

Being one of the leading European fan producers Helios always impress their customers anew with their extraordinary standard range of axial fans covering all pressure and volume ranges.

Worldwide well-known users trust Helios axial fans for ventilation, heating, cooling and drying applications. Large fans have been used successfully over decades e.g. in cooling towers and condensers.

Some short facts:

- Axial fans in four styles \varnothing 200 to 1000 mm, \dot{V} = 500 to 60 000 m³/h.

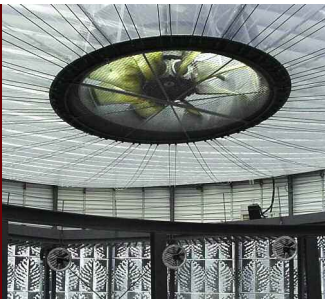
See following pages.

- Types for fire gases and smoke extraction according to DIN 12101 Pt. 3 in temperature classes F 300 (60 min.), F 400 (120 min.) and F 600 (120 min.).

See special catalogue, or get in touch with local rep for details.

- Axial fans for technical building industry \varnothing 710 to 1800 mm, \dot{V} = 11 000 to 240 000 m³/h.

- Large axial fans for special applications \varnothing 2000 to 7100 mm, \dot{V} to 2.2 Mio. m³/h. Are constructed for customised demands within the standard range. **See "AxialSoft".**



"Balancing act" at EXPO in Hannover. One main fan with \varnothing 2800 mm and as well as 40 further fans, arranged in a spiral shaped have been used to achieve the biggest artificial tornado in the world with a height of 22 m.



Axial fan with air flow volume up to 150 000 m³/h and upstream guide vane. Application: Realistic simulation of different air flow situations.



Axial fans of the type range AVD DL.. with an impeller diameter of 3150 mm, complete output: circa 3 Mio. m³/h. Use: in cooling towers of two papermills.

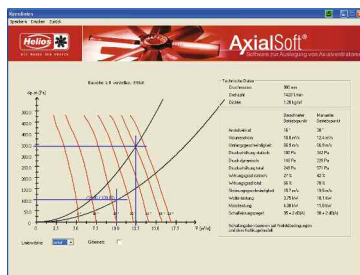


**Helios's flair in aerodynamics:
Axial fans without limits.**

The software for selection of large axial fans

With AxialSoft the specification and selection of large axial fans is really simple. After input of operating point and design the software determines the suitable models. Other optional inputs like impeller type and performance limit the further specification. The result is performance curves, sound values and printable project lists are issued.

AxialSoft can be downloaded under www.heliosventilatoren.de.



Really simple selection of large axial fans with intuitively applicable software: AxialSoft.



The following information completes the sector 'general information'.

Types

- HELIOS offer a wide range of products and therefore are able to supply fans for almost any application.
- High efficiency axial fans are available in over 20 standard sizes and include more than 1 000 different models; many of which are shown in this catalogue.
- Closely matched air flow volume and pressure can be achieved on larger fans with a maximum diameter of 7 100 mm through adjustable pitch angle. Four standard casing types are available.

Models

Shown in this catalogue

1. **Wall fan HQ – square plate axial fan with inlet cone**
Casing made from galvanised steel. Motor with terminal box and motor side guard.
2. **Wall fan HW, AVD DK – circular plate axial with inlet cone**
Casing made from galvanised steel. Motor with terminal box and motor side guard.
3. **In wall fan HS Cylindrical duct case with spigot ends**
For flush, wall or in-line duct installation. Casing made from galvanised steel with circular stiffening rings.
4. **Cased axials HRF, AVD RK Cylindrical duct with flanges on both ends**
For direct in-line installation in ducting. Flanges made to DIN 24155, PT. 3. Casing made from galvanised steel, additional terminal box (IP 55) on outer casing.

Motor form

- Depending on the motor specification e.g. protection class, power, fan diameter and installation – motors of the forms B 0, B 5, B 14 or V... are used.

Impeller

- Depending on the performance requirements the impellers are made from various materials; see product pages. The standard design is made from reinforced polymers. Other materials, aluminium or steel, are available on special order.
- All impellers feature:
 - Low noise characteristics.
 - High efficiency.

- Vibration free operation.
- Dynamically balanced to DIN ISO 1940 Pt. 1 – class 6.3.
- Profiled metal impellers made from cast aluminium (made to order) are available in all sizes.
- The standard models are suitable for air flow temperature from -30° to +60 °C. For higher temperatures metal impellers are available to order. See information on the product pages.

Angle

- The standard products till ø 630 mm equipped with fixed impeller blades.
- Starting from nominal size 710 mm (except HQW 710/6) the impeller blades are available with order related pitch angle.
- The installation size ø 800/4, 900/4 and ../6 as well as ø 1 000 mm have adjustable blades at standstill. This enables the fan to provide the exact duty required. The pitch angle is factory set (must be stated when ordering). The motors are selected using their maximum performance (see table on product page). The maximum pitch angle shown must not be exceeded as the motor will be overloaded.

Air flow direction

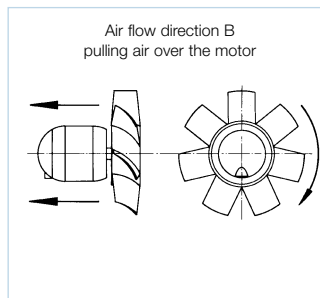
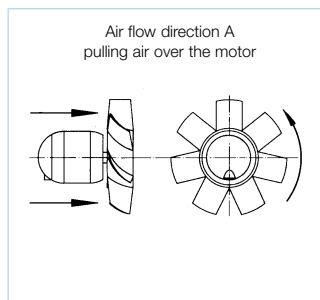
If not ordered differently, the fans (except HRF and AVD.. RK) come in air flow direction **A = pulling air over the motor. Air flow direction B = pushing air over the motor** is available for most models at a modest charge. HRF and AVD.. RK come in air flow direction B as standard.

- With most fans, the air flow direction can be changed after supply, should it be required. To do so you have to:
 1. Change the direction of rotation of the motor by changing the terminals on the terminal board.
 2. Remove impeller and put it the opposite way round on the shaft (only possible up to Ø 500 mm). Models HQ and HW allow for a 1/3 drop in performance.

Protection /guard

All relevant safety instructions and regulations must be followed when the fans are installed. A protection against accidental contact to VDE 0700 and/or DIN EN ISO 13857 must be guaranteed. The contact with rotating parts must be avoided. Make sure that there are no items near the inlet which could be pulled into the fan.

Fans which are connected to ducting systems do not need



guards if the ducting system offers protection to DIN EN ISO 13857.

We emphasise that the installer is responsible for the safety of the installation by fitting appropriate protection devices. Suitable guards are available as accessories. The responsibility that all relevant regulations have been observed remains with the installer.

Installation

Drainage holes

- Axial fans are suitable for installation in any position. If condensation is to be expected, (e.g. for intermittent operation, high humidity air flow or rapidly changing temperatures) the fan must be installed with the motor drainage holes facing downwards and they must be open.
- If installed outdoors, or in wet conditions or if installed with the motor shaft facing vertically upwards, this must be stated when ordering. Please make sure that the fan is fixed securely and the casing is not squeezed or distorted.

Reverse operation

Most axial fans are reversible (see product page). Using a suitable reversing switch. The fan can be used for intake or extract. In abnormal direction of flow the capacity decreases by approx. 1/3.

Air flow temperatures

The standard models are suitable for temperature from -30° to at least +40 °C. The maximum temperatures can be found on the specific product tables. Apart from explosion proof fans,

higher temperatures are possible for a short time. For permanently higher temperatures special models are available on request.

Built-in thermal contacts

- Standard for 1 phase models
- 3 phase motors: Standard for most models, see product page.

Explosion proof

The ex-proofed models conform to cluster II, category 2G for the operation in zone 1 or 2. According to EC-guidelines 94/9/EG bigger air gaps are specified which lead to a capacity reduction from up to 10 %.

Extra equipment, additional charge on demand

- Aluminium cast impeller
- Alternative voltage
- Alternative frequency
- Two pack coating for protection against diluted acids and lime solutions
- Alternative air flow direction
- Extra equipment for higher air flow temperatures
- Flameproof motor (standard with 1 phase explosion proof models)

Anti vibration insulation

To avoid vibration transmission to building and ducting the use of anti vibration mounts (accessory SDD, SDZ) is highly recommended. Larger frame size motors may protrude out of the casing and might move the centre of gravity within the fan. To avoid an uneven load on the anti vibration mounts, an extension duct is recommended (accessory VR...).

Information	Pages
Design of ventilation systems, acoustic, explosion proof	12
General technical information, speed control	17



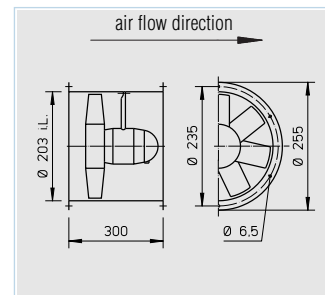
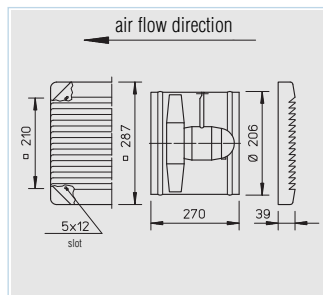
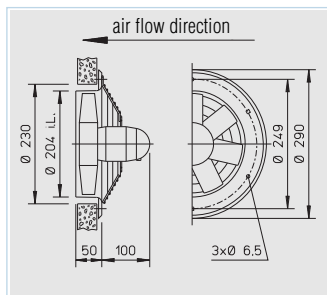
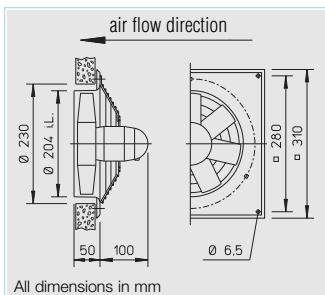
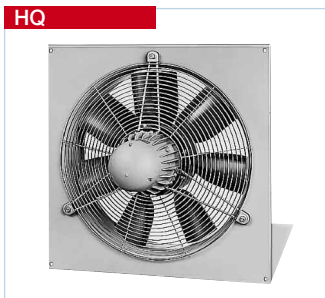
Quick selection chart Axial-high performance fans

Through a combination of diameter, static pressure Δp_{static} , air flow volume, R.P.M. min^{-1} , sound pressure level dB(A) and impeller diameter in mm the following table easily allows the selection of axial-high

performance fans from 200 \varnothing to 1000 mm \varnothing . Further sizes up to 1800 mm \varnothing are shown in a separate catalogue which is available on request.

Diameter mm	R.P.M. min^{-1}	Sound pressure level – intake L_{PA} dB(A) at 4 meters	Air flow volume in $\text{V m}^3/\text{s}$ against static pressure (Δp_{stat}) in Pa																
			0	10	20	30	40	50	60	80	100	120	140	160	200	250	300	350	400
200	2300	55 ¹⁾	0.253	0.239	0.225	0.211	0.197	0.136	0.117	0.092	0.061								
200	1360	42 ¹⁾	0.144	0.114	0.058	0.047													
250	2800	63	0.572	0.564	0.558	0.550	0.542	0.533	0.525	0.503	0.481	0.458	0.428	0.383					
250	1450	44	0.294	0.278	0.258	0.236	0.203												
250	1450	35	0.025	0.225	0.156	0.117	0.081	0.036											
250	950	31	0.189	0.158	0.117														
315	2800	70	1.144	1.136	1.128	1.119	1.108	1.100	1.089	1.067	1.044	1.019	0.992	0.964	0.900	0.789			
315	1450	51	0.589	0.572	0.553	0.528	0.500	0.472	0.433										
315	950	38	0.381	0.35	0.308	0.233													
315	725	30	0.286	0.236															
355	2800	74	1.642	1.631	1.619	1.611	1.600	1.589	1.578	1.556	1.531	1.505	1.478	1.447	1.386	1.300	1.186	0.992	
355	1450	55	0.844	0.825	0.803	0.781	0.750	0.722	0.689	0.606									
355	950	42	0.047	0.514	0.472	0.416	0.333												
355	725	34	0.414	0.364	0.269														
400	2800	78	2.347	2.336	2.325	2.314	2.303	2.292	2.278	2.253	2.228	2.200	2.172	2.142	2.078	1.992	1.897	1.786	1.633
400	1450	59	1.211	1.189	1.167	1.139	1.111	1.081	1.047	0.975	0.881	0.728							
400	950	45	0.789	0.753	0.706	0.656	0.589	0.478											
400	725	37	0.594	0.542	0.469	0.364													
450	2800	78	3.069	3.044	3.019	2.992	2.967	2.942	2.917	2.864	2.814	2.764	2.714	2.661	2.558	2.414	2.236	1.925	1.255
450	1450	62	1.725	1.700	1.675	1.647	1.619	1.589	1.553	1.478	1.397	1.300	1.150						
450	950	49	1.125	1.086	1.039	0.983	0.922	0.85	0.725										
450	725	51	0.853	0.794	0.722	0.622													
500	2800	81	3.653	3.622	0.536	0.506	0.478	3.503	3.472	3.414	3.353	3.294	3.234	3.178	3.058	2.883	2.667	2.394	1.497
500	1450	65	2.369	0.233	2.314	2.283	2.256	2.222	2.186	2.025	1.936	1.836	1.703	1.667					
500	950	52	1.544	1.503	1.453	1.397	1.336	1.267	1.189	0.933									
500	725	44	1.172	1.114	1.036	0.947	0.811												
560	1450	62	3.586	3.522	3.486	3.433	3.372	3.319	3.269	3.144	3.028	2.931	2.778	2.639	2.297				
560	950	52	2.250	2.133	2.047	1.967	1.856	1.744	1.619	1.269									
560	725	46	1.792	1.686	1.567	1.453	1.319	1.150											
630	1450	65	4.964	4.903	4.839	4.778	4.714	4.653	4.589	4.447	4.306	4.167	4.028	3.889	3.611	3.139			
630	950	55	2.922	2.819	2.717	2.614	2.511	2.408	2.283	2.017									
630	725	49	2.222	2.106	1.947	1.814	1.642	1.472											
710	1450	71	6.594	6.525	6.456	6.383	6.314	6.242	6.167	6.017	5.858	5.694	5.528	5.358	5.003	4.511	3.889	3.072	
710	935	61	4.236	4.128	4.014	3.900	3.775	3.650	3.500	3.247	2.947	2.578	2.067						
710	700	54	3.153	3.003	2.847	2.675	2.497	2.306	2.083	1.483									
800	1435	73	8.986	8.900	8.811	8.722	8.636	8.547	8.469	8.294	8.119	7.947	7.775	7.592	7.206	6.672	6.133		
800	945	62	5.756	5.633	5.508	5.375	5.236	5.080	4.919	4.592	4.258	3.844	2.983						
800	705	55	4.272	4.106	3.922	3.717	3.494	3.275	3.028										
800	480	45	2.869	2.600	2.281	1.886													
900	1435	76	12.794	12.694	12.608	12.508	12.408	12.308	12.222	12.022	11.833	11.633	11.436	11.333	10.850	10.308	9.706	9.111	8.428
900	950	66	8.472	8.361	8.194	8.083	7.917	7.750	7.611	7.306	6.972	6.642	6.308	5.919					
900	725	59	5.878	5.669	5.456	5.236	5.003	4.756	4.481	4.167									
900	480	49	4.281	4.001	3.694	3.383	3.019												
1000	1440	80	17.617	17.508	17.403	17.294	17.186	17.081	16.975	16.758	16.544	16.331	16.114	15.900	15.472	14.919	14.331	13.683	13.008
1000	950	69	11.594	11.431	11.269	11.108	10.944	10.781	10.619	10.294	9.964	9.614	9.239	8.836	8.022				
1000	725	62	8.822	8.608	8.394	8.183	7.969	7.758	7.536	7.058	6.528	5.983							
1000	480	52	5.786	5.464	5.144	4.800	4.408	4.003											

¹⁾ L_{PA} dB(A) at 1 m



All dimensions in mm

■ Specification

□ Casing

Manufactured in galvanised sheet steel. Models HQ and HW have the additional protection of two coats of light grey paint.

□ Impeller

Highly efficient, profiled 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Motor

Totally enclosed, reversible motor with a die-cast aluminium casing, protected to IP 54. Sealed for life ball bearings with tropicalized protection of windings and radio suppression. For maximum air flow temperature see table below.

□ Motor protection

All models have automatic resetting thermal contacts wired in series with the motor windings.

□ Electrical connection

Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing.

□ Guard

HQ and HW models have powder coated motor side wire guard. HS models have robust, impact resistant white polymer grilles. All grilles to DIN EN ISO 13857.

□ Speed control

All models are speed controllable by voltage reduction (transformer controller or electronic controller). For according air flow volume see performance curve.

□ Reversed operation

All models are reversible when wired to a DSEL reversing switch. For reverse air flow direction allow for 1/3 drop in performance.

□ Installation

Installation in any position. Ensure that motor drainage holes face downwards.

□ Sound levels

Both sound power and sound pressure levels are shown on each performance curve. Sound pressure levels are measured at 1 meter in freefield conditions and are the calculated average between the inlet and exhaust data. Further acoustical information see page 13.

■ Information Pages

Technical description	116
Selection chart	117
Design of systems	12 on

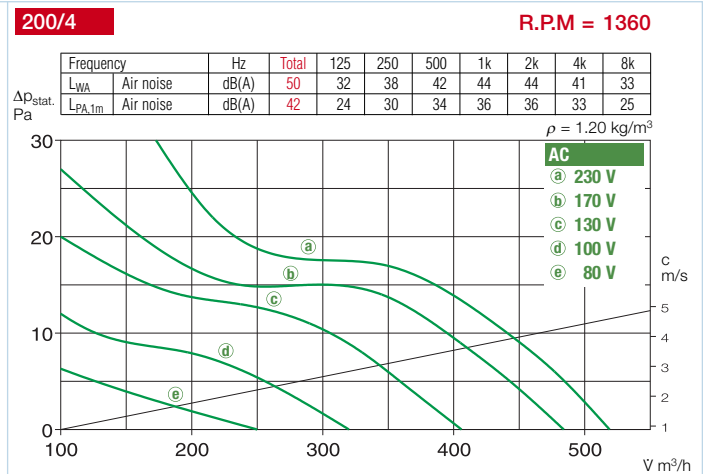
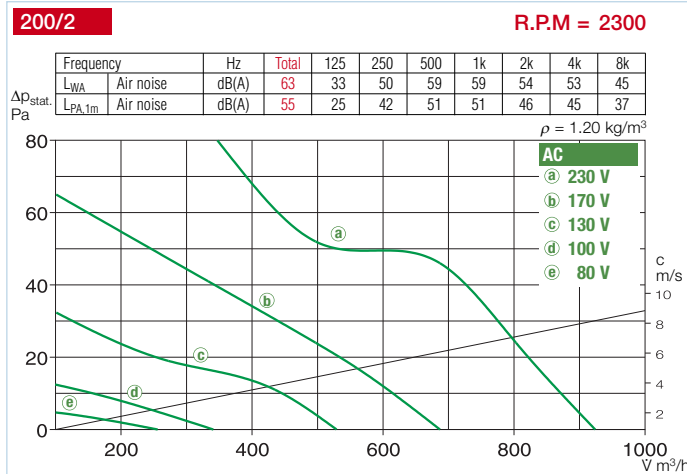
Made to order designs

Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction B, cast aluminium impeller etc. are available on request.

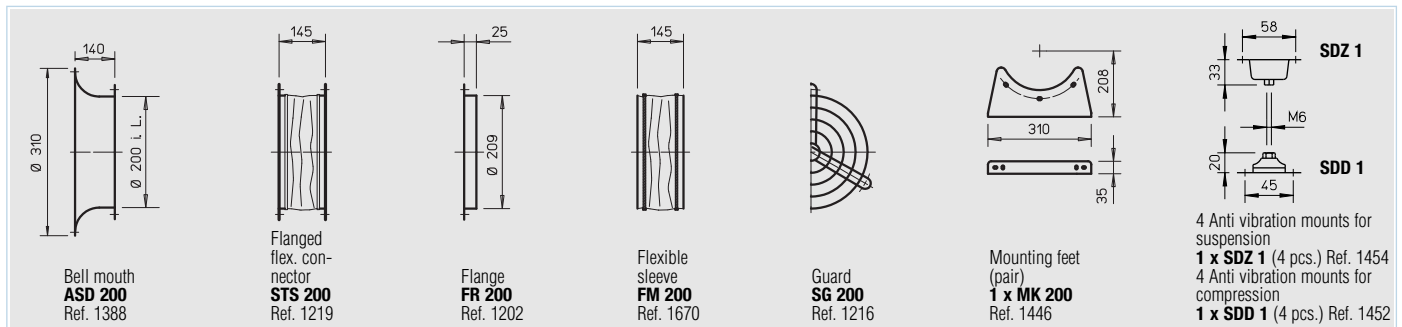
For safety and correct use note the technical information on pages 17 on.

R.P.M.	Air flow volume (FID)	Motor power (nominal)	Current full load	Current speed controlled	Wiring diagram No.	Maximum standard supply	air flow temp speed controlled	Nominal weight (net.)	Fan type							
									HQ incl. guard	Ref. No.	HW incl. guard	Ref. No.	HS incl. grille	Ref. No.	HRF	Ref. No.
min ⁻¹	V m ³ /h	W	A	A	No.	+°C	+°C	kg								
1 Phase motor, 230 V / 1ph. / 50 Hz, protection to IP 54																
1360	520	30	0.13	0.13	439 ¹⁾	60	40	2.7	HQW 200/4	7537	HW 200/4	7538	HSW 200/4	7502	HRFW 200/4 ¹⁾	7540
2300	930	70	0.26	0.26	439 ¹⁾	60	40	2.7	HQW 200/2	0960	—	—	HSW 200/2	7503	HRFW 200/2 ¹⁾	0199

¹⁾ Type HRFW: connect using wiring diagram No. SS-962

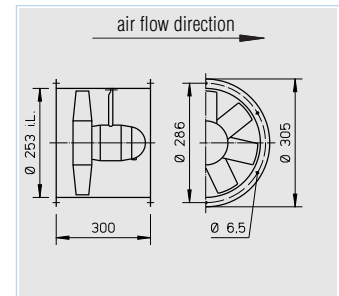
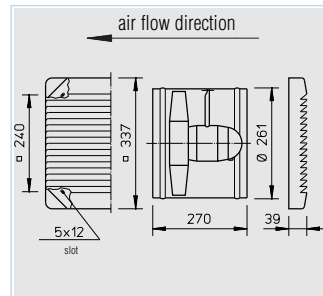
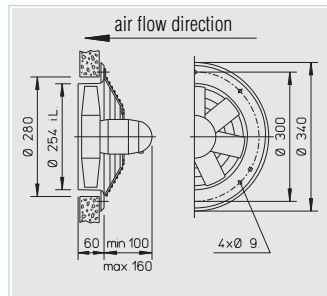
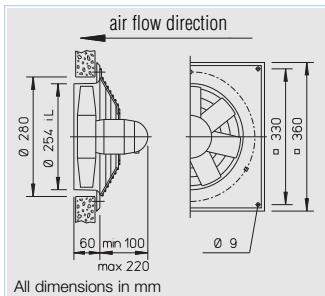
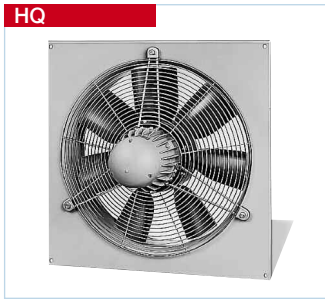


Accessories for cased axial fans HRF – Specification see pages 170 on.



