ^{1) 5)}	01314	MD	05849	SDD 1	SDZ 1
Two-speed, three-phase current, 50 Hz, ᳚/Δ connection, protection category IP54																		
VARD 355/2/2	06684	2415/2790	6040/7220	2.06/2.81	400᳚/Δ	3.40/5.40	–	520	60	30	30.3	94	RDS 7 ¹⁾	01578	M 4 ²⁾	01571	SDD 1	SDZ 1
Pole-changeable, 2 speeds (Dahlander winding ᳚/᳚), Three-phase current, 50 Hz, protection category IP54														Pole chang. switch				
VARD 355/4/2	06779	1470/2870	3830/7500	0.48/3.11	400	1.35/5.50	–	471	40	–	29.0	80	PDA 12 ³⁾	05081	–	–	SDD 1	SDZ 1
Ex Ex Explosion-proof, II 2G Ex h IIB + H ₂ T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																		
VARD 355/4 Ex	06685	1420	3740	0.37	400	1.14	–	470	40	–	19.0	–	not permitted		not permitted		SDD 1	SDZ 1
Ex Ex Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																		
VARD 355/2 Ex ⁴⁾	06686	2860	7580	2.50	400	4.85/2.77	–	498	40	–	33.0	77	not permitted		not permitted		SDD 1	SDZ 1

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker.

²⁾ includes operating and speed switch.

³⁾ Flush-m. version see Switch product page.

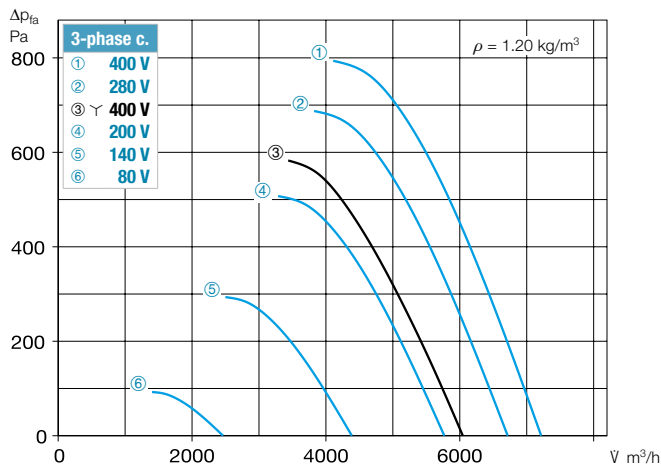
⁴⁾ A vibration monitoring system (on-site) must be provided according to DIN EN 14986.

⁵⁾ Frequency inverter with integrated sine filter, Type FU-BS 2.5, No. 05459, see product page FU.

Performance curves VAR 355/2

n=2800 1/min

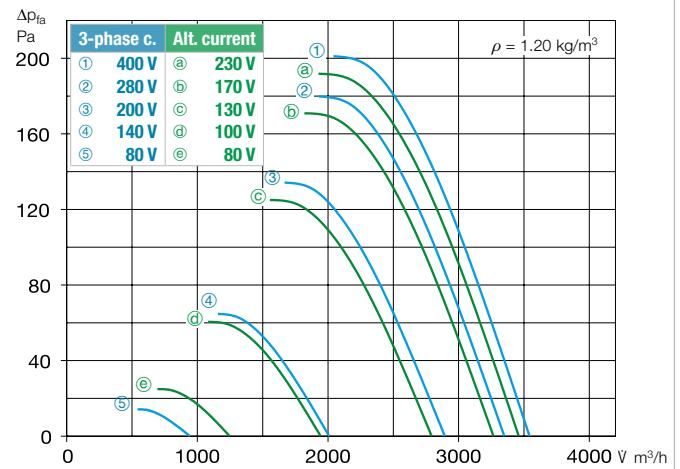
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k	
L _{WA}	Air noise	dB(A)	95	65	76	88	90	90	86	77
L _{PA, 4m}	Air noise	dB(A)	75	45	56	68	70	70	66	57



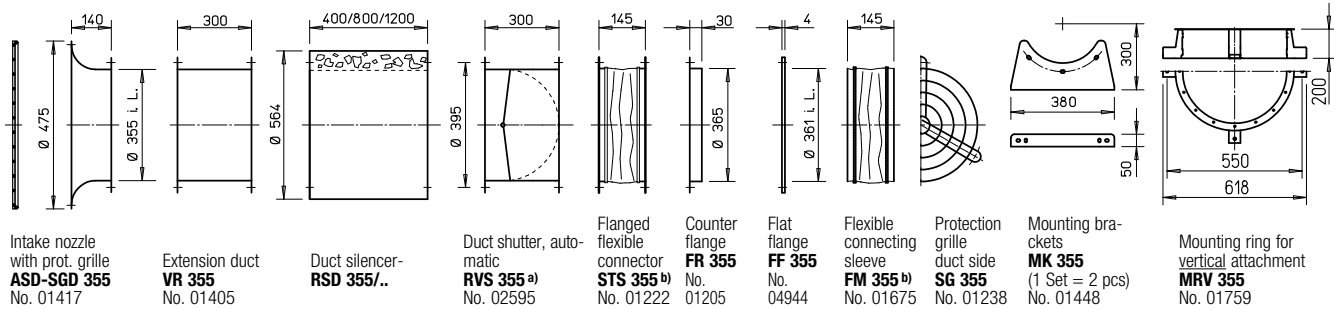
Performance curves VAR 355/4

n=1400 1/min

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	80	55	69	73	76	73	66	56
L _{PA, 4m}	Air noise	dB(A)	60	35	49	53	56	53	46	36



Accessories VAR 355 Description see page 276 ff.



a) Shutter, motorised see Accessories product pages. b) Types for explosion-proof fans see above.

Other accessories Page

Access. for expl.-proof fans

Flanged flexible connector	
STS 355 Ex	Ref. no. 02504
Flexible connecting sleeve	
FM 355 Ex	Ref. no. 01691

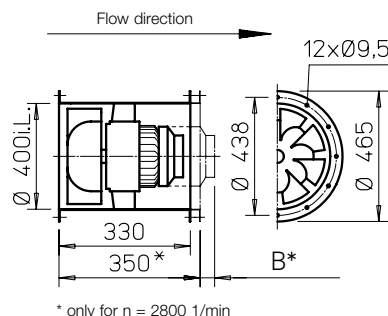
Filters and silencers	481 ff.
Shutters and ventilation grilles	561 ff.
Speed controllers, controllers and switches	599 ff.

