HQ 400



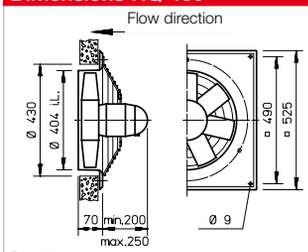
Also available in version: Ex

HRF 400



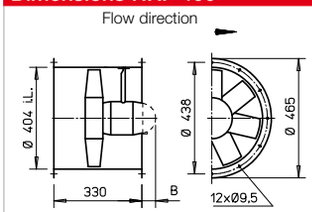
Also available in version: Ex

Dimensions HQ 400



Dim. in mm

Dimensions HRF 400



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 con-troller 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 perform. 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.

Reference	Page
Techn. description	190
Selection table	191
Planning information	14 ff.

Special design
Different voltage, protection category, air flow direction, higher air flow temperature, acid protection and impeller in other materials upon request.

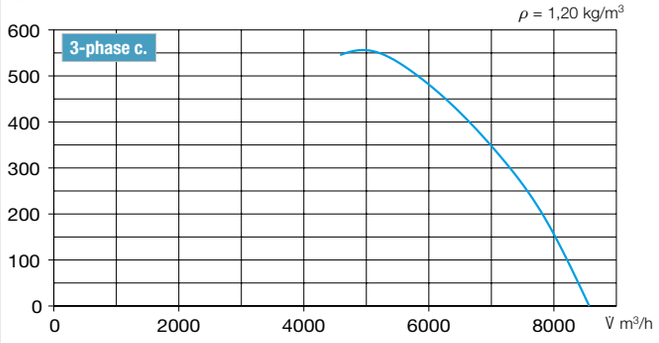
The technical information on p. 19 ff. must be observed.

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													
930	2570	77	0.52	0.54	475[1]	60	40	13.0	**HQW 400/6**	01110	**HRFW 400/6[1]**	00206	—
1440	4260	250	1.73	—	475[1]	60	—	12.0	**HQW 400/4**	01111	**HRFW 400/4[1]**	00207	70
Three-phase current, 400 Volt, 50 Hz, Squirrel-cage rotor, protection category IP55													
950	2620	89	0.28	0.30	469	60	40	13.0	**HQD 400/6**	01123	—		—
1350	4000	250	1.15	—	776	60	—	14.0	**HQD 400/4**	01124	**HRFD 400/4**	00229	—
2895	8570	3000*	5.71*	—	776	60	—	36.0	**HQD 400/2**	01475	**HRFD 400/2**	01474	180
Pole-changeable, 2 speeds, three-phase current, Dahlander winding, 400 Volt, 50 Hz, protection category IP55													
645/1370	2010/4090	100/500	0.93/1.4	—	777	60	—	18.0	**HQD 400/8/4**	01137	**HRFD 400/8/4**	00399	110
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	2870	250*	0.80*	—	470	40	—	13.0	**HQD 400/6 Ex**	01109	—		—
1420	4380	370*	1.15*	—	470	40	—	16.0	**HQD 400/4 Ex**	01153	**HRFD 400/4 Ex**	00479	—

* 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] Incl. speed pole changing switch.

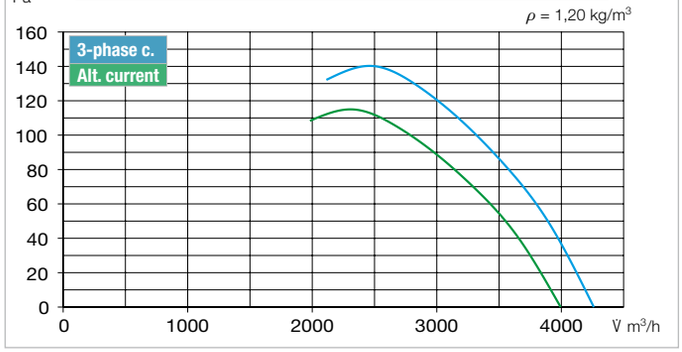
Performance curves 400/2

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Air noise	dB(A)	91	58	72	85	86	86	79	69
$L_{PA,4m}$	Air noise	dB(A)	71	38	52	65	66	66	59	49



