

# EL 400 D2 O 01

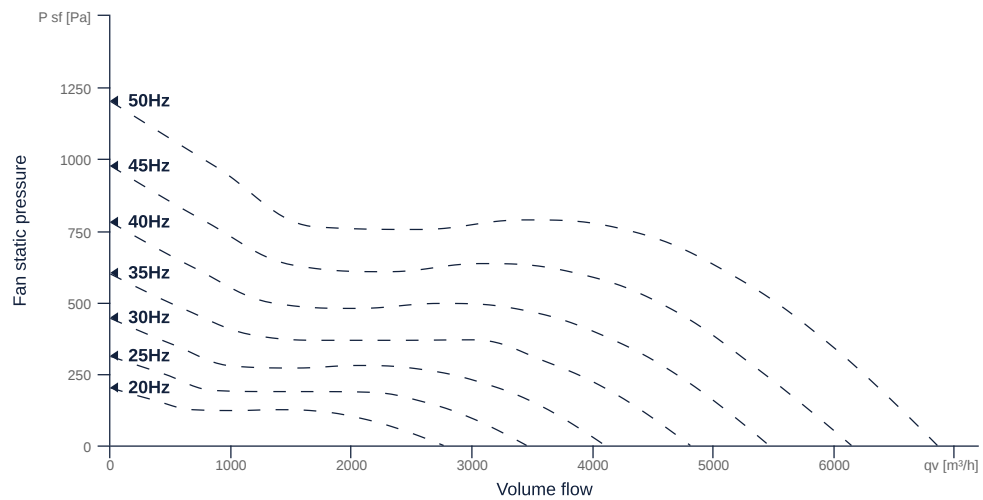
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- Innovative, high-efficiency diagonal fan
- The benchmark for efficiency since 2007
- Optimally tuned, CFD-optimized aerodynamics
- Efficient IE3 motor, frequency controllable
- Conveyed medium temperature up to 60 °C in continuous operation
- Housing made of aluminium AlMg3
- Attention! See note in the operating manual at FU-operation



## FAN CURVES

| Name        | Value | Unit |
|-------------|-------|------|
| Volume flow | 0     | m³/h |
| Pressure    | 0     | Pa   |



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## GENERAL DATA

| Name                                  | Value     | Unit | Formula symbol      |
|---------------------------------------|-----------|------|---------------------|
| Labeling                              | CE, UKCA  |      |                     |
| Duct size                             | -         |      | $W \times H_{duct}$ |
| Pipe connection size (DN)             | DN400     |      | DN                  |
| Rated voltage (entire device)         | 400       | V    | $U_{rated}$         |
| Phases (entire device)                | 3~        |      | phase               |
| Electrical protection (entire device) | 6 A       |      | fuse                |
| Housing material                      | Aluminium |      | $m_{tcasing}$       |
| Impeller material                     | Aluminium |      | $m_{timpeller}$     |
| IP-protection class (entire device)   | IPX4      |      | $IP_{compl}$        |
| Weight                                | 19.5      | kg   | m                   |
| Fan type                              | Diagonal  |      | $Fan_{type}$        |
| Category / Installation situation     | B         |      | cat                 |

## MAXIMAL DATA

| Name                            | Value | Unit        | Formula symbol |
|---------------------------------|-------|-------------|----------------|
| Max. power consumption (device) | 1590  | W           | $P_{ed, max}$  |
| Max. operating current (device) | 3     | A           | $I_{ed, max}$  |
| Max. speed                      | 2870  | 1/min       | $n_{max}$      |
| Max. stat. efficiency           | 54.9  | %           | $\eta_{es}$    |
| Max. fan efficiency             | 58.4  | %           | $\eta_e$       |
| Max. flowrate                   | 6850  | $m^3/h$     | $Q_{v, max}$   |
| Max. stat pressure              | 1200  | Pa          | $p_{sf, max}$  |
| Max. medium temperature         | 60    | $^{\circ}C$ | $T_{m, max}$   |
| Max. environment temperature    | 60    | $^{\circ}C$ | $T_{amb, max}$ |
| Min. environment temperature    | -20   | $^{\circ}C$ | $T_{amb, min}$ |