VAR 400



Also available in version:

Dimensions VAR 400



* only for n = 2800 1/min

Dim. B see table
Dim. in mm

■ Casing

Duct with double-sided flange DIN 24155 p. 3. Made of galvanised steel sheet, fixed guide wheel with inner hub for mounting the flange motor. Types with $n = 2800 \text{ min}^{-1}$ welded casing, hot-dip galvanised.

■ Impeller

Optimised for high pressure and volume performance. Special development with spatially curved blades made of hot-dip galvanised steel.

■ Drive

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium or grey cast iron casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

■ Power control

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

■ Electrical connection

Standard terminal box (protection category IP55) on outside of duct.

■ Installation

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

■ Motor protection

All types (except for explosion-proof models and type VARD 400/4/2) are equipped with thermal contacts. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

■ Noise levels

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

■ Reference

	Page
Techn. description	254
Selection table	255
Planning information	14 ff.

■ Special design

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Dim. B Motor protrusion	Speed controller 5-step Pole chang. switch		Motor protection circuit breaker for connecting built-in thermal contacts		Vibration dampers	
						at rated voltage	with control		at rated voltage	with control			Type	Ref. no.	Type	No.	Compr.	Tens.
		min ⁻¹	m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	mm						
Single-phase alternating current, 50 Hz, protection category IP54																		
VARW 400/4	06688	1375	5130	0.70	230	3.00	3.35	967	60	40	22.5	—	MWS 5 ¹⁾	01949	MW	01579	SDD 1	SDZ 1
Three-phase current, 50 Hz, protection category IP54																		
VARD 400/4	06690	1400	5240	0.72	400	1.95	2.00	469	60	40	22.5	—	RDS 4 ^{1) 2)}	01316	MD	05849	SDD 1	SDZ 1
Two-speed, three-phase current, 50 Hz, Δ connection, protection category IP54																		
VARD 400/2/2	06691	2475/2800	8320/10610	3.63/4.95	400 Δ	5.75/7.95	—	520	60	40	74.0	202	RDS 11 ^{1) 2)}	01332	M 4 ²⁾	01571	SDD 1	SDZ 2
Pole-changeable, 2 speeds (Dahlander winding Δ/Δ), Three-phase current, 50 Hz, protection category IP54																		
VARD 400/4/2	06782	1400/2890	5220/10700	0.80/5.90	400	2.43/9.13	—	471	40	—	74.0	207	PDA 12 ³⁾	05081	—	—	SDD 1	SDZ 2
Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																		
VARW 400/6 Ex	06692	920	3465	0.25	400	0.97	—	470	40	—	21.0	—	not permitted	not permitted	SDD 1	SDZ 1		
VARD 400/4 Ex	06693	1430	5360	0.55	400	1.51	—	470	40	—	25.0	—	not permitted	not permitted	SDD 1	SDZ 1		
VARD 400/2 Ex ⁴⁾	06694	2895	10950	4.60	400	8.20	—	498	40	—	83.0	252	not permitted	not permitted	SDD 2	SDZ 2		

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker.

²⁾ includes operating and speed switch.

³⁾ Flush-m. version see Switch product page.

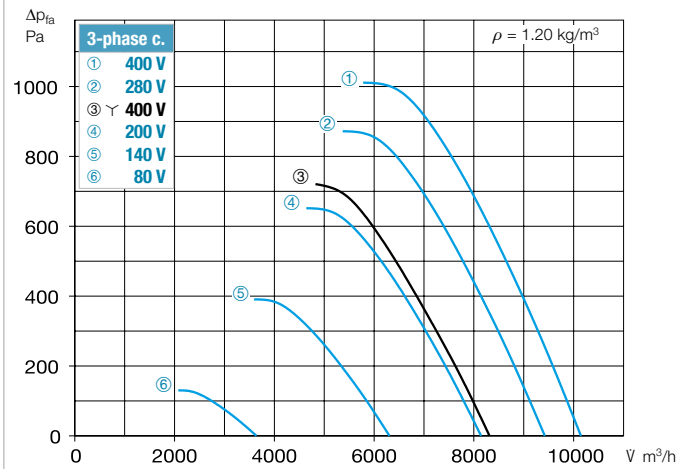
⁴⁾ A vibration monitoring system (on-site) must be provided according to DIN EN 14986.

⁵⁾ Frequency inverter with integrated sine filter, Type FU-BS 2.5, No. 05459, see product page FU.

Performance curves VAR 400/2

n=2800 1/min

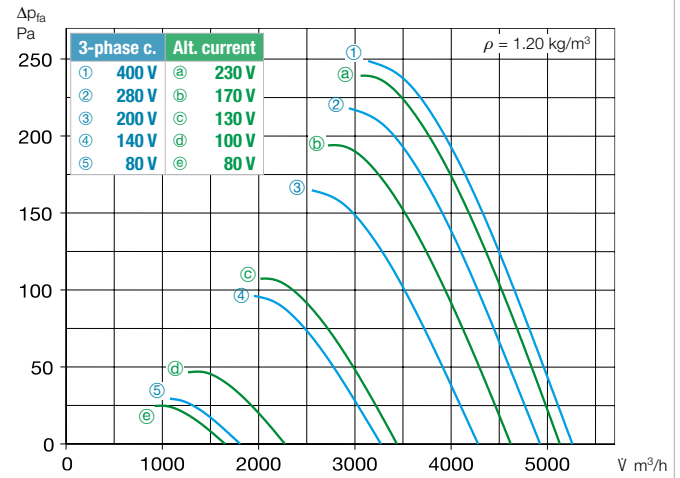
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	98	69	80	91	94	90	81
L _{PA, 4m}	Air noise	dB(A)	78	49	60	71	74	70	61



Performance curves VAR 400/4

n=1450 1/min

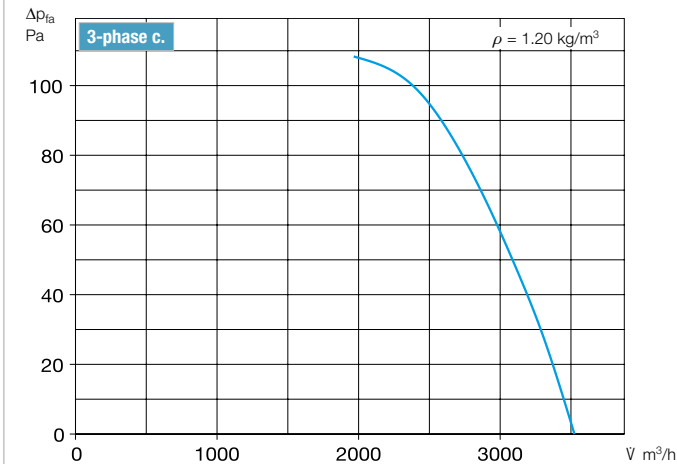
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	83	59	72	77	79	77	60
L _{PA, 4m}	Air noise	dB(A)	63	39	52	57	59	57	40



