

# EC centrifugal module - RadiPac

backward-curved, single-intake

with cube design

**ebm-papst Mulfingen GmbH & Co. KG**

Bachmühle 2 · D-74673 Mulfingen

Phone +49 7938 81-0

Fax +49 7938 81-110

info1@de.ebmpapst.com

www.ebmpapst.com

Limited partnership · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRA 590344

General partner Elektrobau Mulfingen GmbH · Headquarters Mulfingen

Amtsgericht (court of registration) Stuttgart · HRB 590142

## Nominal data

|                          |                   |            |
|--------------------------|-------------------|------------|
| Type                     | K3G630-AT09-11    |            |
| Motor                    | M3G200-QA         |            |
| Phase                    |                   | 3~         |
| Nominal voltage          | VAC               | 400        |
| Nominal voltage range    | VAC               | 380 .. 480 |
| Frequency                | Hz                | 50/60      |
| Method of obtaining data |                   | ml         |
| Speed (rpm)              | min <sup>-1</sup> | 2200       |
| Power consumption        | W                 | 13750      |
| Current draw             | A                 | 21.0       |
| Min. ambient temperature | °C                | -40        |
| Max. ambient temperature | °C                | 40         |

ml = Max. load · me = Max. efficiency · fa = Free air · cs = Customer specification · ce = Customer equipment  
Subject to change