Other accessories	Pages
Extension tube for HS VH 200 Cylindrical duct, galvanised steel, length: 150 mm.	Ref. No. 1349
Filters and attenuators	305 on
Shutters, grilles and louvres	361 on
Speed controllers and switches	397 on

Transformer controller for 5 speed control	Electronic controller for stepless control	Reversing switch	Electronic controller with reversing switch
Type	Type	Type	Type
TSW 0.3	ESU 1/ESA 1	DSEL 2	BSX
Ref. No. 3608	Ref. No. 0236/0238	Ref. No. 1306	Ref. No. 0240
TSW 0.3	ESU 1/ESA 1	DSEL 2	BSX
Ref. No. 3608	Ref. No. 0236/0238	Ref. No. 1306	Ref. No. 0240



■ Specification

□ Casing

Manufactured in galvanised sheet steel. Models HQ and HW have the additional protection of two coats of light grey paint.

□ Impeller

Highly efficient, profiled 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Motor

Totally enclosed, reversible motor with a die-cast aluminium casing, protected to IP 54/IP 55. Sealed for life ball bearings with tropicalized protection of windings and radio suppression. For maximum air flow temperature see table below.

□ Motor protection

All models (except explosion proof) have thermal contacts as standard which must be connected to a motor protection unit (see below). The models H..W 250/6, H..W 250/4 and all 1 ph. ex-proof fans have automatic resetting thermal contacts wired in series with the motor windings.

□ Electrical connection

Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing. Explosion proof models may vary.

□ Guard

HQ and HW models have powder coated motor side wire guard (HQ.. Ex zinc plated). HS models have robust, impact resistant white polymer grilles. All grilles to DIN EN ISO 13857.

□ Speed control

For all speed controllable models the current is given in the 'speed controlled' column of the table below which must be used when selecting a controller. The air flow rates are shown in the performance curve family.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 drop in performance.

□ Installation

Installation in any position. Ensure that motor drainage holes face downwards.

□ Dimensions

Dimensions are shown above. Pole-switching and explosion proof models may vary.

□ Sound levels

Both sound power and sound pressure levels are shown on each performance curve.

□ Sound pressure levels

are measured at 4 meters in freefield conditions and are the calculated average between the inlet and exhaust data. Further acoustical information see page 13.

Information Pages

Technical description	116
Selection chart	117
Design of systems	12 on

Made to order designs

Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction B, cast aluminium impeller etc. are available on request.

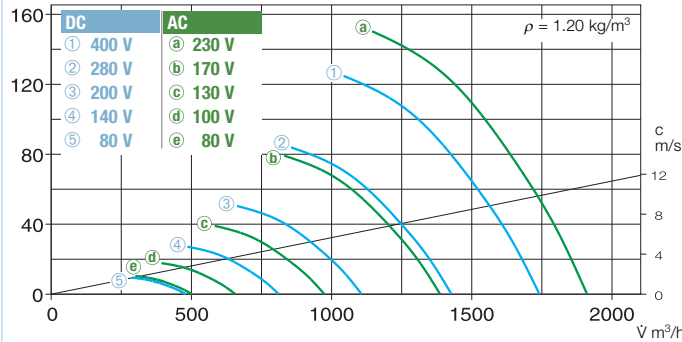
For safety and correct use note the technical information on pages 17 on.

R.P.M.	Air flow volume (FID)	Motor power (nominal)*	Current*		Wiring diagram	Maximum air flow temp		Nominal weight (net)	Fan type							
			full load	speed controlled		standard supply	speed controlled		HQ incl. guard	Ref. No.	HW incl. guard	Ref. No.	HS incl. guard	Ref. No.	HRF	Ref. No.
min ⁻¹	V m ³ /h	W	A	A	No.	+°C	+°C	kg								
1 Phase motor, 230 V / 1 ph. / 50 Hz, protection to IP 55																
950	700	33	0.20	0.20	317	60	40	6.5	HQW 250/6	1102	—	—	HSW 250/6	0139	—	—
1380	960	44	0.20	0.20	439 ²⁾	60	40	7.5	HQW 250/4 ¹⁾	1103	HWW 250/4 ¹⁾	1001	HSW 250/4 ¹⁾	0140	HRFW 250/4 ¹⁾²⁾	0200
2590	1910	230	1.10	1.10	317 ³⁾	60	40	6.5	HQW 250/2	1104	HWW 250/2	1002	HSW 250/2	0141	HRFW 250/2 ³⁾	0201
3 Phase motor, 400 V / 3 ph. / 50 Hz, protection to IP 55																
980	720	62	0.27	0.27	469	60	40	6.5	HQD 250/6	1114	—	—	—	—	—	—
1410	1040	55	0.20	0.20	469	60	40	6.5	HQD 250/4	1115	HWD 250/4	1016	HSD 250/4	0155	HRFD 250/4	0220
2360	1740	205	0.40	0.40	469	60	40	6.5	HQD 250/2	1116	HWD 250/2	1017	—	—	HRFD 250/2	0221
2 speed motor, pole-switching, Dahlander windings, 400 V / 3 ph. / 50 Hz, protection to IP 55																
1400/2700	1030/2000	45/180	0.20/0.40		472	60	—	8.5	HQD 250/4/2	1128	—	—	—	—	HRFD 250/4/2	0390
Explosion proof E Ex de II B, 230 V / 1 ph. / 50 Hz, protection to IP 55, temperature class T1-T3																
1400	1030	60	0.70		757	40	—	6.5	HQW 250/4 Ex	0438	—	—	—	—	HRFW 250/4 Ex	0437
2650	1950	180	1.23		757	40	—	7.5	HQW 250/2 Ex	1094	—	—	—	—	HRFW 250/2 Ex	1095
Explosion proof E Exe II, 400 V / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
1400	1070	120	0.41		470	40	—	6.5	HQD 250/4 Ex	1144	—	—	—	—	HRFD 250/4 Ex	0470
2850	2070	250	0.72		470	40	—	6.5	HQD 250/2 Ex	1145	—	—	—	—	HRFD 250/2 Ex	0471

* Ex-models: Motor nominal value, for information see page 18 ¹⁾ Special design not possible ²⁾ Type HRFW./4: connect using wiring diagram No. SS-962 ³⁾ Type HRFW./2: connect using wiring diagram No. SS-963

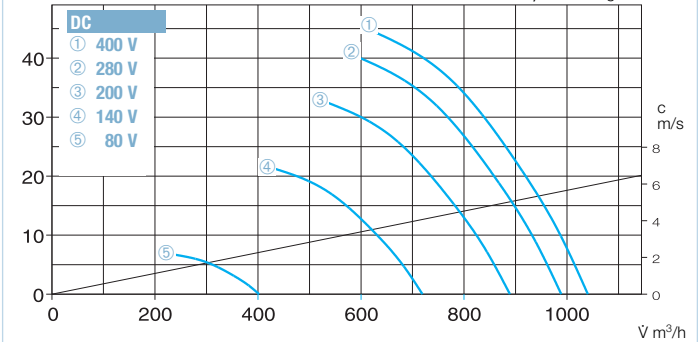
250/2 R.P.M. = 2800

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	83	58	74	76	81	75	72	64
L _{PA,4m}	Air noise	dB(A)	63	38	54	56	61	55	52	44



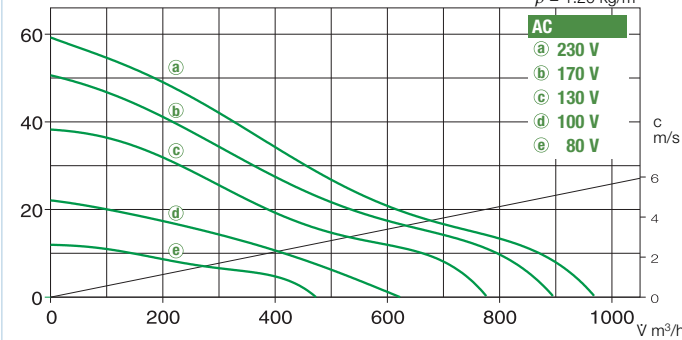
250/4 DC R.P.M. = 1450

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	64	50	54	61	58	56	51	42
L _{PA,4m}	Air noise	dB(A)	44	30	34	41	38	36	31	22



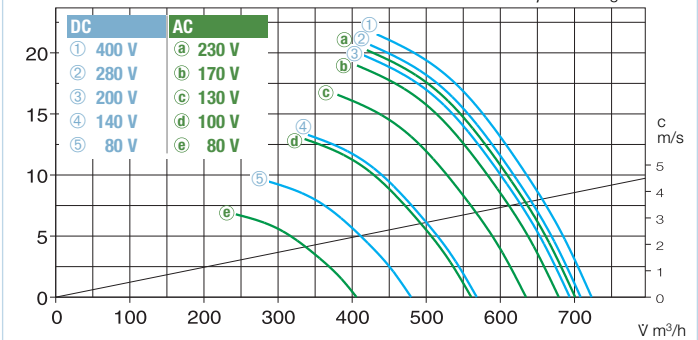
250/4 AC R.P.M. = 1400

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	55	37	43	47	49	49	46	38
L _{PA,4m}	Air noise	dB(A)	35	17	23	27	29	29	26	18



250/6 R.P.M. = 950

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	51	39	46	46	46	43	36	29
L _{PA,4m}	Air noise	dB(A)	31	19	29	26	26	23	—	—



Accessories for cased axial fans HRF – Specification see pages 170 on.

Technical drawings of various accessories for cased axial fans:

- Bell mouth + guard ASD-SGD 250 Ref. 1414
- Extension duct VR 250 Ref. 1402
- Circular attenuators RSD 250/..
- Automatic back-draught shutter RVS 250^{a)} Ref. 2592
- Flanged flex. connector STS 250^{b)} Ref. 1220
- Flange FR 250 Ref. 1203
- Flexible sleeve FM 250^{b)} Ref. 1672
- Guard SG 250 Ref. 1236
- Mounting feet (pair) 1 x MK 250 Ref. 1447
- 4 Anti vibration mounts for suspension 1 x SDZ 1 (4 pcs.) Ref. 1454
- 4 Anti vibration mounts for compression 1 x SDD 1 (4 pcs.) Ref. 1452

^{a)} For motorised shutters see accessory pages ^{b)} Models for ex-proof fans see below

Transformer controller for 5 speed control Pole switch		Electronic controller for stepless control		Full motor protection starter using the motor thermal contacts		Reversing switch	
Type	Ref. No.	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
TSW 0.3	3608	ESU 1/ESA 1	0236/0238	—	—	WS	1271
TSW 0.3	3608	ESU 1/ESA 1	0236/0238	—	—	DSEL 2	1306
TSW 1.5	1495	ESU 3/ESA 3	0237/0239	MW	1579	WS	1271
RDS 1 ⁴⁾	1314	—	—	MD	5849	WS	1271
RDS 1 ⁴⁾	1314	—	—	MD	5849	WS	1271
RDS 1 ⁴⁾	1314	—	—	MD	5849	WS	1271
Pole switch							
PDA 12 ⁵⁾	5081	—	—	M 3 ⁵⁾	1293	PWDA	1282
not permitted	not permitted	not permitted	not permitted	—	—	—	—
not permitted	not permitted	not permitted	not permitted	—	—	—	—
not permitted	not permitted	not permitted	not permitted	—	—	—	—
not permitted	not permitted	not permitted	not permitted	—	—	—	—

⁴⁾ Incl. full motor protection ⁵⁾ Incl. pole switch ⁶⁾ see product page for flush mounted version

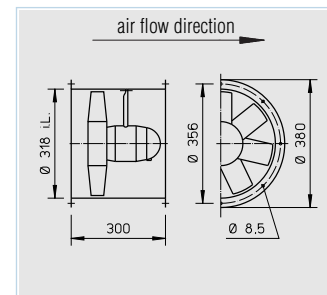
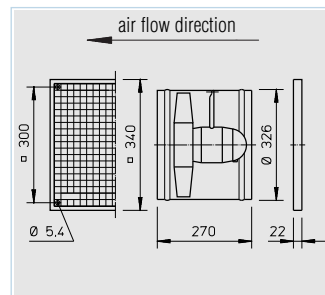
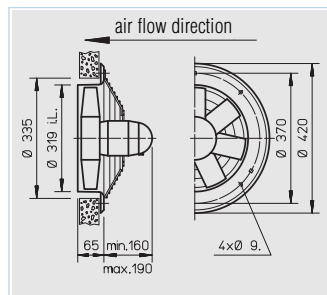
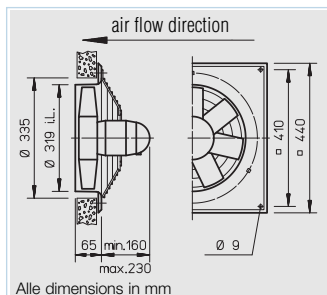
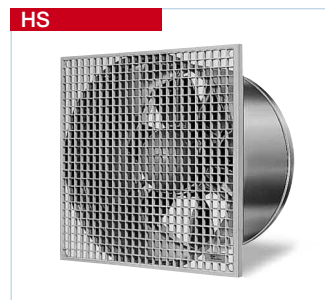
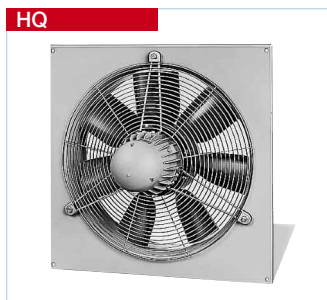
Other accessories Pages

^{b)} Accessories for explosion proof fans

- Flanged flexible connector STS 250 Ex Ref. No. 2501
- Flexible sleeve FM 250 Ex Ref. No. 1688

- Extension tube for HS VH 250 Ref. No. 1343
- Cylindrical duct, galvanised steel, length: 150 mm.

- Filters and attenuators 305 on
- Shutters, grilles and louvers 361 on
- Speed controllers and switches 397 on



■ Specification

□ Casing

Manufactured in galvanised sheet steel. Models HQ and HW have the additional protection of two coats of light grey paint.

□ Impeller

Highly efficient, profiled 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Motor

Totally enclosed, reversible motor with a die-cast aluminium casing, protected to IP 54/IP 55. Sealed for life ball bearings with tropicalized protection of windings and radio suppression. For maximum air flow temperature see table below.

□ Motor protection

All models (except 3 ph. explosion proof) have thermal contacts as standard which must be connected to a motor protection unit (see below). Models H..W 315/6 and all 1 ph. ex-proof fans have automatic resetting thermal contacts wired in series with the motor windings.

□ Electrical connection

Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing. Explosion proof models may vary.

□ Guard

HQ and HW models have powder coated motor side wire guard (HQ.. Ex zinc plated). HS models have robust, impact resistant white polymer grilles. All grilles to DIN EN ISO 13857.

□ Speed control

For all speed controllable models the current is given in the 'speed controlled' column of the table below which must be used when selecting a controller. The air flow rates are shown in the performance curve family.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 drop in performance.

□ Installation

Installation in any position. Ensure that motor drainage holes face downwards.

□ Dimensions

Dimensions are shown above. Pole-switching and explosion proof models may vary.

□ Sound levels

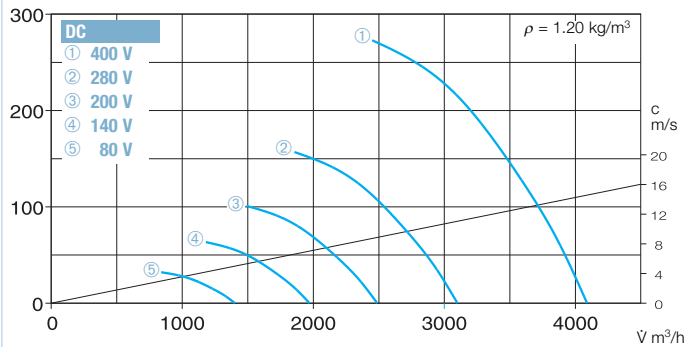
Both sound power and sound pressure levels are shown on each performance curve. Sound pressure levels are measured at 4 meters in freefield conditions and are the calculated average between the inlet and exhaust data. Further acoustical information see page 13.

R.P.M.	Air flow volume (FID)	Motor power (nominal)*	full load	Current* speed controlled	Wiring diagram	Maximum air flow temp standard supply	Nominal speed controlled	Nominal weight (net)	Fan type							
									HQ incl. guard	Ref. No.	HW incl. guard	Ref. No.	HS incl. guard	Ref. No.	HRF	Ref. No.
min ⁻¹	V m ³ /h	W	A	A	No.	+°C	+°C	kg								
1 Phase motor, 230 V / 1 ph. / 50 Hz, protection to IP 55																
915	1350	55	0.25	0.25	317 ¹⁾	60	40	8.0	HQW 315/6	1105	—	—	HSW 315/6	0142	HRFW 315/6 ¹⁾	0202
1405	2070	132	0.60	0.60	475 ²⁾	60	40	8.0	HQW 315/4	1106	HWW 315/4	1004	HSW 315/4	0143	HRFW 315/4 ²⁾	0203
3 Phase motor, 400 V / 3 ph. / 50 Hz, protection to IP 55																
955	1410	67	0.27	0.27	469	60	40	8.0	HQD 315/6	1117	—	—	—	—	—	—
1360	2010	96	0.25	0.25	469	60	40	8.0	HQD 315/4	1118	HWD 315/4	1019	HSD 315/4	0158	HRFD 315/4	0223
2700	3990	510	1.00	1.00	469	50	40	8.0	HQD 315/2	1119	HWD 315/2	1020	—	—	HRFD 315/2	0224
2 speed motor, 400 V / 3 ph. / 50 Hz, Y/Δ-motor, protection to IP 55																
1060/1360	1560/2000	65/100	0.12/0.24	—	520	60	—	8.0	HQD 315/4/4	1460	—	—	—	—	HRFD 315/4/4	1462
2 speed motor, pole-switching, Dahlander windings, 400 V / 3 ph. / 50 Hz, protection to IP 55																
725/1450	1070/2140	66/165	0.30/0.70	—	472	60	—	10.0	HQD 315/8/4	1129	—	—	HSD 315/8/4	0346	HRFD 315/8/4	0391
1420/2720	2100/4010	90/610	0.25/1.20	—	472	50	—	10.0	HQD 315/4/2	1131	—	—	HSD 315/4/2	0348	HRFD 315/4/2	0393
Explosion proof E Ex de II B, 230 V / 1 ph. / 50 Hz, protection to IP 55, temperature class T1-T3																
1400	2070	60	0.70	—	757	40	—	8.0	HQW 315/4 Ex	0442	—	—	—	—	HRFW 315/4 Ex	0439
Explosion proof E Exe II, 400 V / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
900	1400	180	0.71	—	470	40	—	8.0	HQD 315/6 Ex	1146	—	—	—	—	—	—
1400	2140	120	0.41	—	470	40	—	8.0	HQD 315/4 Ex	1147	—	—	—	—	HRFD 315/4 Ex	0473
2900	4130	550	1.31	—	470	40	—	8.0	HQD 315/2 Ex	1148	—	—	—	—	HRFD 315/2 Ex	0474

* Ex-models: Motor nominal value, for information see page 18 ¹⁾ Type HRFW../6: connect using wiring diagram No. SS-963 ²⁾ Type HRFW../4: connect using wiring diagram No. SS-965 ³⁾ Incl. full motor protection

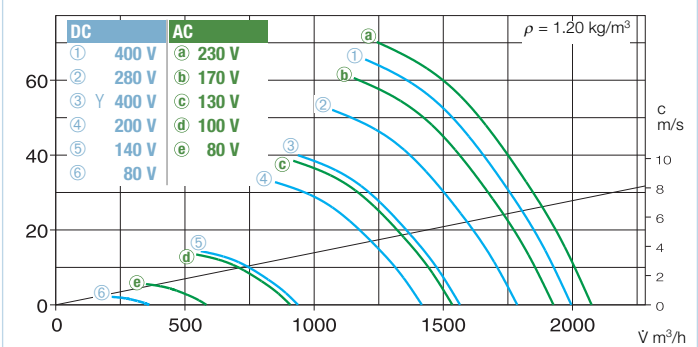
315/2 R.P.M. = 2800

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	90	65	81	83	88	82	79	72
L _{PA,4m}	Air noise	dB(A)	70	45	61	63	68	62	59	52



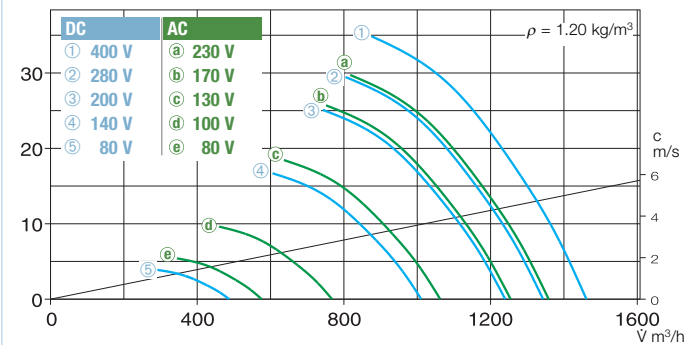
315/4 R.P.M. = 1450

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	71	57	61	68	65	63	58	49
L _{PA,4m}	Air noise	dB(A)	51	37	41	48	45	43	38	29



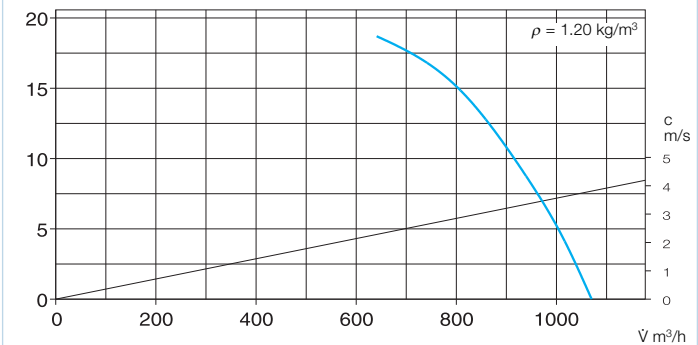
315/6 R.P.M. = 950

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	58	46	53	53	53	50	43	36
L _{PA,4m}	Air noise	dB(A)	38	26	33	33	33	30	23	16



315/8 R.P.M. = 725

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	50	37	46	45	45	41	34	29
L _{PA,4m}	Air noise	dB(A)	30	17	26	25	25	21	14	9



Accessories for cased axial fans HRF – Specification see pages 170 on.