Performance curve VAR 400/6

n=930 1/min

Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	72	56	62	68	64	56	47
L _{PA, 4m}	Air noise	dB(A)	52	36	42	48	44	36	27



Other accessories Page

Access. for expl.-proof fans

Flanged flexible connector
STS 400 Ex Ref. no. 02505

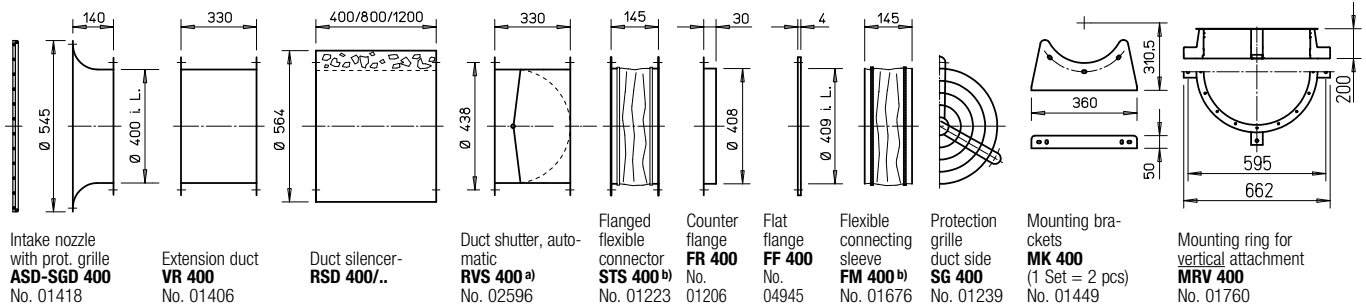
Flexible connecting sleeve
FM 400 Ex Ref. no. 01692

Filters and silencers 481 ff.

Shutters and ventilation grilles 561 ff.

Speed controllers, controllers and switches 599 ff.

Accessories VAR 400 Description see page 276 ff.



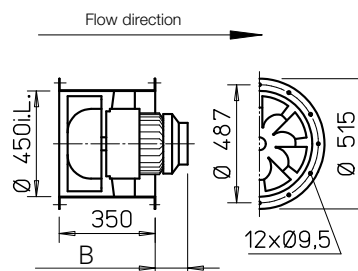
a) Shutter, motorised see Accessories product pages. b) Types for explosion-proof fans see left page.

VAR 450



Also available in version:

Dimensions VAR 450



Dim. B see table
Dim. in mm

■ **Casing**

Duct with double-sided flange DIN 24155 p. 3. Made of galvanized steel sheet, fixed guide wheel with inner hub for mounting the flange motor. Types with $n = 2800 \text{ min}^{-1}$ welded casing, hot-dip galvanised.

■ **Impeller**

Optimised for high pressure and volume performance. Special development with spatially curved blades made of hot-dip galvanised steel.

■ **Drive**

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium or grey cast iron casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

■ **Power control**

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

■ **Electrical connection**

Standard terminal box (protection category IP55) on outside of duct.

■ **Installation**

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

■ **Motor protection**

All types (except for explosion-proof models) are equipped with thermal contacts or PTC thermistors. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

■ **Noise levels**

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

Reference	Page
Techn. description	254
Selection table	255
Planning information	14 ff.

■ **Special design**

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Dim. B Motor protrusion	Speed controller 5-step Pole chang. switch		Motor protection circuit breaker for connecting built-in thermal contacts		Vibration dampers	
						at rated voltage	with control		at rated voltage	with control			Type	Ref. no.	Type	No.	Compr.	Tens.
		min ⁻¹	m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	mm						
Single-phase alternating current 50 Hz, protection category IP54																		
VARW 450/4	06736	1330	7180	1.47	230	6.50	7.00	968	60	40	45.0	145	MWS 7.5 ¹⁾	01950	MW	01579	SDD 1	SDZ 1
Three-phase current, 50 Hz, protection category IP54																		
VARD 450/2	06698	2950	14210	8.03	400	13.8	—	776	60	—	95.0	252	FU-CS 18 ¹⁾	05469	MSA ³⁾	01289	SDD 2	SDZ 2
Two-speed, three-phase current, 50 Hz, γ/Δ connection, protection category IP54																		
VARD 450/4/4	06697	1100/1370	5930/7390	0.74/1.00	400 γ/Δ	1.2/2.3	2.3	520	60	40	45.0	145	RDS 4 ¹⁾	01316	M 4 ²⁾	01571	SDD 1	SDZ 1
Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																		
VARD 450/6 Ex	06699	900	5020	0.25	400	0.99	—	470	40	—	48.0	97	not permitted	—	not permitted	—	SDD 1	SDZ 1
VARD 450/4 Ex	06700	1425	7640	1.10	400	2.55	—	470	40	—	51.0	98	not permitted	—	not permitted	—	SDD 1	SDZ 1
VARD 450/2 Ex ⁴⁾	06701	2930	15810	7.50	400	14.10	—	498	40	—	155.0	259	not permitted	—	not permitted	—	SDD 2	SDZ 2

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker.

²⁾ includes operating and speed switch.

³⁾ for PTC thermistor temperature sensor.

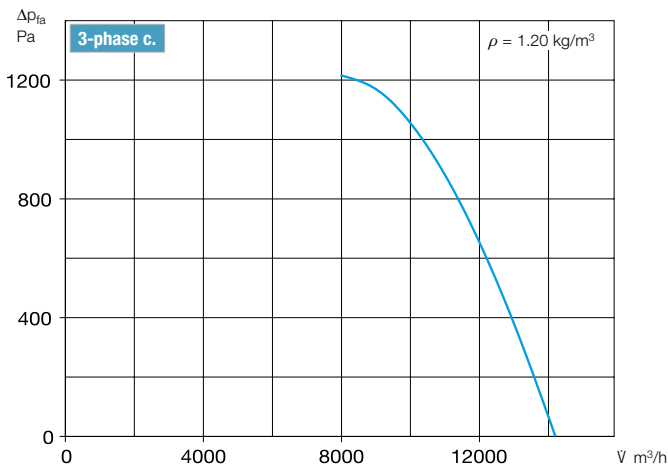
⁴⁾ A vibration monitoring system (on-site) must be provided according to DIN EN 14986.