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## MOTOR DATA

| Name                        | Value    |                      | Unit  | Formula symbol          |
|-----------------------------|----------|----------------------|-------|-------------------------|
|                             | 50 Hz    | 60 Hz                |       |                         |
| Rated frequency (device)    |          | 50                   |       | f                       |
| Motor type                  |          | AC 3~                |       | phase                   |
| Control type                |          | frequency-controlled |       | ctrltype                |
| Installation type           |          | IRM (In)             |       | install                 |
| Rotation direction          |          | right                |       | rotation                |
| Isolation class             |          | ISO F                |       | ISOclass                |
| Protection class            |          | IP55                 |       | IPmotor                 |
| Is pole-changeable          |          | No                   |       | polexch                 |
| Type of power supply        |          | AC 3~                |       | pwrsupmotor             |
| Number of poles (1)         |          | 2.000000             |       | num polesw1             |
| Connection                  | $\Delta$ | Y                    |       | wiringw1                |
| Connection (wiring 2)       | Y        |                      |       | wiringw2                |
| Rated voltage               | 230      | 460                  | V     | U <sub>rated, f1</sub>  |
| Rated voltage (wiring 2)    | 400      |                      | V     | U <sub>rated, f2</sub>  |
| Rated current               | 4.03     | 2.05                 | A     | I <sub>rated, f1</sub>  |
| Rated current (wiring 2)    | 2.32     |                      | A     | I <sub>rated, f2</sub>  |
| Shaft power                 | 1100     | 1100                 | W     | P <sub>out, f1</sub>    |
| Shaft power (wiring 2)      | 1100     |                      | W     | P <sub>out, f2</sub>    |
| Speed                       | 2830     | 3450                 | 1/min | n <sub>f1</sub>         |
| Speed (wiring 2)            | 2830     |                      | 1/min | n <sub>f2</sub>         |
| Starting current            | 29.9     | 16.4                 | A     | I <sub>start, f1</sub>  |
| Starting current (wiring 2) | 17.2     |                      | A     | I <sub>start, f2</sub>  |
| Efficiency                  | 83.5     | 84                   | %     | $\eta_m, f1$            |
| Efficiency (wiring 2)       | 83.5     |                      | %     | $\eta_m, f2$            |
| Efficiency class            | IE3      |                      |       | IE <sub>motor</sub>     |
| Min. temperature            | -20      |                      | °C    | T <sub>motor, min</sub> |
| Cos Phi                     | 0.820000 | 0.800000             |       | cos $\varphi$           |
| UL-Certification motor      |          | UL recognized        |       | ULcert                  |



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## ERP DATA (LOT11)

| Name  | Value | Unit              | Formula symbol            |
|---|-------|-------------------|---------------------------|
| Speed at the energy efficiency optimum                    | 2805  | 1/min             | $n_{opt}$                 |
| Efficiency level  | 63.7  | %                 | N                         |
| Efficiency category                                       | total |                   | cat <sub>efficiency</sub> |
| Input power of the motor at the energy efficiency optimum | 1.56  | kW                | $P_{e, opt}$              |
| Overall efficiency  | 72.2  | %                 | $\eta_{ges}$              |
| Measurement category                                      | B     |                   | meas cat                  |
| Fan pressure at energy efficiency optimum                 | 760   | Pa                | $p_{f, opt}$              |
| Flowrate at energy efficiency optimum                     | 4395  | m <sup>3</sup> /h | $Q_{v, opt}$              |