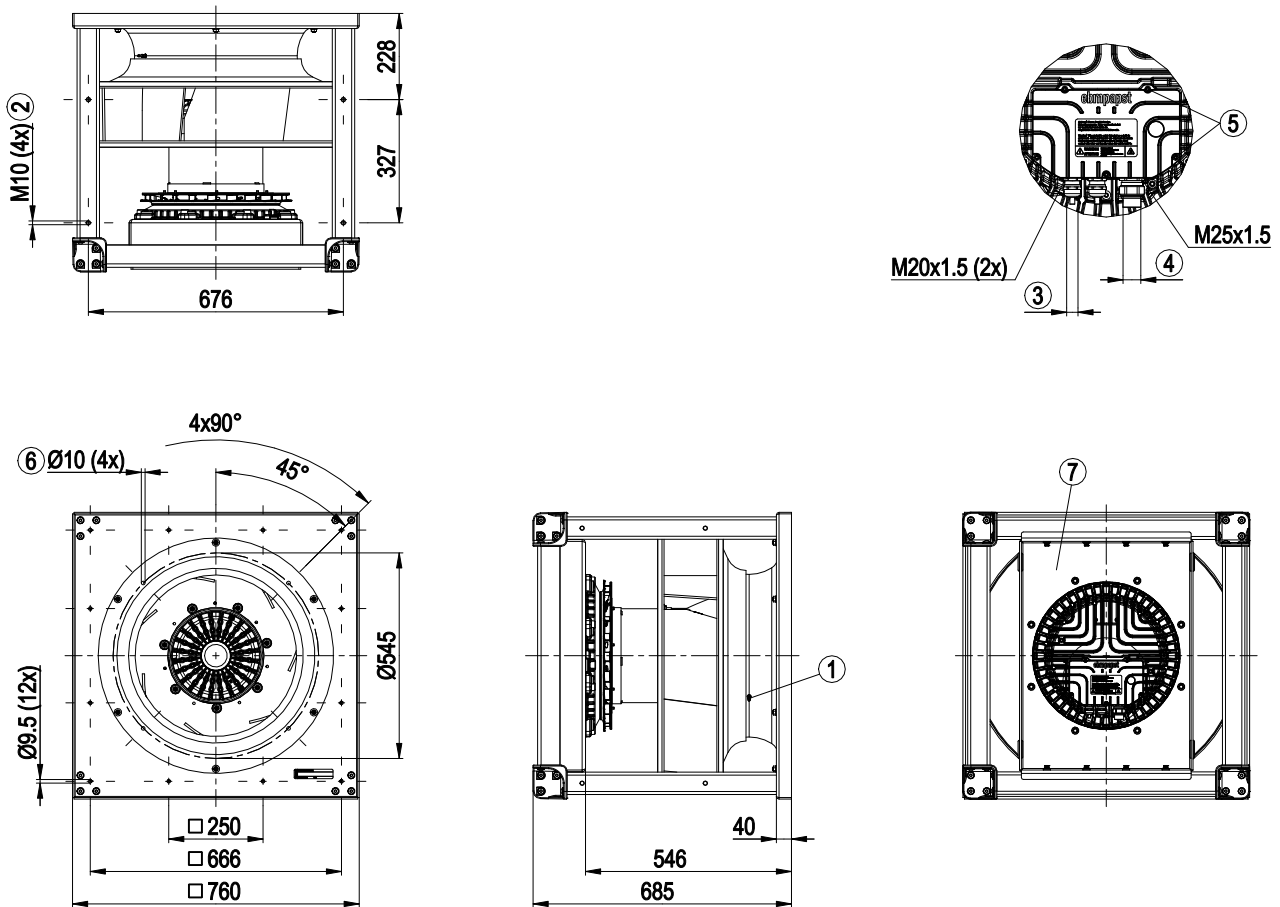
## Technical description

|                                                                            |                                                                                                                                                                                                                                                                                                               |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Weight                                                                     | 132 kg                                                                                                                                                                                                                                                                                                        |
| Size                                                                       | 630 mm                                                                                                                                                                                                                                                                                                        |
| Motor size                                                                 | 200                                                                                                                                                                                                                                                                                                           |
| Rotor surface                                                              | Painted black                                                                                                                                                                                                                                                                                                 |
| Electronics housing material                                               | Die-cast aluminum, painted black                                                                                                                                                                                                                                                                              |
| Impeller material                                                          | Sheet aluminum                                                                                                                                                                                                                                                                                                |
| Inlet nozzle material                                                      | Sheet steel, galvanized                                                                                                                                                                                                                                                                                       |
| Support structure material                                                 | Sheet steel, galvanized                                                                                                                                                                                                                                                                                       |
| Number of blades                                                           | 7                                                                                                                                                                                                                                                                                                             |
| Direction of rotation                                                      | Clockwise, viewed toward rotor                                                                                                                                                                                                                                                                                |
| Degree of protection                                                       | IP55                                                                                                                                                                                                                                                                                                          |
| Insulation class                                                           | "F"                                                                                                                                                                                                                                                                                                           |
| Moisture (F) / Environmental (H) protection class                          | H1                                                                                                                                                                                                                                                                                                            |
| Ambient temperature note                                                   | Occasional start-up at temperatures between -40°C and -25°C is permitted. For continuous operation at ambient temperatures below -25°C (such as refrigeration applications), use must be made of a fan design with special low-temperature bearings.                                                          |
| Max. permitted ambient temp. for motor (transport/storage)                 | +80 °C                                                                                                                                                                                                                                                                                                        |
| Min. permitted ambient temp. for motor (transport/storage)                 | -40 °C                                                                                                                                                                                                                                                                                                        |
| Installation position                                                      | See legend on product drawing                                                                                                                                                                                                                                                                                 |
| Condensation drainage holes                                                | On rotor side                                                                                                                                                                                                                                                                                                 |
| Mode                                                                       | S1                                                                                                                                                                                                                                                                                                            |
| Motor bearing                                                              | Ball bearing                                                                                                                                                                                                                                                                                                  |
| Technical features                                                         | <ul style="list-style-type: none"> <li>- Power limiter</li> <li>- Motor current limitation</li> <li>- PFC, passive</li> <li>- Soft start</li> <li>- Temperature derating</li> <li>- Thermal overload protection for electronics/motor</li> <li>- Line undervoltage / phase failure detection</li> </ul>       |
| Touch current according to IEC 60990 (measuring circuit Fig. 4, TN system) | <= 3.5 mA                                                                                                                                                                                                                                                                                                     |
| Electrical hookup                                                          | Terminal box                                                                                                                                                                                                                                                                                                  |
| Motor protection                                                           | Reverse polarity and locked-rotor protection                                                                                                                                                                                                                                                                  |
| Protection class assignment                                                | <p>I; If a protective earth is connected by the customer</p> <p>This component for installation may have several local protection classes. This information relates to this component's basic design.</p> <p>The final protection class is based on the component's intended installation and connection.</p> |
| Conformity with standards                                                  | EN 61800-5-1                                                                                                                                                                                                                                                                                                  |
| Approval                                                                   | UL 1004-7 + 60730-1; EAC; CSA C22.2 No. 77 + CAN/CSA-E60730-1                                                                                                                                                                                                                                                 |