⁵⁾ with integrated sine filter, see product page FU.

Performance curve VAR 450/2

n=2800 1/min

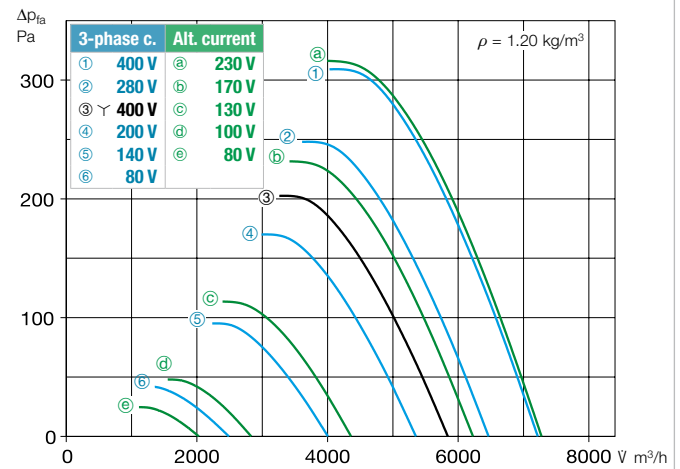
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	103	73	84	95	98	94	85
L _{PA, 4m}	Air noise	dB(A)	83	53	64	75	78	74	65



Performance curves VAR 450/4

n=1400 1/min

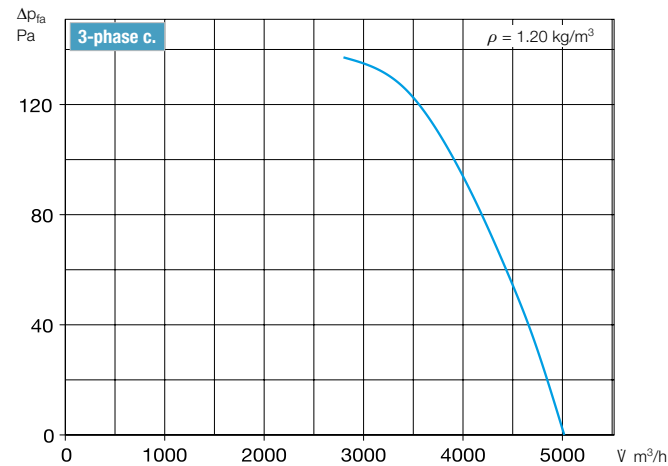
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	87	62	76	81	83	80	74
L _{PA, 4m}	Air noise	dB(A)	67	42	56	61	63	60	54



Performance curve VAR 450/6

n=930 1/min

Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	76	60	65	71	72	67	59
L _{PA, 4m}	Air noise	dB(A)	56	40	45	51	52	47	39



Other accessories Page

^{b)}Access. for expl.-proof fans

Flanged flexible connector
STS 450 Ex Ref. no. 02506

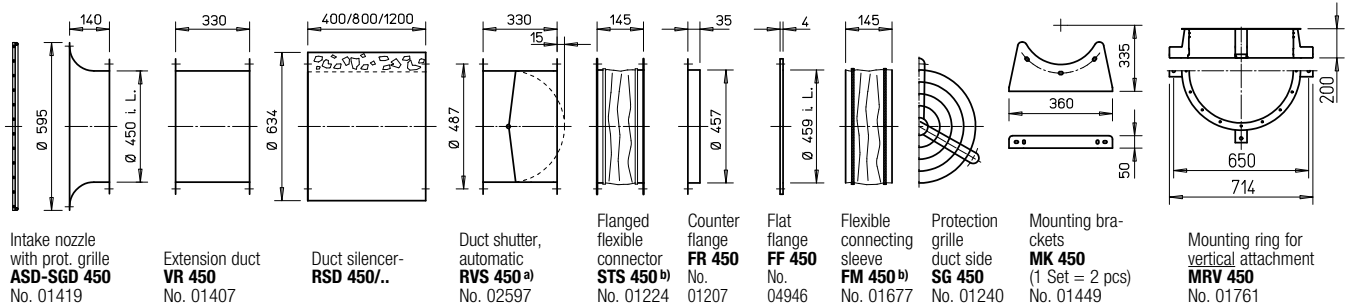
Flexible connecting sleeve
FM 450 Ex Ref. no. 01693

Filters and silencers 481 ff.

Shutters and ventilation grilles 561 ff.

Speed controllers, controllers and switches 599 ff.

Accessories VAR 450 Description see page 276 ff.



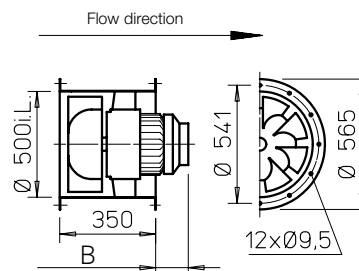
^{a)} Shutter, motorised see Accessories product pages. ^{b)} Types for explosion-proof fans see left page.

VAR 500



Also available in version:

Dimensions VAR 500



Dim. B see table
 Dim. in mm

■ **Casing**

Duct with double-sided flange DIN 24155 p. 3. Made of galvanized steel sheet, fixed guide wheel with inner hub for mounting the flange motor. Types with $n = 2800 \text{ min}^{-1}$ welded casing, hot-dip galvanised.

■ **Impeller**

Optimised for high pressure and volume performance. Special development with spatially curved blades made of hot-dip galvanised steel.

■ **Drive**

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium or grey cast iron casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

■ **Power control**

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

■ **Electrical connection**

Standard terminal box (protection category IP55) on outside of duct.

■ **Installation**

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

■ **Motor protection**

All types (except for explosion-proof models) are equipped with thermal contacts or PTC thermistors. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

■ **Noise levels**

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

Reference	Page
Techn. description	254
Selection table	255
Planning information	14 ff.

