

# AL 900 D4 F4 02

162697

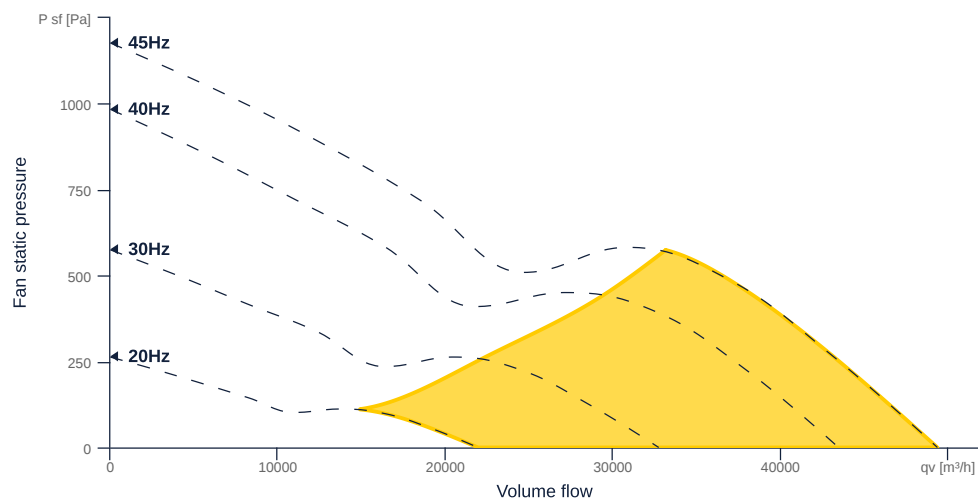
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- Innovative, high-efficiency axial fan
- Optimally tuned, CFD-optimized aerodynamics
- Housing weight optimized, powder coated
- Efficient IE3 motor, frequency controllable
- Smoke extract fan F400, 60 °C continuous operation, dual-use
- Exceeds current ErP regulation



## 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)             | DN900    |      | DN                  |
| Rated voltage (entire device)         | 400      | V    | $U_{rated}$         |
| Phases (entire device)                | 3~       |      | phase               |
| Electrical protection (entire device) | 20 A     |      | fuse                |
| Housing material                      | Steel    |      | matcasing           |
| Impeller material                     | Steel    |      | matimpeller         |
| IP-protection class (entire device)   | IPX4     |      | IPcompl             |
| IP-Protection class (terminal box)    | IP55     |      | IPebox              |
| Weight                                | 169.2    | kg   | m                   |
| Fan type                              | Axial    |      | Fan <sub>type</sub> |
| Category / Installation situation     | B        |      | cat                 |

## MAXIMAL DATA

| Name                            | Value | Unit              | Formula symbol |
|---------------------------------|-------|-------------------|----------------|
| Max. power consumption (device) | 9518  | W                 | $P_{ed, max}$  |
| Max. operating current (device) | 18.3  | A                 | $I_{ed, max}$  |
| Max. speed                      | 1320  | 1/min             | $n_{max}$      |
| Max. stat. efficiency           | 53    | %                 | $\eta_{es}$    |
| Max. fan efficiency             | 68.4  | %                 | $\eta_e$       |
| Max. flowrate                   | 49365 | m <sup>3</sup> /h | $Q_{v, max}$   |
| Max. stat pressure              | 580   | Pa                | $p_{sf, max}$  |
| Max. medium temperature         | 60    | °C                | $T_{m, max}$   |
| Max. environment temperature    | 60    | °C                | $T_{amb, max}$ |
| Min. environment temperature    | -20   | °C                | $T_{amb, min}$ |



