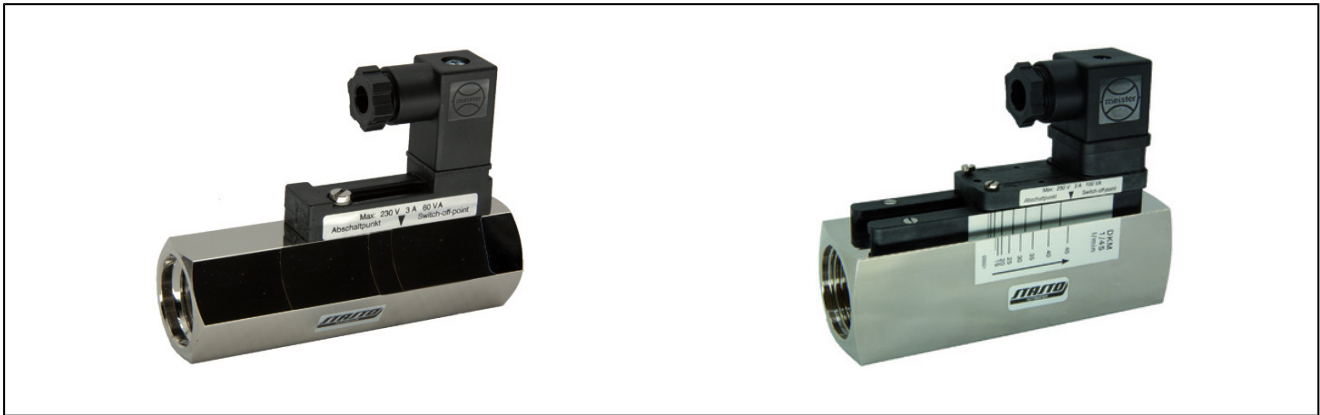
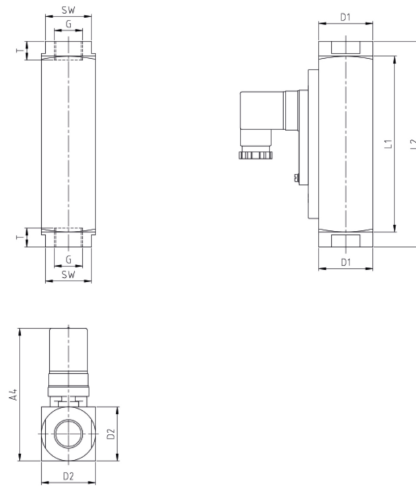


## flow monitors made of stainless steel for oils series FM03-W



|                         |                                                                                                                                                                                                                                                                                                                                                                                              |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| design                  | flow monitors with reed switch, solid metall version, float measure principle, pressure independend, viscosity compensated                                                                                                                                                                                                                                                                   |
| connection              | G1/4" ... G1"                                                                                                                                                                                                                                                                                                                                                                                |
| materials               | body, inner parts and spring stainless steel AISI 316Ti, magnet hard ferrite, seals FKM                                                                                                                                                                                                                                                                                                      |
| application             | oil without solid or magnetic particles                                                                                                                                                                                                                                                                                                                                                      |
| viscosity               | 30...600cSt                                                                                                                                                                                                                                                                                                                                                                                  |
| medium temperature      | -20...+120°C                                                                                                                                                                                                                                                                                                                                                                                 |
| ambient temperature     | -20...+120°C                                                                                                                                                                                                                                                                                                                                                                                 |
| switch unit             | NO contact (change-over contact as special version)                                                                                                                                                                                                                                                                                                                                          |
| pressure setting        | adjustment of the switch point is made by sliding the switch contact                                                                                                                                                                                                                                                                                                                         |
| accuracy                | ±10% from full scale                                                                                                                                                                                                                                                                                                                                                                         |
| max. operating pressure | 300 respectively 350bar see table                                                                                                                                                                                                                                                                                                                                                            |
| pressure drop           | see table                                                                                                                                                                                                                                                                                                                                                                                    |
| max. voltage            | see table                                                                                                                                                                                                                                                                                                                                                                                    |
| max. current            | see table                                                                                                                                                                                                                                                                                                                                                                                    |
| power                   | see table                                                                                                                                                                                                                                                                                                                                                                                    |
| protection class        | IP65 according to EN 60529 by correctly mounted cable inlet (protection against dust and splash water)                                                                                                                                                                                                                                                                                       |
| bracket                 | installed into rigid pipework                                                                                                                                                                                                                                                                                                                                                                |
| mounting position       | any                                                                                                                                                                                                                                                                                                                                                                                          |
| scope of supply         | including connector                                                                                                                                                                                                                                                                                                                                                                          |
| special version         | seals NBR or EPDM, electric contact for media temperatures up to 160°C, more contacts, change-over contact, switches in ATEX, switches with UL-certificate, IP67 with molded cable 1m respectively reed switch with M12 connection                                                                                                                                                           |
| direction for use       | a moderating section has to be installed - 10xDN before and 5xDN after the unit. it is not allowed to reduce the tube diameter before the unit.<br>the used reed switches are very sensitive in case of overload. it is not allowed to pass over the limits of voltage, current or power.<br>appropriate contact protection measures are to be implemented depending on the electrical load. |

