

# Flow monitor JSF-1E ... 4 E

mechanical – TÜV-tested



## Technical data

<b>Housing colour:</b>	grey (lower part like RAL 7016, upper part like RAL 7035)
<b>Ambient temperature:</b>	-40 ... +85 °C
<b>Permissible atmospheric humidity:</b>	Max. 95% rel. humidity, non-condensing
<b>Permissible medium temperature:</b>	120 °C
<b>Operating voltage:</b>	none
<b>Max. switching current:</b>	15 (8) A
<b>Min. switching current:</b>	150 mA at 24 VAC, 50 Hz
<b>Max. switching voltage:</b>	230 VAC, 50 Hz
<b>Min. switching voltage:</b>	24 VAC, 50 Hz
<b>Switching element:</b>	Microswitch
<b>Switching contact:</b>	toggler, potential-free
<b>Control function:</b>	switches if the set value is under-shot or exceeded
<b>Hysteresis:</b>	depends on the pipe diameter (see the table of switching values)
<b>Electrical connection:</b>	screw-type terminals
<b>Mounting/attachment:</b>	assembly by means of tapered Whitworth pipe thread R1"
<b>Protection rating:</b>	IP 65
<b>Protection class:</b>	I
<b>Safety and EMC:</b>	according to DIN EN 60730
<b>Sensor:</b>	flow paddle
<b>Material of paddle:</b>	stainless steel
<b>Function type:</b>	monitor
<b>General features:</b>	Internal setting
<b>Accuracy:</b>	+/- 15% of the set value
<b>Test mark/Approbation:</b>	JSF-1E/JSF-2E/JSF-3E/JSF-4E TÜV.SW.016-13 JSF-1RE/JSF-2RE TÜV.SW.017-13

## Application

Flow monitoring of liquid media in pipes from 1/2" to 8", for example, oil, cooling and lubricant circuits or as a precaution against a shortage of water.

Assembly: The device can be mounted in any position.

Calming path at least 5 times the pipe diameter before and after the paddle.\*

The max. flow can be significantly higher than the maximum setting value of the Monitor.

Not approved for drinking water applications.