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 H                |       | ISOclass       |
| Protection class            |          | IP55                 |       | IPmotor        |
| Is pole-changeable          |          | No                   |       | polexch        |
| Type of power supply        |          | AC 3~                |       | pwrsupmotor    |
| Number of poles (1)         |          | 4.000000             |       | num polesw1    |
| Connection                  | Δ        | Δ                    |       | wiringw1       |
| Connection (wiring 2)       | Y        |                      |       | wiringw2       |
| Rated voltage               | 400      | 460                  | V     | Urated, f1     |
| Rated voltage (wiring 2)    | 690      |                      | V     | Urated, f2     |
| Rated current               | 14.2     | 12.4                 | A     | Irated, f1     |
| Rated current (wiring 2)    | 8.22     |                      | A     | Irated, f2     |
| Shaft power                 | 7500     | 7500                 | W     | Pout, f1       |
| Shaft power (wiring 2)      | 7500     |                      | W     | Pout, f2       |
| Speed                       | 1460     | 1770                 | 1/min | nf1            |
| Speed (wiring 2)            | 1460     |                      | 1/min | nf2            |
| Starting current            | 118      | 118                  | A     | Istart, f1     |
| Starting current (wiring 2) | 68.3     |                      | A     | Istart, f2     |
| Efficiency                  | 90.6     | 91.7                 | %     | ηm, f1         |
| Efficiency (wiring 2)       | 90.6     |                      | %     | ηm, f2         |
| Efficiency class            | IE3      | IE3                  |       | IEmotor        |
| Min. temperature            | -20      | -20                  | °C    | Tmotor, min    |
| Cos Phi                     | 0.840000 | 0.830000             |       | cos φ          |
| UL-Certification motor      |          | None                 |       | ULcert         |



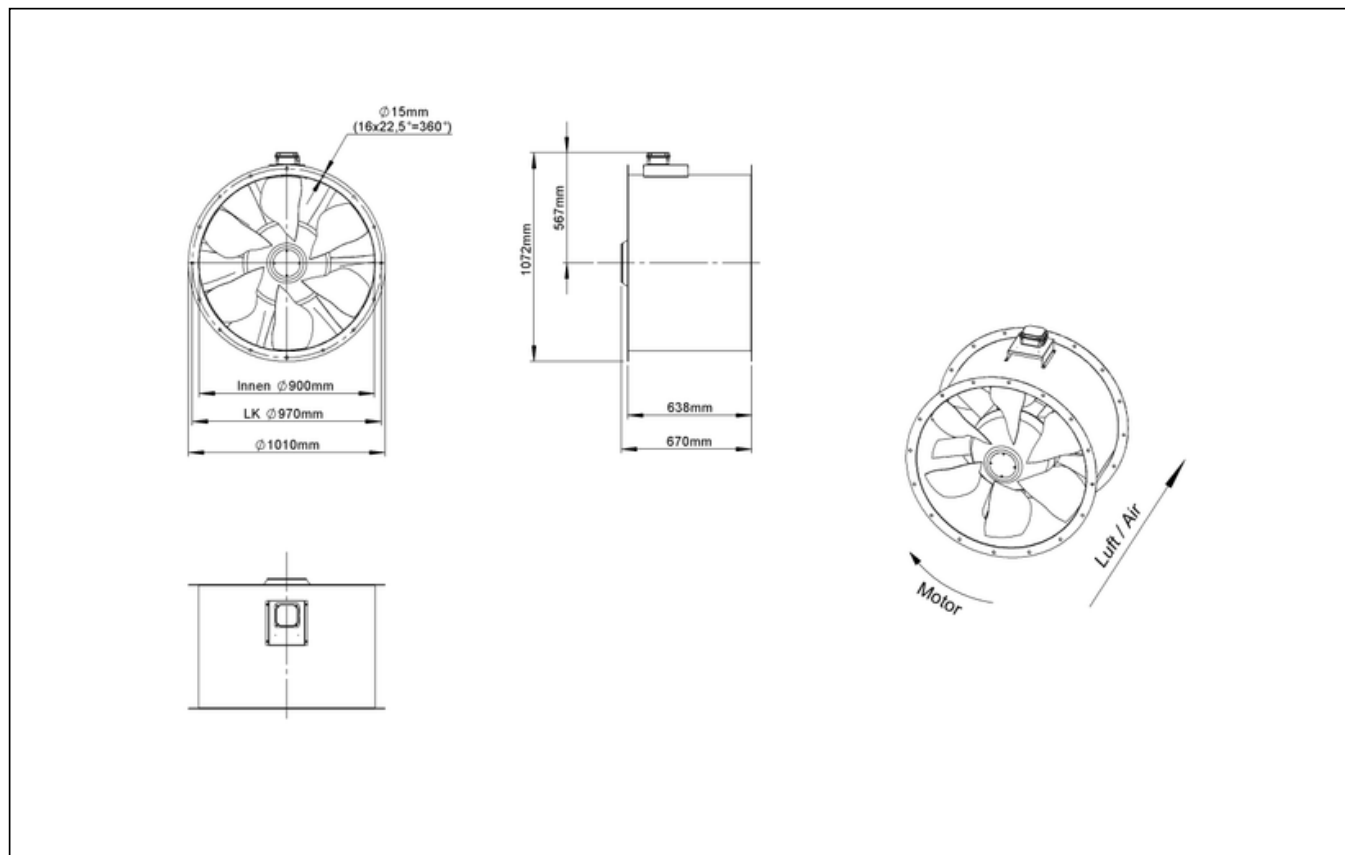
ERP DATA (LOT11)

