

- **Specification for all models**
- **Casing**
Manufactured in galvanised sheet steel. Model HQ and HW have an additional two-layer finishing in papyrus white. Ex-models without paint.
- **Impeller**
Highly efficient, profiled blade impeller, dynamically balanced and manufactured from impact resistant polymers. Suitable for -30 to +60 °C. Deviation for ex-models.
- **Motor**
Totally enclosed motor with a die-cast aluminium casing, protected to IP 55. Ball bearing mounted. Maintenance-free and interference-free. Humidity protection of windings. For maximum air flow temp. see table below. Deviation for ex-models.

- **Motor protection**
All models (explosion proof excluded) have thermal contacts as standard which must be connected to a motor protection unit (see below).
- **Electrical connection**
Terminal box (IP 55) mounted on rear of motor as standard. Also on outside of piping for HRF. Deviation for ex-models.
- **Guard**
Powder-coated steel wire for HQ and HW (HQ ex-models galvanised) according to DIN EN ISO 13857.

- **Speed control**
For all speed controllable models the current are identified with a value in the "speed controlled" column of the table below which must be used when selecting a controller. Possible allocations of frequency inverters are specified in the table below. The planned use of a frequency inverter without Sine filter must be stated when ordering. This requires a change of fan design and potential additional costs. The air flow rates are shown in the performance curves.

- **Installation**
Installation in any position. Ensure that the motor drainage holes face downwards.
- **Dimensions**
Pole-switch and explosion proof models may deviate from the information above.
- **Sound levels**
See characteristic curve. The sound power and sound pressure are specified at 4 m distances under free field conditions, for average operating point suction/pressure side. See page 10 on for sound emission and acoustics. Deviation for ex-models.

- **Reversed operation**
All models are reversible when wired to a reversing switch. For reverse air flow direction allow a loss in performance of approx. 1/3.

R.P.M.	Air flow volume (FID)	Motor power	Current* standard-supply	Current* max. controlled	Wiring diagram	max. air flow temp. standard supply	speed controlled	Weight net	Model					
									HQ incl. guard	Ref. no.	HW incl. guard	Ref. no.	HRF	Ref. no.
min ⁻¹	V m ³ /h	W	A	A	No.	+°C	+°C	kg						
1 Phase motor, 230 Volt / 50 Hz, capacitor motor, protection to IP 55														
915	3890	136	0.63	0.63	475 ¹⁾	60	40	19.0	HQW 450/6	0991	—	—	HRFW 450/6 ¹⁾	0208
1380	5770	405	1.76	2.02	475 ¹⁾	60	40	18.0	HQW 450/4	0992	HWW 450/4	1010	HRFW 450/4 ¹⁾	0209
3 Phase motor, 400 Volt / 50 Hz, squirrel cage motor protection to IP 55														
960	3920	137	0.38	0.42	469	60	40	18.0	HQD 450/6	0993	—	—	HRFD 450/6	0230
1390	5810	384	0.81	0.92	469	50	40	17.0	HQD 450/4	0994	HWD 450/4	1028	HRFD 450/4	0231
Two-speed, 3 ph., 400 V, 50 Hz, Y/Δ switch, protection to IP 55														
1130/1390	5090/5780	280/378	0.51/0.82	—	520	60	—	22.0	HQD 450/4/4	1467	—	—	HRFD 450/4/4	1468
2775/2200	10190/9335	1300/2310*	5.40/3.0*	5.10	520	40	40	32.0	—	—	—	—	HRFD 450/2/2	0484
2 speed motor, pole-switching, Dahlander windings, 400 Volt, 50 Hz, protection to IP 55														
480/970	1930/3950	62/163	0.22/0.47	—	472	60	—	18.0	HQD 450/12/6	0995	—	—	—	—
705/1410	2860/5810	91/404	0.36/0.92	—	472	50	—	20.0	HQD 450/8/4	0996	—	—	HRFD 450/8/4	0403
Explosion proof Ex e II, 3 ph., 400 Volt, 50 Hz, protection to IP 55, temp. class T1-T3														
920	4090	250*	0.97*	—	470	40	—	15.5	HQD 450/6 Ex	1473	—	—	—	—
1370	6240	370*	1.08*	—	470	40	—	15.5	HQD 450/4 Ex	1154	—	—	HRFD 450/4 Ex	0481

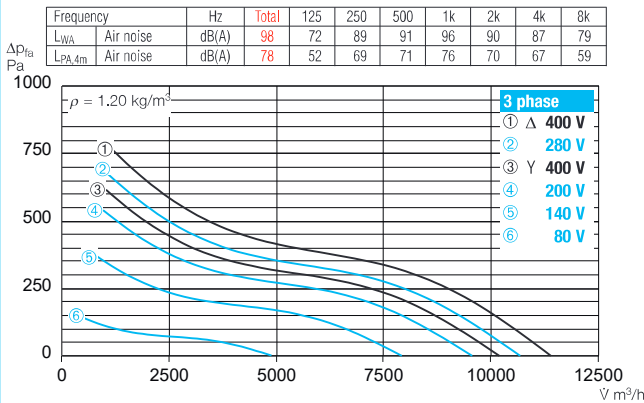
* Motor nominal values, Ex see info page 16.