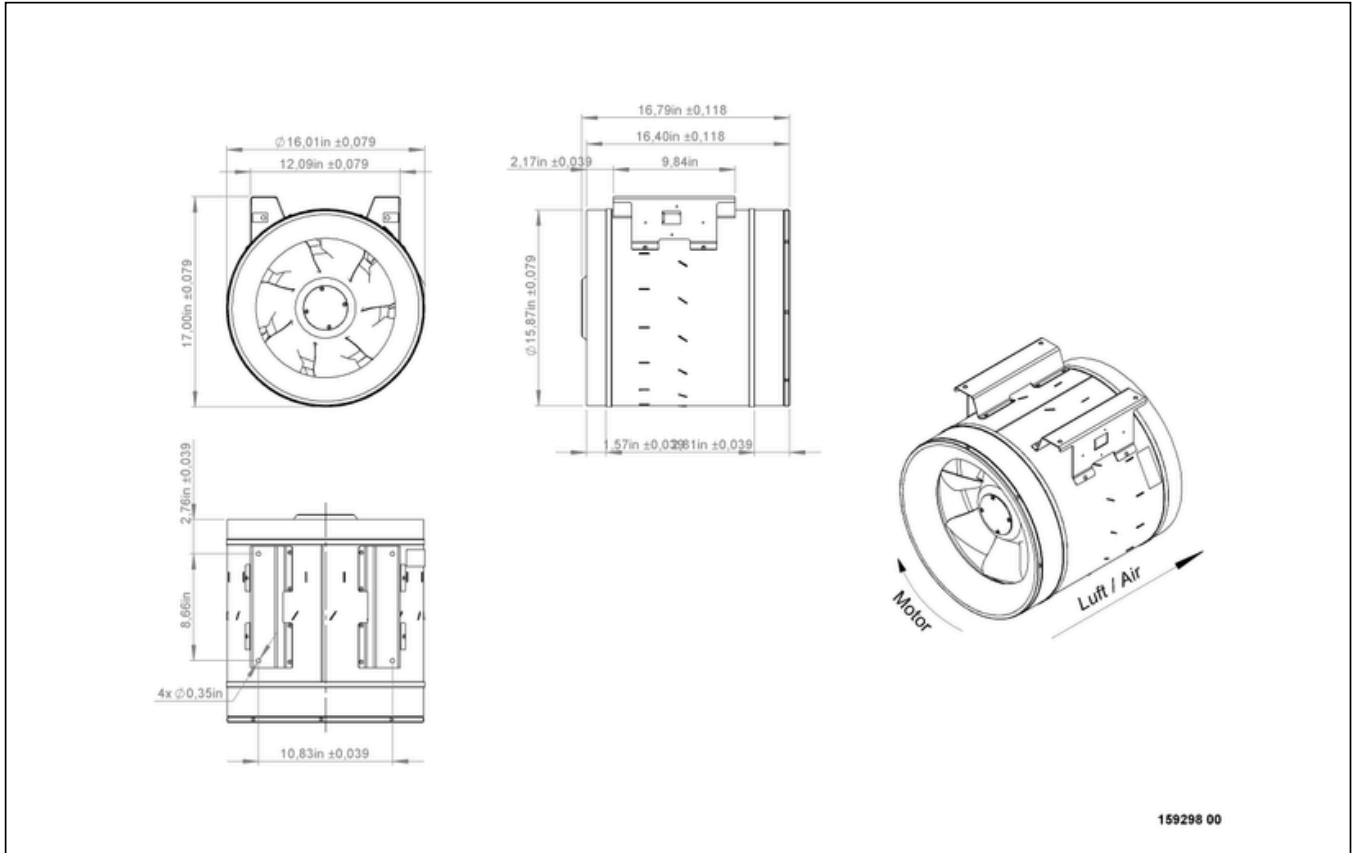


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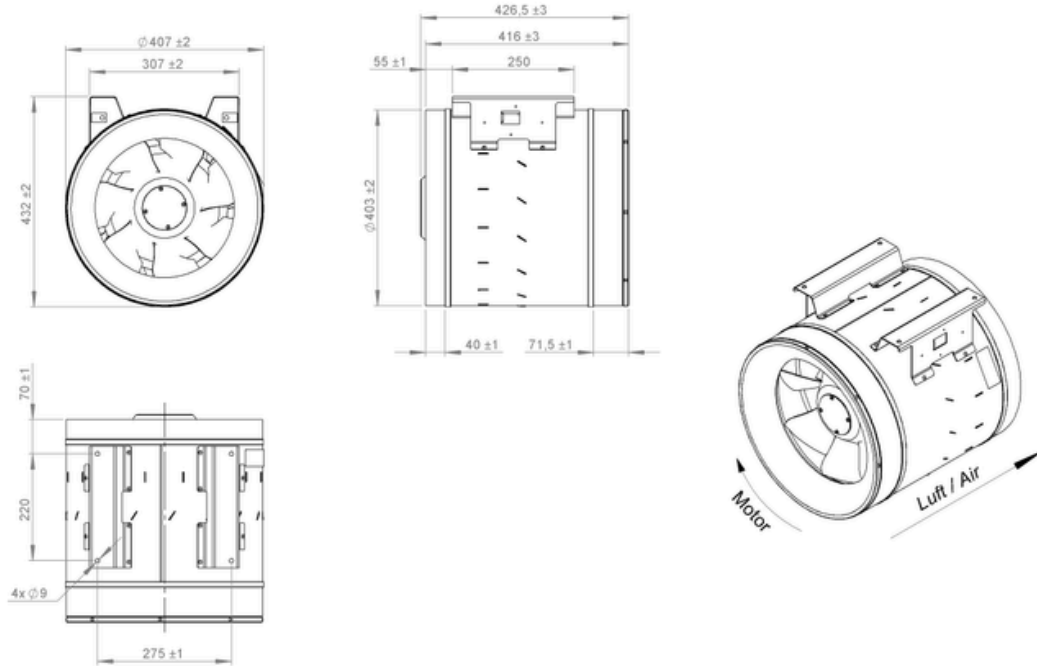
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## CIRCUIT DIAGRAMS / DIMENSIONAL DRAWINGS



