



## itsensor RHEASREG SW Flow Monitors Mechanical with Paddle Instruction Manual

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### RHEASREG SW Flow Monitors Mechanical with Paddle Instruction Manual

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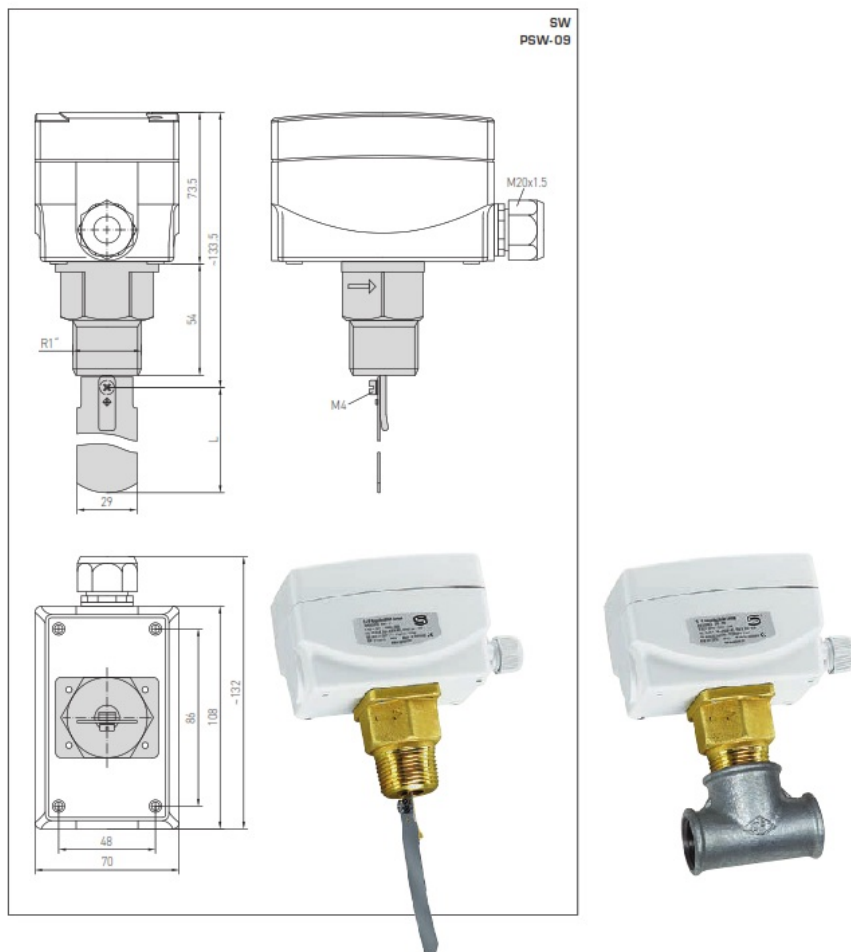
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### Operating Instructions, Mounting & Installation

Flow monitors, mechanical, with paddle, with switching output



### Dimensional drawing



### SW – 3E SW – 4E

Incl. attached Tee Fitting according to DIN 2950

Mechanical paddle flow monitor RHEASREG®

SW with switching output, in an impact-resistant plastic housing, with stainless-steel paddle, for flow monitoring of liquid and gaseous, non-aggressive media in pipes, hydraulic systems of  $\frac{3}{4}$ " through  $\frac{1}{2}$ " to 8" diameter. The flow sensor is used as a flow controller or low water alarm, e. g. for pumps in oil and cooling circuits, cooling systems,

evaporators, compressors and heat exchangers, with brass or stainless-steel bodies.

## TECHNICAL DATA



Switching capacity:	15 (8) A; 24...250V AC, at 24V AC min. 150mA
Contact:	dustproof microswitch as potential-free single-pole changeover contact
Housing:	plastic, UV-resistant, material polyamide, 30% glass-globe reinforced, colour traffic white (similar to RAL 9016)
Housing dimensions:	108 x 70 x 73.5 mm (Thor2)
Base body:	galvanised steel
Screwed socket:	brass or stainless steel (see table)
Paddle:	stainless steel V4A (1.44011
Cable connection:	cable gland, plastic (M 20 x 1.5; with strain relief, exchangeable, inner diameter 8-13mm)
Housing temperature:	—40~85°C
Max. temperature of medium:	+120°C
Electrical connection:	0.14 -1.5mm <sup>2</sup> , via screw terminals
Protection class:	I (according to EN 60 730)
Protection type:	IP 65 (according to EN 60529)
Standards:	CE conformity, EMC directive 2014/30/EU, low-voltage directive 2014/35/EU

## FUNCTION

Monitor:	Contact COM – NO (red – yellow) breaks when flow rate drops to the preset value. Simultaneously, contact COM – NC (red – blue) closes and can be used as signal contact. Device is factory-set to the minimum switch-off value, which can be increased by turning the range adjusting screw clockwise.
Installation:	vertical in horizontal pipes, tee R x" according to DIN 2950, min. smoothing distance = 5 x pipe diameter upstream and downstream of paddle