| Name                                                      | Value | Unit  | Formula symbol            |
|-----------------------------------------------------------|-------|-------|---------------------------|
| Speed at the energy efficiency optimum                    | 1311  | 1/min | n <sub>opt</sub>          |
| Efficiency level                                          | 71.4  | %     | N                         |
| Efficiency category                                       | total |       | cat <sub>efficiency</sub> |
| Input power of the motor at the energy efficiency optimum | 9.46  | kW    | P <sub>e, opt</sub>       |
| Overall efficiency                                        | 71.6  | %     | η <sub>ges</sub>          |
| Measurement category                                      | B     |       | meas cat                  |
| Fan pressure at energy efficiency optimum                 | 607   | Pa    | p <sub>f, opt</sub>       |
| Flowrate at energy efficiency optimum                     | 38547 | m³/h  | Q <sub>v, opt</sub>       |

SMOKE EXTRACT DATA

| Name                           | Value       | Unit | Formula symbol      |
|--------------------------------|-------------|------|---------------------|
| Maximum resistance temperature | 400         | °C   | T <sub>fire</sub>   |
| Maximum resistance time        | 120.000000  |      | t <sub>fire</sub>   |
| Fire resistance class          | F 400 (120) |      | F <sub>class</sub>  |
| Snow load class                | -           |      | SL <sub>class</sub> |