# EC centrifugal module - RadiPac

backward-curved, single-intake  
with cube design

## Product drawing



|                                                                                                      |                                                                                  |
|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| 1                                                                                                    | Inlet ring with pressure tap (k-factor: 438)                                     |
| 2                                                                                                    | Mounting position for vibration-absorbing elements, tightening torque max. 40 Nm |
| 3                                                                                                    | Cable diameter min. 5 mm, max. 13 mm; tightening torque $6 \pm 0.9$ Nm           |
| 4                                                                                                    | Cable diameter min. 16 mm, max. 20.5 mm, tightening torque $6 \pm 0.9$ Nm        |
| 5                                                                                                    | Tightening torque $3.5 \pm 0.5$ Nm                                               |
| 6                                                                                                    | Attachment holes for FlowGrid 00630-2-2957 (not included in scope of delivery)   |
| 7                                                                                                    | Motor support plate                                                              |
| Installation position: Only base mounting, shaft horizontal (motor support plate must be vertical!). |                                                                                  |
| Rotor on top or rotor on bottom on request                                                           |                                                                                  |
| The drawing shows the dimensions only and does not represent the installation position               |                                                                                  |

## Connection diagram

|   |         |         |    |
|---|---------|---------|----|
| 1 | RSA     | Din 2   | 8  |
| 2 | RSB     | Din 3   | 9  |
| 3 | GND     | GND     | 10 |
| 4 | Ain 1 U | Ain 2 U | 11 |
| 5 | + 10 V  | + 20 V  | 12 |
| 6 | Ain 1 I | Ain 2 I | 13 |
| 7 | Din 1   | Aout    | 14 |