■ **Special design**

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Dim. B Motor protrusion	Speed controller 5-step Pole chang. switch		Motor protection circuit breaker for connecting built-in thermal contacts		Vibration dampers	
						at rated voltage	with control		at rated voltage	with control			Type	Ref. no.	Type	No.	Compr.	Tens.
		min ⁻¹	m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	mm						
Single-phase alternating current 50 Hz, protection category IP55																		
VARW 500/4	06739	1340	9920	2.02	230	9.10	9.10	968	60	40	70.0	181	MWS 10¹⁾	01946	MW	01579	SDD 2	SDZ 2
Three-phase current, 50 Hz, protection category IP54																		
VARD 500/2	06705	2935	21730	15.70	400	29.00	—	776	40	—	180.0	367	FU-CS 32^{1) 2)}	05471	MSA³⁾	01289	SDD 2	SDZ 3
Two-speed, three-phase current, 50 Hz, γ/Δ connection, protection category IP54																		
VARD 500/4/4	06704	1120/1370	8360/10070	1.2/1.8	400 γ/Δ	2.1/3.9	3.9	520	60	40	70.0	126	RDS 7¹⁾	01578	M 4²⁾	01571	SDD 2	SDZ 2
Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																		
VARW 500/6 Ex	06706	930	6810	0.55	400	1.83	—	470	40	—	70.0	121	not permitted		not permitted		SDD 2	SDZ 2
VARD 500/4 Ex	06707	1420	10470	2.00	400	4.65	—	470	40	—	75.0	144	not permitted		not permitted		SDD 2	SDZ 2
VARD 500/2 Ex⁴⁾	06708	2930	21760	12.50	400	23.50	—	498	40	—	215.0	389	not permitted		not permitted		SDD 3	SDZ 3

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker.

²⁾ includes operating and speed switch.

³⁾ for PTC thermistor temperature sensor.

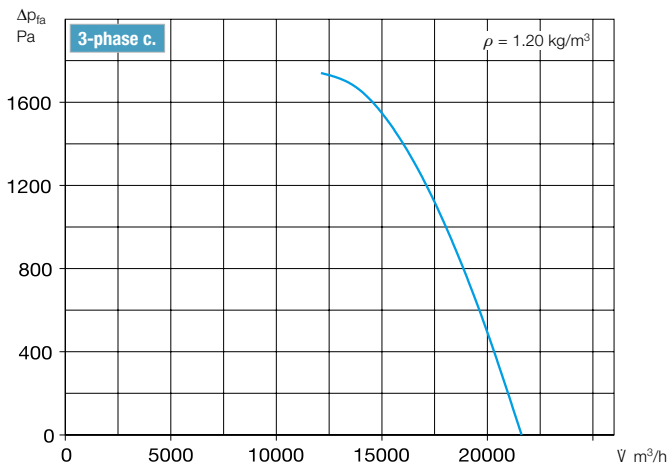
⁴⁾ A vibration monitoring system (on-site) must be provided according to DIN EN 14986.

⁵⁾ with integrated sine filter, see product page FU.

Performance curve VAR 500/2

n=2900 1/min

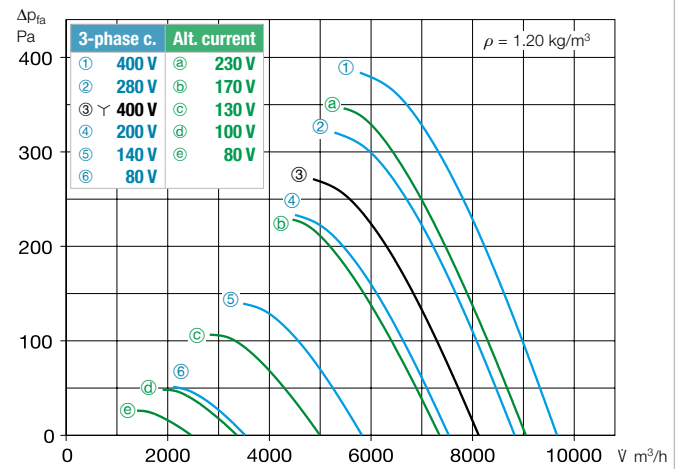
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k	
L _{WA}	Air noise	dB(A)	106	76	87	99	101	101	97	89
L _{PA, 4m}	Air noise	dB(A)	86	56	67	79	81	81	77	69



Performance curves VAR 500/4

n=1450 1/min

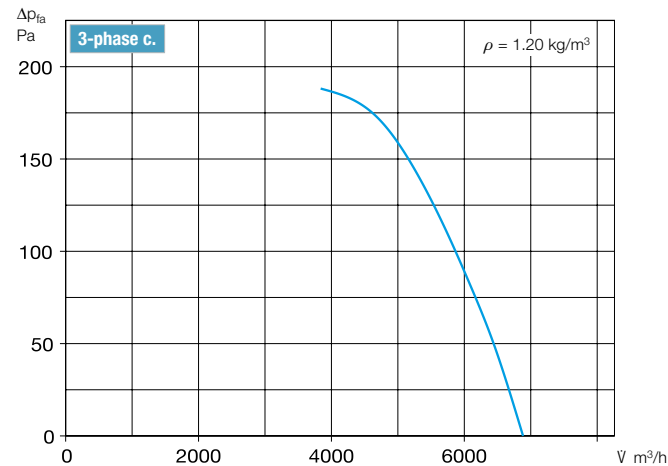
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	90	66	79	84	86	84	77	67
L _{PA, 4m}	Air noise	dB(A)	70	46	59	64	66	64	57	47



Performance curve VAR 500/6

n=930 1/min

Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	79	63	69	74	75	63	54
L _{PA, 4m}	Air noise	dB(A)	59	43	49	54	55	43	34



Other accessories Page

^{b)}Access. for expl.-proof fans

Flanged flexible connector
STS 500 Ex Ref. no. 02507

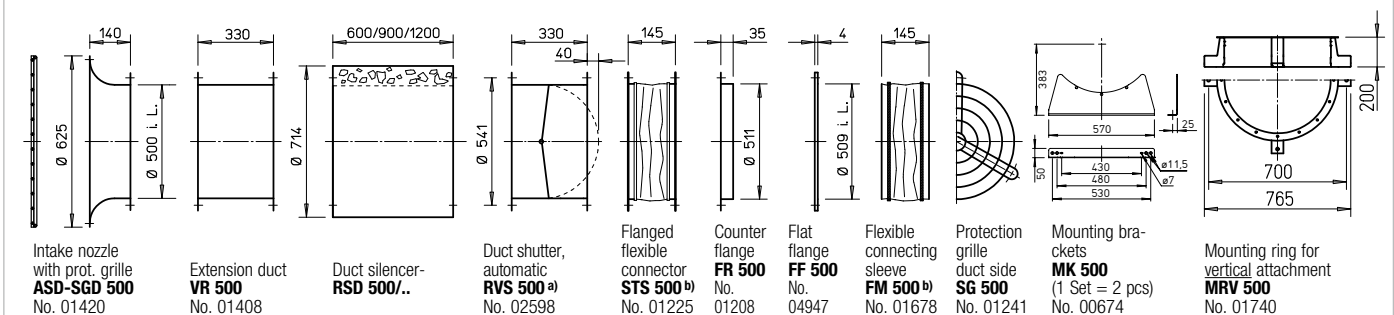
Flexible connecting sleeve
FM 500 Ex Ref. no. 01694

Filters and silencers 481 ff.

