

## Product Information

VM-...EM / K

# Flow Switch VM-...E

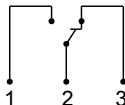


- Can be used from nominal width DN 40..200
- Precise, stepless adjustment of the switching value

## Characteristics

The paddle movement of the flow switch is transmitted via a magnetic coupling to an adjustably arranged micro switch.

## Technical data

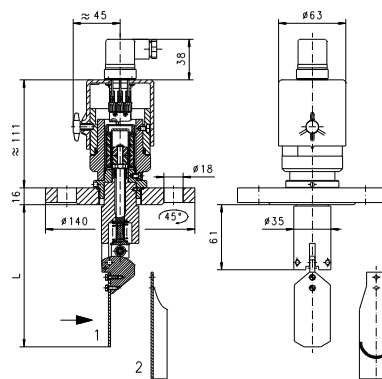
|                              |                                                                                                            |                                                                                                 |
|------------------------------|------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| Switch                       | micro switch                                                                                               |                                                                                                 |
| Nominal width                | DN 40..200                                                                                                 |                                                                                                 |
| Process connection           | installation flange DIN 2527(stainless steel)<br>DN 32 PN 16<br>sealing surface as per DIN 2526 form C     |                                                                                                 |
| Switching range              | 40..3600 l/min                                                                                             | for details see<br>Table "Ranges and<br>dimensions"                                             |
| Q <sub>max.</sub>            | up to 5400 l/min                                                                                           |                                                                                                 |
| Tolerance                    | ±5 % of full scale value                                                                                   |                                                                                                 |
| Pressure resistance          | PN 16 bar                                                                                                  |                                                                                                 |
| Medium temperature           | -20..+90 °C,                                                                                               |                                                                                                 |
| Ambient temperature          | -20..+70 °C                                                                                                |                                                                                                 |
| Media                        | water (oils available on request)                                                                          |                                                                                                 |
| Wiring                       | changeover<br>no. 0.213                                                                                    |              |
| Switching voltage            | max. 250 V AC                                                                                              |                                                                                                 |
| Switching current            | max. 5 A                                                                                                   |                                                                                                 |
| Protection class             | 2 - safety insulation                                                                                      |                                                                                                 |
| Ingress protection           | IP 65                                                                                                      |                                                                                                 |
| Electrical connection        | plug DIN 43650-A / ISO 4400                                                                                |                                                                                                 |
| Materials medium-contact     | <i>Brass construction:</i><br>CW614N nickelled,<br>1.4305, 1.4301,<br>1.4310, 1.4571,<br>NBR, hard ferrite | <i>Stainless steel construction:</i><br>1.4305, 1.4301,<br>1.4310, 1.4571,<br>FKM, hard ferrite |
| Non-medium-contact materials | ABS, PA                                                                                                    |                                                                                                 |
| Weight                       | DN 40..150<br>DN 200                                                                                       | 3.0 kg<br>3.5 kg                                                                                |

|                       |                                                                                                                                                                                                                       |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Installation location | Standard: horizontal inwards flow; display downwards and inwards flow from above not recommended; other installation positions are possible; the installation position affects the switching point and display range. |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Ranges and dimensions

Details in the table correspond to horizontal inwards flow with decreasing flow rate.

| DN     | Switching range<br>l/min H <sub>2</sub> O | Q <sub>max.</sub><br>recommended | Types        | Paddle form | L   |
|--------|-------------------------------------------|----------------------------------|--------------|-------------|-----|
| DN 40  | 40 - 150                                  | 250                              | VM-040E.150  | 1           | 93  |
| DN 50  | 50 - 150                                  | 450                              | VM-050E.150  |             | 104 |
|        | 100 - 300                                 |                                  | VM-050E.300  |             | 96  |
| DN 65  |                                           | 550                              | VM-065E.300  |             | 115 |
|        | 125 - 375                                 |                                  | VM-065E.375  | 2           | 90  |
| DN 80  | 150 - 400                                 | 900                              | VM-080E.400  |             | 118 |
|        | 200 - 600                                 |                                  | VM-080E.600  |             | 115 |
| DN 100 | 250 - 750                                 | 1400                             | VM-100E.750  |             | 158 |
|        | 300 - 900                                 |                                  | VM-100E.900  | 2           | 122 |
| DN 150 | 500 - 1500                                | 2700                             | VM-150E.1500 |             | 198 |
|        | 600 - 1800                                |                                  | VM-150E.1500 |             |     |
| DN 200 | 1000 - 3000                               | 5400                             | VM-200E.3000 |             | 213 |
|        | 1200 - 3600                               |                                  | VM-200E.3600 |             |     |