KL 3

|   |     |
|---|-----|
| 1 | NO  |
| 2 | COM |
| 3 | NC  |

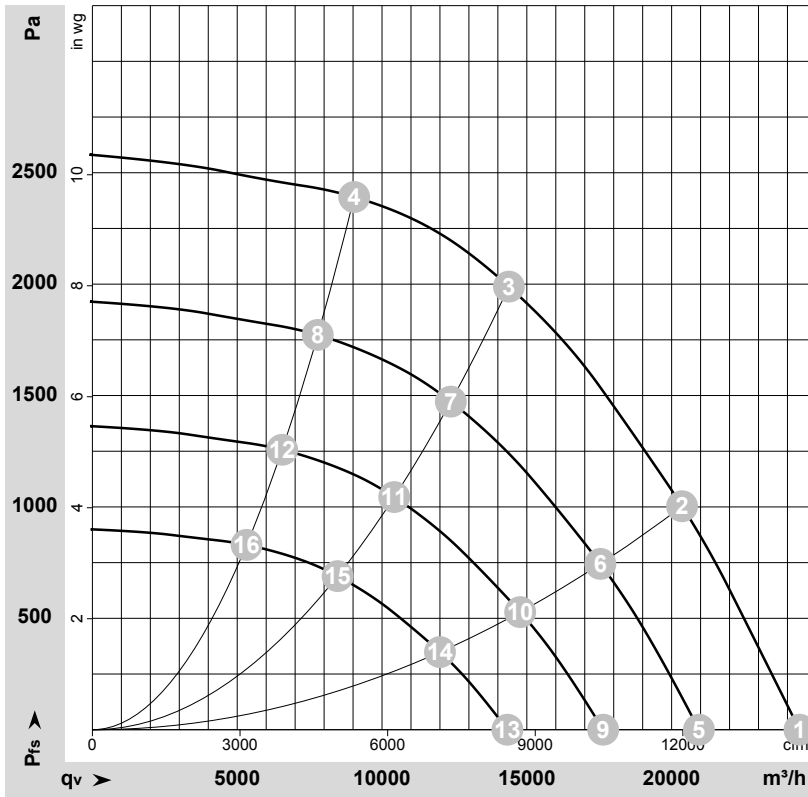
KL 2

|   |     |
|---|-----|
| 1 | L 1 |
| 2 | L 2 |
| 3 | L 3 |
|   | PE  |

KL 1 PE

| No.  | Conn.  | Designation | Function/assignment                                                                                                                                                                                                                                                             |
|------|--------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| KL 1 | 1      | L1          | Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz                                                                                                                                                                                                                   |
| KL 1 | 2      | L2          | Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz                                                                                                                                                                                                                   |
| KL 1 | 3      | L3          | Supply connection, power supply 3-phase 380-480 VAC, 50/60 Hz                                                                                                                                                                                                                   |
| PE   |        | PE          | Ground connection, PE connection                                                                                                                                                                                                                                                |
| KL 2 | 1      | NO          | Status relay, floating status contact, make for failure                                                                                                                                                                                                                         |
| KL2  | 2      | COM         | Status relay, floating status contact; changeover contact; common connection; contact rating 250 VAC / max. 2 A (AC1) / min. 10 mA                                                                                                                                              |
| KL2  | 3      | NC          | Status relay, floating status contact, break for failure                                                                                                                                                                                                                        |
| KL 3 | 1      | RSA         | Bus connection RS485, RSA, MODBUS RTU                                                                                                                                                                                                                                           |
| KL 3 | 2      | RSB         | Bus connection RS485, RSB, MODBUS RTU                                                                                                                                                                                                                                           |
| KL 3 | 3 / 10 | GND         | Reference ground for control interface                                                                                                                                                                                                                                          |
| KL 3 | 4      | Ain1 U      | Analog input 1 (set value), 0-10 V, Ri = 100 kΩ, adjustable curves, only usable as alternative to input Ain1I                                                                                                                                                                   |
| KL 3 | 5      | + 10 V      | Fixed voltage output 10 VDC, +10 V ±3%; max. 10 mA; short-circuit-proof; power supply for external devices (e.g. pot)                                                                                                                                                           |
| KL 3 | 6      | Ain1 I      | Analog input 1 (set value), 4-20 mA, Ri = 100 Ω, adjustable curves, only usable as alternative to input Ain1U                                                                                                                                                                   |
| KL 3 | 7      | Din1        | Digital input 1: enable electronics, enable: pin open or applied voltage 5...50 VDC; disable: bridge to GND or applied voltage < 1 VDC; reset function: triggers software reset after a level change to < 1 V                                                                   |
| KL 3 | 8      | Din2        | Digital input 2: Switching parameter sets 1/2; according to EEPROM setting, the valid or used parameter set can be selected via bus or via digital input DIN2. Parameter set 1: pin open or applied voltage 5-50 VDC; parameter set 2: bridge to GND or applied voltage < 1 VDC |
| KL 3 | 9      | Din3        | Digital input 3: according to EEPROM setting, the integrated controller's direction of action can be selected as normal/inverse via bus or digital input; normal: pin open or applied voltage 5-50 VDC inverse: bridge to GND or applied voltage < 1 VDC                        |
| KL 3 | 11     | Ain2 U      | Analog input 2, measured value 0-10 V, Ri = 100 kΩ, adjustable curve, only usable as alternative to input Ain2I                                                                                                                                                                 |
| KL 3 | 12     | + 20 V      | Fixed voltage output 20 VDC, 20 V +25/-10%, max. 50 mA, short-circuit-proof power supply for external devices (e.g. sensors)                                                                                                                                                    |
| KL 3 | 13     | Ain2 I      | Analog input 2, measured value: 4-20 mA, Ri = 100 Ω, adjustable curve, only usable as alternative to input Ain2U                                                                                                                                                                |
| KL 3 | 14     | Aout        | Analog output 0-10 V, max. 5 mA, output of current motor modulation level / of the current motor speed. Adjustable curve.                                                                                                                                                       |

## Curves: Air performance 50 Hz



$$\rho = 1.15 \text{ kg/m}^3 \pm 2 \%$$

Measurement: LU-174526-1

Air performance measured according to ISO 5801 installation category A. For detailed information on the measurement setup, contact ebm-papst. Intake sound level: Sound power level according to ISO 13347 / sound pressure level measured at 1 m distance from fan axis. The values given are valid under the specified measuring conditions and may vary due to conditions of installation. For deviations from the standard configuration, the parameters have to be checked on the installed unit.