Shutters and ventilation grilles 561 ff.

Speed controllers, controllers and switches 599 ff.

Accessories VAR 500 Description see page 276 ff.



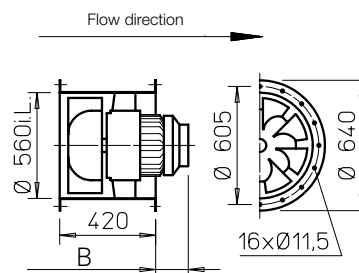
^{a)} Shutter, motorised see Accessories product pages. ^{b)} Types for explosion-proof fans see left page.

VAR 560



Also available in version:

Dimensions VAR 560



Dim. B see table
 Dim. in mm

■ **Casing**

Duct with double-sided flange DIN 24155 p. 3. Made of galvanised steel sheet, fixed guide wheel with inner hub for mounting the flange motor.

■ **Impeller**

Optimised for high pressure and volume performance. Special development with spatially curved blades made of hot-dip galvanised steel.

■ **Drive**

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium or grey cast iron casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

■ **Power control**

The voltage-controllable types are identified in the "Current consumption with control mode" column with a value which must be observed when determining the controller (see Speed controller column). The flow rates are shown in the performance diagram. Explosion-proof types are not controllable.

■ **Electrical connection**

Standard terminal box (protection category IP55) on outside of duct.

■ **Installation**

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

■ **Motor protection**

All types (except for explosion-proof models) are equipped with thermal contacts. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

■ **Noise levels**

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

■ **Reference**


Page

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Planning information	14 ff.

Special design

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Dim. B Motor protru- sion	Speed controller 5-step Pole chang. switch		Motor pro- tection circuit breaker for connecting built-in thermal contacts	Vibration dampers		
						at rated voltage	with control		at rated voltage	with control			Type	Ref. no.		Type	No.	Compr.
		min ⁻¹	l m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	mm						
Two-speed, three-phase current, 50 Hz, ∇/Δ connection, protection category IP54																		
VARD 560/4/4	06711	1130/1380	10780/12810	2.20/3.00	400 ∇/Δ	3.5/5.9	6.5	520	60	40	95.0	159	RDS 7 ¹⁾	01578	M 4 ²⁾	01571	SDD 2	SDZ 2
Pole-changeable, 2 speeds (Dahlander winding ∇/∇), Three-phase current, 50 Hz, protection category IP54													Pole chang. switch					
VARD 560/8/4	06790	705/1440	6590/13570	0.90/3.60	400	2.9/8.3	—	471	60	—	100.0	175	PDA 12 ³⁾	05081	—	—	SDD 2	SDZ 2
 Ex	Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																	
VARD 560/8 Ex	06712	700	7120	0.37	400	1.61	—	470	40	—	85.0	84	not permitted		not permitted		SDD 2	SDZ 2
VARD 560/6 Ex	06713	900	9360	1.10	400	3.10	—	470	40	—	90.0	148	not permitted		not permitted		SDD 2	SDZ 2
VARD 560/4 Ex ⁴⁾	06714	1440	14980	3.60	400	7.70	—	498	40	—	105.0	190	not permitted		not permitted		SDD 2	SDZ 2

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker.

²⁾ includes operating and speed switch.

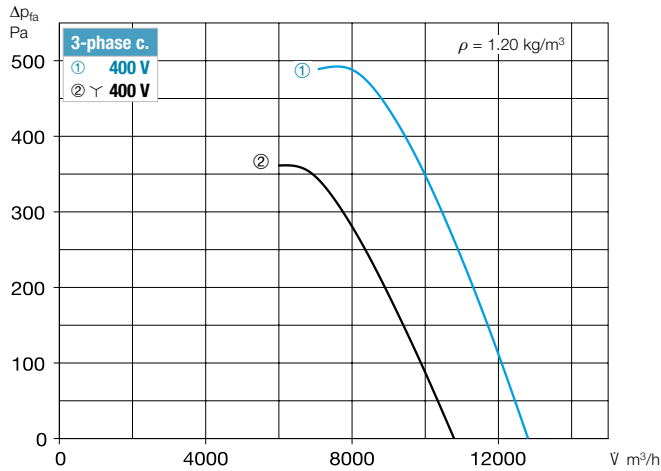
³⁾ Flush-m. version see Switch product page.

⁴⁾ A vibration monitoring system (on-site) must be provided according to DIN EN 14986.

Performance curves VAR 560/4

n=1450 1/min

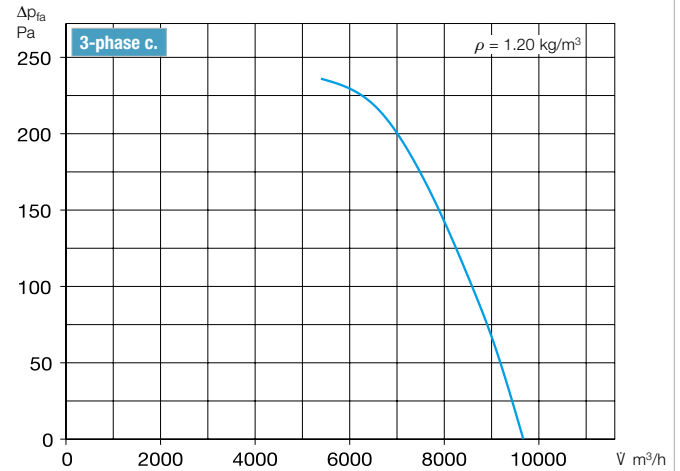
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	93	69	83	87	90	87	80	70
L _{PA, 4m}	Air noise	dB(A)	73	49	63	67	70	67	60	50



