

Flow measurement in stationary sprinkler systems SMB

- Agreement VdS: G 4990049 (Germany)
- From ND 80 to ND 250
- Free mounting position & flow direction
- Indicator: direct mounting or remoted
- Scales: m³/min or % according directives



APPLICATIONS

The sprinkler measuring orifice SMB is used for monitoring efficiency of pump in test piping of stationary sprinkler systems. It works according to the principle of differential pressure created with an orifice plate.

DESCRIPTION

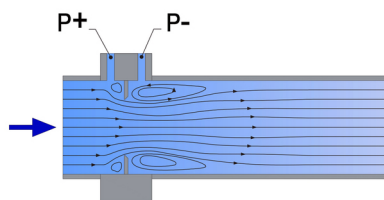
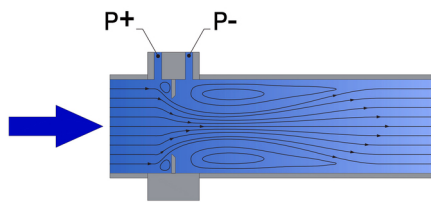
The SMB is integrated into the pipeline between flanges as a wafer flow-meter. A differential pressure occurs at the orifice, which is proportional to square of the volume flow through the pipeline.

The differential pressure is indicated by a differential-pressure gauge. We calibrate on bench the gauge according the flow rates. The instant value of flow rate is directly read on the dial.

The version SMB-OE displays the differential pressure as a percentage value. The operator can read the equivalent flow in m³/min on a label fixed to the casing.

Thanks to its particular articulate design, integration of the SMB is possible in any flow direction. The display pivots by 180 degrees in both directions.

In case of vibrations in the Sprinkler system, the SMB may be fitted with flexible capillaries, to remote the gauge.



Operating principle

SMB series:

SMB	Reading scale in m ³ /min
SMB-OE	Reading scale in %
SMB-...Minimess	Remote display gauge with flexible capillaries

TECHNICAL FEATURES

Agreement	VdS : G 4990049
Operating principle	Measurement of differential pressure from an orifice plate
Accuracy	2.5 % F. S.
Operating pressure	Max. 16 bar
Installation	According VdS guideline CEA 4001 chapter 7.4
Process fitting	Wafer mount, between flanges DIN EN 1092-1, PN 16

Materials

Orifice plate	Aluminum, hard coated
Screwed connections	Nickel-plated brass, 1.4308
Ball valves	Nickel-plated brass
Dial gauge	Aluminum, coated

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SMB

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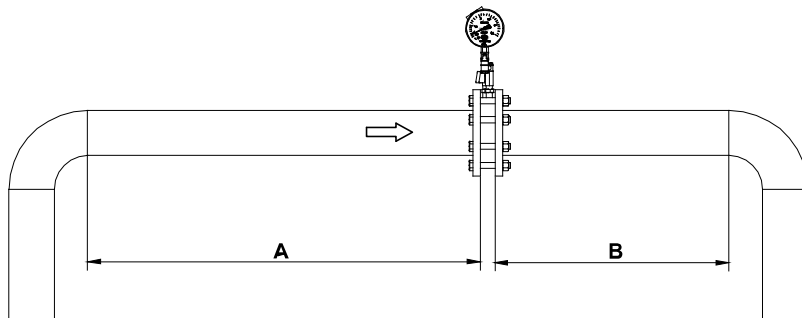
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Pipe straight lengths:

Optimal accuracy is performed if the piping is in conformity to the VdS guidelines. The inlet and outlet pipe sections must not contain valves, elbows, diameter changes or the like.

When using a pump that create flow fluctuations, we recommend to extend the inlet distance from x10 ND to x18 ND. If vibrations causes unstable readings, a hose clearance may be used (Separate Minimes® flexible, length = 1500 mm).



Models	Minima for inlet straight pipe	Minima for outlet straight
	A [mm]	B [mm]
SMB 80	800	400
SMB 100	1000	500
SMB 150	1500	750
SMB 200	2000	1000
SMB 250	2500	1250

MEASURING RANGES AND ACCURACY

Models	DN	Range [m ³ /min] ¹⁾	Ranges VdS directive		Max. deviation of F.S.	
			[m ³ /min]	(% on SMB-OE)	[m ³ /min]	[%]
SMB 80	80	0.4 – 2.1	0.6 (28,5 %) – 2.1 (100 %)		± 0.0525	± 2.5
SMB 100	100	0.6 – 3.4	1 (29.4 %) – 3.4 (100 %)		± 0.085	± 2.5
SMB 150	150	1.4 – 7.25	2 (27.58 %) – 7.25 (100 %)		± 0.18125	2.5
SMB 200	200	2.6 – 12.35	4 (32.35 %) – 12.35 (100 %)		± 0.30875	± 2.5
SMB 250	250	3 – 18.12	4 (22.85 %) – 18.12 (100 %)		± 0.453	± 2.5

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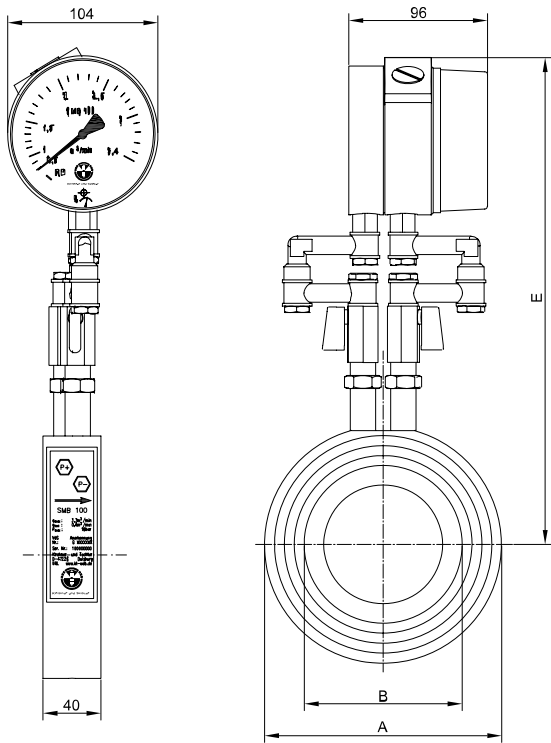
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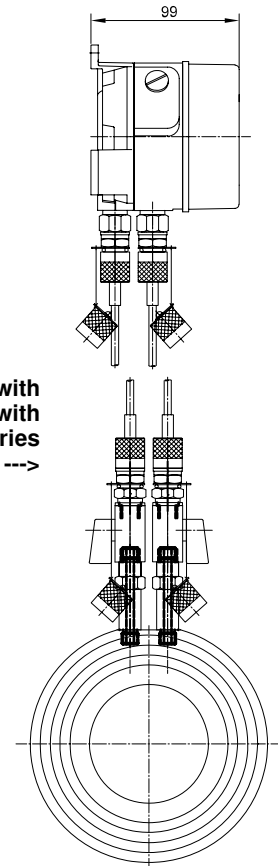
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DIMENSIONS



SMB / SMB-OE

SMB / SMB-OE with
remote display with
flexible capillaries
Minimess --->



Models	A [mm]	B [mm]	E [mm]
SMB 80	144	84.1	311
SMB 100	164	108.9	321
SMB 150	220	161.8	349
SMB 200	275	211.1	377
SMB 250	331	264.5	406

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