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

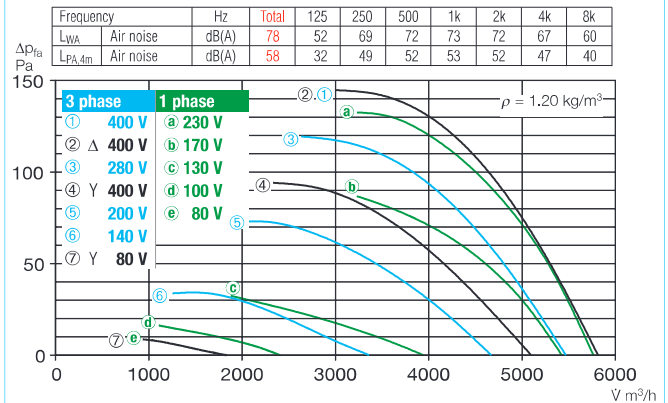
²⁾ Incl. full motor protection.

³⁾ see switch product page for flush mounted version.

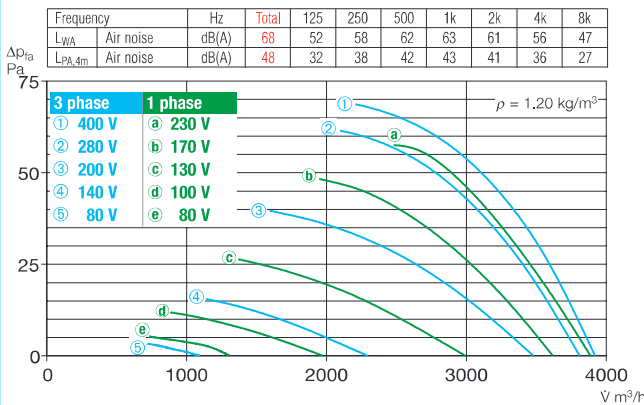
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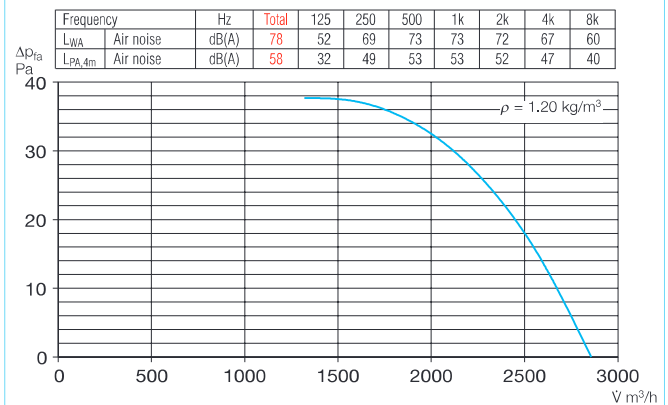
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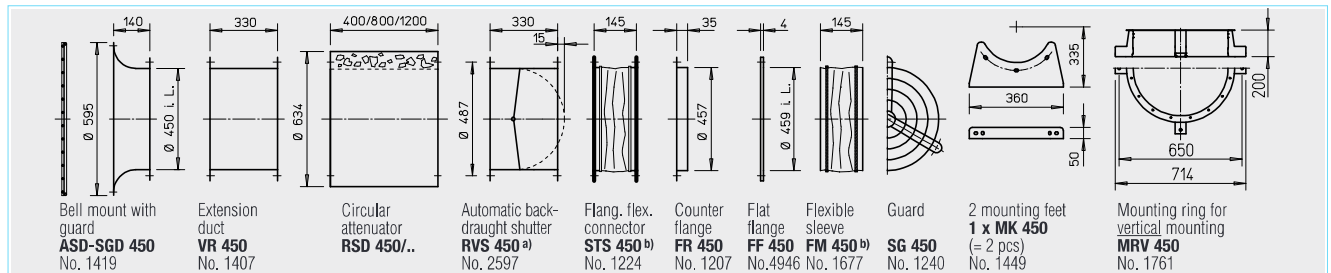
450/6



450/8



Accessories for HRF Description see page 230 on



a) For motorised shutters see accessory page

b) Models for ex-proof fans see below

Frequency inverter with integrated Sine filter		Transformer controller 5-speed Pole switch		Electronic controller, stepless flush/surf.		Full motor protection for connection of integrated thermal contacts		Reversing switch	
Model	Ref. no.	Model	Ref. no.	Model	Ref. no.	Model	Ref. no.	Model	Ref. no.
—	—	MWS 1,5²⁾	1947	ESU 3/ESA 3	0237/0239	MW	1579	WS	1271
—	—	MWS 3²⁾	1948	ESU 3/ESA 3	0237/0239	MW	1579	WS	1271
FU-BS 2,5²⁾	5459	RDS 1²⁾	1314	—	—	MD	5849	WS	1271
FU-BS 2,5²⁾	5459	RDS 2²⁾	1315	ESD 5²⁾	0501	MD	5849	WS	1271
		Speed switch							
FU-BS 2,5²⁾	5459	DS 2⁵⁾	1351	—	—	M 4⁴⁾/MD	1571/5849	WS	1271
FU-BS 8,0²⁾	5461	RDS 7²⁾	1578	ESD 11,5²⁾	0502	M 4⁴⁾/MD	1571/5849	WS	1271
		Pole switch							
—	—	PDA 12³⁾	5081	—	—	M 3⁴⁾	1293	PWDA	1282
—	—	PDA 12³⁾	5081	—	—	M 3⁴⁾	1293	PWDA	1282
—	—	not permitted		not permitted		—	—	—	—
—	—	not permitted		not permitted		—	—	—	—

4) Incl. pole switch.

5) Speed switch.

Other accessories Page

Accessories for explosion proof fans	Page
Flanged flexible connector Type STS 450 Ex	Ref. no. 2506
Flexible sleeve Type FM 450 Ex	Ref. no. 1693
Attenuators	421 on
Shutters and grilles	487 on
Speed controllers and switches	525 on