

Orifice plate flow controller DDW-DS31



- For liquids
- From ND 40 to 200, or 1/4" to 2"
- Horizontal or vertical installation
- Liquids flow monitoring of water, lubricating oils, neutral liquids
- Microswitch, changeover

APPLICATIONS

These orifice plate flow controllers are designed for flow monitoring of water, lubricating oils, neutral liquids. They cover a large range of piping diameters.

DESCRIPTION

The device works according to the principle of differential pressure which is proportional to the square of the volume rate of flow through the pipeline. The series DDW integrates an orifice plate inside an armature for wafer mounting or with threaded fittings. The DS31 controller contains a rugged and uncomplicated diaphragm system. The differential pressure generates a force which moves the diaphragm system against the measuring spring. The resulting displacement activates a micro switch. The user sets the switch point within 30 to 100 % of the flow scale.

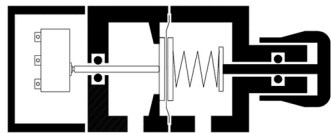
The reliability of the measurement depends of the flow behaviour at the measuring point.

The region of steady flow should covers piping distances of 6 DN upstream and 4 DN downstream of the device.

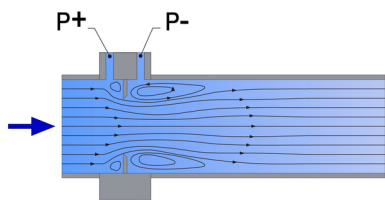
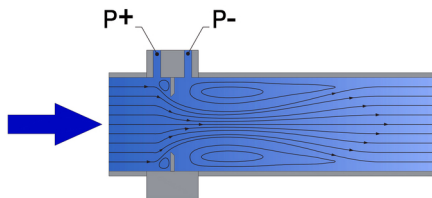
Several versions in steel, stainless steel or brass are available:

DDW-DN	Wafer mounting for flanges acc. DIN EN 1092-1
DDW-Gi	Female threads acc. DIN EN ISO 228
DDW-Ga	Male threads acc. DIN EN ISO 228
DDW-Rp	Unions acc. DIN EN 10226-1 (ISO 7-1)

- Every BAMO Kirchner instrument is tested in conformity with EC directives.
- The corresponding declaration of conformity is available on request.
- The current version in force is available on our WEB site.
- Our production center Kirchner, is certified DIN EN ISO 9001: 2015



+ -
Differential pressure switch



Principle

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TECHNICAL FEATURES

Setting span	30 to 100 % of flow range
Monitoring span factor	1: 3
Ambient temperature	0...+80 °C
Liquid temperature	0... 80 °C; Option: Up to 100 °C on request
Operating pressure	Max. 16 bar
Differential pressure	600 mbar
Repeatability	3 % F. S.
Hysteresis	5 % at Maximum flow 10 % at Minimum flow

Fittings:

Wafer mounting (ND)	PN 10 or PN 16 according DIN EN 1092-1, shape A & B
Unions (Rp)	Two pieces - Female thread DIN EN 10226-1 (ISO 7-1) cylindrical
Female thread (Gi)	Female thread cylindrical DIN EN ISO 228
Male thread (Ga)	Male thread cylindrical DIN EN ISO 228

Materials:

DDW- DN	Body S355 (Option AISI 316 Ti) Corrosion protection: Epoxy powder coating, traffic blue (RAL 5017) glossy Corrosion class: C2 Orifice plate: AISI 316 Ti (1.4571)
DDW- Rp, Gi, Ga	Fittings: Malleable cast iron; Option for Rp only: zinc plated Orifice plate: Brass Seals: NBR (other on request)
DS31	Pressure chamber: Brass Measuring diaphragm: FPM Connection to orifice: Brass

FEATURES OF THE SWITCH

Operating range	0... 600 mbar
Static pressure limit	Max. 16 bar
Ambient temperature	Max. 80 °C
Fluid temperature limit	Max. 80 °C
Measuring chamber	Brass
Diaphragm	NBR or FPM
	Switching range: Adjustment from 30 to 100 % F.S.
Switch type	Micro-switch, changeover, or NO or NC
Hysteresis	2 %
Protection	IP 54
Switching capacity	250 V AC / 3 A / 500 VA max. 30 V DC / 0.4 A / 10 W max.
Connections	3-pin connector DIN EN 175301-803-A Or Cable gland PG M16 x 1.5 Cable length: 2.5 m