TÜV test up to 6" or for all diameters

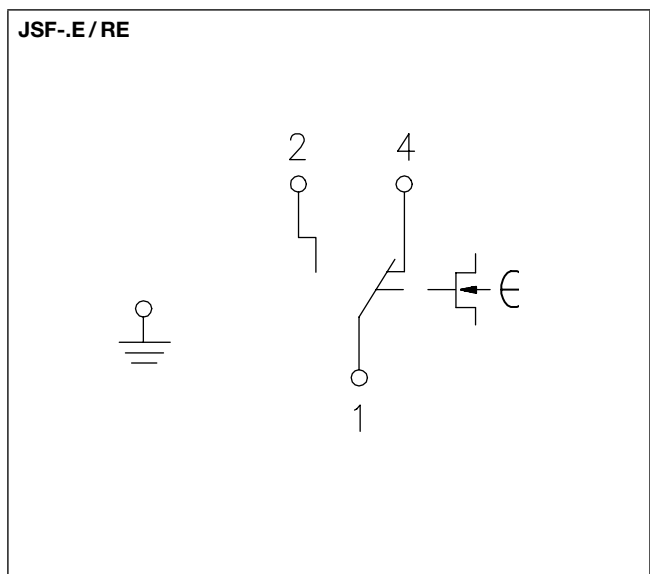
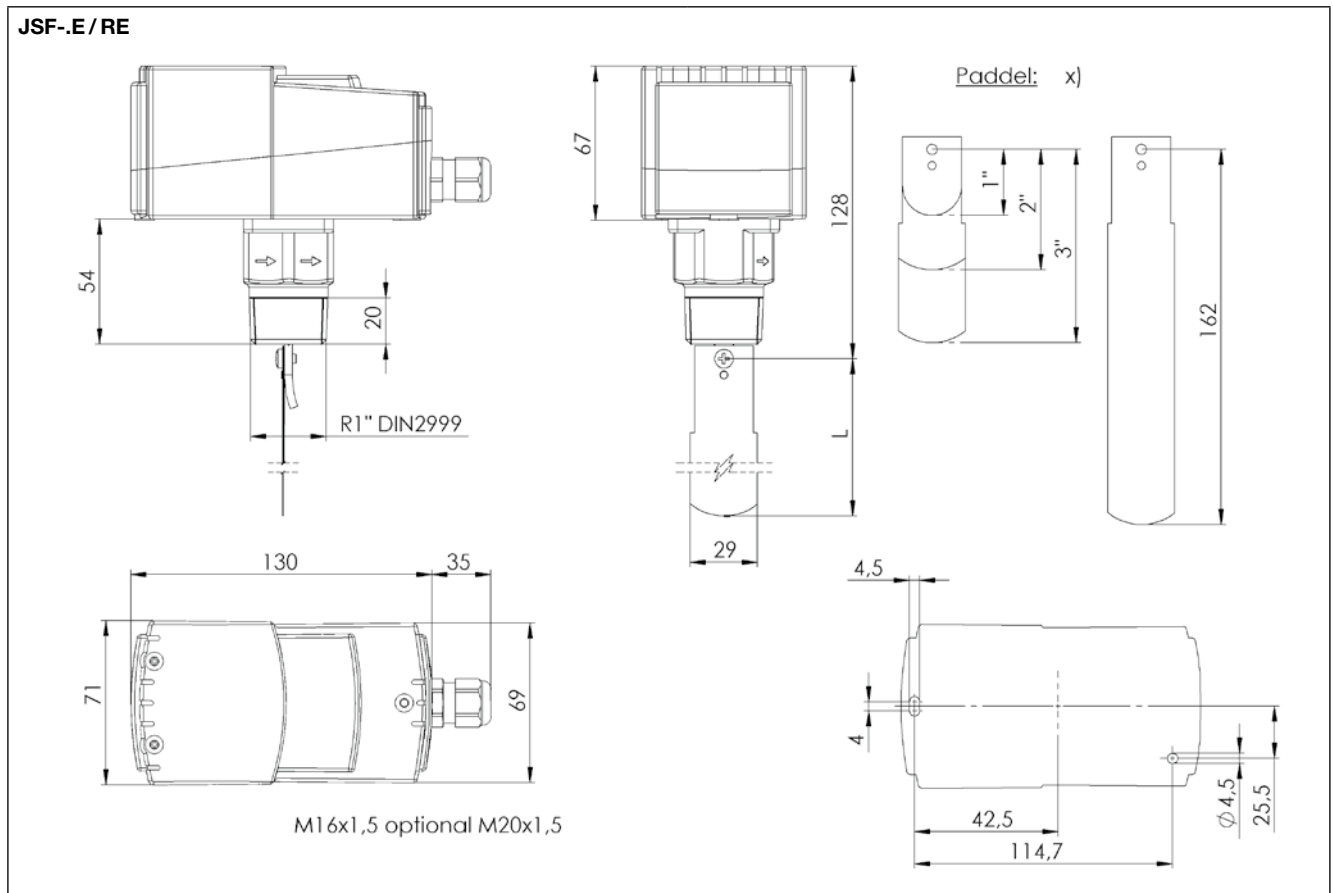
Type-tested by the TÜV according to the "Flow 100" VdTÜV circular

Type	Item no.	Pipe	Medium	Features	PG
JSF-3 E	JA060500	1/2"	normal	material of carrier: brass max. pressure: 5 bar attached T-piece, grey iron	II
JSF-4 E	JA060600	3/4"	normal	material of carrier: brass max. pressure: 5 bar attached T-piece, grey iron	II
JSF-1 E	JA060100	1" ... 8"	normal	material of carrier: brass max. pressure: 8 bar	II
JSF-1 RE	JA060200	1" ... 8"	normal	material of carrier: brass max. pressure: 5 bar reduced switching values**	II
JSF-2 E	JA060300	1" ... 8"	aggressive***	material of carrier: V4A max. pressure: 13 bar	II
JSF-2 RE	JA060400	1" ... 8"	aggressive***	material of carrier: V4A max. pressure: 5 bar reduced switching values**	II

