

**Product Information****UR1- / UR2-010..050G / A M / K / P****Flow Switch**  
**UR1- / UR2-...G / A**

- Low pressure loss
- Compact design
- Threaded connection

**Characteristics**

The devices function via the principle of a spring-supported paddle, and the magnetic triggering of a reed switch.

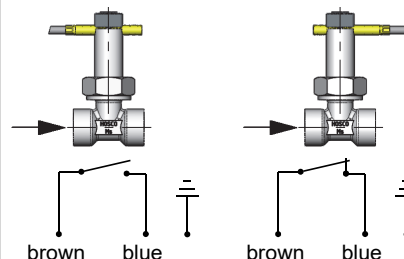
**Technical data**

|                                     |   |   |
|-------------------------------------|---|---|
| <b>Switch</b>                       | reed switch   |   |
| <b>Nominal width</b>                | DN 10..50   |   |
| <b>Process connection</b>           | brass / stainless steel - female thread G 3/8..G 1<br>brass / POM - male thread G 1/2 A<br>(further process connections available on request) |   |
| <b>Switching range</b>              | 1.3..35 l/min   | for details see table "Ranges"  |
| <b>Q<sub>max.</sub></b>             | to 150 l/min  |   |
| <b>Tolerance</b>                    | ±15 % of full scale value   |   |
| <b>Pressure</b>                     | Brass   | PN 25 bar (UR1)   |
|                                     | Stainless steel   |   |
|                                     | POM<br>PPS  | PN 10 bar (UR2)   |
| <b>Medium temperature</b>           | Brass   | -20..+110 °C (optionally 150 °C) (UR1)  |
|                                     | Stainless steel   |   |
|                                     | POM<br>PPS  | -20..+80 °C (UR2)   |
| <b>Ambient temperature</b>          | -20..+70 °C   |   |
| <b>Media</b>                        | water (oils, gases and aggressive media available on request)   |   |
| <b>Electrical data</b>              | see "UR1 brass switching unit" or "UR1 plastic switching unit"  |   |
| <b>Materials medium-contact</b>     | <i>Brass construction:</i><br>CW617N nickelled,<br>CW614N nickelled,<br>1.4310, 1.4301, hard ferrite, NBR                                     | <i>Stainless steel construction:</i> 1.4305, 1.4571, 1.4310, 1.4310, hard ferrite |
|                                     | <i>Optional:</i> Body made from POM (PN 10)<br>Body made from PPS (PN 10)<br>Connection G 1/2 A POM (PN 10)                                   |   |
| <b>Non-medium-contact materials</b> | see "UR1 brass switching unit" or "UR1 plastic switching unit"  |   |
| <b>Weight</b>                       | see table "Dimensions and weights"  |   |

|                              |   |
|------------------------------|---|
| <b>Installation location</b> | Standard:<br>horizontal inwards flow; switching unit not recommended underneath; other installation positions are possible; the installation position affects the switching point and range |
|------------------------------|---|

**UR1 Brass switching unit**

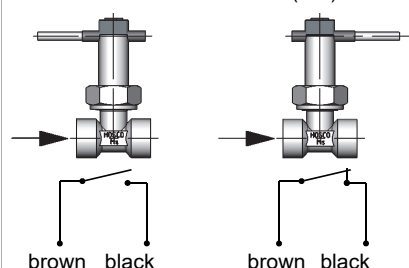
**Wiring** normally open (n.o.) or normally closed (n.c.), no. 0.225



|                                      |  |
|--------------------------------------|--|
| <b>Switching voltage</b>             | max. 230 V AC  |
| <b>Switching current</b>             | max. 1 A   |
| <b>Switching capacity</b>            | max. 50 VA   |
| <b>Protection class</b>              | 1 - PE connection  |
| <b>Ingress protection</b>            | IP 65  |
| <b>Electrical connection</b>         | cable 1.5 m, optionally for round plug connector M12x1, 4-pole |
| <b>Materials, non-medium-contact</b> | CW614N, nickelled, CW614N, NBR, PVC, POM                       |

**UR2 Plastic switching unit**

**Wiring** 'Normally open', no. 0.446 Normally closed (n.c.) no. 0.447



|                                      |                       |
|--------------------------------------|-----------------------|
| <b>Switching voltage</b>             | max. 230 V AC         |
| <b>Switching current</b>             | max. 1 A              |
| <b>Switching capacity</b>            | max. 50 VA            |
| <b>Protection class</b>              | 2 - safety insulation |
| <b>Ingress protection</b>            | IP 65                 |
| <b>Electrical connection</b>         | cable 1.5 m           |
| <b>Materials, non-medium-contact</b> | PA, PVC, POM          |

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**Ranges**

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

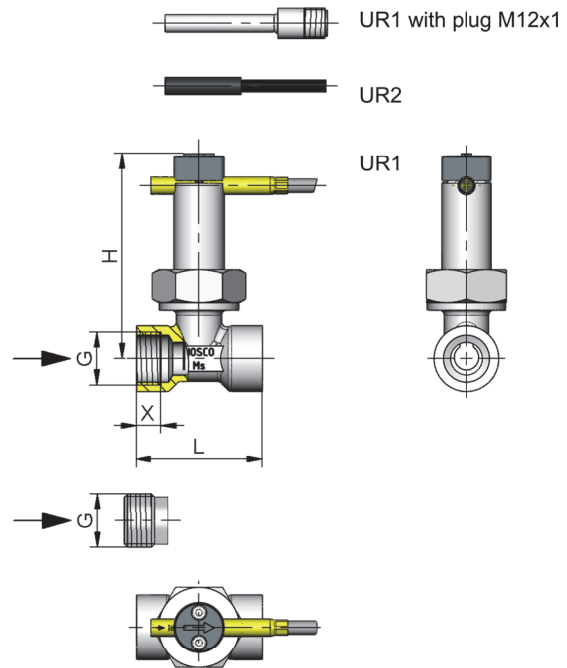
UR2 (Plastic switching unit) is adjusted in the factory; please specify switching value.