MEASURING RANGES

DDW-DS31-DN			DDW-DS31- Rp, Gi, Ga			
Range, scale in H ₂ O [m ³ /h]			Range, scale in m ³ /h of H ₂ O			
DN	Smallest	Largest	Rp, Gi	Ga	Smallest	Largest
			1/4"	3/4"	0.05 - 0.3	0.2 - 1.2
			3/8"	3/4"	0.05 - 0.4	0.4 - 2.3
			1/2"	1 1/8"	0.1 - 0.7	0.75 - 4.5
			3/4"	1 1/4"	0.2 - 1.3	1.4 - 8,5
			1"	1 1/2"	0.35 - 2	2.25 - 13.5
			1 1/4"	2"	0.6 - 3.5	4 - 24
			1 1/2"	2 1/4"	0.85 - 5	5.35 - 32
			2"	2 3/4"	1.25 - 7.5	8.65 - 52
50	1.2 - 7	8.7 - 52				
65	2 - 12	13 - 78				
80	3 - 18	19.7 - 118				
100	4.7 - 28	30.7 - 184				
125	7.3 - 44	48 - 288				
150	10.7 - 64	68.8 - 413				
200	18.8 - 113	122.5 - 735				

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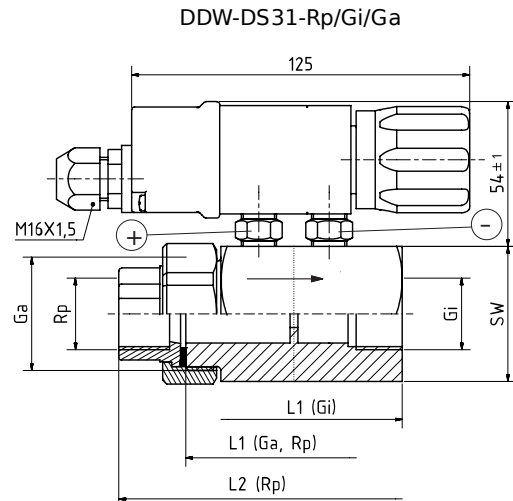
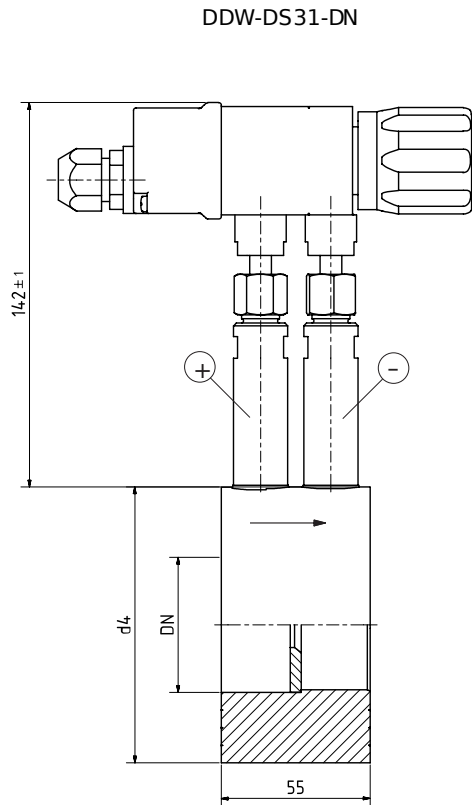
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DIMENSIONS



DDW-DS31-DN		DDW-DS31- Rp, Gi, Ga				
DN	d4	Rp / Gi	Ga	L1	L2	SW
		1/4"	3/4"	80	124	41
50	102	3/8"	3/4"	80	128	46
65	122	1/2"	1 1/8"	80	128	46
80	138	3/4"	1 1/4"	80	128	50
100	158	1"	1 1/2"	80	136	60
125	188	1 1/4"	2"	80	146	70
150	212	1 1/2"	2 1/4"	80	149	70
200	268	2"	2 3/4"	90	164	85

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