dimensions, reed switch 30x70, connector acc. to EN175301-803-form A



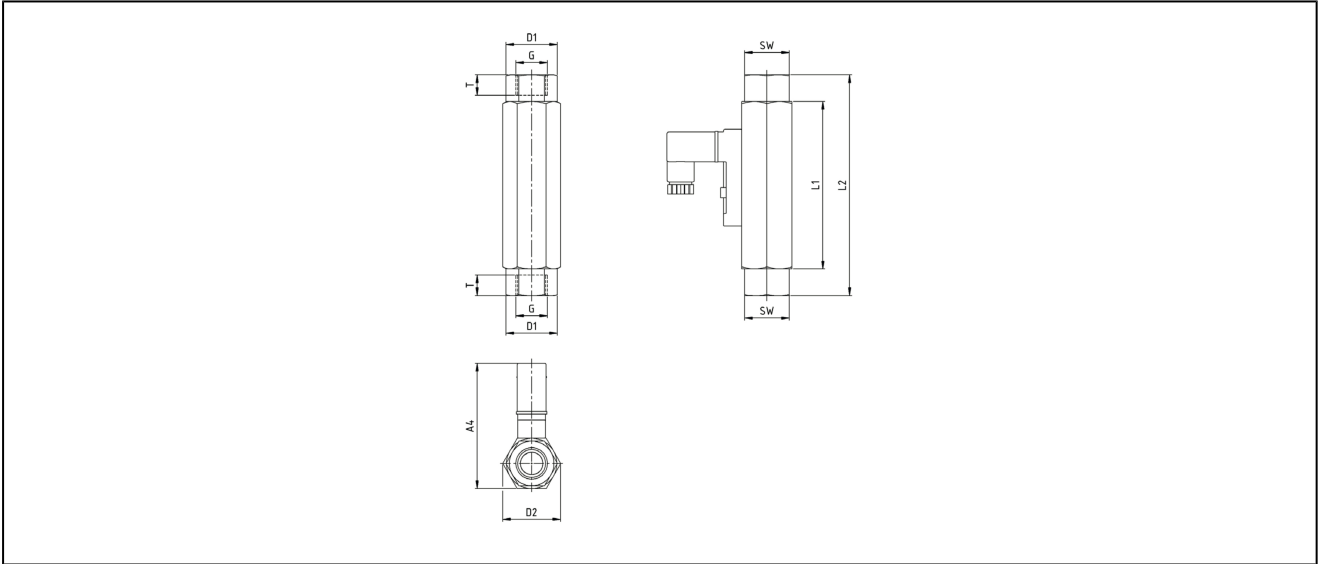
| connection<br>G | nominal diameter<br>DN[mm] | A4 | D1 | D2 | L1  | L2  | T    | SW | weight<br>[app. g] |
|-----------------|----------------------------|----|----|----|-----|-----|------|----|--------------------|
| G1/4"           | 8                          | 98 | 40 | 40 | 130 | 152 | 10   | 34 | 1500               |
| G1/2"           | 15                         | 98 | 40 | 40 | 130 | 152 | 14   | 34 | 1425               |
| G3/4"           | 20                         | 98 | 40 | 40 | 130 | 152 | 15   | 34 | 1340               |
| G1"             | 25                         | 98 | 40 | 40 | 17  | 130 | 18,5 | 40 | 1160               |