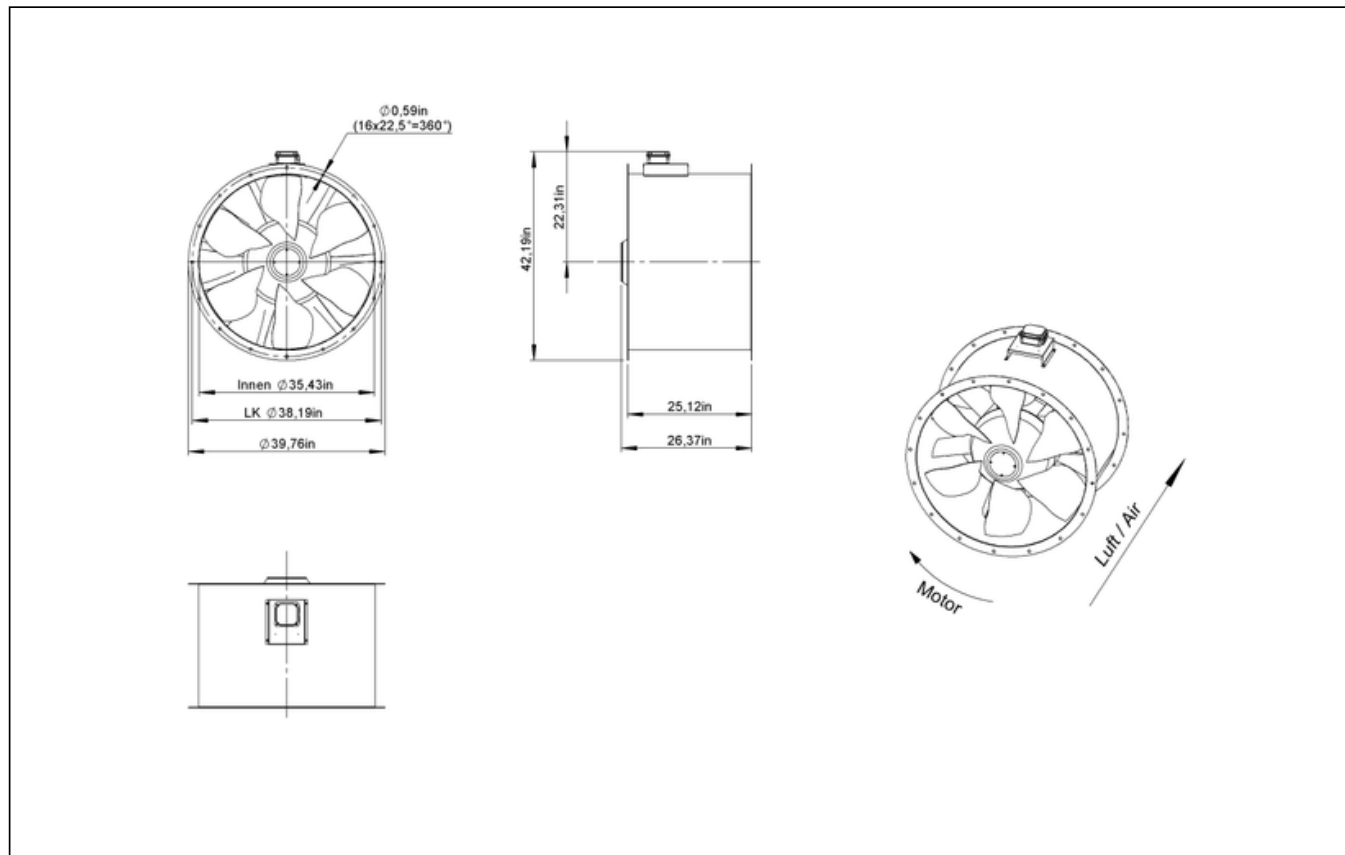
## CIRCUIT DIAGRAMS / DIMENSIONAL DRAWINGS



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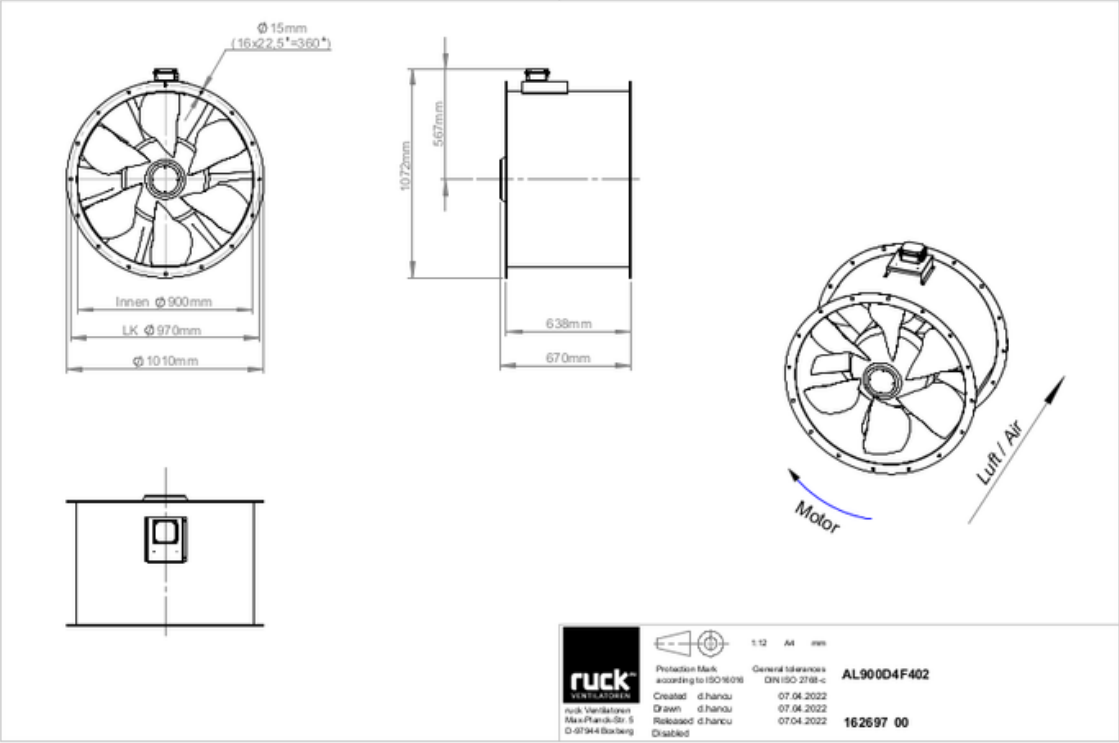
