

### HQ 400



Also available in version:



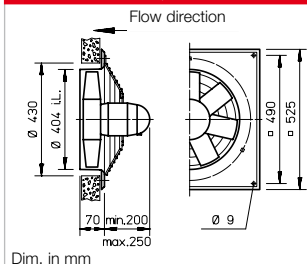
### HRF 400



Also available in version:

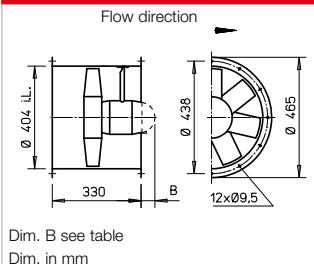


### Dimensions HQ 400



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 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 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. |
| <b>Special design</b>                                                                                                                                  |        |
| 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<br>free-blowing                                                                                                         | Power<br>consump. | Current consump.    |                      | Wiring<br>diagram | Max. air flow temp. |                 | Weight<br>net<br>aprx. | Design type                      |          |                          |          |                                        |  |
|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------|----------------------|-------------------|---------------------|-----------------|------------------------|----------------------------------|----------|--------------------------|----------|----------------------------------------|--|
|                                                                                                              |                                                                                                                                   |                   | at rated<br>voltage | max. with<br>control |                   | at rated<br>voltage | with<br>control |                        | HQ<br>incl.<br>protection grille | Ref. no. | HRF                      | Ref. no. | Dim. B<br>Motor<br>protrusion<br>in mm |  |
|                                                                                                              |                                                                                                                                   |                   |                     |                      |                   |                     |                 |                        |                                  |          |                          |          |                                        |  |
| min <sup>-1</sup>                                                                                            | ∇ m <sup>3</sup> /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 <sup>1)</sup> | 60                  | 40              | 13.0                   | HQW 400/6                        | 01110    | HRFW 400/6 <sup>1)</sup> | 00206    | —                                      |  |
| 1440                                                                                                         | 4260                                                                                                                              | 250               | 1.73                | —                    | 475 <sup>1)</sup> | 60                  | —               | 12.0                   | HQW 400/4                        | 01111    | HRFW 400/4 <sup>1)</sup> | 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 <sub>2</sub> 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    | —                                      |  |

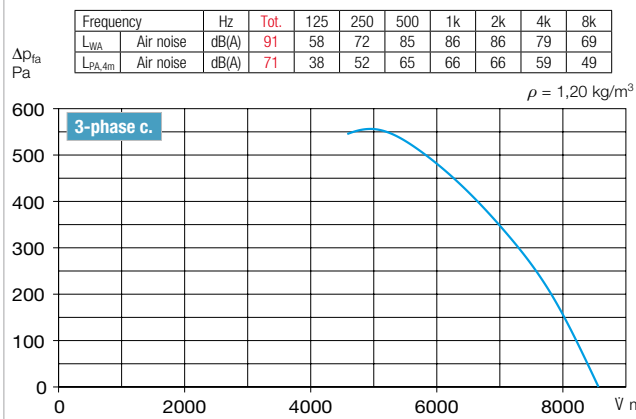
\* Motor ratings, Ex see information on page 20.

<sup>1)</sup> Type HRFW: Connection according to wiring diagram no. 965

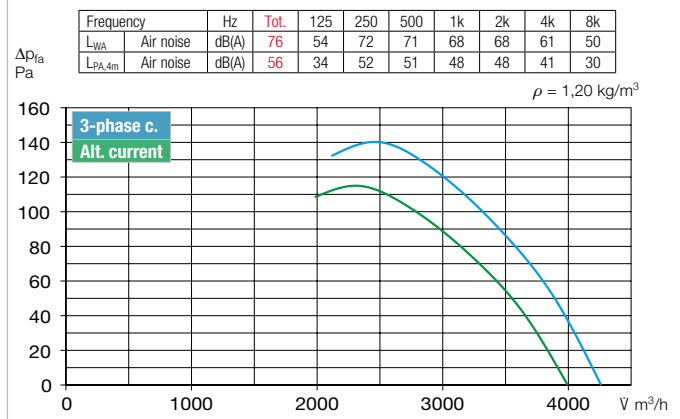
<sup>2)</sup> Incl. motor protection circuit breaker.

<sup>3)</sup> Incl. speed pole changing switch.