Bell mouth + guard ASD-SGD 315 Ref. 1416
Extension duct VR 315 Ref. 1404
Circular attenuators RSD 315/..
Automatic back-draught shutter RVS 315^{a)} Ref. 2594
Flanged flex. connector STS 315^{b)} Ref. 1221
Flange FR 315 Ref. 1204
Flexible sleeve FM 315^{b)} Ref. 1674
Guard SG 315 Ref. 1237
Mounting feet (pair) 1 x MK 315 Ref. 1448
4 Anti vibration mounts for suspension 1 x SDZ 1 (4 pcs.) Ref. 1454
4 Anti vibration mounts for compression 1 x SDD 1 (4 pcs.) Ref. 1452

^{a)} For motorised shutters see accessory page ^{b)} Models for ex-proof fans see below

Type	Ref. No.	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
Transformer controller for 5 speed control, speed/ pole switch		Electronic controller for stepless control		Full motor protection starter using the motor thermal contacts		Reversing switch	
TSW 0.3	3608	ESU 1/ESA 1	0236/0238	—	—	WS	1271
MWS 1.5³⁾	1947	ESU 1/ESA 1	0236/0238	MW	1579	WS	1271
RDS 1³⁾	1314	—	—	MD	5849	WS	1271
RDS 1³⁾	1314	—	—	MD	5849	WS	1271
RDS 2³⁾	1315	—	—	MD	5849	WS	1271
Star/delta switch							
DS 2	1351	—	—	M 4⁴⁾	1571	WS	1271
Pole switch							
PDA 12⁵⁾	5081	—	—	M 3⁴⁾	1293	PWDA	1282
PDA 12⁵⁾	5081	—	—	M 3⁴⁾	1293	PWDA	1282
not permitted		not permitted		—	—	—	—
not permitted		not permitted		—	—	—	—
not permitted		not permitted		—	—	—	—
not permitted		not permitted		—	—	—	—

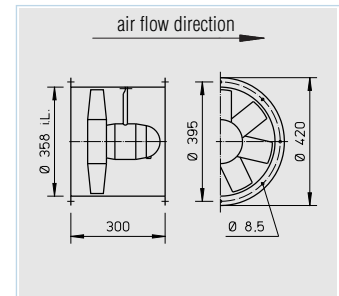
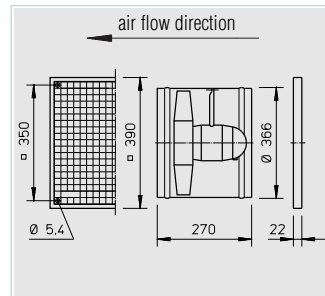
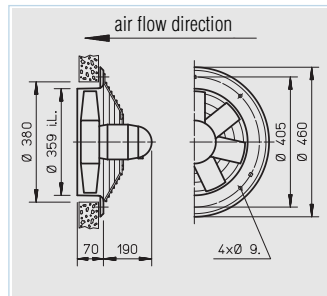
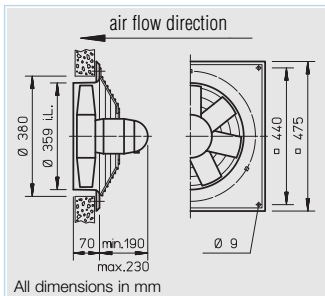
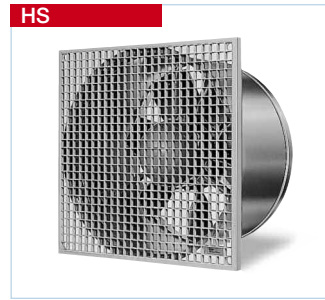
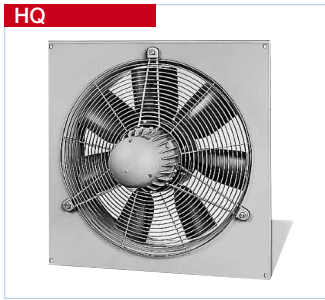
⁴⁾ Incl. pole switch ⁵⁾ see product page for flush mounted version

Information	Pages
Technical description	116
Selection chart	117
Design of systems	12 on

Made to order designs
 Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction B, cast aluminium impeller etc. are available on request.

For safety and correct use note the technical information on pages 17.

Other accessories	Pages
Accessories for explosion proof fans	
Flanged flexible connector STS 315 Ex	Ref. No. 2503
Flexible sleeve FM 315 Ex	Ref. No. 1690
Extension tube for HS VH 315	Ref. No. 1344
Cylindrical duct, galvanised steel, length: 150 mm.	
Filters and attenuators	305 on
Shutters, grilles and louvres	361 on
Speed controllers and switches	365 on



■ Specification

□ Casing

Manufactured in galvanised sheet steel. Models HQ and HW have the additional protection of two coats of light grey paint.

□ Impeller

Highly efficient, profiled 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Motor

Totally enclosed, reversible motor with a die-cast aluminium casing, protected to IP 54/IP 55. Sealed for life ball bearings with tropicalized protection of windings and radio suppression. For maximum air flow temperature see table below.

□ Motor protection

All models (except 3 ph. explosion proof) have thermal contacts as standard which must be connected to a motor protection unit (see below). 1 ph. ex-proof fans have automatic resetting thermal contacts wired in series with the motor windings.

□ Electrical connection

Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing. Explosion proof models may vary.

□ Guard

HQ and HW models have powder coated motor side wire guard (HQ.. Ex zinc plated). HS models have robust, impact resistant white polymer grilles. All grilles to DIN EN ISO 13857.

□ Speed control

For all speed controllable models the current is given in the 'speed controlled' column of the table below which must be used when selecting a controller. The air flow rates are shown in the performance curve family.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 drop in performance.

□ Installation

Installation in any position. Ensure that motor drainage holes face downwards.

□ Dimensions

Dimensions are shown above. Pole-switching and explosion proof models may vary.

□ Sound levels

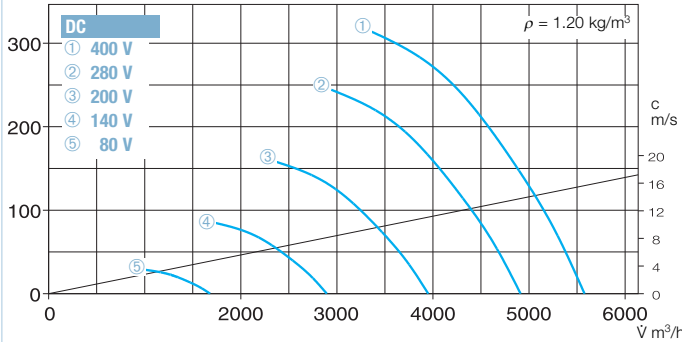
Both sound power and sound pressure levels are shown on each performance curve. Sound pressure levels are measured at 4 meters in freefield conditions and are the calculated average between the inlet and exhaust data. Further acoustical information see page 13.

R.P.M.	Air flow volume (FID)	Motor power (nominal)*	full load	Current* speed controlled	Wiring diagram	Maximum air flow temp standard supply	temp speed controlled	Nominal weight (net)	Fan type							
									HQ incl. guard	Ref. No.	HW incl. guard	Ref. No.	HS incl. guard	Ref. No.	HRF	Ref. No.
min ⁻¹	V m ³ /h	W	A	A	No.	+°C	+°C	kg								
1 Phase motor, 230 V / 1 ph. / 50 Hz, protection to IP 55																
940	1990	82	0.40	0.40	475 ¹⁾	60	40	9.5	HQW 355/6	1107	—	—	HSW 355/6	0144	HRFW 355/6 ¹⁾	0204
1405	2970	190	0.95	0.95	475 ¹⁾	60	40	9.5	HQW 355/4	1108	HWW 355/4	1006	HSW 355/4	0145	HRFW 355/4 ¹⁾	0205
3 Phase motor, 400 V / 3 ph. / 50 Hz, protection to IP 55																
950	2010	74	0.28	0.28	469	60	40	9.5	HQD 355/6	1120	—	—	—	—	—	—
1420	3000	290	1.12	1.12	469	60	40	9.5	HQD 355/4	1121	HWD 355/4	1022	HSD 355/4	0161	HRFD 355/4	0226
2650	5600	880	1.60	1.70	469	50	40	14.0	HQD 355/2	1122	HWD 355/2	1023	—	—	HRFD 355/2	0227
2 speed motor, 400 V / 3 ph. / 50 Hz, Y/Δ-motor, protection to IP 55																
1070/1340	2260/2830	90/130	0.16/0.28	—	520	60	—	9.5	HQD 355/4/4	1463	—	—	—	—	HRFD 355/4/4	1464
2 speed motor, pole-switching, Dahlander windings, 400 V / 3 ph. / 50 Hz, protection to IP 55																
710/1420	1500/3000	75/210	0.30/0.70	—	472	60	—	11.0	HQD 355/8/4	1132	—	—	HSD 355/8/4	0349	HRFD 355/8/4	0394
1400/2680	2950/5660	170/1100	0.55/2.00	—	472	50	—	13.5	HQD 355/4/2	1134	—	—	—	—	HRFD 355/4/2	0396
Explosion proof E Ex de II B, 230 V / 1 ph. / 50 Hz, protection to IP 55, temperature class T1-T3																
1450	2940	180	1.90	—	757	40	—	9.5	HQW 355/4 Ex	0444	—	—	—	—	HRFW 355/4 Ex	0443
Explosion proof E Exe II, 400 V / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
900	2010	180	0.71	—	470	40	—	9.5	HQD 355/6 Ex	1149	—	—	—	—	—	—
1400	3060	120	0.41	—	470	40	—	9.5	HQD 355/4 Ex	1150	—	—	—	—	HRFD 355/4 Ex	0476
2900	5910	550	1.31	—	470	40	—	9.5	HQD 355/2 Ex	1151	—	—	—	—	HRFD 355/2 Ex	0477

* Ex-models: Motor nominal value, for information see page 18 ¹⁾ Type HRFW: connect using wiring diagram No. SS-965 ²⁾ Incl. full motor protection ³⁾ Incl. pole switch

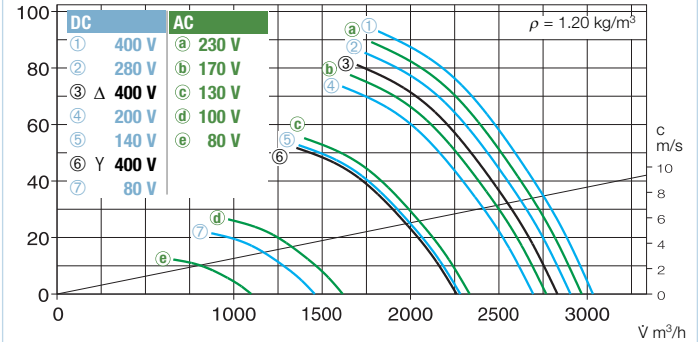
355/2 **R.P.M. = 2800**

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	94	68	85	86	92	86	83	75
L _{PA,4m}	Air noise	dB(A)	74	48	65	66	72	66	63	55



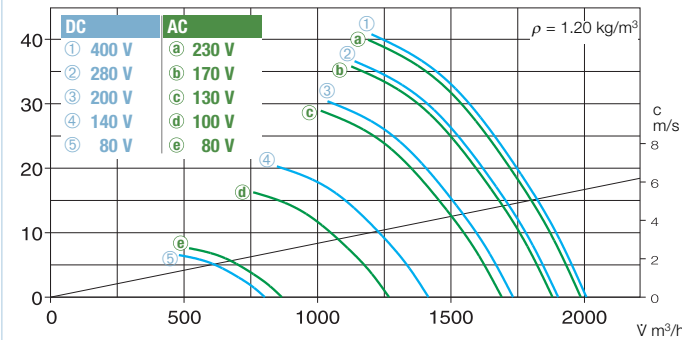
355/4 **R.P.M. = 1450**

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	75	61	65	72	69	67	61	52
L _{PA,4m}	Air noise	dB(A)	55	41	45	52	49	47	41	32



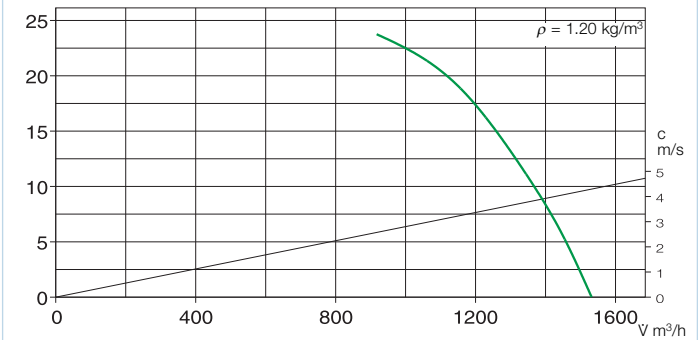
355/6 **R.P.M. = 950**

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	62	50	57	56	56	53	47	40
L _{PA,4m}	Air noise	dB(A)	42	30	37	36	36	33	27	20



355/8 **R.P.M. = 725**

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	54	40	50	48	48	44	37	33
L _{PA,4m}	Air noise	dB(A)	34	20	30	28	28	24	17	13



Accessories for cased axial fans HRF – Specification see pages 170 on.

Bell mouth + guard ASD-SGD 355 Ref. 1417
Extension duct VR 355 Ref. 1405
Circular attenuators RSD 355/..
Automatic back-draught shutter RVS 355 a) Ref. 2595
Flanged flex. connector STS 355 b) Ref. 1222
Flange FR 355 Ref. 1205
Flexible sleeve FM 355 b) Ref. 1675
Guard SG 355 Ref. 1238
Mounting feet (pair) 1 x MK 355 Ref. 1448
4 Anti vibration mounts for suspension 1 x SDZ 1 (4 pcs.) Ref. 1454
4 Anti vibration mounts for compression 1 x SDD 1 (4 pcs.) Ref. 1452

a) For motorised shutters see accessory page b) Models for ex-proof fans see below

Transformer controller for 5 speed control, speed/ pole switch		Electronic controller for stepless control		Full motor protection starter using the motor thermal contacts		Reversing switch	
Type	Ref. No.	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
MWS 1.5 ²⁾	1947	ESU 1/ESA 1	0236/0238	MW	1579	WS	1271
MWS 1.5 ²⁾	1947	ESU 1/ESA 1	0236/0238	MW	1579	WS	1271
RDS 1 ²⁾	1314	—	—	MD	5849	WS	1271
RDS 2 ²⁾	1315	—	—	MD	5849	WS	1271
RDS 2 ²⁾	1315	—	—	MD	5849	WS	1271
Star/delta switch							
DS 2	1351	—	—	M 4 ³⁾	1571	WS	1271
Pole switch							
PDA 12 ⁴⁾	5081	—	—	M 3 ³⁾	1293	PWDA	1282
PDA 12 ⁴⁾	5081	—	—	M 3 ³⁾	1293	PWDA	1282
not permitted	not permitted	not permitted	not permitted	—	—	—	—
not permitted	not permitted	not permitted	not permitted	—	—	—	—
not permitted	not permitted	not permitted	not permitted	—	—	—	—
not permitted	not permitted	not permitted	not permitted	—	—	—	—

4) see product page for flush mounted version

Information Pages

Technical description 116
 Selection chart 117
 Design of systems 12 on

Made to order designs
 Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction B, cast aluminium impeller etc. are available on request.

For safety and correct use note the technical information on pages 17 on.

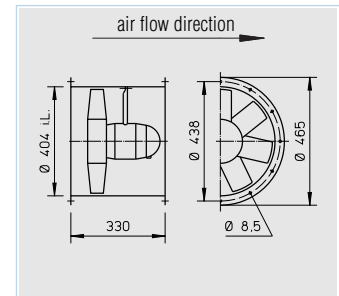
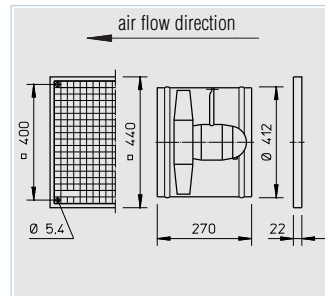
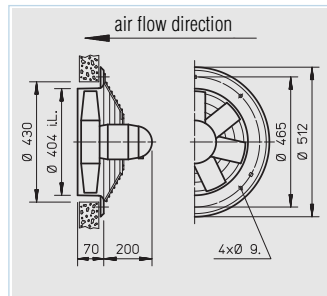
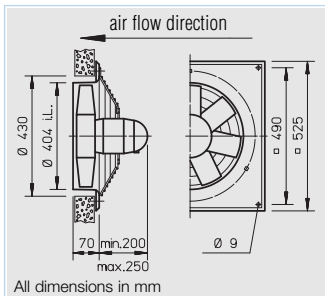
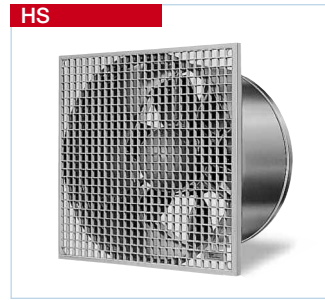
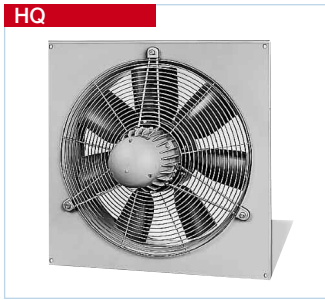
Other accessories Pages

b) Accessories for explosion proof fans

Flanged flexible connector STS 355 Ex Ref. No. 2504
Flexible sleeve FM 355 Ex Ref. No. 1691

Extension tube for HS VH 355 Ref. No. 1345
 Cylindrical duct, galvanised steel, length: 150 mm.

Filters and attenuators 305 on
 Shutters, grilles and louvers 361 on
 Speed controllers and switches 397 on



■ Specification

□ Casing

Manufactured in galvanised sheet steel. Models HQ and HW have the additional protection of two coats of light grey paint.

□ Impeller

Highly efficient, profiled 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Motor

Totally enclosed, reversible motor with a die-cast aluminium casing, protected to IP 54/IP 55. Sealed for life ball bearings with tropicalized protection of windings and radio suppression. For maximum air flow temperature see table below.

□ Motor protection

All models (except explosion proof) have thermal contacts as standard which must be connected to a motor protection unit (see below).

□ Electrical connection

Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing. Explosion proof models may vary.

□ Guard

HQ and HW models have powder coated motor side wire guard (HQ.. Ex zinc plated). HS models have robust, impact resistant white polymer grilles. All grilles to DIN EN ISO 13857.

□ Speed control

For all speed controllable models the current is given in the 'speed controlled' column of the table below which must be used when selecting a controller. If the fan is to be speed controlled by a frequency inverter this must be stated when ordering. The air flow rates are shown in the performance curve family.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 drop in performance.

□ Installation

Installation in any position. Ensure that motor drainage holes face downwards.

□ Dimensions

Dimensions are shown above. Pole-switching and explosion proof models may vary.

□ Sound levels

Both sound power and sound pressure levels are shown on each performance curve. Sound pressure levels are measured at 4 meters in freefield conditions and are the calculated average between the inlet and exhaust data. Further acoustical information see page 12.

■ Information Pages

Technical description	116
Selection chart	117
Design of systems	12 on

Made to order designs

Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction B, cast aluminium impeller etc. are available on request.

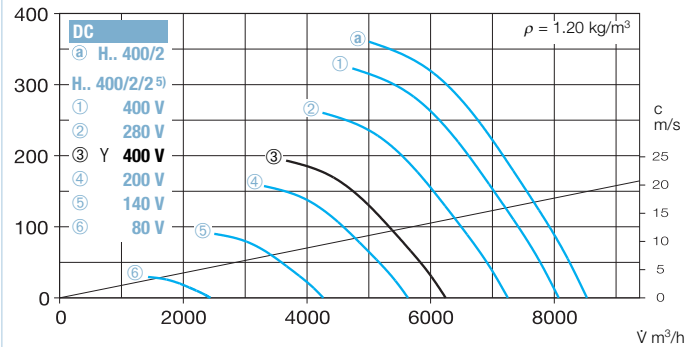
For safety and correct use note the technical information on pages 17 on.