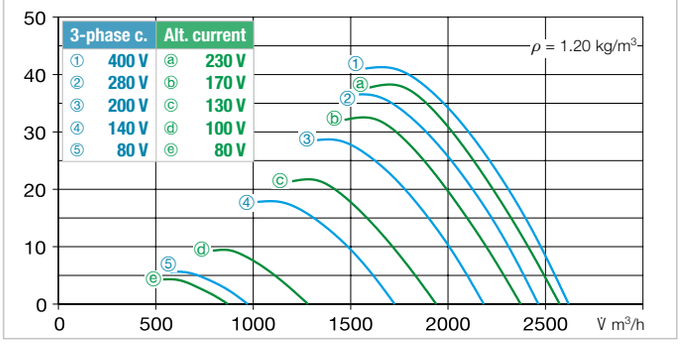
Performance curves 400/4

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Air noise	dB(A)	76	54	72	71	68	68	61	50
$L_{PA,4m}$	Air noise	dB(A)	56	34	52	51	48	48	41	30



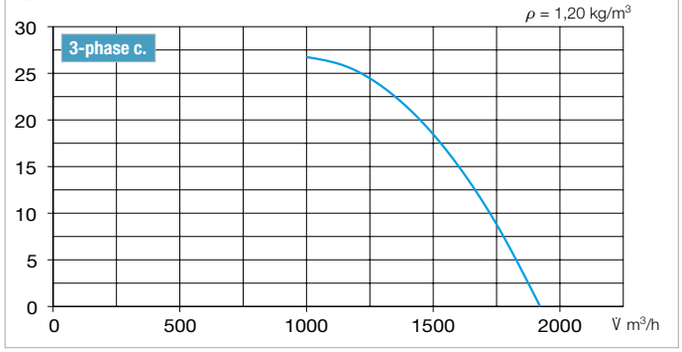
Performance curves 400/6

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Air noise	dB(A)	66	53	60	60	59	56	50	43
$L_{PA,4m}$	Air noise	dB(A)	46	33	40	40	39	36	30	2

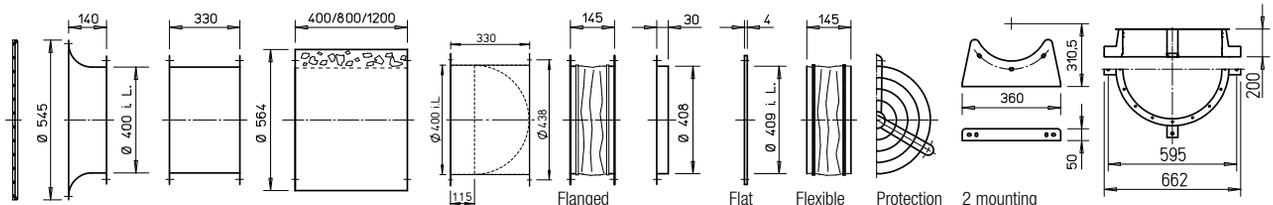


Performance curve 400/8

Frequency		Hz	Tot.	125	250	500	1k	2k	4k	8k
L_{WA}	Air noise	dB(A)	55	42	46	48	50	48	42	35
$L_{PA,4m}$	Air noise	dB(A)	35	22	26	28	30	28	22	15



Accessories for HRF 400 Description see page 278 ff.



Inlet nozzle with protection grille **ASD-SGD 400** No. 01418

Extension duct **VR 400** No. 01406

Duct silencer **RSD 400/..**

Duct shutter, automatic **RVS 400** a) No. 02596

Flanged flexible connector **STS 400** b) No. 01223

Counter flange **FR 400** No. 01206

Flat flange **FF 400** No. 04945

Flexible connecting sleeve **FM 400** b) No. 01676

Protection grille duct side **SG 400** No. 01239

2 mounting brackets **1 x MK 400** (= 2 pcs) No. 01449

Mounting ring for vertical attachment **MRV 400** No. 01760

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 1 / ESA 1**	00236/00238	**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	—		—		**MSA**	01289	**WS**	01271
	FU-BS 5,0 2)	05460	—		—		**MSA**	01289	**WS**	01271
	Pole changing switch									
	—		—		—		**MSA**	01289	**PWDA**	01282
	—		not permitted		not permitted		—		—	
	—		not permitted		not permitted		—		—	

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

Other accessories **Page**

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

Flanged flexible connector
STS 400 Ex Ref. no. 02505

Flexible connecting sleeve
FM 400 Ex Ref. no. 01692

Extension sleeve for HS
VH 400 Ref. no. 01346
Cylindrical pipe section, galvanised steel, 15 cm long.

Filter and silencers 483 ff.
Shutters and ventilation grilles 563 ff.
Speed controllers, controllers and switches 601 ff.