## HQ 450



Also available in version:

## HW 450

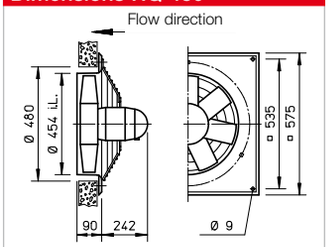


## HRF 450



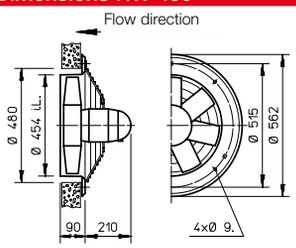
Also available in version:

## Dimensions HQ 450



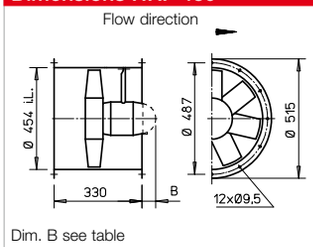

Dim. in mm

## Dimensions HW 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 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.

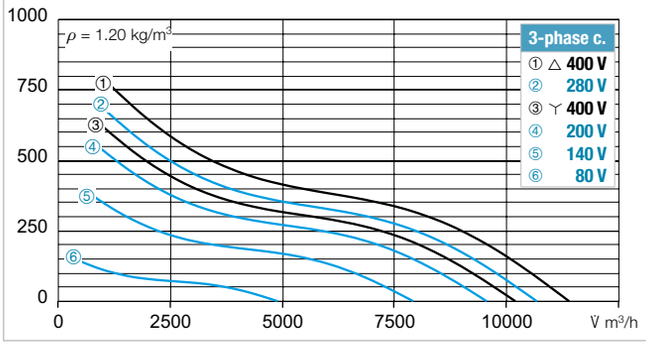
### Noise levels
See performance diagram. The sound power and sound pressure at 4 m distance under free field conditions are specified for the average operating point on the inlet/outlet side. See page 14 f for noise emissions and room acoustics.
Different for explosion-proof types.

| Speed | 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. | HW 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 | — | |
| 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, ⋎/△ 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 **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.

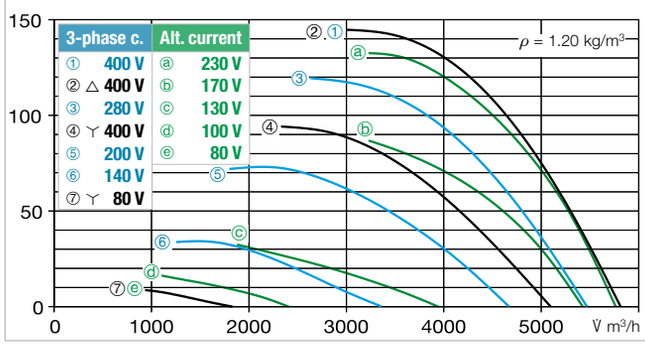
## Performance curves 450/2

| Frequency | | Hz | Tot. | 125 | 250 | 500 | 1k | 2k | 4k | 8k |
|---|---|---|---|---|---|---|---|---|---|---|
| $L_{WA}$ ④ ⋎ | 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 |



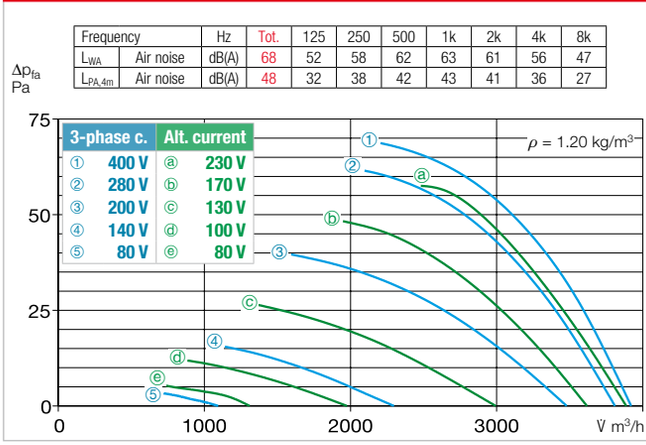

## Performance curves 450/4

| 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 |



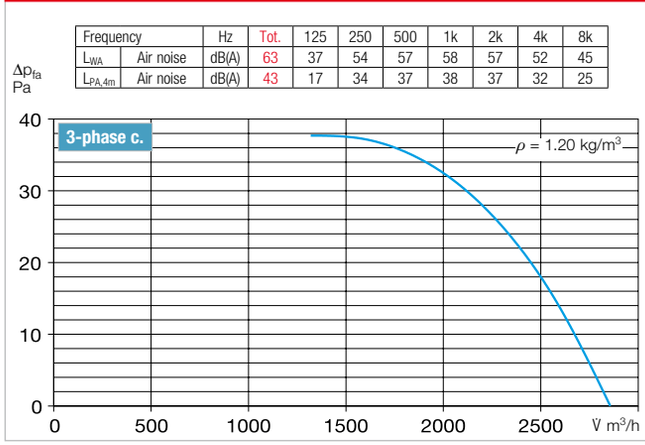

## Performance curves 450/6

| 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 |

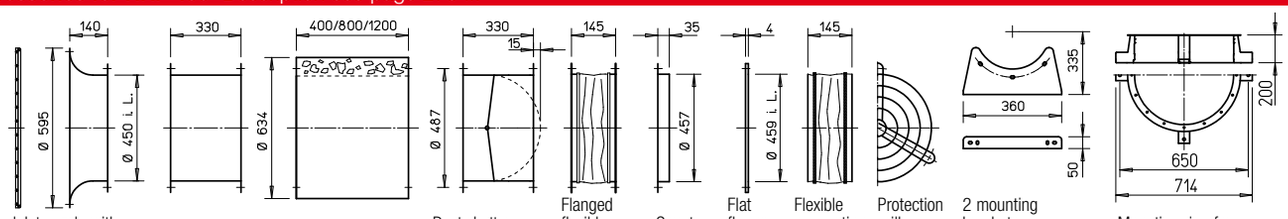



## Performance curves 450/8

| 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 276 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 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.