R.P.M.	Air flow volume (FID)	Motor power (nominal)*	Current* full load	speed controlled	Wiring diagram No.	Maximum air flow temp standard supply +°C	Nominal weight (net) kg	Fan type								
								HQ incl. guard	Ref. No.	HW incl. guard	Ref. No.	HS incl. guard	Ref. No.	HRF	Ref. No.	
min ⁻¹	V m ³ /h	W	A	A	No.	+°C	+°C	kg								
1 Phase motor, 230 V / 1 ph. / 50 Hz, protection to IP 55																
900	2720	95	0.50	0.50	475 ¹⁾	60	40	13.0	HQW 400/6	1110	—	—	HSW 400/6	0146	HRFW 400/6¹⁾	0206
1320	3990	250	1.30	1.30	475 ¹⁾	60	40	13.0	HQW 400/4	1111	HWW 400/4	1008	HSW 400/4	0147	HRFW 400/4¹⁾	0207
3 Phase motor, 400 V / 3 ph. / 50 Hz, protection to IP 55																
935	2820	95	0.30	0.30	469	60	40	13.0	HQD 400/6	1123	—	—	—	—	—	—
1380	4170	300	0.85	0.85	469	60	40	13.0	HQD 400/4	1124	HWD 400/4	1025	HSD 400/4	0164	HRFD 400/4	0229
2800	8460	1400	2.80	—	469	40	40	17.5	HQD 400/2	1125	—	—	—	—	HRFD 400/2	0249
2 speed motor, 400 V / 3 ph. / 50 Hz, Y/Δ-motor, protection to IP 55																
1030/1320	3100/3990	140/220	0.25/0.45	—	520	60	—	13.0	HQD 400/4/4	1465	—	—	—	—	HRFD 400/4/4	1466
2 speed motor, pole-switching, Dahlander windings, 400 V / 3 ph. / 50 Hz, protection to IP 55																
660/1320	1990/3990	55/230	0.20/0.50	—	472	60	—	13.0	HQD 400/8/4	1137	—	—	HSD 400/8/4	0354	HRFD 400/8/4	0399
1470/2920	4440/8820	230/1450	0.75/2.85	—	472	40	—	17.5	HQD 400/4/2	1139	—	—	—	—	HRFD 400/4/2	0401
Explosion proof E Exe II, 400 V / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
900	2870	180	0.71	—	470	40	—	13.0	HQD 400/6 Ex	1152	—	—	—	—	—	—
1420	4380	370	1.14	—	470	40	—	13.0	HQD 400/4 Ex	1153	—	—	—	—	HRFD 400/4 Ex	0479

* Ex-models: Motor nominal value, for information see page 18 ¹⁾ Type HRFW: connect using wiring diagram No. SS-965 ²⁾ Incl. full motor protection ³⁾ Incl. pole switch

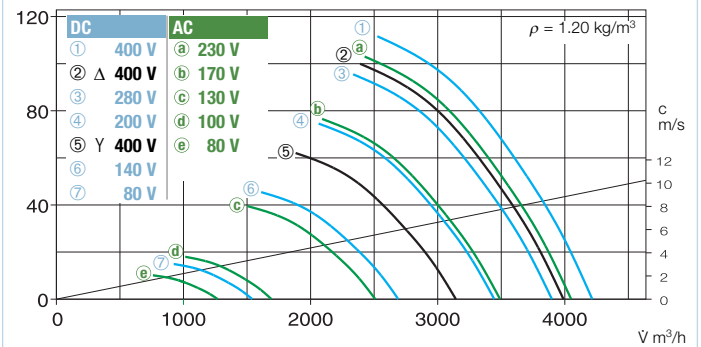
400/2 R.P.M. = 2800

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	98	72	89	90	95	90	86	79
L _{PA,4m}	Air noise	dB(A)	78	52	69	70	75	70	66	59



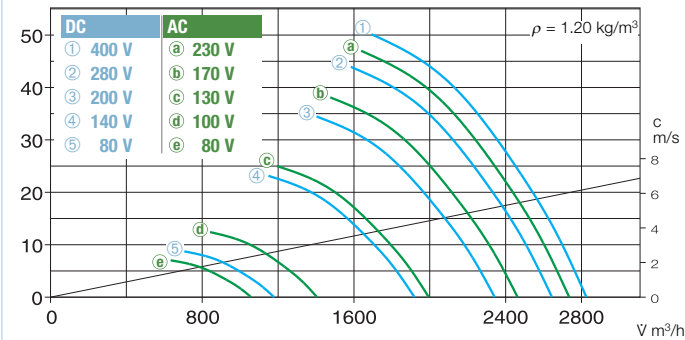
400/4 R.P.M. = 1450

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	79	65	69	76	72	70	65	56
L _{PA,4m}	Air noise	dB(A)	59	45	49	56	52	50	45	36



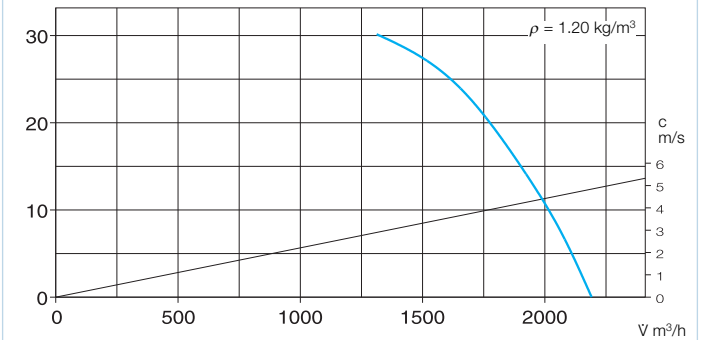
400/6 R.P.M. = 950

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	65	53	60	60	60	57	50	44
L _{PA,4m}	Air noise	dB(A)	45	33	40	40	40	37	30	24



400/8 R.P.M. = 725

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	57	44	53	52	52	48	41	37
L _{PA,4m}	Air noise	dB(A)	37	24	33	32	32	28	21	17



Accessories for cased axial fans HRF – Specification see pages 170 on.

Technical drawings of various accessories for cased axial fans:

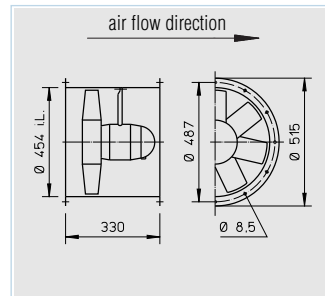
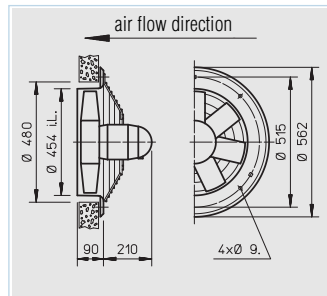
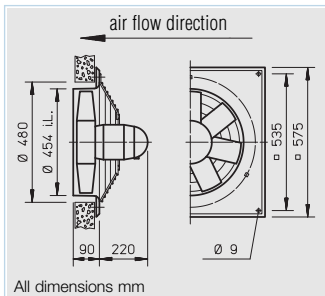
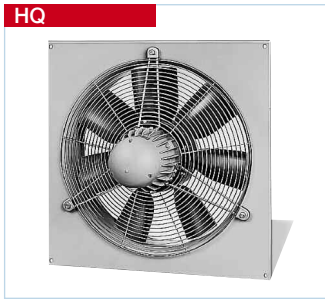
- Bell mouth + guard ASD-SGD 400 Ref. 1418
- Extension duct VR 400 Ref. 1406
- Circular attenuators RSD 400/.. Ref. 1406
- Automatic back-draught shutter RVS 400^{a)} Ref. 2596
- Flanged flex. connector STS 400^{b)} Ref. 1223
- Flange FR 400 Ref. 1206
- Flexible sleeve FM 400^{b)} Ref. 1676
- Guard SG 400 Ref. 1239
- Mounting feet (pair) 1 x MK 400 Ref. 1449
- 4 Anti vibration mounts for suspension 1 x SDZ 1 (4 pcs.) Ref. 1454
- 4 Anti vibration mounts for compression 1 x SDD 1 (4 pcs.) Ref. 1452

^{a)} For motorised shutters see accessory page ^{b)} Models for ex-proof fans see below

Transformer controller for 5 speed control, speed/pole switch		Electronic controller for stepless control frequency inverter		Full motor protection starter using the motor thermal contacts		Reversing switch	
Type	Ref. No.	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
MWS 1.5 ²⁾	1947	ESU 1/ESA 1	0236/0238	MW	1579	WS	1271
MWS 1.5 ²⁾	1947	ESU 3/ESA 3	0237/0239	MW	1579	WS	1271
RDS 1 ²⁾	1314	—	—	MD	5849	WS	1271
RDS 1 ²⁾	1314	—	—	MD	5849	WS	1271
— ⁵⁾	— ⁵⁾	FUS 3.7 ²⁾	6093	MD	5849	WS	1271
Star/delta switch							
DS 2	1351	—	—	M 4 ³⁾	1571	WS	1271
Pole switch							
PDA 12 ⁴⁾	5081	—	—	M 3 ³⁾	1293	PWDA	1282
PDA 12 ⁴⁾	5081	—	—	M 3 ³⁾	1293	PWDA	1282
not permitted	not permitted	not permitted	not permitted	—	—	—	—
not permitted	not permitted	not permitted	not permitted	—	—	—	—

⁴⁾ see product page for flush mounted version ⁵⁾ Controllable types ..2/2 on request.

Other accessories	Pages
b) Accessories for explosion proof fans	
Flanged flexible connector STS 400 Ex	Ref. No. 2505
Flexible sleeve FM 400 Ex	Ref. No. 1692
Extension tube for HS VH 400	
Cylindrical duct, galvanised steel, length: 150 mm.	Ref. No. 1346
Filters and attenuators	305 on
Shutters, grilles and louvres	361 on
Speed controllers and switches	397 on



■ Specification

□ Casing

Manufactured in galvanised sheet steel. Models HQ and HW have the additional protection of two coats of light grey paint.

□ Impeller

Highly efficient, profiled 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Motor

Totally enclosed, reversible motor with a die-cast aluminium casing, protected to IP 54/IP 55. Sealed for life ball bearings with tropicalized protection of windings and radio suppression. For maximum air flow temperature see table below.

□ Motor protection

All models (except explosion proof) have thermal contacts as standard which must be connected to a motor protection unit (see below).

□ Electrical connection

Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing. Explosion proof models may vary.

□ Guard

HQ and HW models have powder coated motor side wire guard. (HQ.. Ex zinc plated). All grilles to DIN EN ISO 13857.

□ Speed control

For all speed controllable models the current is given in the 'speed controlled' column of the table below which must be used when selecting a controller. The air flow rates are shown in the performance curve family.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 drop in performance.

□ Installation

Installation in any position. Ensure that motor drainage holes face downwards.

□ Dimensions

Dimensions are shown above. Pole-switching and explosion proof models may vary.

□ Sound levels

Both sound power and sound pressure levels are shown on each performance curve. Sound pressure levels are measured at 4 meters in freefield conditions and are the calculated average between the inlet and exhaust data. Further acoustical information see page 13.

Information	Pages
Technical description	116
Selection chart	117
Design of systems	12 on

Made to order designs

Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction B, cast aluminium impeller etc. are available on request.

For safety and correct use note the technical information on pages 17 on.

R.P.M.	Air flow volume (FID)	Motor power (nominal)*	Current* full load	Current* speed controlled	Wiring diagram	Maximum air flow temp standard supply	Maximum air flow temp speed controlled	Nominal weight (net)	Fan type				Transformer controller for 5 speed control Pole switch			
									HQ incl. guard	Ref. No.	HW incl. guard	Ref. No.	HRF	Ref. No.	Type	Ref. No.
min ⁻¹	V m ³ /h	W	A	A	No.	+°C	+°C	kg								
1 Phase motor, 230 V / 1 ph. / 50 Hz, protection to IP 55																
960	4130	182	0.90	1.00	475 ¹⁾	60	40	15.5	HQW 450/6	0991	—	—	HRFW 450/6 ¹⁾	0208	MWS 1.5 ²⁾	1947
1250	5380	488	2.10	2.10	475 ¹⁾	60	40	15.5	HQW 450/4	0992	HWW 450/4	1010	HRFW 450/4 ¹⁾	0209	MWS 3 ²⁾	1948
3 Phase motor, 400 V / 3 ph. / 50 Hz, protection to IP 55																
950	4090	166	0.40	0.45	469	60	40	15.5	HQD 450/6	0993	—	—	HRFD 450/6	0230	RDS 1 ²⁾	1314
1350	5800	480	0.90	1.10	469	50	40	15.5	HQD 450/4	0994	HWD 450/4	1028	HRFD 450/4	0231	RDS 2 ²⁾	1315
2 speed motor, 400 V / 3 ph. / 50 Hz, Y/Δ - motor, protection to IP 55																
1000/1330	4300/5740	300/480	0.56/0.94	—	520	60	—	15.5	HQD 450/4/4	1467	—	—	HRFD 450/4/4	1468	DS 2 ³⁾	1351
2550/2850	9900/11050	1500/1750	2.30/4.10	4.50	520	60	40	17.5	—	—	—	—	HRFD 450/2/2	0484	RDS 7 ²⁾	1578
2 speed motor, pole-switching, Dahlander windings, 400 V / 3 ph. / 50 Hz, protection to IP 55																
475/960	2050/4130	70/210	0.22/0.50	—	472	60	—	17.5	HQD 450/12/6	0995	—	—	—	—	PDA 12 ³⁾	5081
690/1360	2970/5850	102/515	0.36/1.00	—	472	50	—	17.5	HQD 450/8/4	0996	—	—	HRFD 450/8/4	0403	PDA 12 ³⁾	5081
Explosion proof E Exe II, 400 V / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
900	4090	180	0.71	—	470	40	—	15.5	HQD 450/6 Ex	1155	—	—	—	—	not permitted	
1420	6240	370	1.14	—	470	40	—	15.5	HQD 450/4 Ex	1154	—	—	HRFD 450/4 Ex	0481	not permitted	

* Ex-models: Motor nominal value, for information see page 18

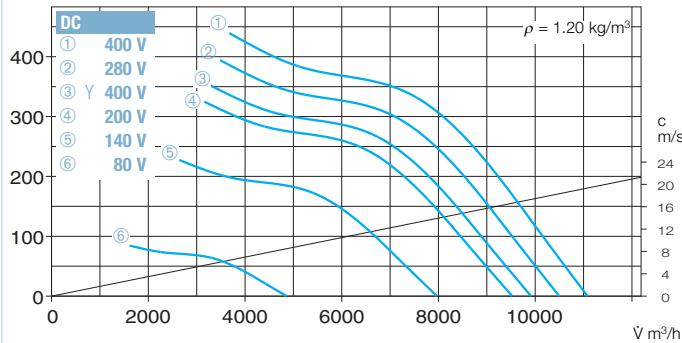
¹⁾ Type HRFW: connect using wiring diagram No. SS-965

²⁾ Incl. full motor protection

³⁾ see product page for flush mounted version

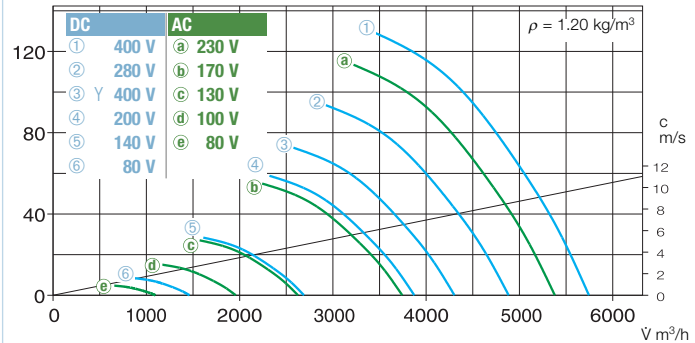
450/2 R.P.M. = 2800

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	98	72	89	91	96	90	87	79
L _{PA,4m}	Air noise	dB(A)	78	52	69	71	76	70	67	59



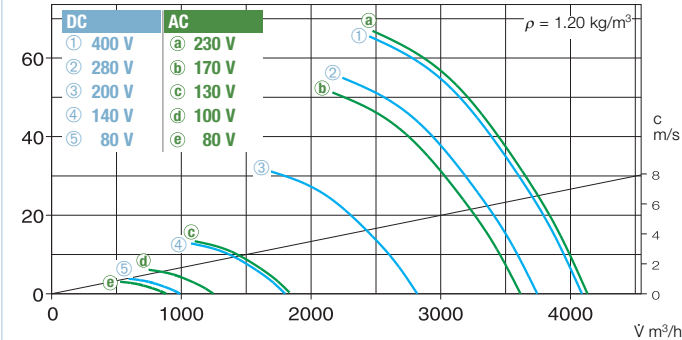
450/4 R.P.M. = 1450

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	82	68	72	79	76	74	68	60
L _{PA,4m}	Air noise	dB(A)	62	48	52	59	56	54	48	40



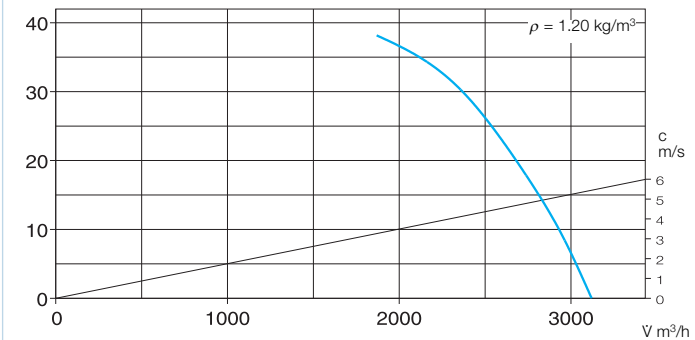
450/6 R.P.M. = 950

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	69	57	64	64	64	60	54	47
L _{PA,4m}	Air noise	dB(A)	49	37	44	44	44	40	34	27



450/8 R.P.M. = 725

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	61	48	57	56	55	51	45	40
L _{PA,4m}	Air noise	dB(A)	41	28	37	36	35	31	25	20



Accessories for cased axial fans HRF – Specification see pages 170 on.

Technical drawings of various accessories for axial fans:

- Bell mouth + guard **ASD-SGD 450** Ref. 1419
- Extension duct **VR 450** Ref. 1407
- Circular attenuators **RSD 450/..**
- Automatic back-draught shutter **RVS 450^{a)}** Ref. 2597
- Flanged flex. connector **STS 450^{b)}** Ref. 1224
- Flange **FR 450** Ref. 1207
- Flexible sleeve **FM 450^{b)}** Ref. 1677
- Guard **SG 450** Ref. 1240
- Mounting feet (pair) **1 x MK 450** Ref. 1449
- 4 Anti vibration mounts for suspension **1 x SDZ 1** (4 pcs.) Ref. 1454
- 4 Anti vibration mounts for compression **1 x SDD 1** (4 pcs.) Ref. 1452

^{a)} For motorised shutters see accessory page ^{b)} Models for ex-proof fans see below

Electronic controller for stepless control		Full motor protection starter using the motor thermal contacts		Reversing switch	
Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
ESU 3/ESA 3	0237/0239	MW	1579	WS	1271
ESU 3/ESA 3	0237/0239	MW	1579	WS	1271
—	—	MD	5849	WS	1271
—	—	MD	5849	WS	1271
—	—	M 4⁴⁾	1571	WS	1271
ESD 11.5²⁾	0502	M 4⁴⁾	1571	WS	1271
—	—	M 3⁴⁾	1293	PWDA	1282
—	—	M 3⁴⁾	1293	PWDA	1282
not permitted	not permitted	—	—	—	—
not permitted	not permitted	—	—	—	—

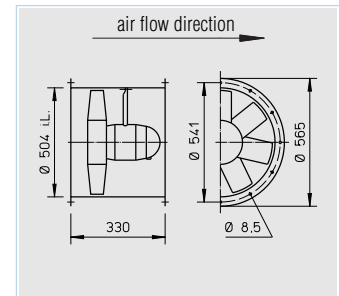
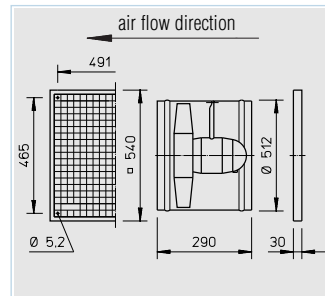
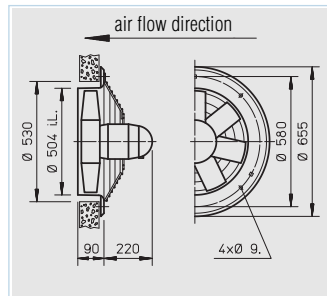
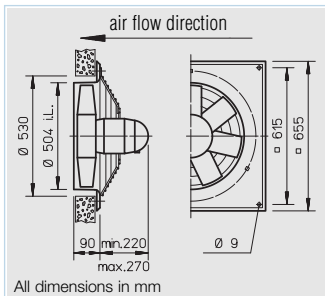
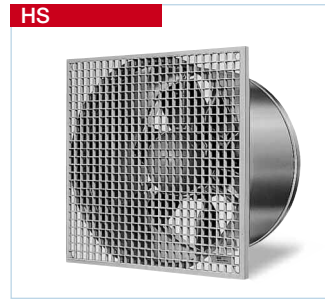
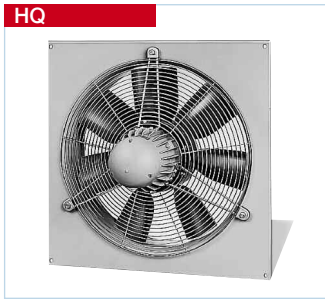
⁴⁾ Incl. pole switch ⁴⁾ Speed switch

Other accessories Pages

Accessories for explosion proof fans

Flanged flexible connector	
STS 450 Ex	Ref. No. 2506
Flexible sleeve	
FM 450 Ex	Ref. No. 1693

Filters and attenuators	305 on
Shutters, grilles and louvres	361 on
Speed controllers and switches	397 on



■ Specification

□ Casing

Manufactured in galvanised sheet steel. Models HQ and HW have the additional protection of two coats of light grey paint.

□ Impeller

Highly efficient, profiled 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Motor

Totally enclosed, reversible motor with a die-cast aluminium casing, protected to IP 54/55. Sealed for life ball bearings with tropical protection of windings and radio suppression. For maximum air flow temperature see table below.

□ Motor protection

All models (except explosion proof) have thermal contacts as standard which must be connected to a motor protection unit (see below).

□ Electrical connection

Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing. Explosion proof models may vary.

□ Guard

HQ and HW models have powder coated motor side wire guard, HS painted steel (HQ.. Ex zinc plated). All grilles to DIN EN ISO 13857.

□ Speed control

For all speed controllable models the current is given in the 'speed controlled' column of the table below which must be used when selecting a controller. The air flow rates are shown in the performance curve family.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 loss in performance.

□ Installation

Installation in any position. Ensure that the motor drainage holes face downwards.

□ Dimensions

Dimensions are shown above. Pole-switching and explosion proof models may vary.

□ Sound levels

Both sound power and sound pressure levels are shown on each performance curve. Sound pressure levels are measured at 4 metres in freefield conditions and are the calculated average between the inlet and exhaust data. Further acoustic information see page 13.

Information	Pages
Technical description	116
Selection chart	117
Design of systems	12 on

Made to order designs

Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction, cast aluminium impeller etc. are available on request.

For safety and correct use note the technical information on pages 17 on.