Performance curve VAR 560/6

n=950 1/min

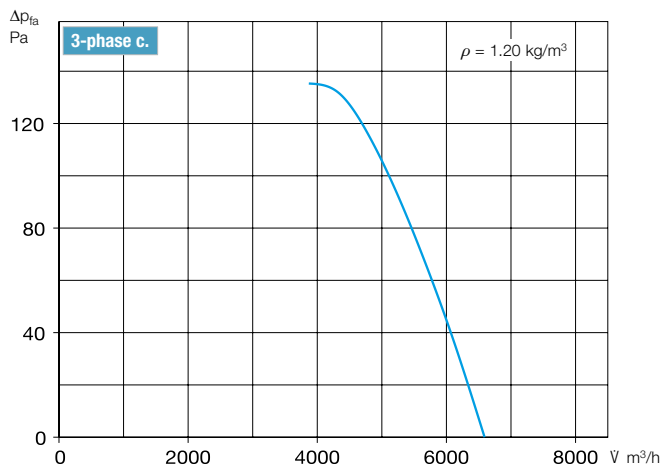
Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	83	67	72	78	79	75	67	58
L _{PA, 4m}	Air noise	dB(A)	63	47	52	58	59	55	47	38



Performance curve VAR 560/8

n=725 1/min

Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	76	61	68	72	66	58	51
L _{PA, 4m}	Air noise	dB(A)	56	41	48	52	46	38	31



Other accessories Page

^{b)}Access. for expl.-proof fans

Flanged flexible connector
STS 560 Ex Ref. no. 02508

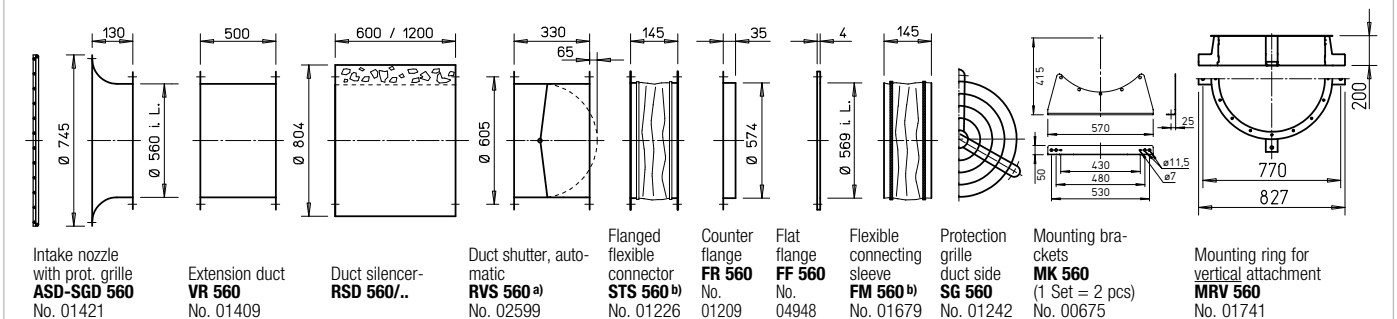
Flexible connecting sleeve
FM 560 Ex Ref. no. 02508

Filters and silencers 481 ff.

Shutters and ventilation grilles 561 ff.

Speed controllers, controllers and switches 599 ff.

Accessories VAR 560 Description see page 276 ff.



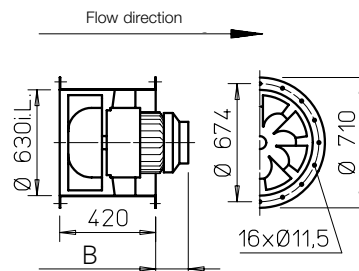
^{a)} Shutter, motorised see Accessories product pages. ^{b)} Types for explosion-proof fans see left page.

VAR 630



Also available in version:

Dimensions VAR 630



Dim. B see table
Dim. in mm

■ **Casing**

Duct with double-sided flange DIN 24155 p. 3. welded construction, hot-dip galvanised. Welded-in guide wheel with inner hub for mounting the flange motor, hot-dip galvanised.

■ **Impeller**

Optimised for high pressure and volume performance. Special development with spatially curved blades made of hot-dip galvanised steel.

■ **Drive**

Directly through maintenance-free flange motor. Closed design type IP54. Aluminium or grey cast iron casing with cooling fins. Radio interference-free, sealed ball bearings. Tropicalised winding with moisture proof coating. With condensate drain holes upon request (except for explosion-proof types), and the installation method must be indicated when placing the order.

■ **Power control**

Continuously variable (0-100 %) through the use of a frequency inverter (except for pole-changeable models). The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. Explosion-proof types are not controllable.

■ **Electrical connection**

Standard terminal box (protection category IP55) on outside of duct.

■ **Installation**

Installation possible in any position; but be aware of any condensate drain holes depending on usage.

■ **Motor protection**

Type VARD 630/4 is equipped with PTC thermistors. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection. Motors without thermal contacts must be protected by means of on-site a motor protection circuit breaker.

■ **Noise levels**

See sound power information above performance diagram. The lower sound pressure value can be determined using the diagram on the "Technical information" page. See page 14 f for noise emissions and room acoustics.

Reference	Page
Techn. description	254
Selection table	255
Planning information	14 ff.

■ **Special design**

Different voltage, frequency, protection category, higher air flow temperature and acid protection upon request.

The technical information on p. 19 ff. must be observed.

Type	Ref. no.	Speed	Flow rate free-blow.	Power consump.*	Voltage	Current consumption*		Wiring diagram	Max. air flow temp.		Weight net	Dim. B Motor protrusion	Speed controller 5-step Pole chang. switch		Motor protection circuit breaker for connecting built-in thermal contacts		Vibration dampers	
						at rated voltage	with control		at rated voltage	with control			Type	Ref. no.	Type	No.	Compr.	Tens.
		min ⁻¹	V m ³ /h	kW	V	A	A	No.	+°C	+°C	ca. kg	mm					Type	Type
Three-phase current, 50 Hz, protection category IP5																		
VARD 630/4	06717	1400	21320	6.20	400	12.0/6.9	—	776	60	—	145.0	230	FU-BS 16 ⁹⁾ 05463	MSA ⁴⁾ 01289	SDD 2		SDZ 2	
Pole-changeable, 2 speeds (Dahlander winding $\gamma/\gamma\gamma$), Three-phase current, 50 Hz, protection category IP54													Pole chang. switch					
VARD 630/8/4	06792	715/1430	10590/21170	1.40/5.50	400	5.0/12.0	—	471	60	—	145.0	255	PDA 12 ⁹⁾ 05081	—	—	SDD 2		SDZ 2
Ex Explosion-proof, II 2G Ex h IIB T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																		
VARD 630/8 Ex	06718	705	10220	0.95	400	2.75	—	470	40	—	110.0	148	not permitted	not permitted		SDD 2		SDZ 2
VARD 630/6 Ex	06719	950	13990	1.90	400	4.70	—	470	40	—	130.0	170	not permitted	not permitted		SDD 2		SDZ 2
VARD 630/4 Ex ⁹⁾	06720	1435	21400	6.80	400	13.1	—	498	40	—	165.0	251	not permitted	not permitted		SDD 2		SDZ 3

* For Ex types: Motor ratings see information on page 20.