RHEASREG® SW Flow monitors, mechanical, with paddle

Type / WG01	Pipe Ø DN	Max. Operation Pressure P <sub>N max</sub>	Medium	(Contacting Parts Made of)	Incl. attached Tee Fitting according to DIN 2950	Item No.
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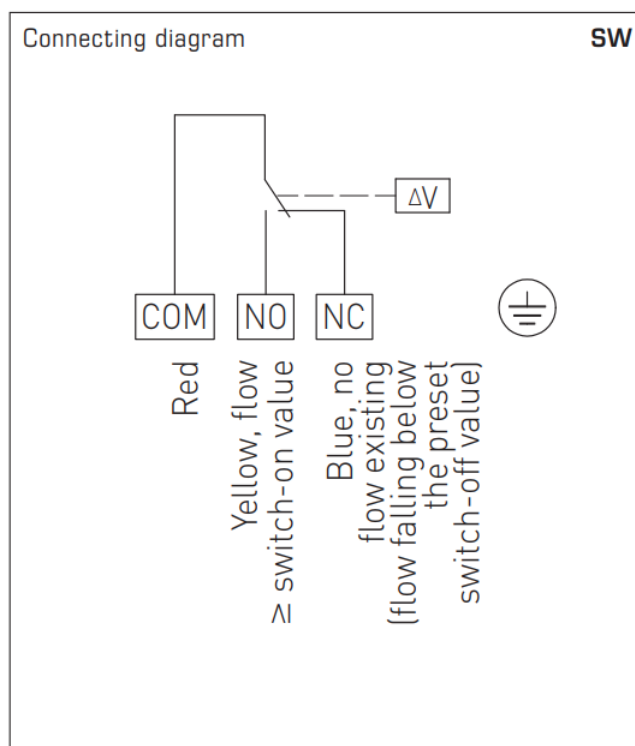
SW						
SW-1E	1" – 8 "	11 bar	normal	(brass)	–	1702-3011-0000-000
SW-2E	1" – 8 "	30 bar	aggressive	(stainless steel V4A)	–	1702-3012-0101-000
SW-3E	½"	11 bar	normal	(brass)		1702-3013-0031-000
SW-4E	¾"	11 bar	normal	(brass)		1702-3014-0041-000

Spare part		
PSW-09	Set of stainless steel paddles 1- 8 " (4 pieces)	7700-0010-1000-000
Note:	Z = Fourth paddle included in the scope of delivery to be used in addition to the three paddles already factory-mounted (1, 2, 3 plus 4)!	

## Installation and Commissioning

### Table of switching values SW / SW- 2

Pipe Ø DN (in inches)	Factory Setting OFF / ON (m³ / h)	Max. Setting OFF / ON (m³ / h)
1"	0.6 / 1.0	2.0 / 2.1
1 ¼ "	0.8 / 1.3	2.8 / 3.0
1 ½ "	1.1 / 1.7	3.7 / 4.0
2 "	2.2 / 3.1	5.7 / 6.1
2 ½ "	2.7 / 4.0	6.5 / 7.0
3 "	4.3 / 6.2	10.7 / 11.4
4 "	11.4 / 14.7	27.7 / 29.0
4 " Z	6.1 / 8.0	17.3 / 18.4
5 "	22.9 / 28.4	53.3 / 55.6
5 " Z	9.3 / 12.9	25.2 / 26.8
6 "	35.9 / 43.1	81.7 / 85.1
6 " Z	12.3 / 16.8	30.6 / 32.7
8 "	72.6 / 85.1	165.7 / 172.5
8 " Z	38.6 / 46.5	90.8 / 94.2



**Table of switching values SW-3 / SW- 4**

Pipe Ø DN (in inches)	Factory Setting OFF / ON (m <sup>3</sup> /h)	Max. Setting OFF / ON (m <sup>3</sup> /h)
1/2 "	0.174 / 0.48	0.846 / 0.948
3/4 "	0.138 / 0.408	0.768 / 0.858

### Pipe diameters with paddle combinations

Pipe Ø DN (in inches)	Pipe Ø DN (mm)	Paddle combination PSW-09
1/2 "	15 mm	1
3/4 "	20 mm	1
1 "	25 mm	1
1 1/4 "	32 mm	1
1 1/2 "	40 mm	1
2 "	50 mm	1, 2
2 1/2 "	65 mm	1, 2
3 "	80 mm	1, 2, 3
4 " Z	100 mm	1, 2, 3 plus 4 (shorten to 92 mm)
5 " Z	125 mm	1, 2, 3 plus 4 (shorten to 117 mm)
6 " Z	150 mm	1, 2, 3 plus 4 (shorten to 143 mm)
7 – 8 " Z	200 mm	1, 2, 3 plus 4 (unshortened)

## General notes

Our “General Terms and Conditions for Business“ together with the “General Conditions for the Supply of Products and Services of the Electrical and Electronics Industry“ (ZVEI conditions) including supplementary clause “Extended Retention of Title“ apply as the exclusive terms and conditions.