## Measured values

|    | Wired | U   | f  | n                 | P <sub>ed</sub> | I     | LpA <sub>in</sub> | LwA <sub>in</sub> | LwA <sub>out</sub> | q <sub>v</sub>    | p <sub>fs</sub> | q <sub>v</sub> | p <sub>fs</sub> |
|----|-------|-----|----|-------------------|-----------------|-------|-------------------|-------------------|--------------------|-------------------|-----------------|----------------|-----------------|
|    |       | V   | Hz | min <sup>-1</sup> | W               | A     | dB(A)             | dB(A)             | dB(A)              | m <sup>3</sup> /h | Pa              | cfm            | in. wg          |
| 1  | 3~    | 400 | 50 | 2200              | 8678            | 13.55 | 98                | 107               | 111                | 24415             | 0               | 14370          | 0.00            |
| 2  | 3~    | 400 | 50 | 2200              | 12002           | 18.49 | 94                | 100               | 104                | 20360             | 1000            | 11985          | 4.01            |
| 3  | 3~    | 400 | 50 | 2200              | 13750           | 21.00 | 86                | 94                | 100                | 14380             | 2000            | 8465           | 8.03            |
| 4  | 3~    | 400 | 50 | 2200              | 12352           | 18.92 | 92                | 99                | 102                | 9040              | 2400            | 5320           | 9.64            |
| 5  | 3~    | 400 | 50 | 1900              | 5477            | 8.55  | 94                | 103               | 107                | 20945             | 0               | 12325          | 0.00            |
| 6  | 3~    | 400 | 50 | 1900              | 7670            | 11.82 | 90                | 96                | 101                | 17540             | 747             | 10325          | 3.00            |
| 7  | 3~    | 400 | 50 | 1900              | 8744            | 13.38 | 82                | 90                | 96                 | 12375             | 1475            | 7285           | 5.92            |
| 8  | 3~    | 400 | 50 | 1900              | 7881            | 12.07 | 88                | 95                | 99                 | 7780              | 1776            | 4580           | 7.13            |
| 9  | 3~    | 400 | 50 | 1600              | 3271            | 5.11  | 90                | 99                | 103                | 17635             | 0               | 10380          | 0.00            |
| 10 | 3~    | 400 | 50 | 1600              | 4581            | 7.06  | 85                | 92                | 96                 | 14770             | 530             | 8695           | 2.13            |
| 11 | 3~    | 400 | 50 | 1600              | 5222            | 7.99  | 78                | 86                | 92                 | 10420             | 1046            | 6135           | 4.20            |
| 12 | 3~    | 400 | 50 | 1600              | 4706            | 7.21  | 84                | 91                | 94                 | 6550              | 1260            | 3855           | 5.06            |
| 13 | 3~    | 400 | 50 | 1300              | 1754            | 2.74  | 84                | 94                | 98                 | 14330             | 0               | 8435           | 0.00            |
| 14 | 3~    | 400 | 50 | 1300              | 2457            | 3.78  | 80                | 86                | 91                 | 12000             | 350             | 7065           | 1.41            |
| 15 | 3~    | 400 | 50 | 1300              | 2801            | 4.29  | 73                | 81                | 87                 | 8465              | 691             | 4985           | 2.77            |
| 16 | 3~    | 400 | 50 | 1300              | 2524            | 3.87  | 78                | 85                | 89                 | 5325              | 832             | 3135           | 3.34            |

Wired = Wiring · U = Voltage · f = Frequency · n = Speed (rpm) · P<sub>ed</sub> = Power consumption · I = Current draw · LpA<sub>in</sub> = Sound pressure level intake side · LwA<sub>in</sub> = Sound power level intake side  
 LwA<sub>out</sub> = Sound power level outlet side · q<sub>v</sub> = Air flow · p<sub>fs</sub> = Pressure increase



# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[ebm-papst:](#)

[K3G630-AT09-11](#)