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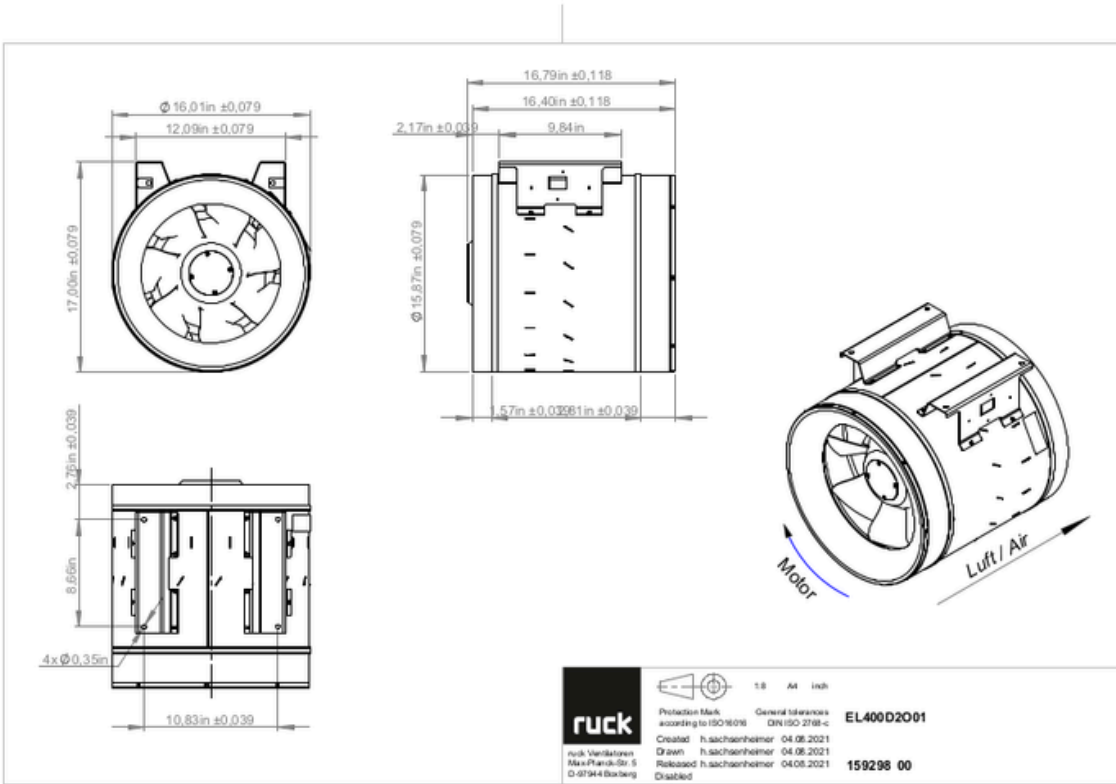
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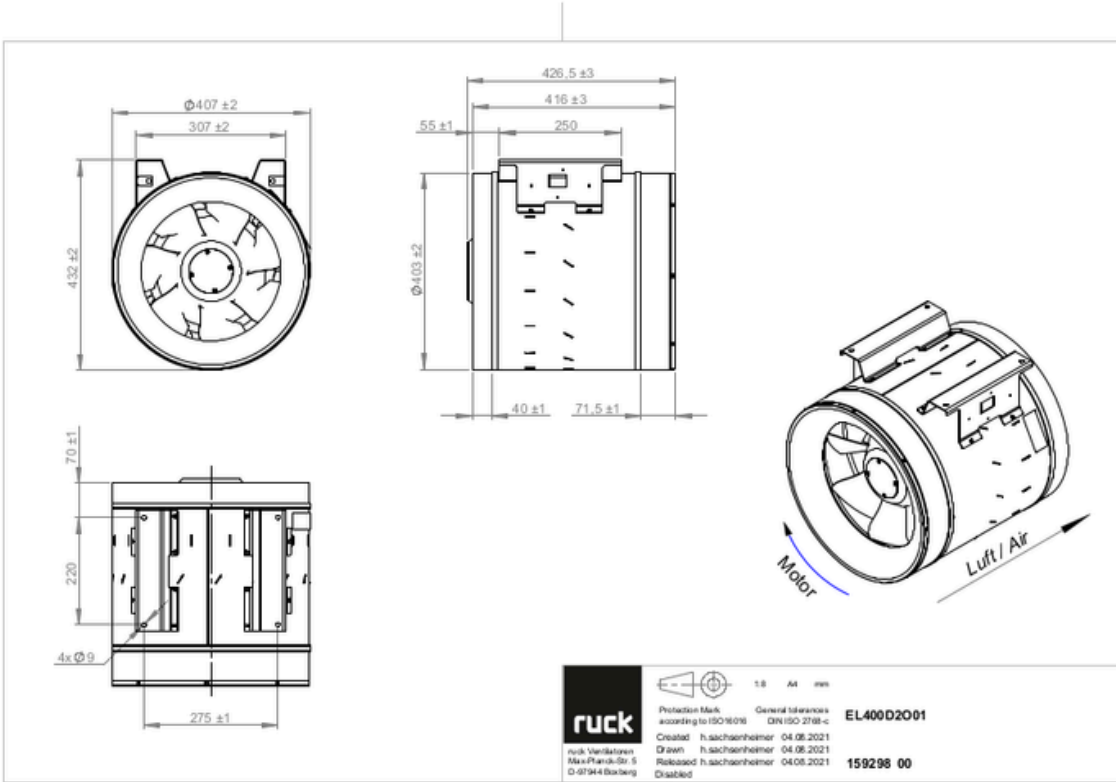
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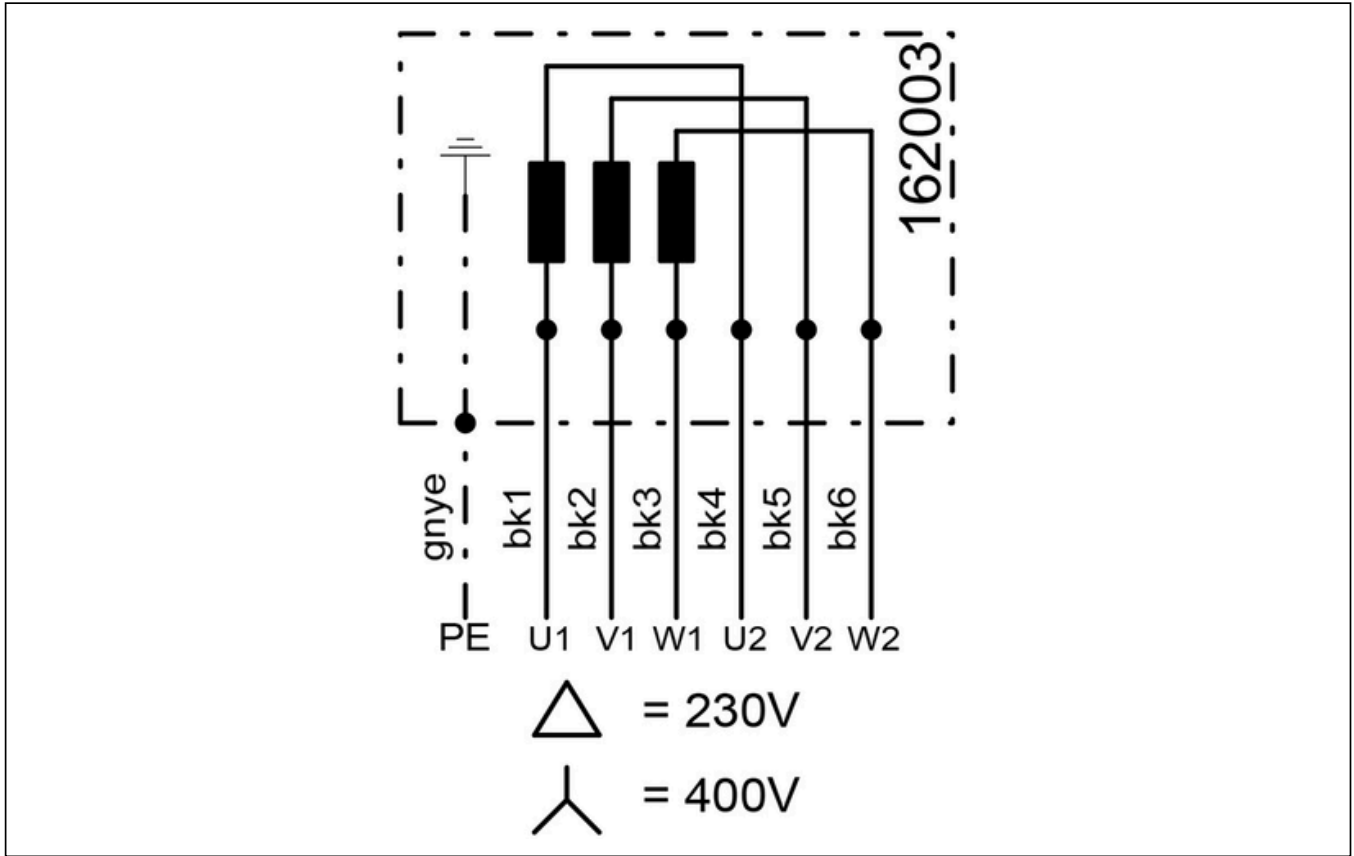
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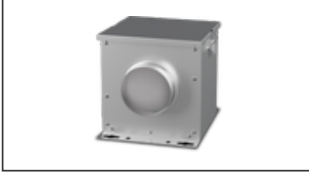
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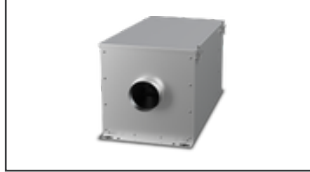
## MECHANICAL ACCESSORIES

