HQ 450



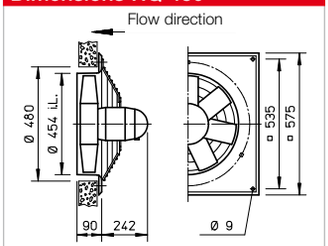
Also available in version:

HRF 450



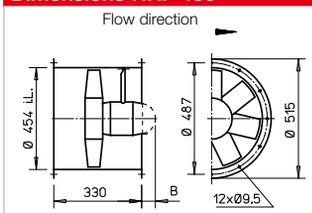
Also available in version:

Dimensions HQ 450



Dim. in mm

Dimensions HRF 450



Dim. B see table
Dim. in mm

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 190) are equipped with thermal contacts or PTC thermistor. 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.

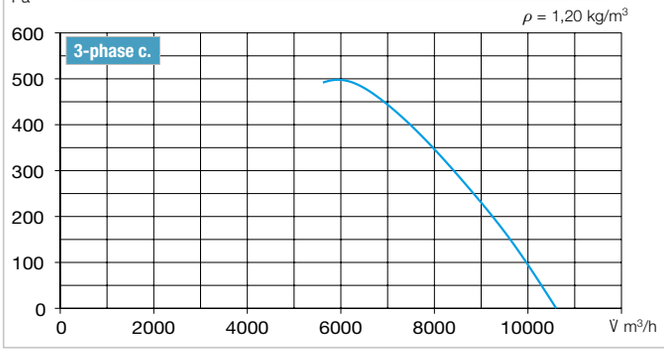
Noise levels
See performance diagram. The sound power and sound pressure at 4 m distance under free field conditions are specified for the average operating point on the inlet/outlet side. See page 14 f for noise emissions and room acoustics.
Different for explosion-proof types.

Speed	Flow rate free-blowing	Power consump.	Current consump.		Wiring diagram	Max. air flow temp.		Weight net aprx.	Design type				
			at rated voltage	max. with control		at rated voltage	with control		**HQ** incl. protection grille	Ref. no.	**HRF**	Ref. no.	Dim. B Motor protrusion in mm
min^{-1}	V̇ m³/h	W	A	A	No.	+ °C	+ °C	kg					
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	—
1410	5930	550	3.20	—	1638	60	—	14.0	**HQW 450/4**	00992	**HRFW 450/4**	00209	40
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	**HRFD 450/4**	00231	—
2910	10600	2200*	7,56*	—	776	60	—	32.0	—		**HRFD 450/2**	00484	100
Pole-changeable, 2 speeds, three-phase current, Dahlander winding, 400 Volt, 50 Hz, protection category IP55													
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 **Explosion-proof, II 2G Ex h IIB + H_2 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*	1.15*	—	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.