In addition, the following points are to be observed:

- These instructions must be read before installation and putting in operation and all notes provided therein are to be regarded!
- Devices must only be connected under dead-voltage condition. To avoid damages and errors at the device (e.g. by voltage induction) shielded cables are to be used, laying parallel with current-carrying lines is to be avoided, and EMC directives are to be observed.
- This device shall only be used for its intended purpose. Respective safety regulations issued by the VDE, the states, their control authorities, the TÜV and the local energy supply company must be observed. The purchaser has to adhere to the building and safety regulations and has to prevent perils of any kind.
- No warranties or liabilities will be assumed for defects and damages arising from improper use of this device.
- Consequential damages caused by a fault in this device are excluded from warranty or liability.
- These devices must be installed and commissioned by authorised specialists.
- The technical data and connecting conditions of the mounting and operating instructions delivered together with the device are exclusively valid. Deviations from the catalogue representation are not explicitly mentioned and are possible in terms of technical progress and continuous improvement of our products.
- In case of any modifications made by the user, all warranty claims are forfeited.
- This device must not be installed close to heat sources (e.g. radiators) or be exposed to their heat flow. Direct sun irradiation or heat irradiation by similar sources (powerful lamps, halogen spotlights) must absolutely be avoided.
- Operating this device close to other devices that do not comply with EMC directives may influence functionality.
- This device must not be used for monitoring applications, which serve the purpose of protecting persons against hazards or injury, or as an EMERGENCY STOP switch for systems or machinery, or for any other similar safety-relevant purposes.
- Dimensions of enclosures or enclosure accessories may show slight tolerances on the specifications provided in these instructions.
- Modifications of these records are not permitted.
- In case of a complaint, only complete devices returned in original packing will be accepted.

### Notes on commissioning:

This device was calibrated, adjusted and tested under standardised conditions. When operating under deviating conditions, we recommend performing an initial manual adjustment on-site during commissioning and subsequently at regular intervals.

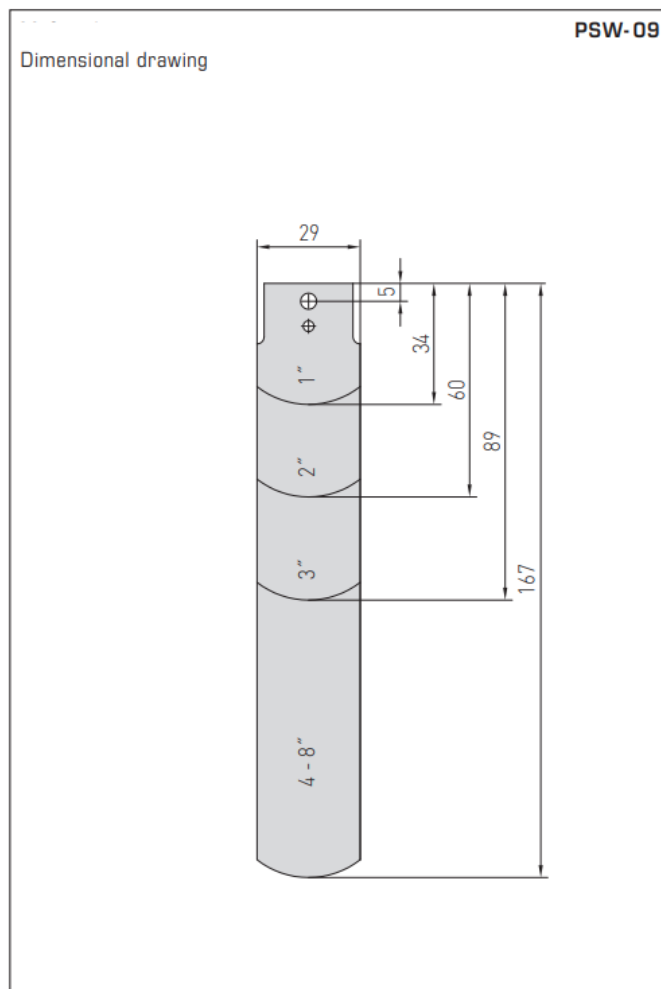
### **Commissioning is mandatory and may only be performed by qualified personnel!**

These instructions must be read before installation and commissioning and all notes provided therein are to be regarded!

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Subject to errors and technical changes. All statements and data herein represent our best knowledge at date of publication. They are only meant to inform about our products and their application potential, but do not imply any warranty as to certain product characteristics. Since the devices are used under a wide range of different conditions and loads beyond our control, their particular suitability must be verified by each customer and/or end user themselves. Existing property rights must be observed. We warrant the faultless quality of our products as stated in our General Terms and Conditions.

## Accessories



### PSW-09

Set of stainless steel paddles (Spare part)



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## Documents / Resources

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## References

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Manuals+.