FV 400 | 112836



- Air filter box with mat filter ISO Coarse 45 % (G3)
- Toggle-type fastener

FT 400 | 112848



- Air filter box for pocket filter
- Toggle-type fastener
- Galvanized steel sheet housing
- Without filter

FTW 400 | 112857



- Air filter box with pocket filter M5
- Integrated warm water heating coil
- Galvanized steel sheet housing
- Toggle-type fastener

RSK 400 | 102691



- Back draught shutter for tube fitting
- Galvanized steel sheet housing
- Aluminum flaps

RSK 400D | 113490



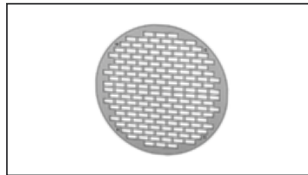
- Back draught shutter for tube fitting
- Galvanized steel sheet housing
- Aluminum flaps
- Integrated gasket

VM 400 | 102654



- Fast clamps for sound decoupling and sealing
- Galvanized steel sheet, 5 mm
- Neopren gasket
- 1 Pack = 2 pieces

SG 400 02 | 123949



- Inlet protection grille for Etaline
- Galvanized steel sheet

SDS 400 | 169612



- Rigid tube silencer
- Galvanized steel sheet
- Sound insulation packing 50 mm (mineral wool)

SDF 400 | 169647



- Flexible tube silencer
- Galvanized steel sheet
- Sound insulation packing 50 mm



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## ELECTRICAL ACCESSORIES

MS 02 | 140409



- Motor protection switch with Isolator switchfunktion
- $I_{max} = 400\text{ V}$ , 50/60 Hz
- Max. 1.5 kW
- Protection class IP 55

MTP 20 | 128146



- Potentiometer 10 kΩ
- Switching contact 1A/250V AC - 2,5A/12V DC
- Max. ambient temperature 50 °C
- VDE

MTP 30 | 143289



- Stepped potentiometer 10 kΩ
- Step 1 + 2 settable 10 % - 100 % Vdc
- Step 3 100 % Vdc
- Supply voltage +10 Vdc

MTP 40 | 147359



- Potentiometer 10 kΩ
- Connection in terminal box
- Max. ambient temperature 50 °C
- PU: 20 pieces

SEN AIR | 148641



- Airflow and temperature transducer
- Measuring range temperature 0...+50 °C
- With adjustable switching threshold (air speed)
- Measuring range air velocity up to 20 m/s

CON P1000 | 115259



- Constant pressure control
- Actual value display possible via optional control unit
- Output 0-10 V DC + FC enable + setpoint reached
- Pressure setting by means of decade switch

FU 15 40 | 160041



- Frequency converter
- Supply voltage 230 V 1~ 50/60 Hz
- Output voltage 0 - 230 V 3~
- Protection class IP 20, for switch cabinet

FU 15 41 | 160042



- Frequency converter IP66
- Supply voltage 230 V 1~ 50/60 Hz
- Output voltage 0 - 230 V 3~
- Fire mode function (smoke extract fans)

FU 15 42 | 160043



- Frequency converter
- Supply voltage 400 V 3~ 50/60 Hz
- Output voltage 0 - 400 V 3~
- Protection class IP 20, for switch cabinet

FU 15 43 | 160044



- Frequency converter
- Supply voltage 400 V 3~ 50/60 Hz
- Output voltage 0 - 400 V 3~
- Fire mode function (smoke extract fans)

MTP 50 | 168752



- Potentiometer with multifunction output
- 230 VAC  $\pm 10\%$  / 50-60 Hz
- Selectable output: 1-10 VDC / 2-20 mA / 10-100 % PWM
- Min. and max. output value adjustable