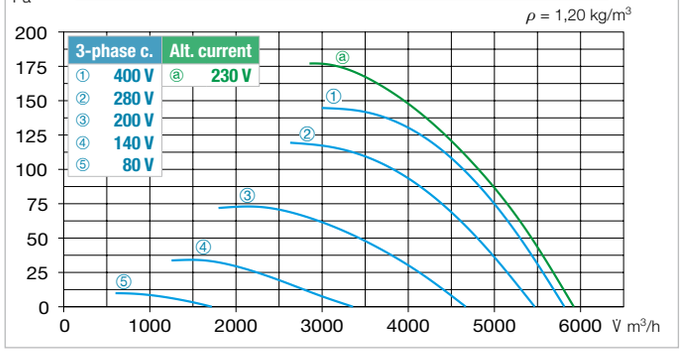
Performance curves 450/2

Frequency		Hz	Tot.	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



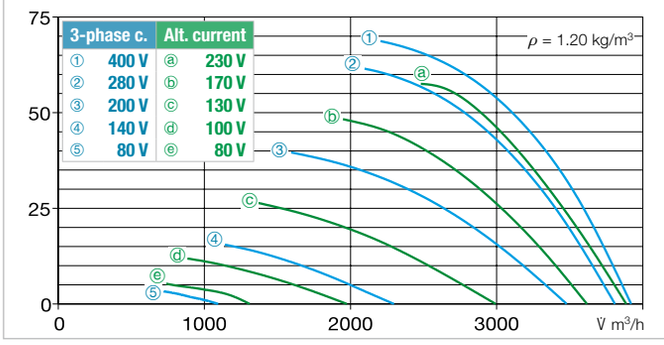
Performance curves 450/4

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Air noise	dB(A)	78	52	69	72	73	72	67	60
$L_{PA,4m}$	Air noise	dB(A)	58	32	49	52	53	52	47	40



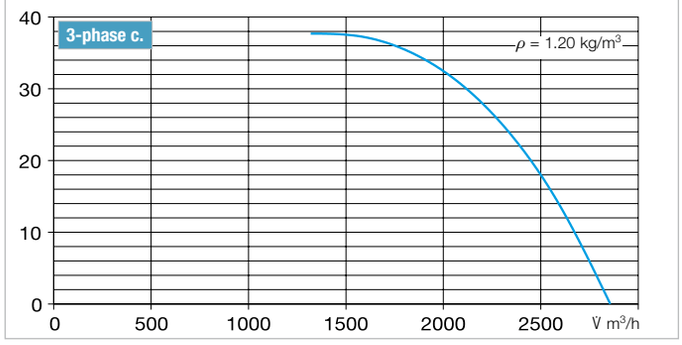
Performance curves 450/6

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Air noise	dB(A)	68	52	58	62	63	61	56	47
$L_{PA,4m}$	Air noise	dB(A)	48	32	38	42	43	41	36	27

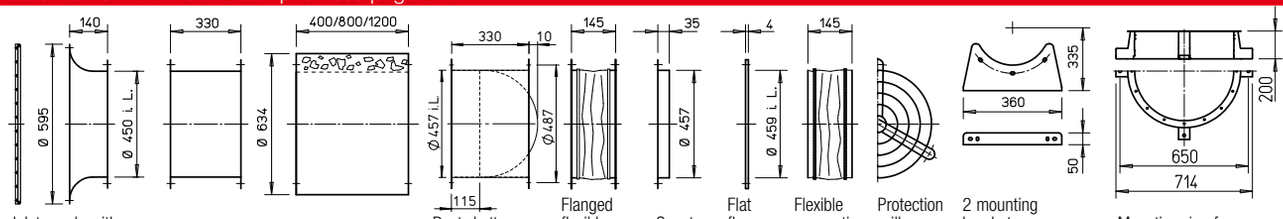


Performance curves 450/8

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Air noise	dB(A)	63	37	54	57	58	57	52	45
$L_{PA,4m}$	Air noise	dB(A)	43	17	34	37	38	37	32	25



Accessories for HRF 450 Description see page 278 ff.



Inlet nozzle with protection grille **ASD-SGD 450** No. 01419

Extension duct **VR 450** No. 01407

Duct silencer **RSD 450/..**

Duct shutter, automatic **RVS 450** [a] No. 02597

Flanged flexible connector **STS 450** [b] No. 01224

Counter flange **FR 450** No. 01207

Flat flange **FF 450** No. 04946

Flexible connecting sleeve **FM 450** [b] No. 01677

Protection grille duct side **SG 450** No. 01240

2 mounting brackets **1 x MK 450** (= 2 pcs) No. 01449

Mounting ring for vertical attachment **MRV 450** No. 01761

[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		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
	—		—		—		**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	—		**MSA**	01289	**WS**	01271
	FU-BS 8 [2]	05461	—		—		**MSA**	01289	**WS**	01271
			Pole changing switch							
	—		**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 483 ff.
Shutters and ventilation grilles 563 ff.
Speed controllers, controllers and switches 601 ff.