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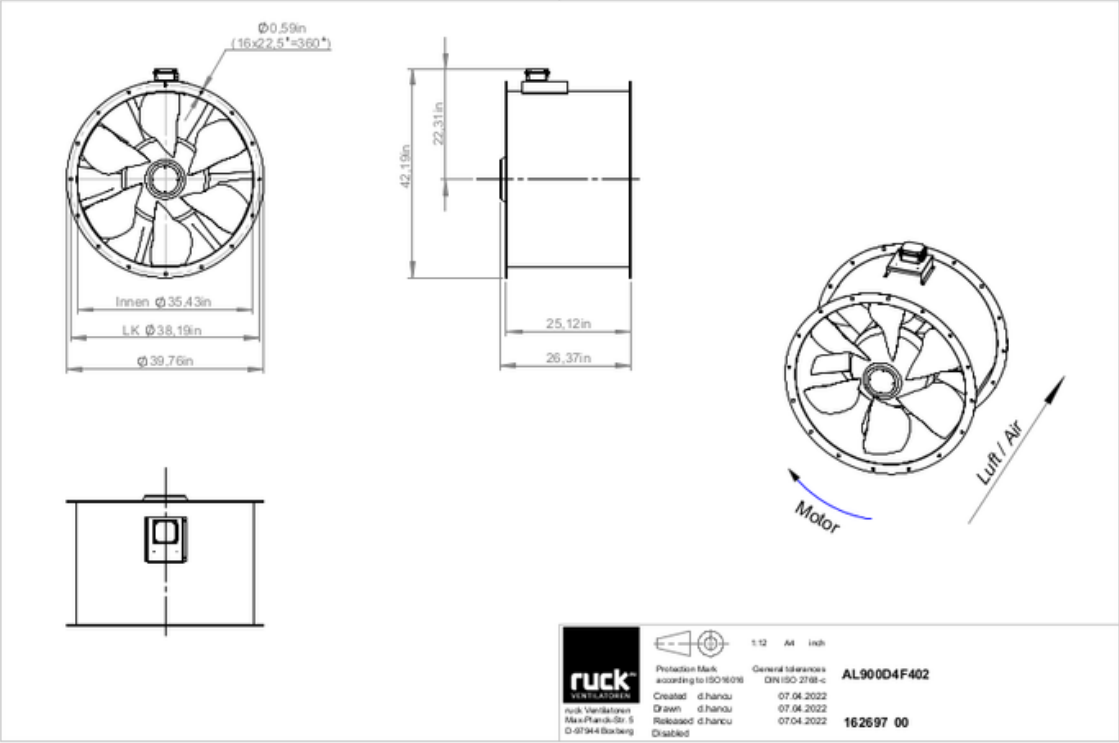
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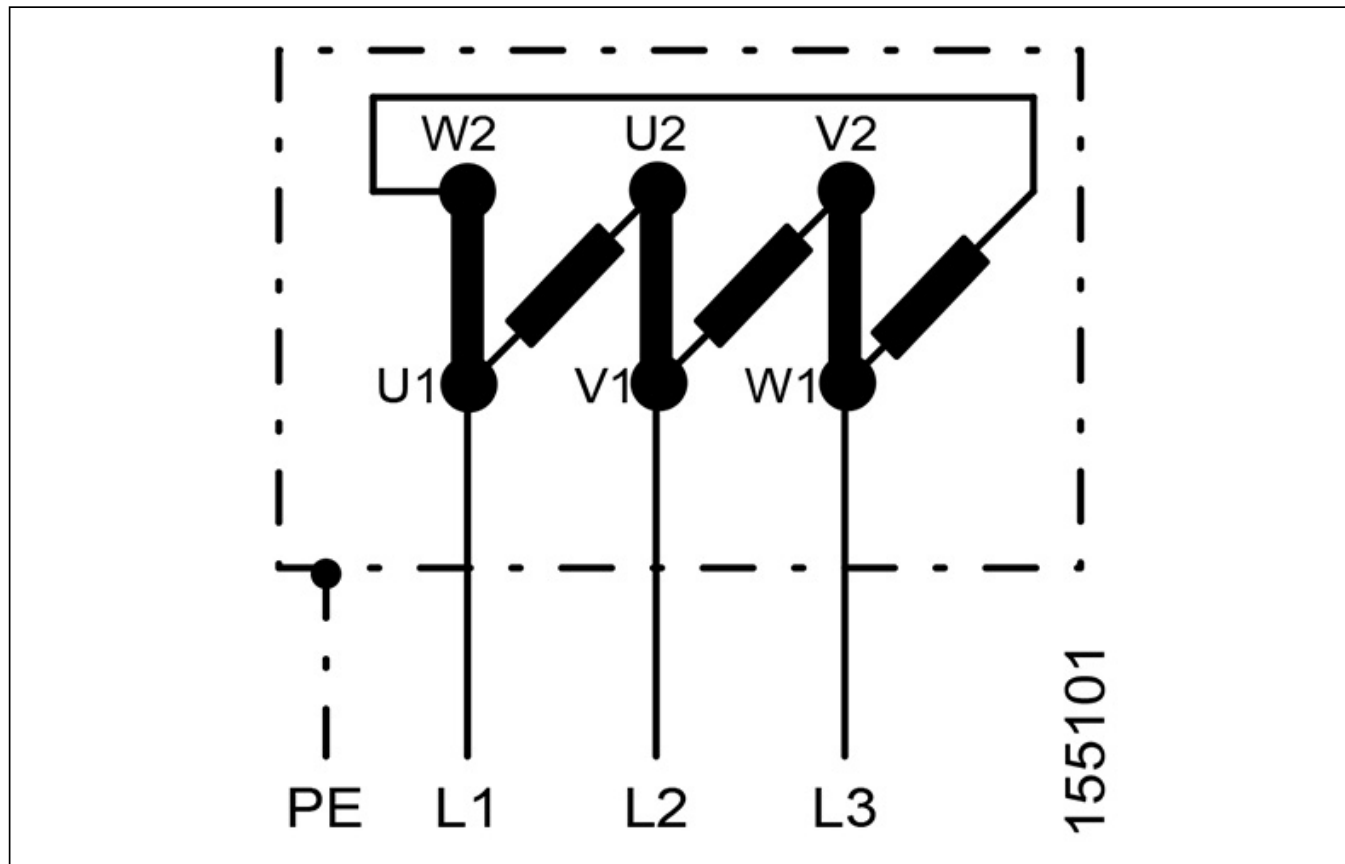


