

Description for all types

Casing

Made of galvanised steel sheet, types HQ and HW have additional two layer lacquer coating in papyrus white. Explosion-proof types have no lacquer coating

Impeller

High performance characteristics with profiled blades made of plastic, dynamically balanced. Different for explosion-proof types.

Drive

Closed die-cast aluminium casing. Prot. cat. IP55. Ball bearing mounted. Maintenance-free and radio interference-free. Winding with moisture proof coating. See type table for max. air flow temperature. Different for explosion-proof types.

Motor protection

All types (except for explosion-proof, see page 180) are equipped with thermal contacts. These should be wired with the motor protection circuit breaker (see type table) for effective motor protection.

Electrical connection

Standard terminal box (IP55) on back of motor. Additionally on outside of duct for HRF types. Different for explosion-proof types.

Protection grille

Made of powder-coated steel for HQ and HW (HQ Ex galvanised). In accordance with DIN EN ISO 13857.

Power control

The voltage-controllable types are identified in the "Current consumption max. with control" column with a value which must be observed when determining the controller (see speed controller column). Possible assignments of frequency inverters to fans are shown in the type table. The planned use of a frequency inverter without a sine filter should be indicated when placing the order. This requires a change of fan version and additional costs, if necessary. The flow rates are shown in the performance diagram.

Reverse operation

All types are reversible using a reverser switch. Performance reduction of approx. 1/3 in abnormal flow direction.

Installation

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

Dimensions

Pole-changeable and explosion-proof types may differ from the above information.

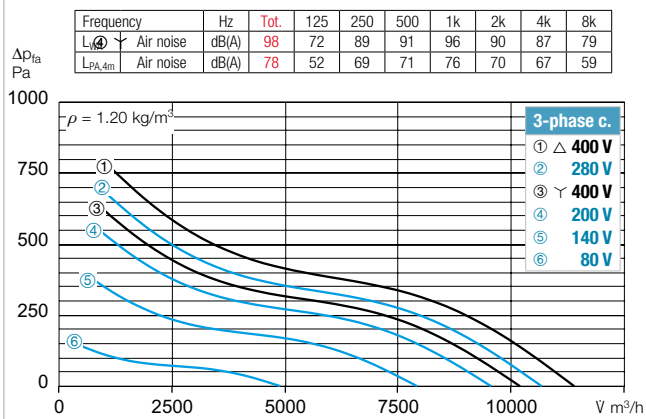
Noise levels

See performance diagram. The sound power and sound pressure at 4 m distance under free field conditions are specified for the average operating point on the inlet/outlet side. See page 14 f for noise emissions and room acoustics. Different for explosion-proof types.