| G       | DN    | Switching range<br>l/min H <sub>2</sub> O | Types     | Q <sub>max.</sub><br>recommended |
|---------|-------|---|-----------|----------------------------------|
| G 3/8   | DN 10 | 2.5 - 3.5                                 | UR.-010G. | 10                               |
| G 1/2 A | DN 15 | 1.3 - 2.1                                 | UR.-015A. |                                  |
| G 1/2   |       | 4.0 - 4.5                                 | UR.-015G. |                                  |
| G 3/4   | DN 20 | 5.0 - 6.0                                 | UR.-020G. | 40                               |
| G 1     | DN 25 | 9.5 - 11.5                                | UR.-025G. | 60                               |
| G 1 1/4 | DN 32 | 13.5 - 17.5                               | UR.-032G. | 80                               |
| G 1 1/2 | DN 40 | 30.0 - 38.0                               | UR.-040G. | 100                              |

Special ranges are available.

**Dimensions and weights**

| G       | Types     | H   | L  | X  | Weight<br>kg |      |
|---------|-----------|-----|----|----|--------------|------|
|         |           |     |    |    | UR1          | UR2  |
| G 3/8   | UR.-010GM | 82  | 50 | 10 | 0.35         | 0.35 |
|         | UR.-010GK |     |    |    | 0.40         | 0.40 |
| G 1/2 A | UR.-015AM | 60  | 60 | 12 | 0.35         | 0.30 |
|         | UR.-015AP |     |    |    | 0.15         | 0.15 |
| G 1/2   | UR.-015GM | 50  | 50 | 10 | 0.35         | 0.30 |
|         | UR.-015GK |     |    |    | 0.40         | 0.40 |
| G 3/4   | UR.-020GM | 83  | 50 | 12 | 0.35         | 0.35 |
|         | UR.-020GK |     |    |    |              |      |
| G 1     | UR.-025GM | 87  | 50 | 12 | 0.40         | 0.40 |
|         | UR.-025GK |     |    |    | 0.45         | 0.45 |
| G 1 1/4 | UR.-032GM | 91  | 50 | 12 | 0.50         | 0.50 |
|         | UR.-032GK |     |    |    |              |      |
| G 1 1/2 | UR.-040GM | 94  | 50 | 12 | 0.55         |      |
|         | UR.-040GK |     |    |    | 0.65         | 0.65 |
| G 2     | UR.-050GM | 103 | 50 | 12 | 0.80         | 0.75 |
|         | UR.-050GK |     |    |    | 0.95         | 0.95 |



**Handling and operation**

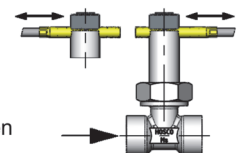
**Note**

- Include straight calming section of 5 x DN in inlet and outlet
- Include a filter if the media are dirty (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, inductive and lamp loads must be operated using a protective circuit.

**Adjustment**

UR1 - loosen bolts, push the switching current tube into the desired position. Retighten the bolts.

Normally closed (n.c.) or normally open (n.o.) as per table "Technical data"



**Product Information**

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**Ordering code**

1. 2. 3. 4. 5.  
UR -  -

○=Option

|                                  |  |   |   |   |
|----------------------------------|--|---|---|---|
| <b>1. Switching unit</b>         |  |   |   |   |
| 1                                | brass  |   |   |   |
| 2                                | ○ plastic (already adjusted, specify switching value and normally closed (n.c.) or normally open (n.o.)) |   |   |   |
| <b>2. Nominal width</b>          |  |   |   |   |
| 010                              | DN 10 - G <sup>3</sup> / <sub>8</sub>  | ● | ● |   |
| 015                              | DN 15 - G <sup>1</sup> / <sub>2</sub>  | ● | ● |   |
|                                  | DN 15 - G <sup>1</sup> / <sub>2</sub> A  |   | ● | ● |
| 020                              | DN 20 - G <sup>3</sup> / <sub>4</sub>  | ● | ● |   |
| 025                              | DN 25 - G 1  | ● | ● |   |
| 032                              | DN 32 - G 1 <sup>1</sup> / <sub>4</sub>  | ● | ● |   |
| 040                              | DN 40 - G 1 <sup>1</sup> / <sub>2</sub>  | ● | ● |   |
| 050                              | DN 50 - G 2  | ● | ● |   |
| <b>3. Process connection</b>     |  |   |   |   |
| G                                | female thread  | ● | ● |   |
| A                                | male thread  |   | ● | ● |
| <b>4. Connection material</b>    |  |   |   |   |
| M                                | brass  |   |   |   |
| K                                | stainless steel  |   |   |   |
| P                                | POM (PN 10)  |   |   |   |
| <b>5. Switching unit options</b> |  |   |   |   |
| A                                | for switching unit ATEX A-U1.1<br>The switching head is ordered in addition.                             |   |   |   |
| S                                | ○ for round plug connector M12x1, 4-pole   |   |   |   |

**Options**

- Switching ranges for oil or gas
- Special values
- Soldered copper fitting
- Adhesive PVC fitting

**Ordering information**

- Specify direction of flow, medium, and switching range, UR1 or switching value UR2.
- For UR2 specify normally closed (n.c.) or normally open (n.o.).
- For oils, state viscosity, temperature and designation (e.g. ISO VG 68) (enquire about range).
- For gases, state pressure (relative or absolute), temperature and medium (e.g. air) (enquire about range).