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## MECHANICAL ACCESSORIES

**RAF 900 | 157406**



- Round flange
- Sheet steel, powder coated

**RVS 900-01 | 157479**



- Tube connection spigot
- Sheet steel, powder coated
- Suitable for outdoor installation
- Flange mounting

**ESD 900 | 157543**



- Inlet cone
- Steel sheet, powder coated
- Flange mounting

**RAS 900 F4 | 157692**



- Round spigot, flexible
- Galvanized steel sheet, silicone band
- 400 °C/120 min. conf. DIN EN 12101-3
- F400, 75 °C continuous operation
- Flange mounting

**RVK 900 F4 | 157756**



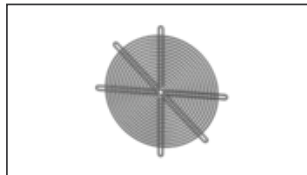
- Automatic tube shutter
- Sheet steel, powder coated
- For vertical installation
- Flange mounting

**FAL 900 | 157898**



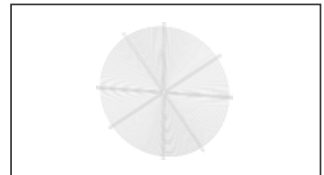
- Mounting foot
- Sheet steel, powder coated
- Flange mounting

**SGE 900 | 159517**



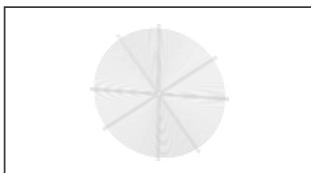
- Protection grille, narrow meshed
- Steel sheet, galvanized
- Flange mounting

**SGW 900 | 159541**



- Protection grille, wide meshed
- Steel sheet, galvanized
- Flange mounting

**SGW 1000 | 159542**



- Protection grille, wide meshed
- Steel sheet, galvanized
- Flange mounting

**RVK H 900 F4 | 159557**



- Automatic tube shutter
- Sheet steel, powder coated
- For horizontal installation
- Flange mounting

**FSD10 | 162484**



- Set of 4 vibration dampers
- All metal design, galvanized



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## ELECTRICAL ACCESSORIES

### 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

### MTP 20 | 128146



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

### MTP 30 | 143289



- Stepped potentiometer 10 k $\Omega$
- Step 1 + 2 settable 10 % - 100 % Vdc
- Step 3 100 % Vdc
- Supply voltage+10 Vdc

### 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

### FU 75 09 | 161400



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



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