



INSTRUCTIONS FOR FLOW SWITCHES – HR SERIES

1. GENERAL

1.1 General remarks on the operating instructions

These guidelines show how the instrument can be installed and operated safely. If difficulties arise, which cannot be solved with this instruction sheet and product information, further data should be ascertained from us. Switzer reserves all rights for making technical changes / improvements on a continual basis. The use of the instrument and the operating instructions requires the user to be suitably qualified. The operating personnel must be instructed according to the operating instructions.

1.2 General fundamental principles

Switzer flow switches mainly operate on basic mechanical principles. The general installation and operating instructions and product data are based on these basics.

2. QUALIFIED PERSONNEL

These are persons who are familiar with the application, installation, commissioning and operation of the instrument and who have qualifications suitable to their activities and functions.

3. USAGE

3.1 Storage

- Storage temperature: (-)10°C to (+)60°C, dry and free of contamination.
- In damp areas drying agents or heating is required against the formation of water condensation.

3.2 Transport

- Transport temperature: (-)10°C to (+)60°C, dry and free of contamination.
- Protect from external effects such as shock, vibration and impact.

3.3 Handling prior to fitting

- Remove the plastic cover / protective cap only just before the installation.
- Protect against the effects of weather, e.g. wet conditions.
- The instrument will be weatherproof only if all joints are properly sealed such as cable gland, cover & doom nut.

4. INSTALLATION GUIDELINES

- 4.1 Clean the pipe systems prior to the fitting of the switch to ensure that all scales, dirt, welding residues, pipe trashes are removed.
- 4.2 Install the flow switch ensuring the minimum straight run requirement of 5D on upstream and downstream sides of flow switch respectively.
- 4.3 Install the flow switch with a suitable adaptor on line without any mechanical stress on switch body.
- 4.4 It is always expedient to mount the switch in such a way that it can be removed for any maintenance in future.
- 4.5 Ensure that the flow direction shown on the body matches that of the flow in the pipe.
- 4.6 In case the flow medium has suspended impurities install a strainer in the upstream of the flow switch maintaining the straight run requirement after strainer.

CAUTION : Iron and steel grits suspended in coolants, will affect the performance. Hence effectively eliminate them.

- 4.7 Please ensure that the process pressure and temperature does not exceed the maximum static pressure and temperature ratings mentioned in product literature.
- 4.8 The field cable shall be properly supported to avoid undue stress on the switch assembly to ensure high degree of reliability and repeatability.
- 4.9 The reed switch which provides the initiating contact is rated for low currents only. The rating is:
0.35 A @ 220V AC or 80V A maximum ;
1A @ 24V DC or 25 Watts maximum.

Any attempt to exceed this power rating through the contact will permanently damage the switch and the instrument. So short circuits and overcharging of contacts are to be avoided.
- 4.10 Avoid long distances between the contact and the device to be switched (Relays, contactors, horn, signal lamp, etc). If long distances are unavoidable use a capacitor or diode to protect the contacts.
- 4.11 Do not remove the endcovers of the flow switch until the system is totally ready for installation.



5. OPERATION

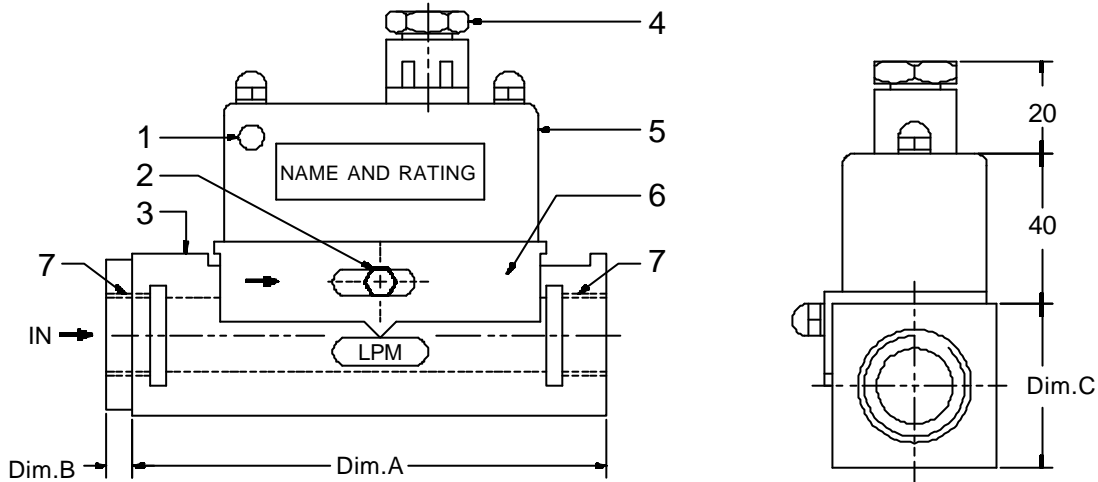
- 5.1 The flow switch has one or two numbers of reed switches of SPCO contact form. The contact changes over depending upon the relative position of the piston and the reed switch.
- 5.2 The reed switch holder with its cover can be slid along the body of the flow switch over a machined slot. The reed switch holder can be locked in its position by a 5mm hub nut.
- 5.3 Install the flow switch with sound installation practices and let in fluid at desired rate of flow. Loosen the hub nut fastening the switch holder assembly to the body of flow switch. Slide the switch holder assembly to obtain desired change-over of contact for increasing / decreasing flow.

5.4 To increase setpoint, slide the switch holder assembly away from inlet connection. Once the desired setpoint is achieved, secure the hub nut firmly against the switch holder.

6. MAINTENANCE

Since the reed switch is magnetically actuated, there is no maintenance required except occasional removal and cleaning of the piston assembly. If any damage is observed on the static 'O' ring of the body, replace the same from your inventory.

If accrual of iron particles happens regularly, periodical cleaning of the magnet would be required and the periodicity has to be determined depending upon the fluid conditions.



- 1 Lamp (optional)
Model changes from HR to HRS
- 2 Range Lock Nut
- 3 Body
- 4 Cablegland
- 5 ABS Plastic Cover
- 6 Reed Switch Holder
(Loosen Lock Nut and shift Reed Switch Holder along slot for Range adjustment)
- 7 Process Pipe Connection – BSPF

Note : K Stainless Steel or
 M Brass
NA Not Applicable

Type	Dim.A ±1	Dim.B	Dim.C ±1	Process Connection BSPF
HR 8 <input type="checkbox"/> I	116	6	38 Sq.	1/4"
HR 10 <input type="checkbox"/> I	116	6	38 Sq.	3/8"
HR 15 <input type="checkbox"/> I	116	6	38 Sq.	1/2"
HR 20 <input type="checkbox"/> I	116	6	38 Sq.	3/4"
HR 25 <input type="checkbox"/> I	155	N.A.	40 Sq.	1"
HR 32 <input type="checkbox"/> I	110	18	70 Sq.	1 1/4"
HR 40 <input type="checkbox"/> I	110	18	70 Sq.	1 1/2"
HR 50 <input type="checkbox"/> I	220	N.A.	90 Dia	2"
HR 65 <input type="checkbox"/> I	220	N.A.	90 Dia	2 1/2"
HR 80 <input type="checkbox"/> I	230	N.A.	179 Dia	3"

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0303 IM-HR Rev.01