| connection | switching range<br>[l/min]* | pressure drop<br>[bar] | max. operating pressure<br>[bar] | max. voltage<br>[V]** | max. current<br>[A]** | max. power<br>[VA]** | type          |
|------------|-----------------------------|------------------------|----------------------------------|-----------------------|-----------------------|----------------------|---------------|
| G1/4"      | 0,5...1,5                   | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-14-W-1,5 |
| G1/4"      | 1...4                       | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-14-W-4   |
| G1/2"      | 0,5...1,5                   | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-12-W-1,5 |
| G1/2"      | 1...4                       | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-12-W-4   |
| G1/2"      | 2...8                       | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-12-W-8   |
| G1/2"      | 3...10                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-12-W-10  |
| G1/2"      | 5...15                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-12-W-15  |
| G1/2"      | 8...24                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-12-W-24  |
| G3/4"      | 0,5...1,5                   | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-1,5 |
| G3/4"      | 1...4                       | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-4   |
| G3/4"      | 2...8                       | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-8   |
| G3/4"      | 3...10                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-10  |
| G3/4"      | 5...15                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-15  |
| G3/4"      | 8...24                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-24  |
| G3/4"      | 10...30                     | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-30  |
| G3/4"      | 15...45                     | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-45  |
| G3/4"      | 20...60                     | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-34-W-60  |
| G1"        | 0,5...1,5                   | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-1,5 |
| G1"        | 1...4                       | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-4   |
| G1"        | 2...8                       | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-8   |
| G1"        | 3...10                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-10  |
| G1"        | 5...15                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-15  |
| G1"        | 8...24                      | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-24  |
| G1"        | 10...30                     | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-30  |
| G1"        | 15...45                     | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-45  |
| G1"        | 20...60                     | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-60  |
| G1"        | 30...90                     | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-90  |
| G1"        | 35...110                    | 0,02...0,4             | 300                              | 250                   | 3                     | 100                  | FM03-10-W-110 |

\* the indicated switching values apply with decreasing flow, for oils with a density of 0.9kg/dm<sup>3</sup> and with flow direction from bottom to top. other densities or other installation situations reduce the accuracy. special scales for different media, operating conditions and installation situations are available on request.

\*\* switching capacity change-over contact: 250V, 1,5A, 3...50VA

dimensions, reed switch 15x50, connector acc. to EN175301-803-form C



| connection<br>G | nominal diameter<br>DN[mm] | A4 | D1   | D2   | L1 | L2    | T  | SW | weight<br>[app. g] |
|-----------------|----------------------------|----|------|------|----|-------|----|----|--------------------|
| G1/4"           | 8                          | 67 | 27,7 | 31,2 | 90 | 98    | 10 | 24 | 350                |
| G3/8"           | 10                         | 67 | 27,7 | 31,2 | 90 | 118,6 | 11 | 24 | 350                |
| G1/2"           | 15                         | 67 | -    | 31,2 | 90 | -     | 14 | 27 | 350                |

| connection | switching range<br>[l/min]* | pressure drop<br>[bar] | max. operating pressure<br>[bar] | max. voltage<br>[V]** | max. current<br>[A]** | max. power<br>[VA]** | type          |
|------------|-----------------------------|------------------------|----------------------------------|-----------------------|-----------------------|----------------------|---------------|
| G1/4"      | 0,5...1,6                   | 0,02...0,2             | 350                              | 230                   | 3                     | 60                   | FM03-14-W-1,6 |
| G3/8"      | 0,5...1,6                   | 0,02...0,2             | 350                              | 230                   | 3                     | 60                   | FM03-38-W-1,6 |
| G1/2"      | 0,5...1,6                   | 0,02...0,2             | 350                              | 230                   | 3                     | 60                   | FM03-12-W-1,6 |
| G1/2"      | 0,8...3                     | 0,02...0,2             | 350                              | 230                   | 3                     | 60                   | FM03-12-W-3   |
| G1/2"      | 0,8...7                     | 0,02...0,2             | 350                              | 230                   | 3                     | 60                   | FM03-12-W-7   |

\* the indicated switching values apply with decreasing flow, for oils with a density of 0.9kg/dm<sup>3</sup> and with flow direction from bottom to top. other densities or other installation situations reduce the accuracy. special scales for different media, operating conditions and installation situations are available on request.

\*\* switching capacity change-over contact: 250V, 1,5A, 3...50VA

electrical connection

| NO contact                                                                                                                                                    | change-over contact                                                                                                                                                                                                                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Diagram of NO contact showing terminals 1 and 2. Terminal 1 is at the bottom, and terminal 2 is at the top. The contact is shown in a closed position.</p> | <p>Diagram of change-over contact showing terminals 1, 2, and 3. Terminal 1 is at the bottom, terminal 2 is at the top left, and terminal 3 is at the top right. The contact is shown in a closed position between terminals 1 and 2.</p> |

illustrations are non-binding

all designs, configurations, measurements and materials are subject to change without prior notice