¹⁾ incl. motor protection circuit breaker and sine filter.

²⁾ includes operating and speed switch.

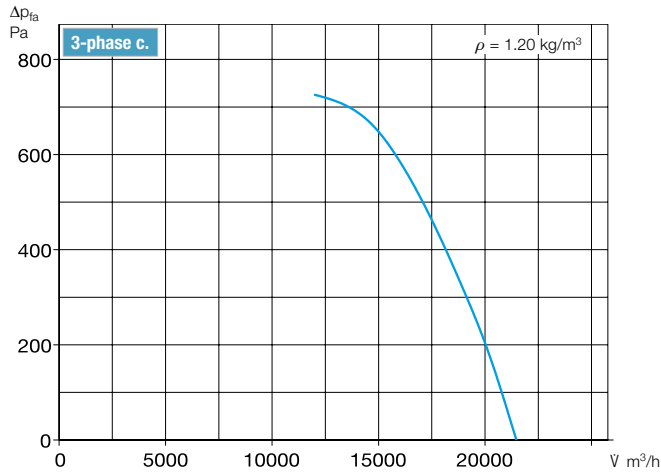
³⁾ Flush-m. version see Switch product page. ⁴⁾ for PTC thermistor temperature sensor.

⁵⁾ A vibration monitoring system (on-site) must be provided according to DIN EN 14986.

Performance curve VAR 630/4

n=1450 1/min

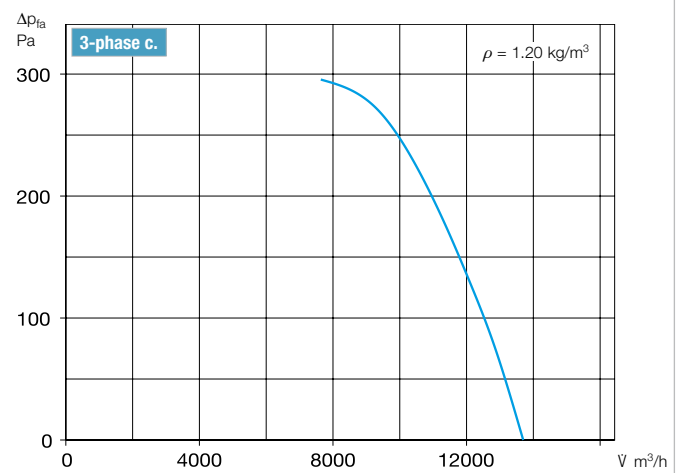
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	97	73	89	91	93	84	74
L _{PA, 4m}	Air noise	dB(A)	77	53	69	71	71	64	54



Performance curve VAR 630/6

n=1450 1/min

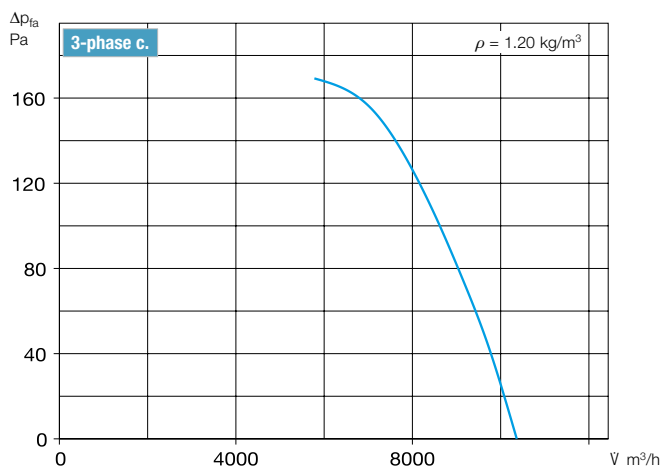
Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	87	70	76	82	83	78	62
L _{PA, 4m}	Air noise	dB(A)	67	50	56	62	63	58	42



Performance curve VAR 630/8

n=725 1/min

Frequency	Hz	Tot.	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	80	65	71	76	75	62	55
L _{PA, 4m}	Air noise	dB(A)	60	45	51	56	55	42	35



Other accessories Page

Access. for expl.-proof fans

Flanged flexible connector
STS 630 Ex Ref. no. 02509

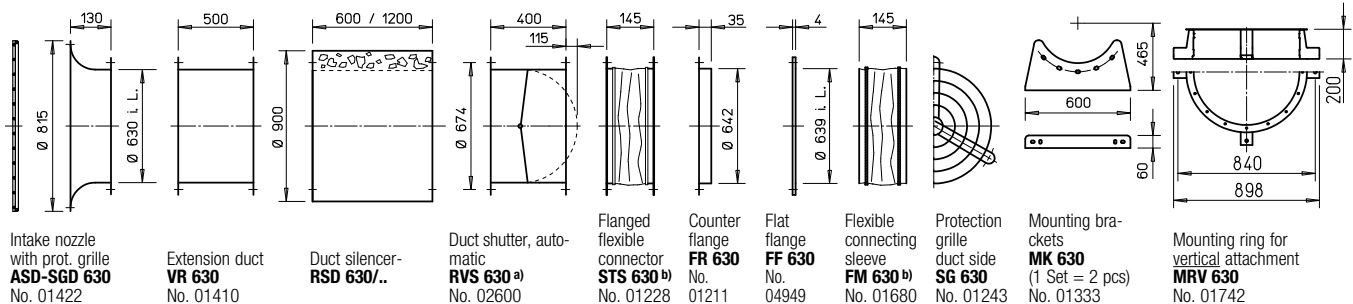
Flexible connecting sleeve
FM 630 Ex Ref. no. 01696

Filters and silencers 481 ff.

Shutters and ventilation grilles 561 ff.

Speed controllers, controllers and switches 599 ff.

Accessories VAR 630 Description see page 276 ff.



a) Shutter, motorised see Accessories product pages. b) Types for explosion-proof fans see left page.