

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

mechanically operated – TÜV tested



Technical data		Application
<b>Switching capacity:</b>	15 (8) A, 24–250 V~, min. 150 mA at 24 V~	Flow monitoring of liquid media that flow through $\frac{1}{2}$ " up to 8" tubes or pipes, such as in oil, cooling or lubricant circuits. Can also be applied as protection against the lack of water.
<b>Contact:</b>	1 microswitch as potential-free changeover contact	Installation: vertical into a horizontal tube.
<b>Accuracy:</b>	$\pm 15\%$ of adjusted set value	Moderation distance needed: equivalent to min. 5 fold tube diameter in front of and after the paddle.*
<b>Degree of protection:</b>	IP 65	The max. flow can be significantly higher than the max. monitor setting value.
<b>Protection class:</b>	I	Not approved for drinking water applications.
<b>Ambient temperature:</b>	-40...+85 °C	
<b>Max. temperature of medium:</b>	120 °C	
<b>Connection:</b>	Whitworth tapered pipe thread R1"	
<b>Paddle:</b>	V4A	
<b>Colour:</b>	grey (bottom part RAL 7016, upper part RAL 7035)	
<b>TÜV type tested, "Flow 100" compliant up to 6"</b>		
<b>Component reference no.:</b>	TÜV S. 04-016 1 ... -4 E TÜV S. 04-017 1 RE, 2 RE	

Type	Item No.	Pipe	Max. operating pressure	Medium	Equipment	Carrier body	PG
<b>JSF-3 E</b>	JA 060500	$\frac{1}{2}$ "	5 bar	normal	attached T-piece (grey cast iron)	brass	II
<b>JSF-4 E</b>	JA 060600	$\frac{3}{4}$ "	5 bar	normal	attached T-piece (grey cast iron)	brass	II
<b>JSF-1 E</b>	JA 060100	1" ... 8"	8 bar	normal		brass	II
<b>JSF-1 RE</b>	JA 060200	1" ... 8"	5 bar	normal	reduced switching values**	brass	II
<b>JSF-2 E</b>	JA 060300	1" ... 8"	13 bar	aggressive***		V4A	II
<b>JSF-2 RE</b>	JA 060400	1" ... 8"	5 bar	aggressive***	reduced switching values**	V4A	II

Accessories	Item No.	Equipment	PG
<b>JZ-09</b>	E 6140170	spare paddle (4 pieces each) as of 1" ... 8"	II

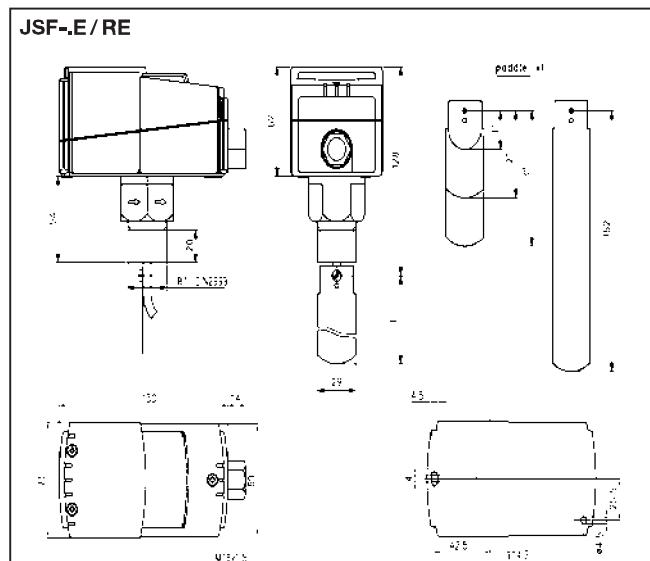
\* for 1" = paddle 1  
 for 2" = paddle 1 and 2  
 for 3" up to 8" = paddle 1, 2 and 3

In the event it was necessary to attain reduced flow values (marked in the table in the column under the header "Pipe" with the additional character Z), the paddle 4 needs to be used as follows:

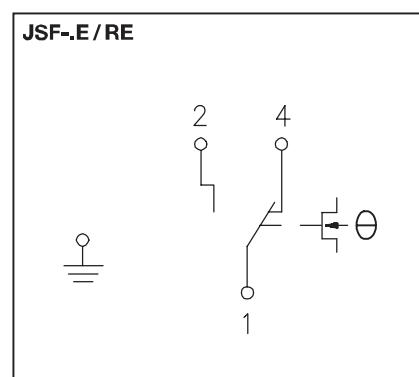
at 4"	= paddle 1, 2, 3, 4 (paddle 4 to be shortened to 92 mm)
at 5"	= paddle 1, 2, 3, 4 (paddle 4 to be shortened to 117 mm)
at 6"	= paddle 1, 2, 3, 4 (paddle 4 to be shortened to 143 mm)
at 7" and 8"	= paddle 1, 2, 3, 4 (paddle 4 unshortened)

\*\* Types for low throughput rates (see switching value table) "RE"

\*\*\* Aggressive types of media: all parts of the flow monitor in contact with the medium are made of V4A



DN Nominal width	Pipe thread Inch
6	$\frac{1}{8}$ "
8	$\frac{1}{4}$ "
10	$\frac{3}{8}$ "
15	$\frac{1}{2}$ "
20	$\frac{3}{4}$ "
25	1"
32	$1\frac{1}{4}$ "
40	$1\frac{1}{2}$ "
50	2"
65	$2\frac{1}{2}$ "
80	3"
100	4"
125	5"
150	6"



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

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

Some values in the column under the header "Pipe diameter" have been marked with the character Z (= additional paddle). In any of these cases, the long fourth paddle, which is included in the scope of the delivery, must be used in addition to the 3 factory mounted paddles.

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

<b>3 E</b>	<b>1/2</b>	174	480	846	948
<b>4 E</b>	<b>3/4</b>	138	408	768	858

The accuracy of the indicated values depends in particular on the actual tube or pipe diameter, on the actual shortening of the additional paddle and on the depth at which the flow monitor is installed.

The minimum switch off value for the devices is set in the factory. To set a higher switch off value, turn the internal adjusting screw in a clockwise direction. There is no upper limit for the actual rate of flow, but it must always be higher than the minimum value listed in the switching value table or set for the device. The values listed here are valid for the density of water. If the flow rate drops below the predefined value, contacts 1 and 2 open and contacts 3 and 4 close.