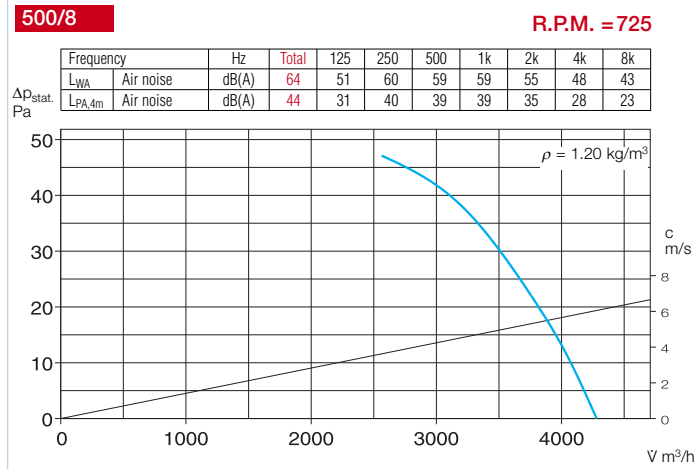
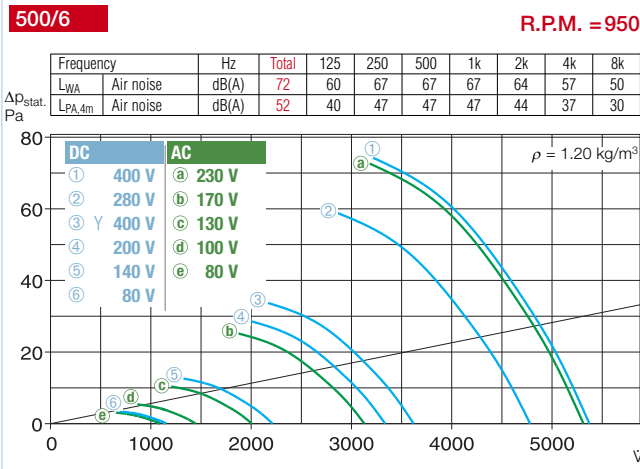
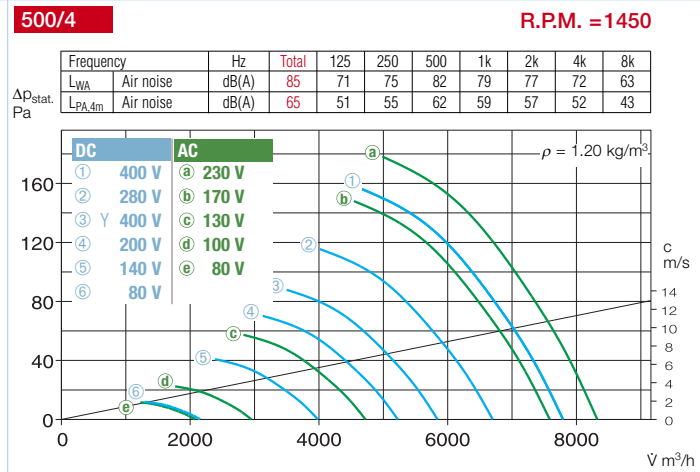
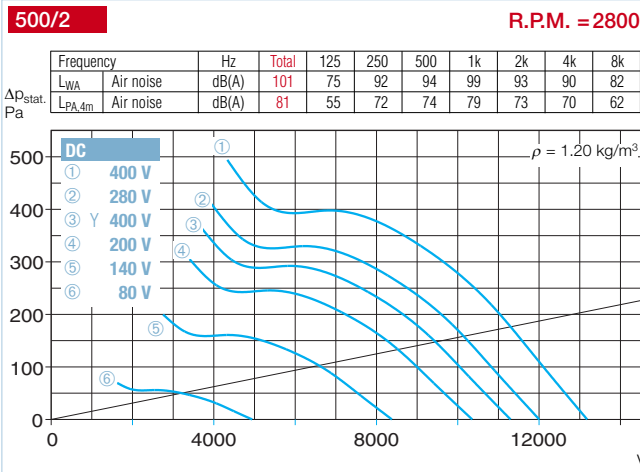
R.P.M.	Air flow volume (FID)	Motor power (nominal)*	Current * full load	speed controlled	Wiring diagram No.	Maximum air flow temp. standard supply	speed controlled	Nominal weight (net)	Model							
									HQ incl. guard	Ref. No.	HW incl. guard	Ref. No.	HS incl. grille	Ref. No.	HRF	Ref. No.
min ⁻¹	V m ³ /h	W	A	A	No.	+°C	+°C	kg								
1 Phase motor, 230 Volt / 3 ph. / 50 Hz, protection to IP 55																
910	5370	220	1.10	1.20	475 ¹⁾	60	40	17.3	HQW 500/6	1112	—	—	HSW 500/6	0148	HRFW 500/6 ¹⁾	0210
1410	8320	550	2.30	2.60	475 ¹⁾	40	40	17.3	HQW 500/4	1113	—	—	HSW 500/4	0149	HRFW 500/4 ¹⁾	0211
3 Phase motor, 400 Volt / 3 ph. / 50 Hz, protection to IP 55																
910	5370	200	0.50	0.50	469	60	40	17.2	HQD 500/6	1126	—	—	—	—	HRFD 500/6	0232
1320	7790	610	1.25	1.25	469	40	40	17.2	HQD 500/4	1127	HWD 500/4	1030	HSD 500/4	0166	HRFD 500/4	0233
2 speed motor, 400 Volt / 3 ph. / 50 Hz, Y/Δ-motor, protection to IP 55																
620/910	3660/5370	142/235	0.30/0.50	—	520	60	—	17.2	HQD 500/6/6	1471	—	—	—	—	—	—
1000/1330	5900/7850	420/670	0.74/1.22	—	520	60	—	17.2	HQD 500/4/4	1469	—	—	—	—	HRFD 500/4/4	1470
2400/2800	11260/13170	1800/2400	2.90/5.00	5.00	520	60	40	21.0	—	—	—	—	—	—	HRFD 500/2/2	0485
2 speed motor, pole-switching, Dahlander windings, 400 Volt / 3 ph. / 50 Hz, protection to IP 55																
460/940	2710/5550	75/290	0.25/0.60	—	472	60	—	18.2	HQD 500/12/6	1140	—	—	HSD 500/12/6	0357	—	—
690/1380	4070/8140	150/810	0.55/1.60	—	472	40	—	18.2	HQD 500/8/4	1142	—	—	HSD 500/8/4	0359	HRFD 500/8/4	0407
Explosion proof E Exe II, 400 Volt / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
900	5610	180	0.71	—	470	40	—	17.2	HQD 500/6 Ex	1156	—	—	—	—	HRFD 500/6 Ex	0482
1400	8560	550	1.51	—	470	40	—	17.2	HQD 500/4 Ex	1157	—	—	—	—	HRFD 500/4 Ex	0483

* Ex-models: for nominal value of motor see information on page 18

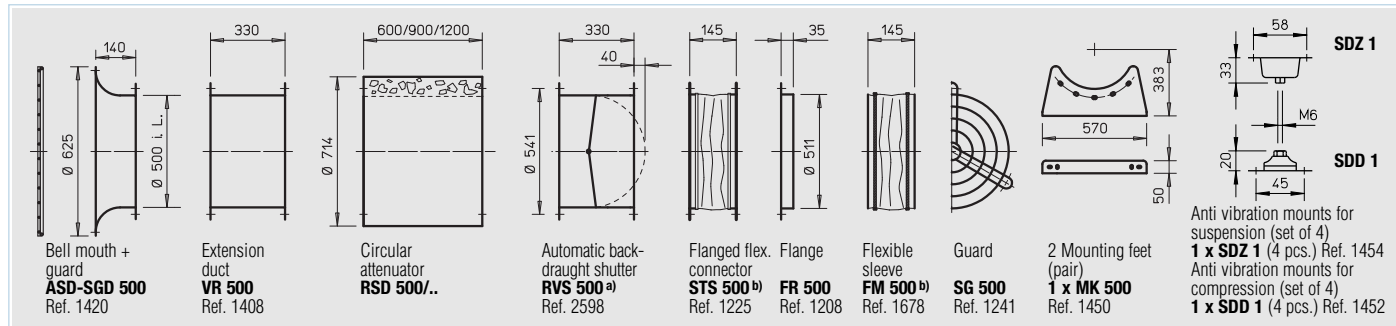
¹⁾ Type HRFW: connect using wiring diagram No. SS-965

²⁾ Incl. full motor protection

³⁾ Incl. pole switch



Accessories for cased axial fans HRF – Specification see pages 170 on.



^{a)} For motorised shutters see accessory pages ^{b)} Models for ex-proof fans see below

Transformer controller or pole switch		Electronic controller for stepless control		Full motor protection starter using the motor thermal contacts		Reversing switch	
Type	Ref. No.	Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
MWS 1.5 ²⁾	1947	ESU 3/ESA 3	0237/0239	MW	1579	WS	1271
MWS 3 ²⁾	1948	ESU 5/ESA 5	1296/1299	MW	1579	WS	1271
RDS 1 ²⁾	1314	—	—	MD	5849	WS	1271
RDS 2 ²⁾	1315	—	—	MD	5849	WS	1271
Star/delta switch							
DS 2 ⁵⁾	1351	—	—	M 4 ³⁾	1571	WS	1271
DS 2 ⁵⁾	1351	—	—	M 4 ³⁾	1571	WS	1271
RDS 7 ²⁾	1578	ESD 11.5 ²⁾	0502	M 4 ³⁾	1571	WS	1271
Pole switch							
PDA 12 ⁴⁾	5081	—	—	M 3 ³⁾	1293	PWDA	1282
PDA 12 ⁴⁾	5081	—	—	M 3 ³⁾	1293	PWDA	1282
not permitted	not permitted	not permitted	not permitted	—	—	—	—
not permitted	not permitted	not permitted	not permitted	—	—	—	—

⁴⁾ see product page for flush mounted version ⁵⁾ Speed switch

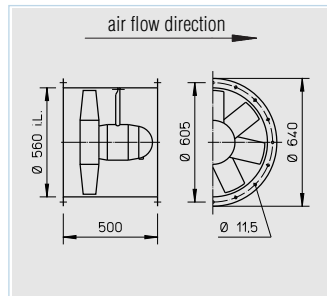
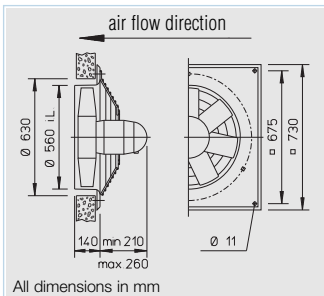
Other accessories Pages

Accessories for explosion proof fans

- Flanged flexible connector**
STS 500 Ex Ref. No. 2507
- Flexible sleeve**
FM 500 Ex Ref. No. 1694

- Extension tube for HS**
VH 500 Ref. No. 1348
- Cylindrical duct, galvanised steel, length: 150 mm

- Filters and attenuators 305 on
- Shutters, grilles and louvres 361 on
- Speed controllers and switches 397 on



■ Specification

- Casing**
Manufactured in galvanised sheet steel.
Model HQ have an additional two-layer finishing in papyrus-white.
- Impeller**
Highly efficient, profiled 5 or 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.
- Motor**
Totally enclosed motor with a die-cast aluminium casing, protected to IP 54/IP 55. Sealed for life ball bearings with tropical protection of windings and radio suppression. For maximum air flow temperature see table below.

- Motor protection**
All models (except explosion proof) have thermal contacts as standard which must be connected to a motor protection unit (see below).
- Electrical connection**
Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing. Explosion proof models may vary.
- Guard**
HQ models have powder coated motor side wire guard (Ex-models zinc plated). All grilles to DIN EN ISO 13857.

- Speed control**
For all speed controllable models the current is given in the 'speed controlled' column of the table below which must be used when selecting a controller. The air flow rates are shown in the performance curve family.
- Reversed operation**
All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 loss in performance.
- Installation**
Installation in any position. Ensure that the motor drainage holes face downwards.
- Dimensions**
Dimensions are shown above. Pole-switching and explosion proof models may vary.

- Sound levels**
Both sound power and sound pressure levels are shown on each performance curve. Sound pressure levels are measured at 4 metres in freefield conditions and are the calculated average between the inlet and exhaust data.
Further acoustic information see page 13.

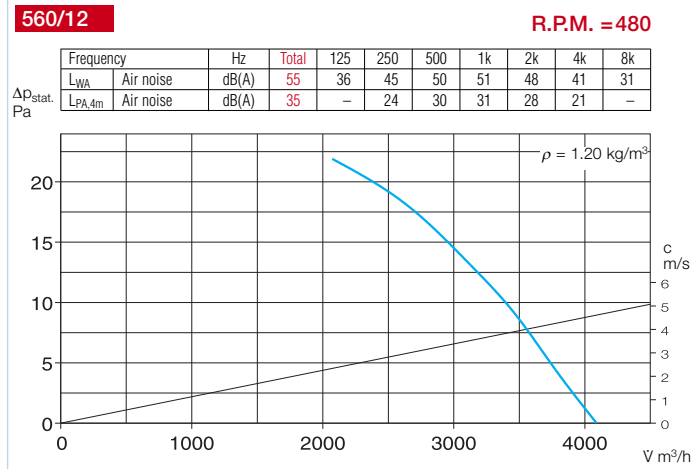
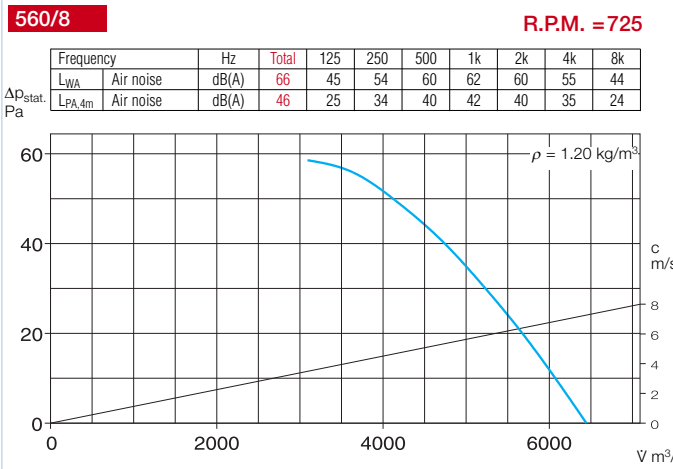
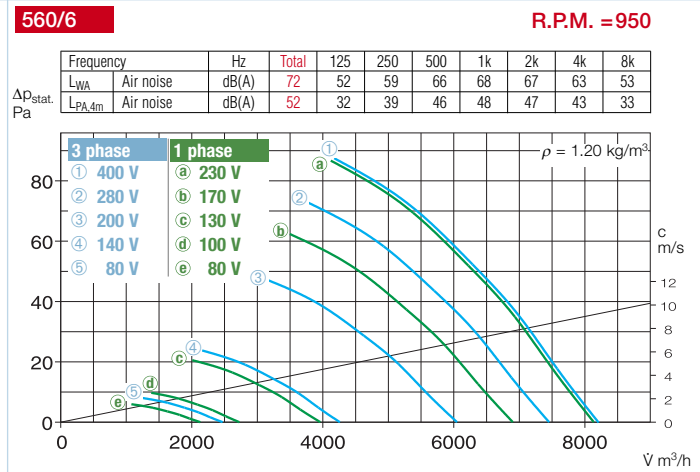
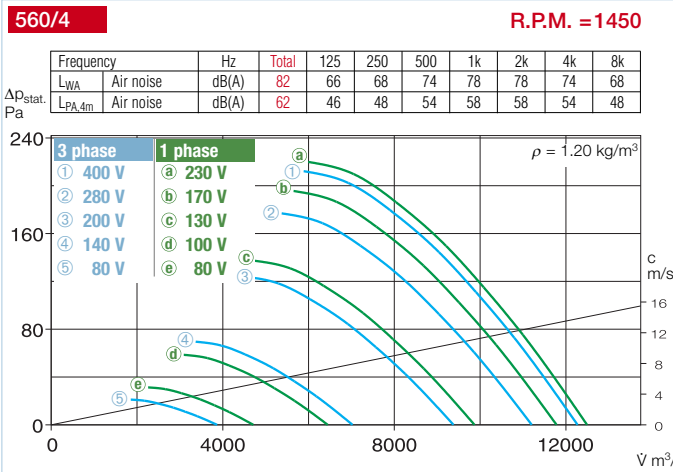
Information	Pages
Technical description	116
Selection chart	117
Design of systems	12 on

Made to order designs
Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction, cast aluminium impeller etc. are available on request.

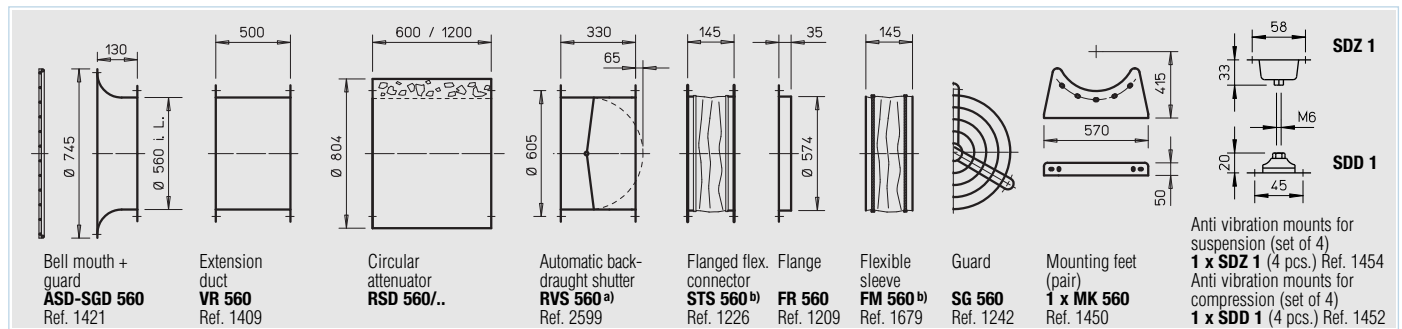
For safety and correct use note the technical information on pages 17 on.

R.P.M.	Air flow volume (FID)	Motor power (nominal)*	Current *		Wiring diagram	Maximum air flow temp.		Nominal weight (net)	Fan type				Transformer controller for 5 speed control		Electronic controller for stepless control		
			full load	speed controlled		standard supply	speed controlled		HQ incl. guard	Ref. No.	HRF	Ref. No.	Type	Ref. No.	Type	Ref. No.	
min ⁻¹	Vol m ³ /h	kW	A	A	No.	+°C	+°C	kg									
1 Phase motor, 230 Volt / 1 ph. / 50 Hz, protection to IP 55																	
955	8130	0.35	1.80	2.10	475 ¹⁾	60	40	22.0	HQW 560/6	0385	HRFW 560/6 ¹⁾	0380	MWS 3 ²⁾	1948	ESU 3/ESA 3	0237/0239	
1405	12490	0.90	4.50	5.60	475 ¹⁾	40	40	25.0	HQW 560/4 ¹⁾	5054	HRFW 560/4 ¹⁾	5055	MWS 7.5 ²⁾	1950	—	—	
3 Phase motor, 400 Volt / 3 ph. / 50 Hz, protection to IP 55																	
960	8180	0.35	0.90	1.00	469	60	40	22.0	HQD 560/6	0386	HRFD 560/6	0381	RDS 2 ²⁾	1315	ESD 5 ²⁾	0501	
1380	12250	0.80	1.75	1.80	469	40	40	23.0	HQD 560/4	0387	HRFD 560/4	0382	RDS 2 ²⁾	1315	ESD 5 ²⁾	0501	
2 speed motor, pole-switching, Dahlander windings, 400 Volt / 3 ph. / 50 Hz, protection to IP 55																	
480/950	4090/8090	0.12/0.38	0.55/1.20		472	60	—	24.0	HQD 560/12/6	0389	HRFD 560/12/6	0384	PDA 12 ³⁾	5081	—	—	
725/1450	6450/12890	0.20/0.92	0.80/2.00		472	40	—	25.0	HQD 560/8/4	0388	HRFD 560/8/4	0383	PDA 12 ³⁾	5081	—	—	
Explosion proof E Exe II, 400 Volt / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																	
900	8090	0.25	0.99		470	40	—	23.0	HQD 560/6 Ex	0378	HRFD 560/6 Ex	0376	not permitted		not permitted		
1420	12890	0.75	2.00		470	40	—	24.0	HQD 560/4 Ex	0379	HRFD 560/4 Ex	0377	not permitted		not permitted		

* Ex-models: for nominal value of motor see information on page 18 ¹⁾ Type HRFW and HQW./4: connect using wiring diagram No. SS-965 ²⁾ Incl. full motor protection ³⁾ see product page for flush mounted version



Accessories for cased axial fans HRF – Specification see pages 170 on.

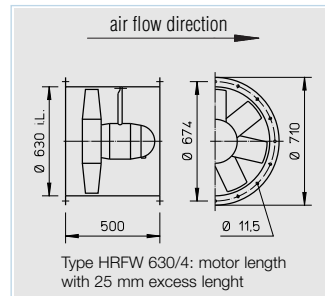
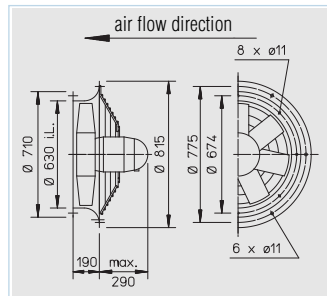
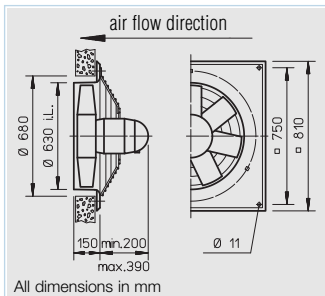


^{a)} For motorised shutters see accessory pages ^{b)} Models for ex-proof fans see below

Full motor protection starter using the motor thermal contacts		Reversing switch	
Type	Ref. No.	Type	Ref. No.
MW	1579	WS	1271
MW	1579	WS	1271
MD	5849	WS	1271
MD	5849	WS	1271
M 3 ⁴⁾	1293	PWDA	1282
M 3 ⁴⁾	1293	PWDA	1282
—	—	—	—
—	—	—	—

⁴⁾ Incl. pole switch

Other accessories	Pages
Accessories for explosion proof fans	
Flanged flexible connector STS 560 Ex	Ref. No. 2508
Flexible sleeve FM 560 Ex	Ref. No. 1695
Filters and attenuators	318 on
Shutters, grilles and louvres	361 on
Speed controllers and switches	397 on



■ Specification

□ Casing

Manufactured in galvanised sheet steel.

□ Impeller

Highly efficient, profiled 5 or 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Motor

Totally enclosed motor with a die-cast aluminium casing, protected to IP 54/IP 55. Sealed for life ball bearings with tropical protection of windings and radio suppression. For maximum air flow temperature see table below.

□ Motor protection

All models (except.../8/4 and explosion proof) have thermal contacts as standard which must be connected to a motor protection unit (see below).

Motors without thermal contacts must be protected by a conventional circuit breaker (MCB/RCD).

□ Electrical connection

Terminals in motor cap (IP 55). HRF models are pre wired to an additional terminal box (IP 55) fitted externally on the casing. Explosion proof models may vary.

□ Guard

HQ and HW models have powder coated motor side wire guard (HQ.. Ex zinc plated). All grilles to DIN EN ISO 13857.

□ Speed control

For all speed controllable models the current is given in the 'speed controlled' column of the table below which must be used when selecting a controller. The flow rates are given in the performance curve family.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 loss in performance.

□ Installation

Installation in any position. Ensure that the motor drainage holes face downwards.

□ Dimensions

Dimensions are shown above. Pole-switching and explosion proof models may vary.

□ Sound levels

Both sound power and sound pressure levels are shown on each performance curve. Sound pressure levels are measured at 4 metres in freefield conditions and are the calculated average between the inlet and exhaust data. Further acoustic information see page 12.

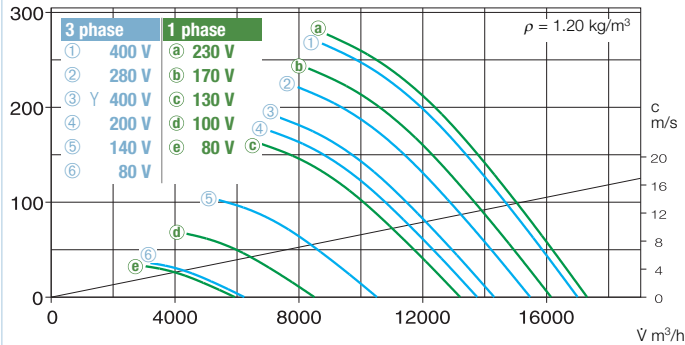
Information	Pages
Technical description	116
Selection chart	117
Design of systems	12 on
Made to order designs	
Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction, cast aluminium impeller etc. are available on request.	
For safety and correct use note the technical information on pages 17 on.	

