

0554 6440 · Flow direction switch

Instruction manual



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2 Safety and the environment

2.1. About this document

Use

- > Please read this documentation through carefully and familiarize yourself with the product before putting it to use. Pay particular attention to the safety instructions and warning advice in order to prevent injuries and damage to the products.
- > Keep this document to hand so that you can refer to it when necessary.
- > Hand this documentation on to any subsequent users of the product.

Symbols and writing standards

Representation	Explanation
	Warning advice, risk level according to the signal word: Warning! Serious physical injury may occur. Caution! Slight physical injury or damage to the equipment may occur. > Implement the specified precautionary measures.
i	Note: Basic or further information.
1. ...	Action: more steps, the sequence must be followed.
2. ...	
> ...	Action: a step or an optional step.
- ...	Result of an action.

2.2. Ensure safety

- > Do not operate the instrument if there are signs of damage at the housing, mains unit or feed lines.
- > Only operate the product properly, for its intended purpose and within the parameters specified in the technical data. Do not use any force.
- > The objects to be measured or the measurement environment may also pose risks: Note the safety regulations valid in your area when performing the measurements.
- > Do not store the product together with solvents. Do not use any desiccants.
- > Carry out only the maintenance and repair work on this instrument that is described in the documentation. Follow the prescribed steps exactly. Use only original spare parts from Testo.

2.3. Protecting the environment

- > At the end of its useful life, send the product to the separate collection for electric and electronic devices (observe local regulations) or return the product to Testo for disposal.

3 Specifications

3.1. Use

The compact flow direction switch is ideal for controlling the flow with smaller pipe sizes and higher system pressures. The patented setting of the switch allows a prompt changeover between the normally open and normally closed contact position.

The vane has a detachable, coated shortening template. This shows where to shorten for pipe sizes from 1/2" to 2". An index arrow on the hexagon shows the correct direction of flow.

3.2. Technical data

Characteristic	Values
Temperature limit for application	maximum 90 °C
Maximum pressure	70 bar
Pipe connection	1/2" NPT external thread
Switch type	Hermetically shielded single-pin reed switch Can be set to normally open or normally closed contact position in application range
Electrical data	1.5 A at 24 VDC, resistive load, 1 A at voltage < 60 VDC 0.5 A at 25 VAC
Connection	via terminal block in housing
Switch body	Brass
Reed switch housing	Polypropylene
Vane	301 stainless steel, 11 x 0.51 mm (W x H)
Parts that make contact with medium	301, 302 and 316 stainless steel, ceramic 8 magnet, body made of brass
Weight	28 g without housing

Table of ranges Nm³/h

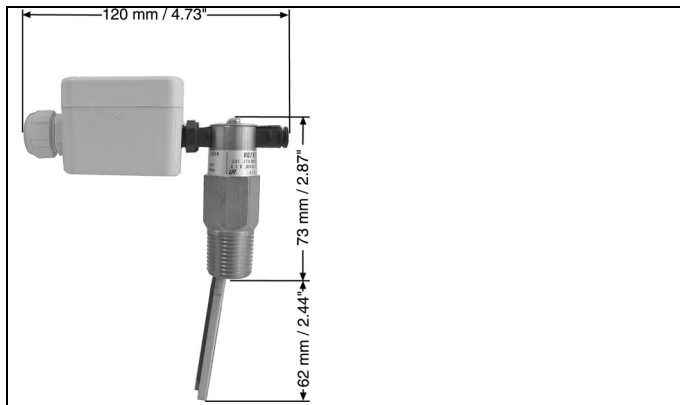
ø of pipe	Mark- ing	N.O. (normally open)		N.C. (normally closed)	
		activated	deactivated	activated	deactivated
1/2"	L	17.5	15	17.3	15.6
3/4"	J	22.1	19.7	21.9	19.7
1"	H	32.6	29.9	32.1	29.9
1 1/4"	E	42.1	37.7	41.6	38.2
1 1/2"	C	56.8	53	56.1	52
2"	Full	85.3	82.2	85.3	81.1