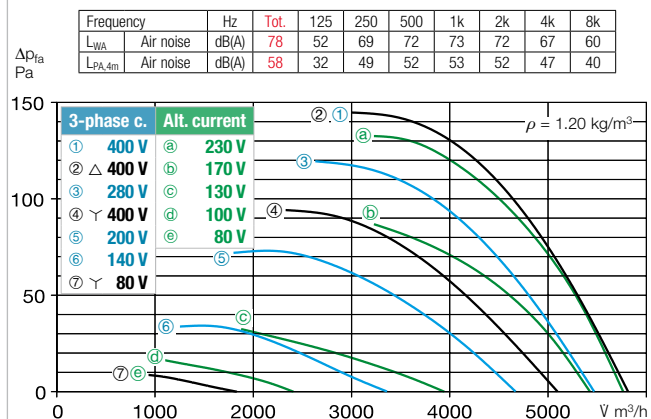
Speed min ⁻¹	Flow rate free-blowing V m ³ /h	Power consump. W	Current consump.		Wiring diagram No.	Max. air flow temp.		Weight net aprx. kg	Design type															
			at rated voltage A	max. with control A		at rated voltage + °C	with control + °C		HQ incl. protection grille	Ref. no.	HW incl. protection grille	Ref. no.	HRF	Ref. no.	Dim. B Motor protrusion in mm									
Single-phase alternating current, 230 Volt, 50 Hz, Capacitor motor, protection category IP55																								
915	3890	136	0.63	0.63	475 ¹⁾	60	40	19.0	HQW 450/6	00991	—	—	HRFW 450/6 ¹⁾	00208	—									
1380	5770	405	1.76	2.02	475 ¹⁾	60	40	18.0	HQW 450/4	00992	HWW 450/4	01010	HRFW 450/4 ¹⁾	00209	—									
Three-phase current, 400 Volt, 50 Hz, Squirrel-cage rotor, protection category IP55																								
960	3920	137	0.38	0.42	469	60	40	18.0	HQD 450/6	00993	—	—	HRFD 450/6	00230	—									
1390	5810	384	0.81	0.92	469	50	40	17.0	HQD 450/4	00994	HWD 450/4	01028	HRFD 450/4	00231	—									
Two-speed, three-phase current, 400 V, 50 Hz, √3/Δ connection, protection category IP55																								
1130/1390	5090/5780	280/378	0.51/0.82	—	520	60	—	22.0	HQD 450/4/4	01467	—	—	HRFD 450/4/4	01468	—									
2775/2200	10190/9335	1300/2310*	5.40/3.0*	5.10	520	40	40	32.0	—	—	—	—	HRFD 450/2/2	00484	150									
Pole-changeable, 2 speeds, three-phase current, Dahlander winding, 400 Volt, 50 Hz, protection category IP55																								
480/970	1930/3950	62/163	0.22/0.47	—	472	60	—	18.0	HQD 450/12/6	00995	—	—	—	—	—									
705/1410	2860/5810	91/404	0.36/0.92	—	472	50	—	20.0	HQD 450/8/4	00996	—	—	HRFD 450/8/4	00403	—									
Ex Ex Explosion-proof, II 2G Ex h IIB + H₂ T3 Gb, Motor Ex e, three-phase current 400 Volt, 50 Hz, protection category IP55																								
925	4090	250*	0.80*	—	470	40	—	15.5	HQD 450/6 Ex	01473	—	—	—	—	—									
1420	6240	370*	1.08*	—	470	40	—	15.5	HQD 450/4 Ex	01154	—	—	HRFD 450/4 Ex	00481	—									

* Motor ratings, Ex see information on page 20. ¹⁾ Type HRFW: Connection according to wiring diagram no. 965. ²⁾ Incl. motor protection circuit breaker. ³⁾ Flush-m. version see Switch product page.