R.P.M.	Air flow volume (FID)	Motor power (nominal)*	Current * full load	Current * speed controlled	Wiring diagram	Maximum air flow temp. standard supply	Nominal weight (net)	Fan type				Transformer controller for 5 speed control				
								HQ incl. guard	Ref. No.	HW incl. guard	Ref. No.	HRF	Ref. No.	Type	Ref. No.	
1 Phase motor, 230 Volt / 50 Hz, protection to IP 55																
955	10530	0.45	2.50	3.20	475	60	40	25.0	HQW 630/6	5037	—	—	—	—	MWS 5 ²⁾	1949
1415	17310	1.25	6.60	7.00	475 ¹⁾	40	40	35.0	HQW 630/4 ¹⁾	5056	—	—	HRFW 630/4 ¹⁾	5057	MWS 7.5 ²⁾	1950
3 Phase motor, 400 Volt / 50 Hz, protection to IP 55																
735	8110	0.27	1.50	1.50	469	60	40	27.0	HQD 630/8	5029	—	—	—	—	RDS 2 ²⁾	1315
970	10700	0.45	1.80	1.80	469	60	40	28.0	HQD 630/6	5027	HWD 630/6	1032	HRFD 630/6	0244	RDS 2 ²⁾	1315
2 speed motor, 400 V / 3 ph. / 50 Hz, Y/Δ-motor, protection to IP 55																
1170/1390	14310/17000	0.90/1.33	2.0/3.8		520	40	40	35.0	HQD 630/4/4	5030	HWD 630/4/4	1033	HRFD 630/4/4	0245	RDS 4 ²⁾	1316
2 speed motor, pole-switching, Dahlander windings, 400 Volt / 3 ph. / 50 Hz, protection to IP 55																
440/900	4850/9930	0.14/0.62	0.60/1.30		472	60	—	35.0	HQD 630/12/6	5031	—	—	HRFD 630/12/6	0410	PDA 12 ³⁾	5081
725/1450	8870/17730	0.24/1.50	1.10/3.40		471	40	—	42.0	HQD 630/8/4	5032	—	—	HRFD 630/8/4	0411	PDA 12 ³⁾	5081
Explosion proof E Exe II, 400 Volt / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
930	10480	0.55	1.83		470	40	—	30.0	HQD 630/6 Ex	5035	—	—	HRFD 630/6 Ex	0494	not permitted	
1400	17730	1.50	3.40		470	40	—	34.5	HQD 630/4 Ex	5036	—	—	HRFD 630/4 Ex	0495	not permitted	

* Ex-models: for nominal value of motor see information on page 18 ¹⁾ Type HRFW and HQW./4: connect using wiring diagram No. SS-965 ²⁾ Incl. full motor protection ³⁾ see product page for flush mounted version

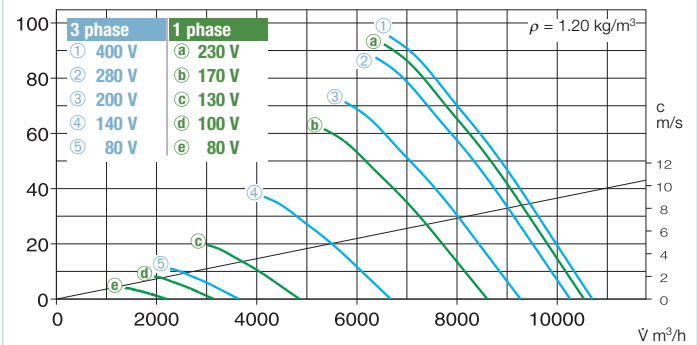
630/4 R.P.M. = 1450

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	85	69	71	77	81	81	77	70
L _{PA,4m}	Air noise	dB(A)	65	49	51	57	61	61	57	50



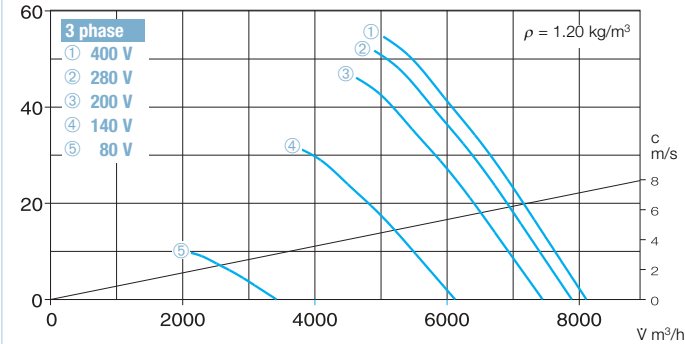
630/6 R.P.M. = 950

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	75	55	62	69	71	70	66	56
L _{PA,4m}	Air noise	dB(A)	55	35	41	49	51	50	46	36



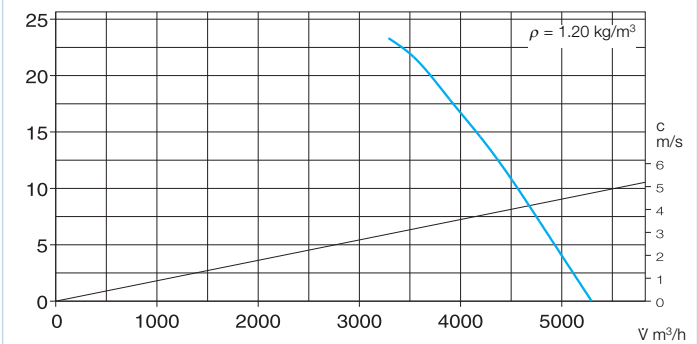
630/8 R.P.M. = 725

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	69	48	56	63	65	63	58	47
L _{PA,4m}	Air noise	dB(A)	49	28	36	43	45	43	38	27



630/12 R.P.M. = 480

Frequency		Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA}	Air noise	dB(A)	58	39	48	53	54	51	44	34
L _{PA,4m}	Air noise	dB(A)	38	—	28	33	34	31	24	—



Accessories for cased axial fans HRF – Specification see pages 170 on.

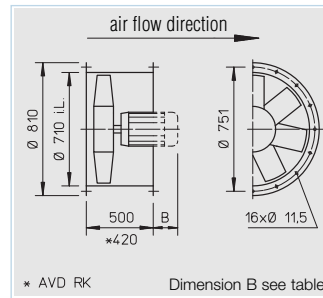
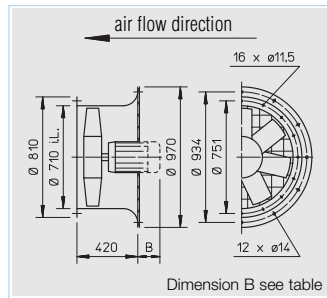
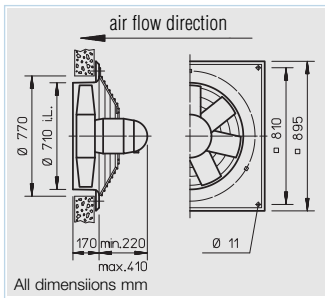
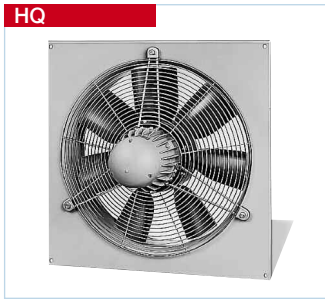
Bell mouth + guard ASD-SGD 630 Ref. 1422
Extension duct VR 630 Ref. 1410
Circular attenuator RSD 630/..
Automatic back-draught shutter RVS 630^{a)} Ref. 2600
Flanged flex. connector STS 630^{b)} Ref. 1228
Flange FR 630 Ref. 1211
Flexible sleeve FM 630^{b)} Ref. 1680
Guard SG 630 Ref. 1243
Mounting feet (pair) 1 x MK 630 Ref. 1333
Anti vibration mounts for suspension (set of 4) 1 x SDZ 1 (4 pcs.) Ref. 1454
Anti vibration mounts for compression (set of 4) 1 x SDD 1 (4 pcs.) Ref. 1452

^{a)} For motorised shutters see accessory pages ^{b)} Models for ex-proof fans see below

Electronic controller for stepless control		Full motor protection starter using the motor thermal contacts		Reversing switch	
Type	Ref. No.	Type	Ref. No.	Type	Ref. No.
ESU 5/ESA 5	1296/1299	MW	1579	WS	1271
—	—	MW	1579	WS	1271
ESD 5²⁾	0501	MD	5849	WS	1271
ESD 5²⁾	0501	MD	5849	WS	1271
ESD 5²⁾	0501	M 4⁴⁾	1571	WS	1271
—	—	M 3⁴⁾	1293	PWDA	1282
—	—	—	—	PWDA	1282
not permitted	—	—	—	—	—
not permitted	—	—	—	—	—

⁴⁾ Incl. pole switch

Other accessories	Pages
Accessories for explosion proof fans	
Flanged flexible connector	
STS 630 Ex	Ref. No. 2509
Flexible sleeve	
FM 630 Ex	Ref. No. 1696
Filters and attenuators	305 on
Shutters, grilles and louvres	361 on
Speed controllers and switches	397 on



■ Specification

□ Casing

With motor support manufactured from galvanised sheet steel.

□ Impeller

Highly efficient, profiled 5 or 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Pitch angle

The pitch angle is adjustable at standstill (except HQW 710/6 and explosion proof) and has to be stated when ordering. The max. pitch shown for each motor must not be exceeded.

□ Motor

Totally enclosed motor, protected to IP 54/ IP 55. Sealed for life ball bearings with tropical protection of windings and radio suppression.

□ Motor protection

All models (except pole switching and explosion proof) have thermal contacts or PTC resistors and according to footnotes in the table to guard through following full motor protection units:
¹MW/MD, Ref. No. 1579/5849
²MSA, Ref. No. 1289 (for PTC resistor)
³M4, Ref. No. 1571

All other models have to be protected by a conventional circuit breaker on site.

□ Guard

HQ and AVD RK models have galvanised or power coated motor side wire guard to DIN EN ISO 13857.

□ Electrical connection

Terminals in motor cap (IP 54). HRF and AVD DK models are pre wired to an additional terminal box (IP 54) fitted externally on the casing. Explosion proof models may vary.

□ Speed control

Some models are controllable by transformer controller (see table). All models (except explosion proof) are speed controllable by frequency inverter.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 loss in performance.

□ Installation

Installation in any position. Ensure that the motor drainage holes face downwards.

□ Dimensions

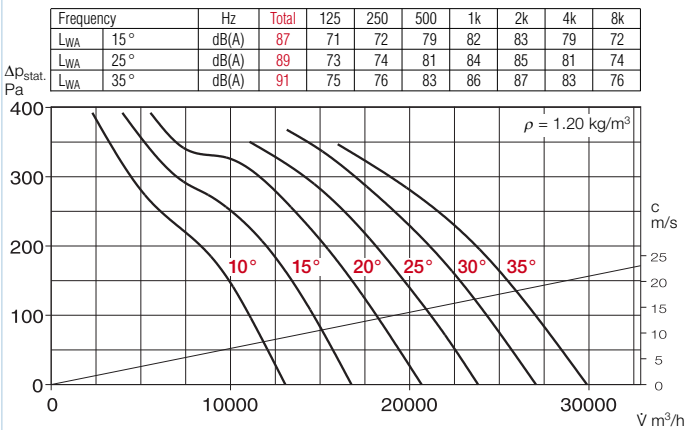
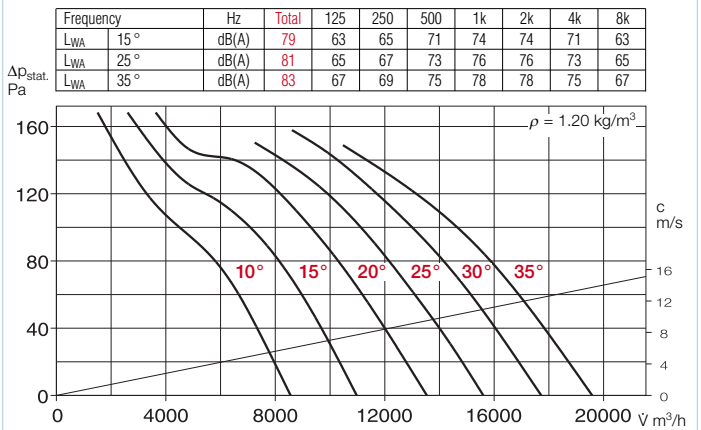
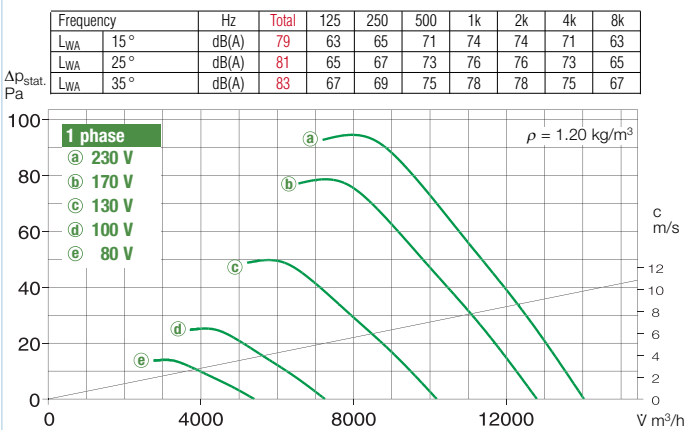
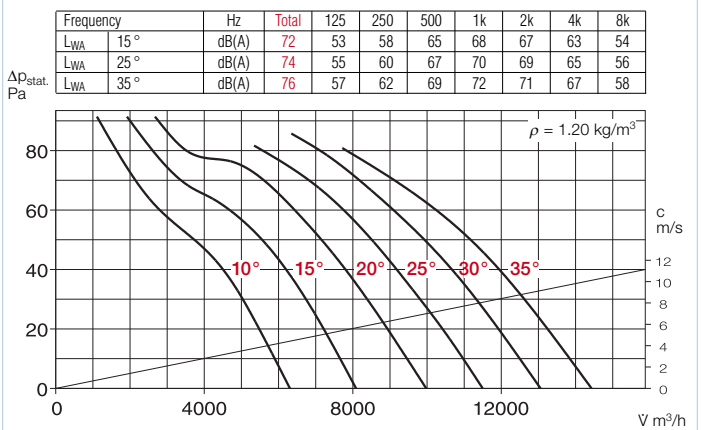
Dimensions are shown above. Pole-switching and explosion proof models may vary. Note dimension B in table below.

□ Sound levels

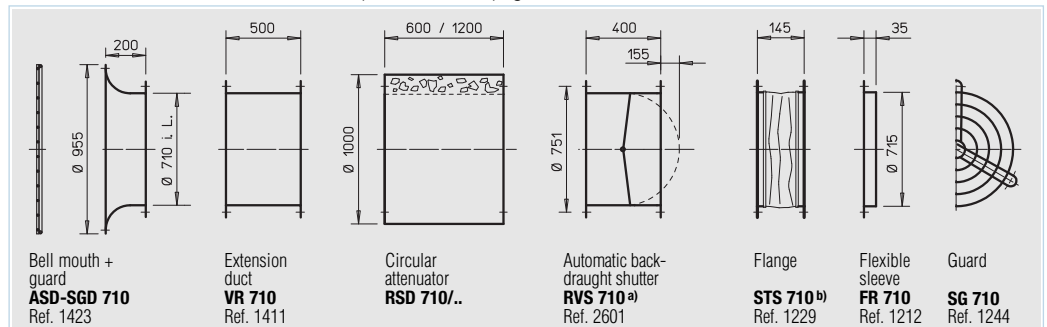
Sound power levels in dB(A) (spectrum and totals) are given above the performance curves.

R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Max. pitch angle	Wiring diagram	Max. air flow temp.	Nominal weight (net)*	Fan type						Dim. B Flange/ Foot motor	Transformer controller for 5 speed control	
									HQ incl. guard	Ref. No.	AVD DK incl. guard	Ref. No.	HRFD, AVD RK	Ref. No.		Type	Ref. No.
min ⁻¹	V m ³ /h	kW	V	A	°	No.	+°C	kg					mm				
1 Phase motor, 230 Volt / 50 Hz, protection to IP 55																	
925	14200	0.50	230	2.5/(3.0)	25	475	40	60.0	HQW 710/6/.. ¹⁾	5047	—	—	—	—	MWS 5 ⁴⁾	1949	
3 Phase motor, 400/690 Volt / 50 Hz, protection to IP 54																	
700	13330	0.37	400	1.6/(1.6)	31	469	40	57.0	HQD 710/8/.. ¹⁾	5599	AVD DK 710/8/.. ¹⁾	5251	HRFD 710/8/.. ¹⁾	6930	RDS 2 ⁴⁾	1315	
1435	26420	3.00	400/690	6.7	30	776	40	88.0	HQD 710/4/.. ²⁾	5606	AVD DK 710/4/.. ²⁾	5258	HRFD 710/4/.. ²⁾	6937	—	—	
2 speed motor, 3 Phase, 400 V / 3 ph. / 50 Hz, Y/Δ-motor, protection to IP 55																	
775/920	13550/16090	0.43/0.75	400Y/Δ	1.2/2.2	28	520	40	55.0	HQD 710/6/6/.. ³⁾	5602	AVD DK 710/6/6/.. ³⁾	5254	HRFD 710/6/6/.. ³⁾	6933	RDS 4 ⁴⁾	1316	
775/930	15560/19170	0.71/1.30	400Y/Δ	2.1/3.5	35	520	40	60.0	HQD 710/6/6/.. ³⁾	5603	AVD DK 710/6/6/.. ³⁾	5255	HRFD 710/6/6/.. ³⁾	6934	RDS 4 ⁴⁾	1316	
1120/1365	16140/19670	0.95/1.55	400Y/Δ	2.1/3.7	20	520	40	60.0	HQD 710/4/4/.. ³⁾	5604	AVD DK 710/4/4/.. ³⁾	5256	HRFD 710/4/4/.. ³⁾	6935	RDS 7 ⁴⁾	1578	
1140/1370	19370/23280	1.5/2.2	400Y/Δ	3.5/5.9	26	520	40	75.0	HQD 710/4/4/.. ³⁾	5605	AVD DK 710/4/4/.. ³⁾	5257	HRFD 710/4/4/.. ³⁾	6936	RDS 7 ⁴⁾	1578	
2 speed motor, pole-switching, Dahlander-windings, 400 Volt / 3 ph. / 50 Hz, protection to IP 54																	
450/915	7800/16250	0.15/0.75	400/400	0.85/2.15	28	471	40	70.0	HQD 710/12/6/..	5608	AVD DK 710/12/6/..	5260	HRFD 710/12/6/..	6939	PDA 12 ⁵⁾	5081	
455/940	9375/19370	0.25/1.10	400/400	1.2/2.9	35	471	40	75.0	HQD 710/12/6/..	5609	AVD DK 710/12/6/..	5261	HRFD 710/12/6/..	6940	PDA 12 ⁵⁾	5081	
695/1420	10810/22090	0.50/2.00	400/400	1.6/4.8	23	471	40	82.0	HQD 710/8/4/..	5611	AVD DK 710/8/4/..	5263	HRFD 710/8/4/..	6942	PDA 12 ⁵⁾	5081	
700/1435	14155/29020	0.90/3.60	400/400	2.6/7.7	34	471	40	108.0	HQD 710/8/4/..	5612	AVD DK 710/8/4/..	5264	AVD RK 710/8/4/..	6943	PDA 12 ⁵⁾	5081	
Explosion proof E Exe II, 400/690 Volt / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																	
700	10450	0.55	400	2.15	35	470	40	68.0	HQD 710/8 Ex/..	5618	AVD DK 710/8 Ex/..	5270	HRFD 710/8 Ex/..	6948	125	not permitted	
930	13480	0.55	400	1.83	25	470	40	67.0	HQD 710/6 Ex/..	5620	AVD DK 710/6 Ex/..	5272	HRFD 710/6 Ex/..	6949	95	not permitted	
930	16770	0.95	400	2.70	35	470	40	77.0	HQD 710/6 Ex/..	5621	AVD DK 710/6 Ex/..	5273	HRFD 710/6 Ex/..	6950	135	not permitted	
1420	20540	2.00	400	4.65	25	470	40	82.0	HQD 710/4 Ex/..	5623	AVD DK 710/4 Ex/..	5275	AVD RK 710/4 Ex/..	6951	180	not permitted	
1420	26160	3.60	400/690	8.10	35	498	40	102.0	HQD 710/4 Ex/..	5624	AVD DK 710/4 Ex/..	5276	AVD RK 710/4 Ex/..	6952	200	not permitted	

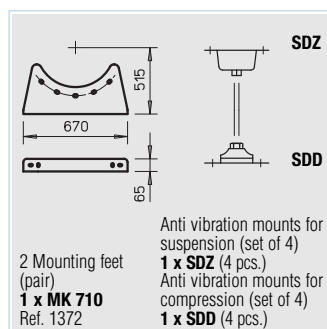
¹⁾ to ³⁾ full motor protection unit, see description motor protection *Nominal weights for types ...DK and ...RK. For types HRF and HQ less 15 kg ⁴⁾ Incl. full motor protection

710/4 R.P.M. = 1450

710/6 DC R.P.M. = 950

710/6 AC R.P.M. = 925

710/8 R.P.M. = 700


Electronic controller for stepless control		Anti vibration mounts nominal size	
Type	Ref. No.	Type	Ref. No.
—	—	..1/.1	1452/1454
ESD 5 ⁴⁾	0501	..1/.1	1452/1454
FUS 7.2 ⁴⁾	6095	..2/.2	1453/1455
ESD 5 ⁴⁾	0501	..1/.1	1452/1454
ESD 5 ⁴⁾	0501	..1/.1	1452/1454
ESD 5 ⁴⁾	0501	..1/.1	1452/1454
ESD 11.5 ⁴⁾	0502	..1/.2	1452/1455
—	—	..1/.2	1452/1455
—	—	..1/.2	1452/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
not permitted	—	..1/.2	1452/1455
not permitted	—	..1/.2	1452/1455
not permitted	—	..1/.2	1452/1455
not permitted	—	..2/.2	1453/1455
not permitted	—	..2/.2	1453/1455

Accessories for cased axial fans – Specification see pages 170 on.


a) For motorised shutters see accessory pages b) Models for ex-proof fans see below



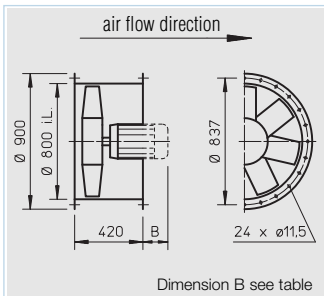
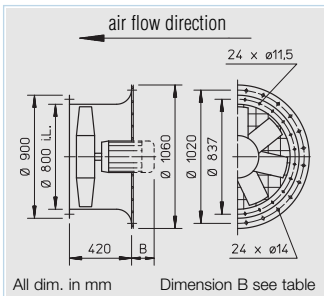
Information	Pages	Other accessories	Pages
Technical description	116	b) Accessory for explosion proof fans	
Selection chart	117	Flanged flexible connector STS 710 Ex	Ref. No. 2510
Design of systems	12 on	Filters and attenuators	305 on
Made to order designs		Shutters, grilles and louvres	361 on
Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction, aluminium cast impeller etc. are available on request.		Speed controllers and switches	397 on
For safety and correct use note the technical information on pages 17 on.			