Table of ranges l/min

ø of pipe	Marking	N.O. (normally open)		N.C. (normally closed)	
		activated	deactivated	activated	deactivated
1/2"	L	291.7	250	288	260
3/4"	J	368.3	328	365	328
1"	H	543.3	498	535	498
1 1/4"	E	701.7	628	693	637
1 1/2"	C	946.7	883	935	867
2"	Full	1422	1370	1422	1352

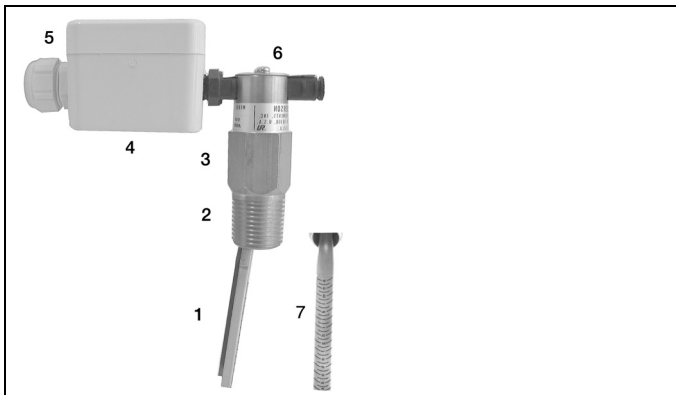
Table of ranges SCFM (standard cubic feet/minute)

ø of pipe	Marking	N.O. (normally open)		N.C. (normally closed)	
		activated	deactivated	activated	deactivated
1/2"	L	10.3	8.8	10.2	9.2
3/4"	J	13	11.6	12.9	11.6
1"	H	19.2	17.6	18.9	17.6
1 1/4"	E	24.8	22.2	24.5	22.5
1 1/2"	C	33.4	31.2	33	30.6
2"	Full	50.2	48.4	50.2	47.7

Dimensions


4 Product description

Overview



- 1 Paddle
- 2 1/2" NPT connecting thread
- 3 7/8" hexagon
- 4 Connecting housing
- 5 Cable coupling
- 6 Reed switch
- 7 Shortening template

5 Using the product

Installation



Caution! Mechanical shock or vibration may lead to permanent damage of the reed switch.

> Handle the instrument carefully.

1. Open packaging and remove the packing material from the flow direction switch.
2. Shorten the paddle at the marked positions according to the diameter of the pipeline, see Technical data, Page 6.
3. Seal off NPT connecting thread using PTFE tape and install the flow direction switch in the pipe system. The arrow on the hexagon must point in the flow direction.

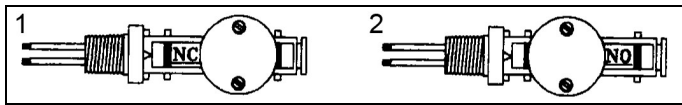
4. Perform electrical connection via the terminal block in the housing.



Caution! Inductive or capacitive loads or loads due to lamps may lead to permanent damage to the reed switch.

- Inductive loads may be generated by electromagnetic relays, electromagnetic valves and other components.
- Capacitive loads may be generated by capacitors that are connected in series or in parallel with the reed switch. Capacities may be generated by this in a closed loop with a cable length of 50 m or more.
- Loads due to lamps are produced by activating lamp components that have a low cold resistance.
- Exceeding the maximum switching capacity may lead to damages. This includes voltages that are larger than the given maximum switching voltages.

Setting the switching mechanism



- 1 NC: closed without flow (normally closed contact)
- 2 NO: open without flow (normally open contact)

The NC setting opens the contact and the NO setting closes it if the increasing flow activates the reed switch.

1. Loosen both screws on the upper cap of the reed switch. Do not remove screws!
2. Move the reed switch so that the selected switching mechanism is visible (NO or NC).
3. Retighten screws on the upper cap.

6 Maintaining the product

Check function of relay

It is recommended that you check the function of the relay on a regular basis:

1. Loosen both screws on the upper cap of the reed switch. Do not remove screws!
2. Move reed switch.
 - The relay must report a switch process.
3. Slide reed switch to starting position.
4. Retighten screws on the upper cap.



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