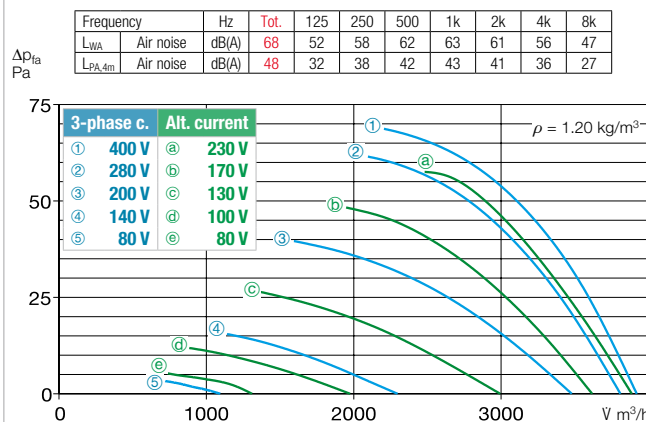
Performance curves 450/2



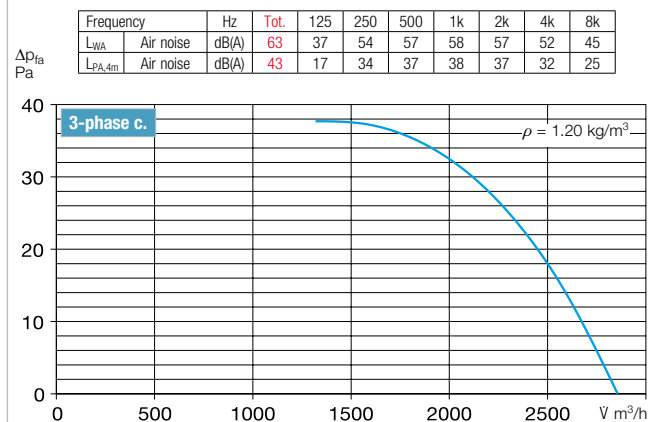
Performance curves 450/4



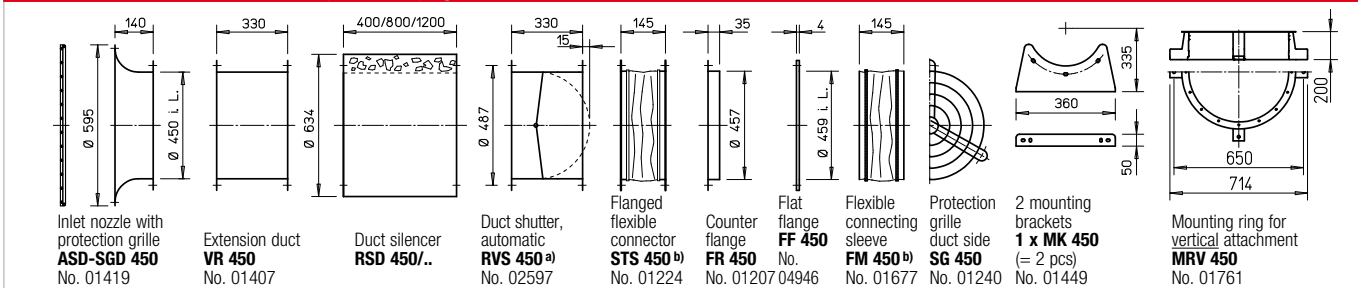
Performance curves 450/6



Performance curves 450/8



Accessories for HRF 450 Description see page 276 ff.



a) Shutter, motorised see Accessories product pages.

b) See below for types for explosion-proof fans.

Frequency inverter with integrated sine filter		Transformer speed controller 5-step, pole changing switch		Electronic speed controller, continuously variable flush-m./surface-m.		Motor protection circuit breaker for connecting built-in thermal contacts		Reverser switch	
Type	Ref. no.	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.	Type	Ref. no.
—	—	MWS 1.5 2)	01947	ESU 3/ESA 3	00237/00239	MW	01579	WS	01271
—	—	MWS 3 2)	01948	ESU 3/ESA 3	00237/00239	MW	01579	WS	01271
FU-BS 2.5 2)	05459	RDS 1 2)	01314	—	—	MD	05849	WS	01271
FU-BS 2.5 2)	05459	RDS 2 2)	01315	EDS 5 2)	00501	MD	05849	WS	01271
Speed changeover switch									
FU-BS 2.5 2)	05459	DS 2 5)	01351	—	—	M 4 3)/ MD	01571/05849	WS	01271
FU-BS 8.0 2)	05461	RDS 7 2)	01578	ESD 11.5 2)	00502	M 4 3)/ MD	01571/05849	WS	01271
Pole changing switch									
—	—	PDA 12 3)	05081	—	—	M 3 4)	01293	PWDA	01282
—	—	PDA 12 3)	05081	—	—	M 3 4)	01293	PWDA	01282
—	—	not permitted	—	not permitted	—	—	—	—	—
—	—	not permitted	—	not permitted	—	—	—	—	—

4) Incl. speed pole changing switch.

5) Speed changeover switch.

Other accessories Page

b) **Access. for expl.-proof fans**

Flanged flexible connector STS 450 Ex	Ref. no. 02506
Flexible connecting sleeve FM 450 Ex	Ref. no. 01693
Filter and silencers	481 ff.
Shutters and ventilation grilles	561 ff.
Speed controllers, controllers and switches	599 ff.