⁵⁾ see product page for flush mounted version

AVD DK



AVD RK



■ Specification

- Casing**
With motor support manufactured from galvanised sheet steel.
- Impeller**
Highly efficient, profiled 5 or 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

Pitch angle

To achieve the optimum operating point a choice of pitch angles are available (except explosion proof models). Pitch angle is set during manufacture (to order). The matching motor is supplied and the maximum pitch angle shown must not be exceeded (see table below).

Motor

Totally enclosed motor, protected to IP 54/IP 55. Sealed for life ball bearings with tropical protection of windings and radio suppression.

Motor protection

All models (except pole switching and explosion proof) have thermal contacts or PTC resistors and according to footnotes in the table to guard through following full motor protection units:
⁴⁾MSA, Ref. No. 1289 (for PTC resistor)
⁵⁾M4, Ref. No. 1571
 All other models have to be protected by a conventional circuit breaker on site.

Electrical connection

Terminals in motor cap (IP 54).

Guard

AVD DK models have hot dipped zinc plated motor side wire guard to DIN EN ISO 13857 as standard.

Speed control

Some models are controllable by a transformer control (see table). All models (except explosion proof and pole switching) are speed controllable by frequency inverter.

Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 loss in performance.

Installation

Installation in any position. Ensure that the motor drainage holes face downwards.

Dimensions

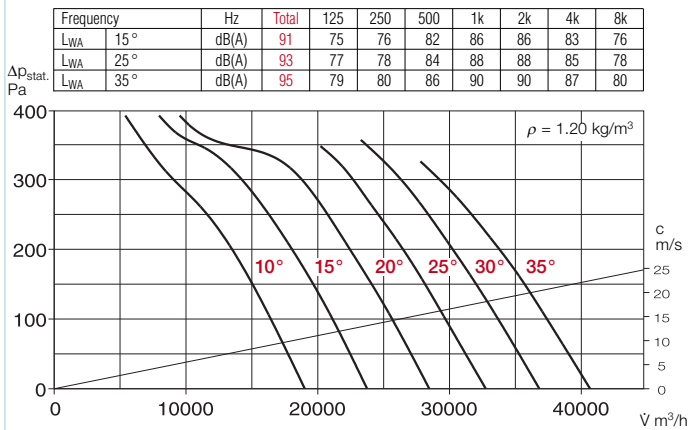
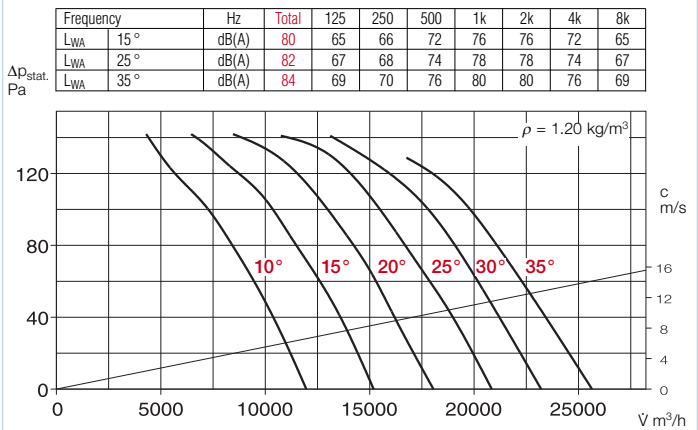
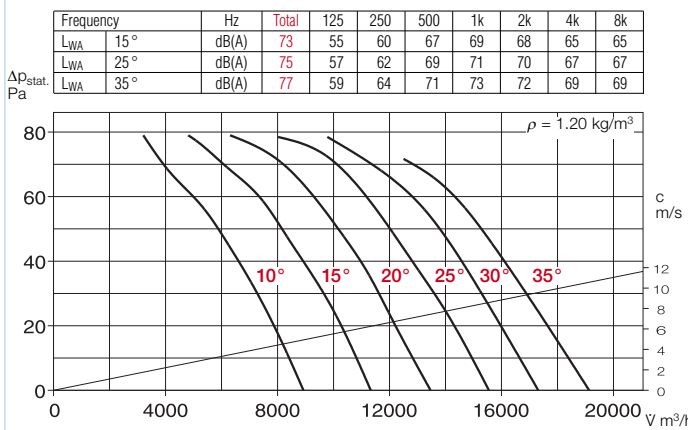
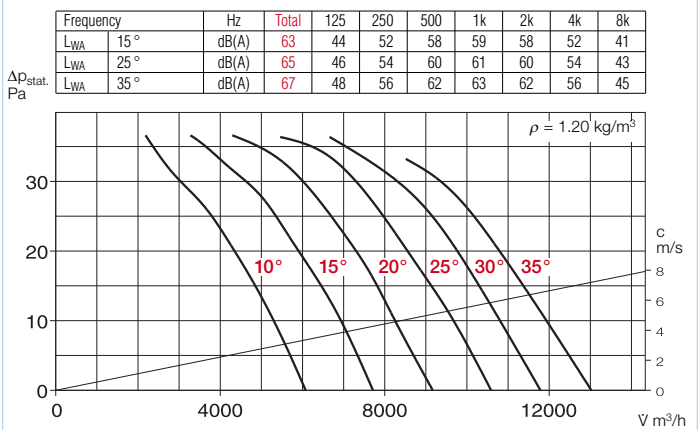
Dimensions are shown above. Pole-switching and explosion proof models may vary. Note dimension B in table below.

Sound levels

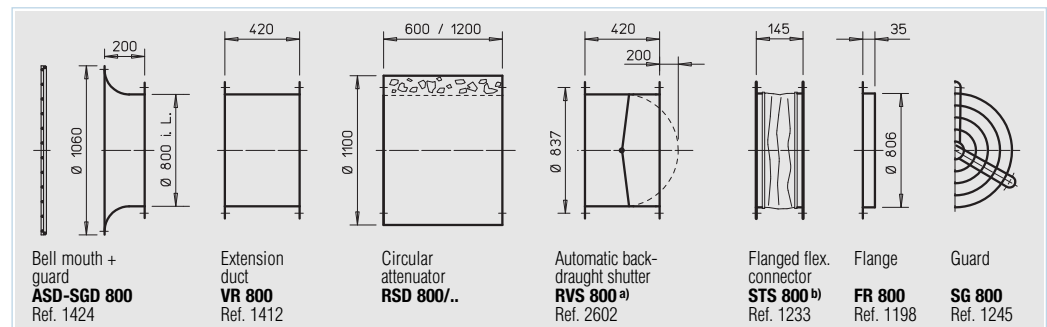
Sound power levels in dB(A) (spectrum and totals) are given above the performance curves.

R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Max. pitch angle	Wiring diagram	Max. air flow temp.	Nominal weight (net)	Fan type				Dim. B Flange/ Foot motor	Transformer controller for 5 speed control		
									AVD DK incl. guard	Ref. No.	AVD RK	Ref. No.		Type	Ref. No.	
min ⁻¹	V m ³ /h	kW	V	A	°	No.	+°C	kg					mm			
3 Phase motor, 400/690 V / 50 Hz, protection to IP 54																
695	17780	0.55	400	2.0	32	776	40	73	AVD DK 800/8/.. ⁴⁾	5305	AVD RK 800/8/.. ⁴⁾	6954	135	—	—	
1445	33450	4.00	400/690	8.9	26	776	40	101	AVD DK 800/4/.. ⁴⁾	5311	AVD RK 800/4/.. ⁴⁾	6960	210	—	—	
1450	39190	5.50	400/690	11.5	33	776	40	115	AVD DK 800/4/.. ⁴⁾	5312	AVD RK 800/4/.. ⁴⁾	6961	290	—	—	
2 speed motor, 3 Phase, 400 V / 50 Hz, Y/Δ-motor, protection to IP 55																
580/685	15740/18590	0.40/0.67	400Y/Δ	1.0/2.9	35	520	40	86	AVD DK 800/8/8/.. ⁵⁾	5306	AVD RK 800/8/8/.. ⁵⁾	6955	180	RDS 4 ⁶⁾	1316	
775/920	15720/18670	0.43/0.75	400Y/Δ	1.2/2.2	22	520	40	70	AVD DK 800/6/6/.. ⁵⁾	5307	AVD RK 800/6/6/.. ⁵⁾	6956	125	RDS 4 ⁶⁾	1316	
755/930	19430/23930	0.71/1.32	400Y/Δ	2.1/3.5	32	520	40	98	AVD DK 800/6/6/.. ⁵⁾	5309	AVD RK 800/6/6/.. ⁵⁾	6958	180	RDS 4 ⁶⁾	1316	
2 speed motor, pole-switching, 400 V / 3 ph. / 50 Hz, protection to IP 54																
450/900	8595/17190	0.12/0.55	400/400	0.6/1.6	20	471	40	80	AVD DK 800/12/6/.. ¹⁾	5316	AVD RK 800/12/6/.. ¹⁾	6965	135	PDA 12 ³⁾	5081	
455/940	10945/22610	0.25/1.10	400/400	1.2/2.9	29	471	40	88	AVD DK 800/12/6/.. ¹⁾	5317	AVD RK 800/12/6/.. ¹⁾	6966	180	PDA 12 ³⁾	5081	
455/950	12350/25780	0.33/2.00	400/400	1.9/5.0	35	471	40	98	AVD DK 800/12/6/.. ¹⁾	5318	AVD RK 800/12/6/.. ¹⁾	6967	290	PDA 12 ³⁾	5081	
695/1400	10020/20180	0.37/1.50	400/400	1.4/3.7	12	471	40	95	AVD DK 800/8/4/.. ¹⁾	5319	AVD RK 800/8/4/.. ¹⁾	6968	135	PDA 12 ³⁾	5081	
700/1435	15810/32410	0.90/3.60	400/400	3.4/8.0	25	471	40	103	AVD DK 800/8/4/.. ¹⁾	5320	AVD RK 800/8/4/.. ¹⁾	6969	210	PDA 12 ³⁾	5081	
715/1450	20110/40780	1.80/6.50	400/400	5.7/14.5	35	471	40	121	AVD DK 800/8/4/.. ¹⁾	5321	AVD RK 800/8/4/.. ¹⁾	6970	325	PDA 25	5060	
970/1440	15880/23580	0.75/2.10	400/400	2.3/4.6	15	473	40	95	AVD DK 800/6/4/.. ²⁾	5322	AVD RK 800/6/4/.. ²⁾	6971	180	PGWA 12 ³⁾	5083	
965/1435	19515/29020	1.00/3.00	400/400	2.9/6.6	21	473	40	116	AVD DK 800/6/4/.. ²⁾	5323	AVD RK 800/6/4/.. ²⁾	6972	210	PGWA 12 ³⁾	5083	
970/1450	27280/40780	2.20/6.00	400/400	5.6/12.5	35	473	40	128	AVD DK 800/6/4/.. ²⁾	5324	AVD RK 800/6/4/.. ²⁾	6973	325	PGWA 25	5061	
Explosion proof E Exe II, 400/690 V / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
700	17190	0.55	400	2.15	32	470	40	81	AVD DK 800/8 Ex/..	5326	AVD RK 800/8 Ex/..	6974	135	not permitted		
930	20340	0.95	400	2.70	23	470	40	90	AVD DK 800/6 Ex/..	5329	AVD RK 800/6 Ex/..	6976	135	not permitted		
950	26710	1.90	400	4.70	35	470	40	118	AVD DK 800/6 Ex/..	5330	AVD RK 800/6 Ex/..	6977	210	not permitted		
1420	31900	3.60	400/690	8.10	24	498	40	115	AVD DK 800/4 Ex/..	5332	AVD RK 800/4 Ex/..	6978	210	not permitted		
1450	36820	5.00	400/690	10.00	30	498	40	143	AVD DK 800/4 Ex/..	5333	AVD RK 800/4 Ex/..	6979	290	not permitted		

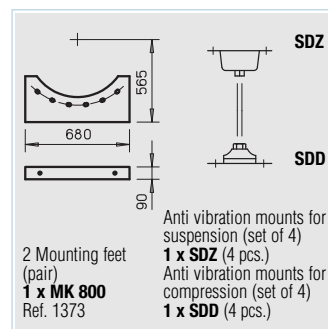
¹⁾ Dahlander-windings ²⁾ Separate windings ³⁾ see product page for flush mounted version ⁴⁾ and ⁵⁾ full motor protection unit, see description motor protection ⁶⁾ incl. full motor protection

800/4 R.P.M. = 1450

800/6 R.P.M. = 945

800/8 R.P.M. = 705

800/12 R.P.M. = 480


Electronic controller for stepless control		Oscillation attenuator nominal size	
Type	Ref. No.	Type	Ref. No.
FUS 3.7 ⁶⁾	6093	..1/.2	1452/1455
FUS 12 ⁵⁾	6097	..2/.2	1453/1455
FUS 16 ⁶⁾	6098	..2/.2	1453/1455
ESD 5 ⁶⁾	0501	..2/.2	1453/1455
ESD 5 ⁶⁾	0501	..1/.2	1452/1455
ESD 5 ⁶⁾	0501	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
not permitted	..2/.2	1453/1455	
not permitted	..2/.2	1453/1455	
not permitted	..2/.2	1453/1455	
not permitted	..2/.2	1453/1455	
not permitted	..2/.2	1453/1455	

Accessories for cased axial fans – Specification see pages 170 on.


a) For motorised shutters see accessory pages b) Models for ex-proof fans see below

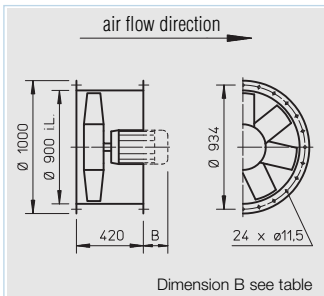
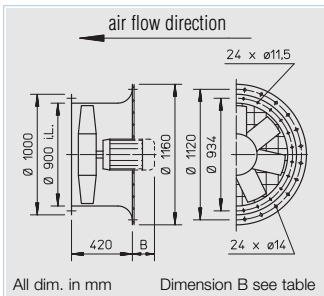


Information	Pages	Other accessories	Pages
Technical description	116	b) Accessory for explosion proof fans	
Selection chart	117	Flanged flexible connector STS 800 Ex	Ref. No. 2511
Design of systems	12 on	Filters and attenuators	318 on
Made to order designs		Shutters, grilles and louvres	361 on
Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction, aluminium cast impeller etc. are available on request.		Speed controllers and switches	397 on
For safety and correct use note the technical information on pages 17 on.			

AVD DK



AVD RK



■ Specification

□ Casing

With motor support manufactured from galvanised sheet steel.

□ Impeller

Highly efficient, profiled 5 or 7 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Pitch angle

To achieve the optimum operating point a choice of pitch angles are available (except explosion proof models). Pitch angle is set during manufacture (to order). The matching motor is supplied and the maximum pitch angle shown must not be exceeded (see table below).

□ Motor

Totally enclosed motor, protected to IP 54/ IP 55. Sealed for life ball bearings with tropical protection of windings and radio suppression.

□ Motor protection

All models (except pole switching and explosion proof) have thermal contacts or PTC resistors and according to footnotes in the table to guard through following full motor protection units: ⁴⁾MSA, Ref. No. 1289 (for PTC resistor) ⁵⁾M4, Ref. No. 1571 All other models have to be protected by a conventional circuit breaker on site.

□ Electrical connection

Terminals in motor cap (IP 54).

□ Guard

AVD DK models have hot dipped zinc plated motor side wire guard to DIN EN ISO 13857 as standard.

□ Speed control

Some models are controllable by a transformer control (see table). All models (except explosion proof and pole switching) are speed controllable by frequency inverter.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 loss in performance.

□ Installation

Installation in any position. Ensure that the motor drainage holes face downwards.

□ Dimensions

Dimensions are shown above. Pole-switching and explosion proof models may vary. Note dimension B in table below.

□ Sound levels

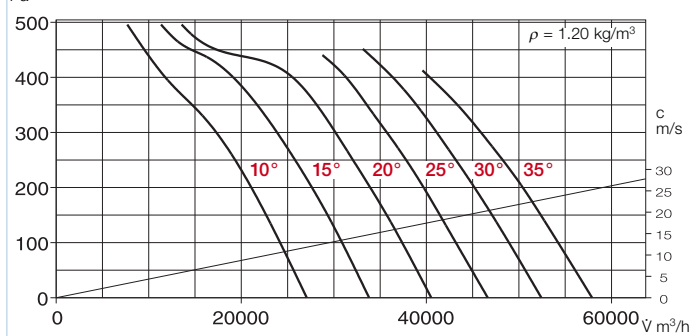
Sound power levels in dB(A) (spectrum and totals) are given above the performance curves.

R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Max. pitch angle	Wiring diagram	Max. air flow temp.	Nominal weight (net)	Fan type				Dim. B Flange/ Foot motor	Transformer controller for 5 speed control		
									AVD DK incl. guard	Ref. No.	AVD RK	Ref. No.		Type	Ref. No.	
min ⁻¹	V m ³ /h	kW	V	A	° Grad	No.	+°C	kg					mm			
3 Phase motor, 400/690 V / 50 Hz, protection to IP 54																
695	19970	0.55	400	2.0	23	776	40	90	AVD DK 900/8/.. ⁴⁾	5364	AVD RK 900/8/.. ⁴⁾	6980	135	—	—	
950	37300	3.00	400/690	7.5	34	776	40	130	AVD DK 900/6/.. ⁴⁾	5369	AVD RK 900/6/.. ⁴⁾	6985	290	—	—	
1445	35030	4.00	400/690	8.9	16	776	40	118	AVD DK 900/4/.. ⁴⁾	5370	AVD RK 900/4/.. ⁴⁾	6986	210	—	—	
1450	48995	7.50	400/690	15.5	27	776	40	142	AVD DK 900/4/.. ⁴⁾	5371	AVD RK 900/4/.. ⁴⁾	6987	325	—	—	
1470	57720	11.00	400/690	22.0	34	776	40	186	AVD DK 900/4/.. ⁴⁾	5372	AVD RK 900/4/.. ⁴⁾	6988	385	—	—	
2 speed motor, 400 V / 50 Hz, Y/Δ-motor, protection to IP 55																
580/685	18465/21810	0.40/0.67	400Y/Δ	1.0/2.9	27	520	40	105	AVD DK 900/8/8/.. ⁵⁾	5365	AVD RK 900/8/8/.. ⁵⁾	6981	180	RDS 4 ⁶⁾	1316	
605/695	22400/25730	0.60/1.22	400Y/Δ	2.2/4.3	35	520	40	115	AVD DK 900/8/8/.. ⁵⁾	5366	AVD RK 900/8/8/.. ⁵⁾	6982	210	RDS 7 ⁶⁾	1578	
755/930	18390/22660	0.71/1.32	400Y/Δ	2.1/3.5	19	520	40	90	AVD DK 900/6/6/.. ⁵⁾	5367	AVD RK 900/6/6/.. ⁵⁾	6983	180	RDS 4 ⁶⁾	1316	
770/920	25990/31060	1.6/2.37	400Y/Δ	3.9/7.1	27	520	40	115	AVD DK 900/6/6/.. ⁵⁾	5368	AVD RK 900/6/6/.. ⁵⁾	6984	210	RDS 11 ⁶⁾	1332	
2 speed motor, pole-switching, 400 V / 3 ph. / 50 Hz, protection to IP 54																
455/940	11030/22790	0.25/1.10	400/400	1.2/2.9	16	471	40	105	AVD DK 900/12/6/.. ¹⁾	5376	AVD RK 900/12/6/.. ¹⁾	6992	180	PDA 12 ³⁾	5081	
455/940	14995/30980	0.33/2.00	400/400	1.9/5.0	26	471	40	115	AVD DK 900/12/6/.. ¹⁾	5377	AVD RK 900/12/6/.. ¹⁾	6993	325	PDA 12 ³⁾	5081	
455/950	18220/38040	0.70/3.20	400/400	2.5/6.7	35	471	40	140	AVD DK 900/12/6/.. ¹⁾	5378	AVD RK 900/12/6/.. ¹⁾	6994	325	PDA 12 ³⁾	5081	
700/1435	18270/37450	1.10/4.50	400/400	3.8/10.5	18	471	40	120	AVD DK 900/8/4/.. ¹⁾	5379	AVD RK 900/8/4/.. ¹⁾	6995	290	PDA 12 ³⁾	5081	
715/1450	22390/45410	1.80/6.50	400/400	5.7/14.5	24	471	40	148	AVD DK 900/8/4/.. ¹⁾	5380	AVD RK 900/8/4/.. ¹⁾	6996	325	PDA 25	5060	
725/1440	29030/58660	3.50/12.50	400/400	9.1/25.5	35	471	40	191	AVD DK 900/8/4/.. ¹⁾	5381	AVD RK 900/8/4/.. ¹⁾	6997	430	—	—	
950/1435	22145/33450	1.50/3.70	400/400	4.0/7.8	15	473	40	133	AVD DK 900/6/4/.. ²⁾	5382	AVD RK 900/6/4/.. ²⁾	6998	290	PGWA 12 ³⁾	5083	
970/1450	28745/42970	2.20/6.00	400/400	5.6/12.5	22	473	40	190	AVD DK 900/6/4/.. ²⁾	5383	AVD RK 900/6/4/.. ²⁾	6999	325	PGWA 25	5061	
975/1440	34470/50910	3.00/8.20	400/400	7.3/16.5	29	473	40	210	AVD DK 900/6/4/.. ²⁾	5384	AVD RK 900/6/4/.. ²⁾	6998	385	PGWA 25	5061	
Explosion proof E Exe II, 400/690 V / 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
700	24470	0.95	400	2.75	27	470	40	110	AVD DK 900/8 Ex/..	5386	AVD RK 900/8 Ex/..	6999	180	not permitted		
725	28470	1.30	400	3.70	34	470	40	130	AVD DK 900/8 Ex/..	5387	AVD RK 900/8 Ex/..	6900	210	not permitted		
950	30550	1.90	400	4.70	25	470	40	135	AVD DK 900/6 Ex/..	5389	AVD RK 900/6 Ex/..	6901	210	not permitted		
950	38040	3.50	400/690	8.50	35	498	40	160	AVD DK 900/6 Ex/..	5390	AVD RK 900/6 Ex/..	6902	290	not permitted		
1450	46630	6.80	400/690	13.30	25	498	40	175	AVD DK 900/4 Ex/..	5392	AVD RK 900/4 Ex/..	6903	325	not permitted		
1465	55240	10.00	400/690	19.30	32	498	40	235	AVD DK 900/4 Ex/..	5393	AVD RK 900/4 Ex/..	6904	385	not permitted		