Attention! Flange seal not included in scope of delivery

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### Handling and operation

#### Note

- Include straight calming section of 10 x DN in inlet and outlet
- If the media are dirty, install a filter (use magnetic filter for ferritic components).
- It must be ensured that the values given for voltage, current, and power are not exceeded.
- When switched on, a load must be connected in series.
- The electrical details apply to ohmic loads. Capacitive and inductive loads must be operated using a protective circuit.

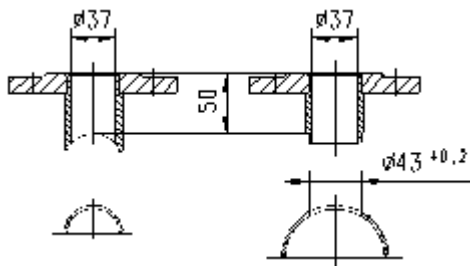
#### Adjustment

To adjust the switching point, the fixing screw for the switching head must be loosened. The switching head can then be rotated. Turning to the right increases the switching point, and vice-versa. Then retighten the fixing screw.



#### Installation recommendation

Use a tube with standard wall thickness as per DIN 2448



### Ordering code

1. 2. 3. 4. 5.  
VM -

| 1. Nominal width                                                |                                                                                  |  |   |   |   |    |
|-----------------------------------------------------------------|----------------------------------------------------------------------------------|--|---|---|---|----|
| 040                                                             | DN 40                                                                            |  |   |   |   |    |
| 050                                                             | DN 50                                                                            |  |   |   |   |    |
| 065                                                             | DN 65                                                                            |  |   |   |   |    |
| 080                                                             | DN 80                                                                            |  |   |   |   |    |
| 100                                                             | DN 100                                                                           |  |   |   |   |    |
| 150                                                             | DN 150                                                                           |  |   |   |   |    |
| 200                                                             | DN 200                                                                           |  |   |   |   |    |
| 2. Process connection                                           |                                                                                  |  |   |   |   |    |
| E                                                               | installation flange (s.s.)                                                       |  |   |   |   |    |
| 3. Body (wetted)                                                |                                                                                  |  |   |   |   |    |
| M                                                               | brass                                                                            |  |   |   |   |    |
| K                                                               | stainless steel                                                                  |  |   |   |   |    |
| 4. Switching range H <sub>2</sub> O for horizontal inwards flow |                                                                                  |  |   |   |   |    |
| 150                                                             | 40 - 150 l/min                                                                   |  |   |   |   | ●  |
|                                                                 | 50 - 150 l/min                                                                   |  |   |   |   | ●  |
| 300                                                             | 100 - 300 l/min                                                                  |  |   |   | ● | ●  |
| 375                                                             | 125 - 375 l/min                                                                  |  |   |   | ● |    |
| 450                                                             | 150 - 450 l/min                                                                  |  |   |   | ● |    |
| 600                                                             | 200 - 600 l/min                                                                  |  |   |   | ● |    |
| 750                                                             | 250 - 750 l/min                                                                  |  |   |   | ● |    |
| 900                                                             | 300 - 900 l/min                                                                  |  |   |   | ● |    |
| 1500                                                            | 500 - 1500 l/min                                                                 |  |   | ● |   |    |
| 1800                                                            | 600 - 1800 l/min                                                                 |  |   | ● |   |    |
| 3000                                                            | 1000 - 3000 l/min                                                                |  | ● |   |   |    |
| 3600                                                            | 1200 - 3600 l/min                                                                |  | ● |   |   |    |
| 5. Optional for ATEX                                            |                                                                                  |  |   |   |   |    |
| A                                                               | for switching head ATEX A-V2 or A-V3 (The switching head is ordered in addition) |  |   |   |   | Ex |

### Options

- Special plugs, Tuchel / Harting
- Signal lamp red or red / green in the plug DIN 43650-A
- Temperature display
- Temperature monitoring
- Metal cap
- Switching ranges for oil
- Special values

### Ordering information

- Specify direction of flow, medium, and switching range.
- For oils, state viscosity, temperature and designation (e.g. ISO VG 68) (enquire about range).