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Accessories	Item no.	Features	PG
<b>JZ-09</b>	E6140170	Spare paddles (each 4 units) from 1" ... 8"	II
<p>* for 1" = Paddle 1                      for 2" = Paddle 1 and 2;                      for 3" to 8" = Paddle 1, 2 and 3;</p> <p>If reduced flow values (marked in the table under the "Pipe" column with added letter Z) are to be reached, Paddle 4 should be used as follows:                      for 4" = Paddle 1, 2, 3, 4 (shorten Paddle 4 to 92 mm)                      for 5" = Paddle 1, 2, 3, 4 (shorten Paddle 4 to 117 mm);                      for 6" = Paddle 1, 2, 3, 4 (shorten Paddle 4 to 143 mm);                      for 7" and 8" = Paddle 1, 2, 3, 4 (Paddle 4 not shortened)</p> <p>** device types for low flow volume (see switching value table) "RE"                      *** medium aggressive: All parts of the current monitor touching the medium are made of V4A.</p>			



DN nominal width	Pipe thread inches
6	1/8"
8	1/4"
10	3/8"
15	1/2"
20	3/4"
25	1"
32	1 1/4"
40	1 1/2"
50	2"
65	2 1/2"
80	3"
100	4"
125	5"
150	6"

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Switching value table in m<sup>3</sup>/h for JSF-1E / 2E / 1RE / 2RE

Type	Pipe diameter	Min. setting (factory setting)		Max. setting	
		Off	On	Off	On
E	1"	0.55	0.86	2.00	2.10
RE	1"	0.19	0.57	1.00	1.10
E	1¼"	0.82	1.30	2.80	3.00
RE	1¼"	0.24	0.90	1.40	1.60
E	1½"	1.10	1.70	4.00	4.20
RE	1½"	0.50	1.20	1.90	2.20
E	2"	2.10	3.20	7.30	7.80
RE	2"	0.90	2.30	3.60	4.10
E	2½"	2.80	4.30	9.80	10.50
RE	2½"	1.20	3.10	4.90	5.50
E	3"	4.00	6.10	13.80	14.70
RE	3"	2.10	4.90	7.40	8.20
E	4"	10.40	15.40	32.00	33.90
RE	4"	4.90	11.30	17.10	19.10
E	4" Z	7.00	10.50	21.70	23.10
RE	4" Z	3.30	7.70	11.60	13.00
E	5"	20.80	30.60	63.50	67.30
RE	5"	9.70	22.40	34.00	37.90
E	5" Z	10.70	15.80	33.30	34.70
RE	5" Z	5.00	11.50	17.50	19.60
E	6"	29.20	43.00	89.10	94.50
RE	6"	13.60	31.50	47.60	53.20
E	6" Z	13.10	19.30	39.90	42.40
RE	6" Z	6.10	14.10	21.40	23.90
E	8"	72.60	85.10	165.70	172.50
RE	8"	25.70	59.60	90.10	100.70
E	8" Z	38.60	46.50	90.80	94.20
RE	8" Z	21.70	36.50	55.30	61.80

When there is a "Z" (=additional paddle) in the "Pipe" column, the long paddle 4 included in the delivery must be used in addition to the 3 factory-installed paddles.

Switching value table in l/h for JSF-3E / -4 E

3 E	½	174	480	846	948
4 E	¾	138	408	768	858

The accuracy of the specified values depends on the actual diameter of the pipe, the actual reduction in the extra paddle and the flow monitor's installation depth.

The devices are set to the minimum switch-off value at the factory. By turning the inner adjusting screw in a clockwise direction, you can set a higher deactivation value. The actual flow quantity must in any case be higher than the one specified in the switch table or the switch-on value, but there is no upper limit. The values specified apply to volume-related mass (density) of water. If the flow drops below the value that has been set, contacts 1 and 2 open and contacts 1 and 4 close.