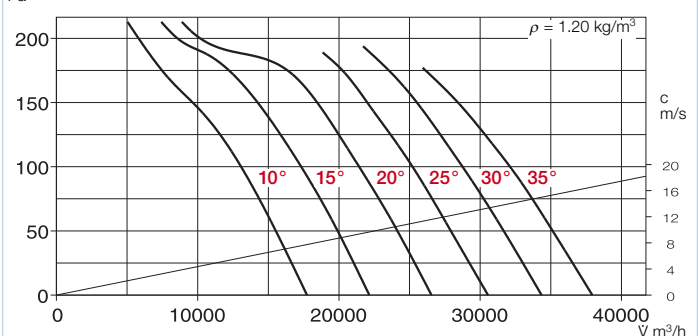
¹⁾ Dahlander-windings ²⁾ Separate windings ³⁾ see product page for flush mounted version ⁴⁾ and ⁵⁾ full motor protection units, see description "motor protection"

900/4 R.P.M. = 1450

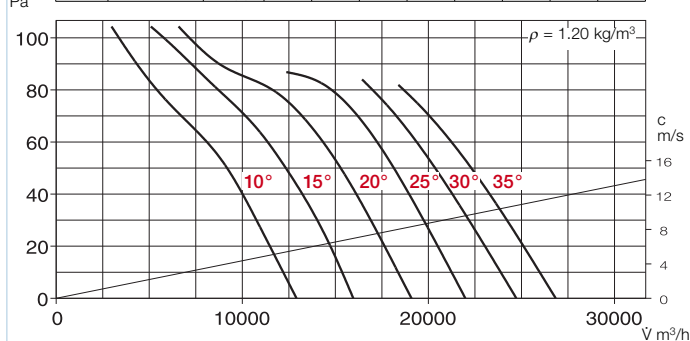
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA} 15°	dB(A)	94	78	80	86	90	90	86	79
L _{WA} 25°	dB(A)	96	80	82	88	92	92	88	81
L _{WA} 35°	dB(A)	98	82	84	90	94	94	90	83


900/6 R.P.M. = 945

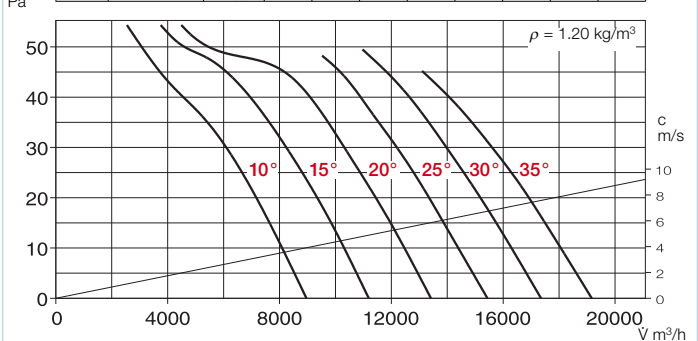
Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA} 15°	dB(A)	84	69	70	76	79	79	76	68
L _{WA} 25°	dB(A)	86	71	72	78	81	81	78	70
L _{WA} 35°	dB(A)	88	73	74	80	83	83	80	72


900/8 R.P.M. = 705

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA} 15°	dB(A)	77	58	64	71	73	72	68	59
L _{WA} 25°	dB(A)	79	60	66	73	75	74	70	61
L _{WA} 35°	dB(A)	81	62	68	75	77	76	72	63

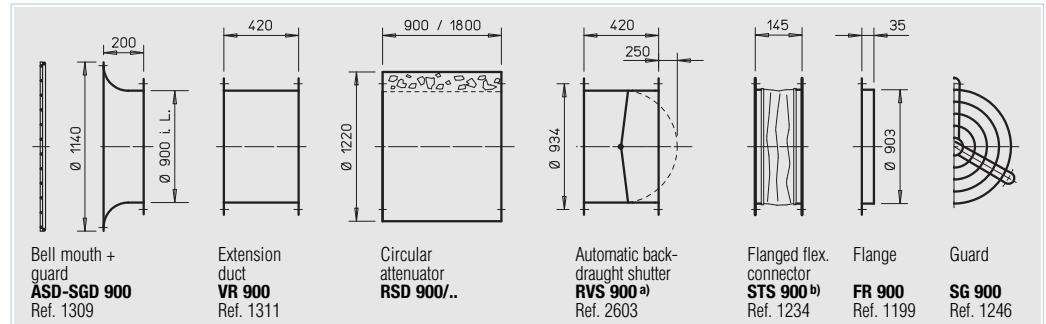
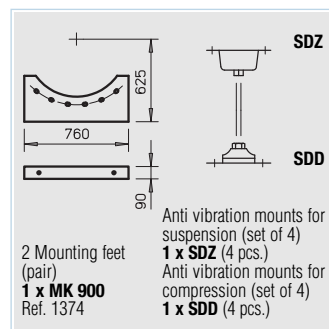

900/12 R.P.M. = 480

Frequency	Hz	Total	125	250	500	1k	2k	4k	8k
L _{WA} 15°	dB(A)	67	47	56	61	63	61	56	45
L _{WA} 25°	dB(A)	69	49	58	63	65	63	58	47
L _{WA} 35°	dB(A)	71	51	60	65	67	65	60	49



Electronic controller for stepless control		Anti vibration mounts nominal size	
Type	Ref. No.	Type	Ref. No.
FUS 3.7 ⁶⁾	6093	..2/.2	1453/1455
FUS 12 ⁶⁾	6097	..2/.2	1453/1455
FUS 12 ⁶⁾	6097	..2/.2	1453/1455
FUS 22.5 ⁶⁾	6099	..2/.2	1453/1455
FUS 30.5 ⁶⁾	6100	..3/.3	1367/1366
ESD 5 ⁶⁾	0501	..2/.2	1453/1455
ESD 5 ⁶⁾	0501	..2/.2	1453/1455
ESD 5 ⁶⁾	0501	..2/.2	1453/1455
ESD 11.5 ⁶⁾	0502	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..3/.3	1367/1366
—	—	..2/.2	1453/1455
—	—	..3/.3	1367/1366
—	—	..3/.3	1367/1366
not permitted	..2/.2	1453/1455	
not permitted	..2/.2	1453/1455	
not permitted	..2/.2	1453/1455	
not permitted	..2/.2	1453/1455	
not permitted	..2/.2	1453/1455	
not permitted	..3/.3	1367/1366	

⁶⁾ Incl. full motor protection

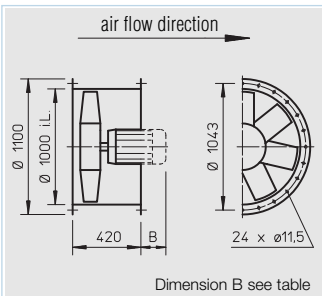
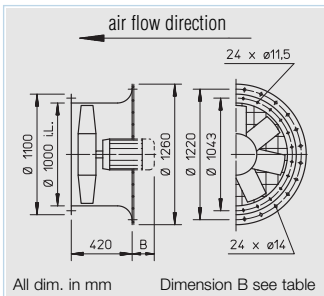
Accessories for cased axial fans – Specification see pages 170

^{a)} For motorised shutters see accessory pages ^{b)} Models for ex-proof fans see below

 2 Mounting feet (pair)
1 x MK 900
 Ref. 1374
 Anti vibration mounts for suspension (set of 4)
1 x SDZ (4 pcs.)
 Anti vibration mounts for compression (set of 4)
1 x SDD (4 pcs.)

Information	Pages	Other accessories	Pages
Technical description	116	^{b)} Accessory for explosion proof fans	
Selection chart	117	Flanged flexible connector STS 900 Ex	Ref. No. 2512
Design of systems	12 on	Filters and attenuators	318 on
Made to order designs		Shutters, grilles and louvres	361 on
Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction, aluminium cast impeller etc. are available on request.		Speed controllers and switches	397 on
For safety and correct use note the technical information on pages 17 on.			

AVD DK



AVD RK



■ Specification

□ Casing

With motor support manufactured from galvanised sheet steel.

□ Impeller

Highly efficient, profiled 5 blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C.

□ Pitch angle

To achieve the optimum operating point a choice of pitch angles are available (except explosion proof models). Pitch angle is set during manufacture (to order). The matching motor is supplied and the maximum pitch angle shown must not be exceeded (see table below).

□ Motor

Totally enclosed motor, protected to IP 54/ IP 55. Sealed for life ball bearings with tropical protection of windings and radio suppression.

□ Motor protection

All models (except pole switching and explosion proof) have thermal contacts or PTC resistors and according to footnotes in the table to guard through following full motor protection units: ⁴⁾MSA, Ref. No. 1289 (for PTC resistor) ⁵⁾M4, Ref. No. 1571 All other models have to be protected by a conventional circuit breaker on site.

□ Electrical connection

Terminals in motor cap (IP 54).

□ Guard

AVD DK models have hot dipped zinc plated motor side wire guard to DIN EN ISO 13857 as standard.

□ Speed control

Some models are controllable by a transformer control (see table). All models (except explosion proof and pole switching) are speed controllable by frequency inverter.

□ Reversed operation

All models are reversible when wired to a reversing switch. For reverse air flow direction allow for 1/3 loss in performance.

□ Installation

Installation in any position. Ensure that the motor drainage holes face downwards.

□ Dimensions

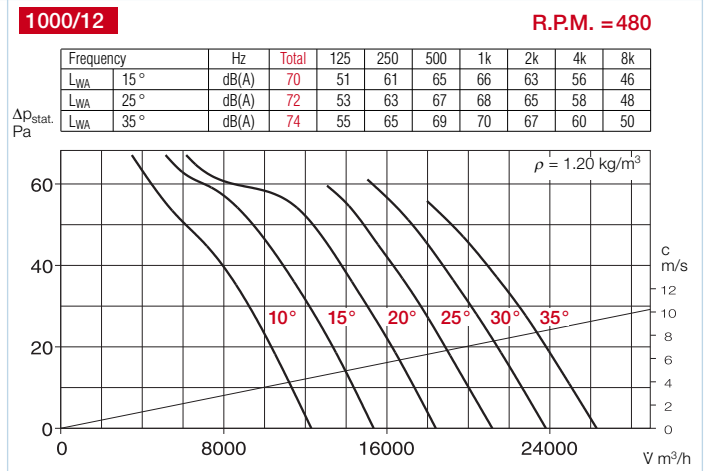
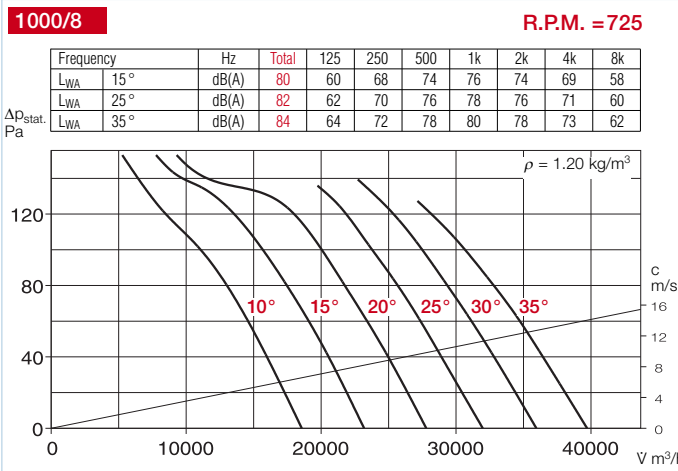
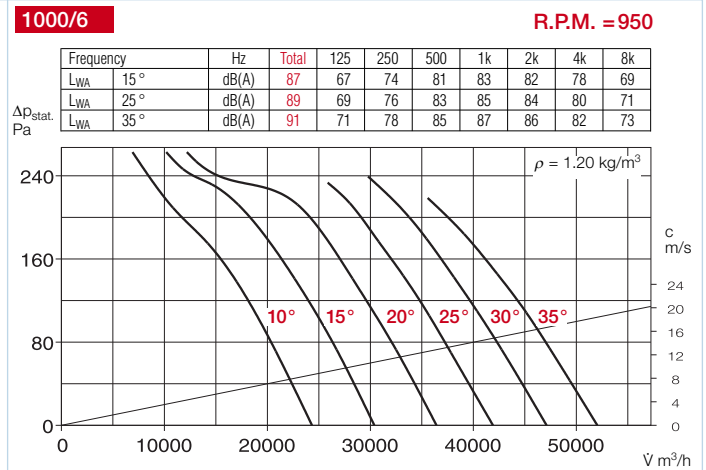
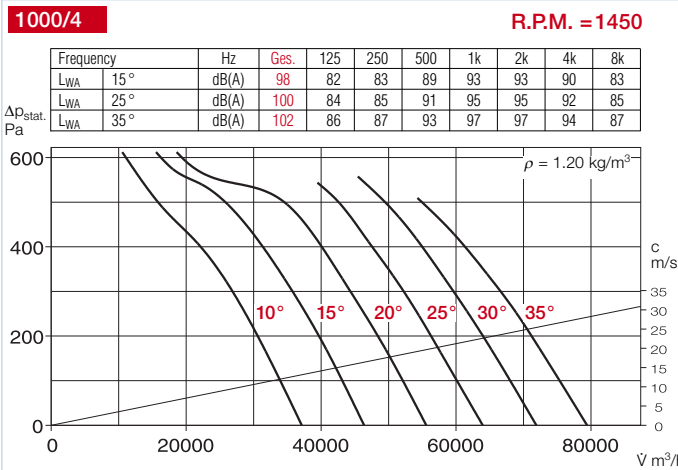
Dimensions are shown above. Pole-switching and explosion proof models may vary. Note dimension B in table below.

□ Sound levels

Sound power levels in dB(A) (spectrum and totals) are given above the performance curves.

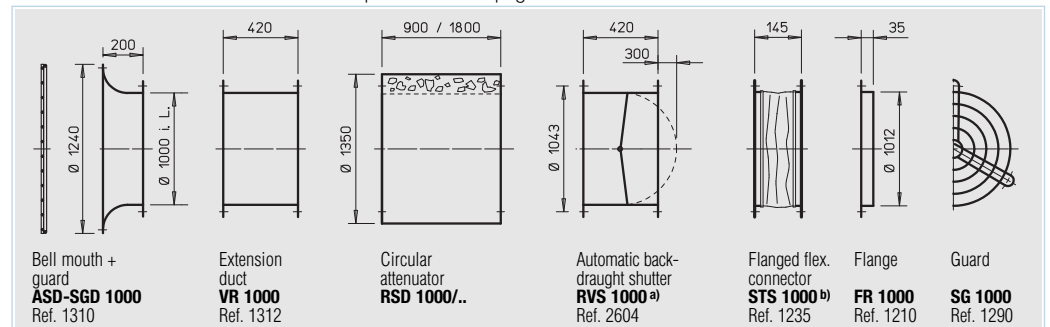
R.P.M.	Air flow volume (FID)	Motor power (nominal)	Voltage	Current at full load	Max. pitch angle	Wiring diagram	Max. air flow temp.	Nominal weight (net)	Fan type				Dim. B Flange/ Foot motor	Transformer controller for 5 speed control		
									AVD DK incl. guard	Ref. No.	AVD RK	Ref. No.		Type	Ref. No.	
min ⁻¹	V m ³ /h	kW	V	A	°	No.	+°C	kg					mm			
3 Phase motor, 400/690 V / 50 Hz, protection to IP 54																
705	32650	1.50	400	4.6	27	776	40	108	AVD DK 1000/8/.. ⁴⁾	5396	AVD RK 1000/8/.. ⁴⁾	5571	210	—	—	
710	39000	2.20	400	5.7	35	776	40	120	AVD DK 1000/8/.. ⁴⁾	5397	AVD RK 1000/8/.. ⁴⁾	5572	290	—	—	
950	39720	3.00	400/690	7.5	23	776	40	120	AVD DK 1000/6/.. ⁴⁾	5398	AVD RK 1000/6/.. ⁴⁾	5573	290	—	—	
955	46320	4.00	400/690	9.5	29	776	40	127	AVD DK 1000/6/.. ⁴⁾	5399	AVD RK 1000/6/.. ⁴⁾	5574	325	—	—	
955	52450	5.50	400/690	13.5	35	776	40	145	AVD DK 1000/6/.. ⁴⁾	5400	AVD RK 1000/6/.. ⁴⁾	5575	325	—	—	
1470	61460	11.00	400/690	22.0	23	776	40	160	AVD DK 1000/4/.. ⁴⁾	5401	AVD RK 1000/4/.. ⁴⁾	5576	385	—	—	
1470	71290	15.00	400/690	30.0	29	776	40	195	AVD DK 1000/4/.. ⁴⁾	5402	AVD RK 1000/4/.. ⁴⁾	5577	430	—	—	
1475	79440	18.50	400/690	36.0	34	776	40	210	AVD DK 1000/4/.. ⁴⁾	5403	AVD RK 1000/4/.. ⁴⁾	5578	465	—	—	
2 speed motor, 400 V / 3 ph. / 50 Hz, Y/Δ-motor, protection to IP 55																
605/695	23700/27440	0.6/1.22	400Y/Δ	2.2/4.3	21	520	40	102	AVD DK 1000/8/8/.. ⁵⁾	5395	AVD RK 1000/8/8/.. ⁵⁾	5570	180	RDS 7 ⁶⁾	1578	
2 speed motor, pole-switching, 400 V / 3 ph. / 50 Hz, protection to IP 54																
455/950	19020/39720	0.7/3.0	400/400	2.5/6.7	23	471	40	130	AVD DK 1000/12/6/.. ¹⁾	5404	AVD RK 1000/12/6/.. ¹⁾	5579	320	PDA 12 ³⁾	5081	
455/950	22065/46070	0.9/4.0	400/400	3.1/8.8	29	471	40	140	AVD DK 1000/12/6/.. ¹⁾	5405	AVD RK 1000/12/6/.. ¹⁾	5580	355	PDA 12 ³⁾	5081	
450/950	24715/52180	1.3/5.5	400/400	4.3/11.7	35	471	40	160	AVD DK 1000/12/6/.. ¹⁾	5406	AVD RK 1000/12/6/.. ¹⁾	5581	375	PDA 12 ³⁾	5081	
715/1440	27410/55210	2.2/9.0	400/400	5.3/18.0	20	471	40	165	AVD DK 1000/8/4/.. ¹⁾	5407	AVD RK 1000/8/4/.. ¹⁾	5582	385	PDA 25	5060	
715/1445	32325/65330	3.0/12.0	400/400	6.8/23.2	26	471	40	190	AVD DK 1000/8/4/.. ¹⁾	5408	AVD RK 1000/8/4/.. ¹⁾	5583	415	—	—	
720/1450	39545/79640	5.0/18.5	400/400	11.0/35.0	35	471	40	225	AVD DK 1000/8/4/.. ¹⁾	5409	AVD RK 1000/8/4/.. ¹⁾	5584	450	—	—	
975/1440	36140/53380	3.0/8.2	400/400	7.3/16.5	19	473	40	170	AVD DK 1000/6/4/.. ²⁾	5410	AVD RK 1000/6/4/.. ²⁾	5585	385	PGWA 25	5061	
975/1450	45150/67150	4.4/13.0	400/400	10.0/25.5	27	473	40	195	AVD DK 1000/6/4/.. ²⁾	5411	AVD RK 1000/6/4/.. ²⁾	5586	435	—	—	
980/1470	53825/80740	6.7/20.0	400/400	14.5/38.5	35	473	40	230	AVD DK 1000/6/4/.. ²⁾	5412	AVD RK 1000/6/4/.. ²⁾	5587	470	—	—	
Explosion proof E Exe II, 3 ph. / 50 Hz, protection to IP 54, temperature class T1-T3																
700	30880	1.3	400	3.9	25	470	40	110	AVD DK 1000/8 Ex/..	5413	AVD RK 1000/8 Ex/..	5588	210	not permitted		
700	38450	2.6	400	6.5	35	470	40	125	AVD DK 1000/8 Ex/..	5414	AVD RK 1000/8 Ex/..	5589	290	not permitted		
955	43180	3.5	400/690	7.6	26	498	40	130	AVD DK 1000/6 Ex/..	5415	AVD RK 1000/6 Ex/..	5590	325	not permitted		
960	52730	6.6	400/690	13.8	35	498	40	155	AVD DK 1000/6 Ex/..	5416	AVD RK 1000/6 Ex/..	5591	400	not permitted		
1480	70160	15.0	400/690	27.5	28	498	40	200	AVD DK 1000/4 Ex/..	5417	AVD RK 1000/4 Ex/..	5592	430	not permitted		
1470	77600	17.5	400/690	34.0	33	498	40	225	AVD DK 1000/4 Ex/..	5418	AVD RK 1000/4 Ex/..	5593	470	not permitted		

¹⁾ Dahlander-winding ²⁾ Separate winding ³⁾ see product page for flush mounted version ⁴⁾ and ⁵⁾ full motor protection units, see description „ motor protection“ ⁶⁾ Incl. full motor protection

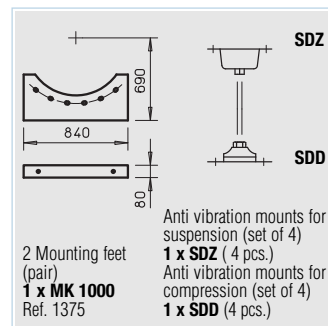


Electronic controller for stepless control		Anti vibration mounts nominal size	
Type	Ref. No.	Type	Ref. No.
FUS 5.1 ⁶⁾	6094	..2/.2	1453/1455
FUS 7.2 ⁶⁾	6095	..2/.2	1453/1455
FUS 12 ⁶⁾	6097	..2/.2	1453/1455
FUS 12 ⁵⁾	6097	..2/.2	1453/1455
FUS 16 ⁶⁾	6098	..2/.2	1453/1455
FUS 30.5 ⁶⁾	6100	..2/.2	1453/1455
FUS 37 ⁶⁾	6101	..3/.3	1367/1366
FUS 43.5 ⁶⁾	6102	..3/.3	1367/1366
ESD 5 ⁶⁾	0501	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..2/.2	1453/1455
—	—	..3/.3	1367/1366
—	—	..3/.3	1367/1366
—	—	..2/.2	1453/1455
—	—	..3/.3	1367/1366
—	—	..3/.3	1367/1366
not permitted	—	..2/.2	1453/1455
not permitted	—	..2/.2	1453/1455
not permitted	—	..2/.2	1453/1455
not permitted	—	..2/.2	1453/1455
not permitted	—	..3/.3	1367/1366
not permitted	—	..3/.3	1367/1366

Accessories for cased axial fans – Specification see pages 170 on.



a) For motorised shutters see accessory pages b) Models for ex-proof fans see below



Information	Pages	Other accessories	Pages
Technical description	116	b) Accessory for explosion proof fans	
Selection chart	117	Flanged flexible connector STS 1000 Ex	Ref. No. 2512
Design of systems	12 on	Filters and attenuators	318 on
Made to order designs		Shutters, grilles	
Alternative voltages, frequencies, protection classes, acid protection, high temperatures, air flow direction, aluminium cast impeller etc. are available on request.		and louvers	361 on
For safety and correct use note the technical information on pages 17 on.		Speed controllers and switches	397 on