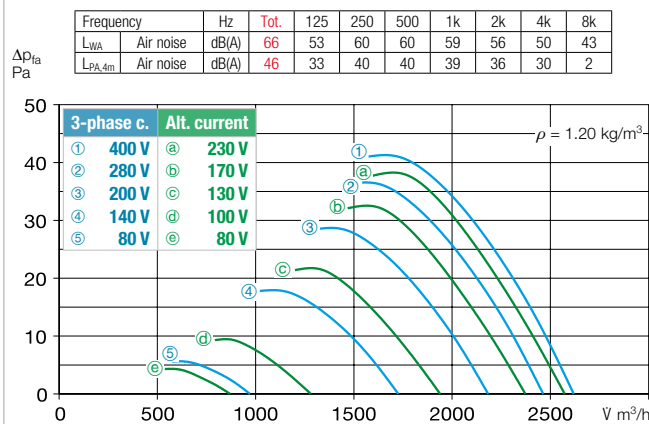
## Performance curves 400/2



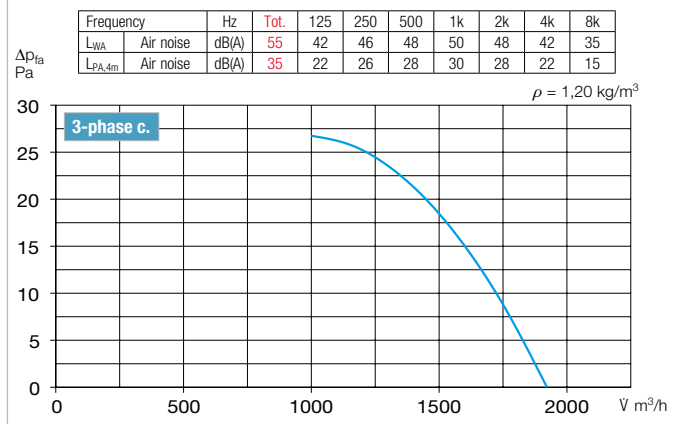
## Performance curves 400/4



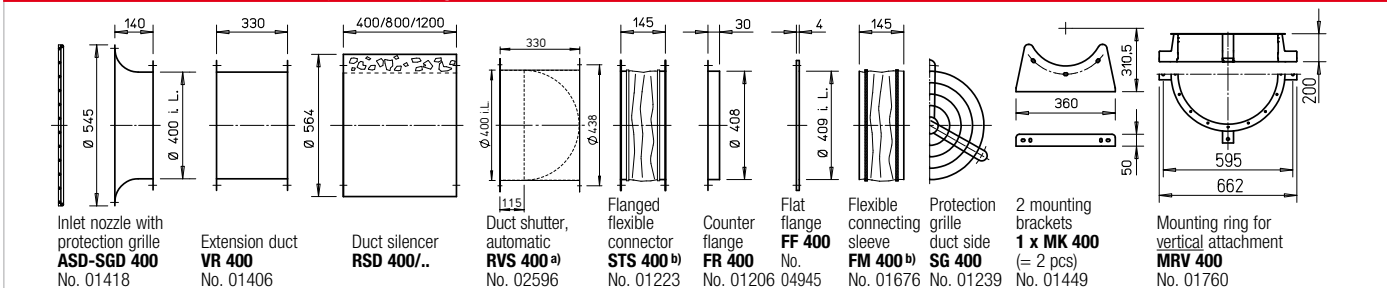
## Performance curves 400/6



## Performance curve 400/8



## Accessories for HRF 400 Description see page 278 ff.



<sup>a)</sup> Shutter, motorised see Accessories product pages.

<sup>b)</sup> 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 <sup>2)</sup>                                     | 01947    | ESU 1/ESA 1                                                            | 00236/00238 | MW                               | 01579    | WS              | 01271    |
| —                                              | —        | —                                                         | —        | —                                                                      | —           | MW                               | 01579    | WS              | 01271    |
| FU-BS 2.5 <sup>2)</sup>                        | 05459    | RDS 1 <sup>2)</sup>                                       | 01314    | —                                                                      | —           | MD                               | 05849    | WS              | 01271    |
| FU-BS 2.5 <sup>2)</sup>                        | 05459    | —                                                         | —        | —                                                                      | —           | MSA                              | 01289    | WS              | 01271    |
| FU-BS 5,0 <sup>2)</sup>                        | 05460    | —                                                         | —        | —                                                                      | —           | MSA                              | 01289    | WS              | 01271    |
| Pole changing switch                           |          | —                                                         | —        | —                                                                      | —           | MSA                              | 01289    | PWDA            | 01282    |
| —                                              | —        | not permitted                                             | —        | not permitted                                                          | —           | —                                | —        | —               | —        |
| —                                              | —        | not permitted                                             | —        | not permitted                                                          | —           | —                                | —        | —               | —        |

<sup>4)</sup> Flush-m. version see Switch product page.

## Other accessories Page

### <sup>b)</sup> 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.