

FLOW MONITOR DDW-DS31



- For liquids
- From DN 40 to DN 200, or 1/4" to 2"
- Horizontal or vertical installation
- Flow monitoring of water, oils and neutral liquids
- Microswitch (change-over contact)

APPLICATIONS

The DDW-DS31 differential pressure flow switch monitors the flow of water, oil and neutral liquids and is suitable for a wide range of nominal pipe sizes. The flow monitor covers a large range of piping diameters.

DESCRIPTION

Functional principle and design

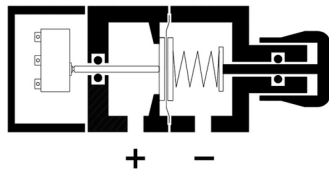
The device forms an assembly consisting of a ring with an integrated orifice plate or orifice body and the DS31 flow switch.

A robust diaphragm measuring mechanism actuates the microswitch via a switch plunger when the switching point is reached.

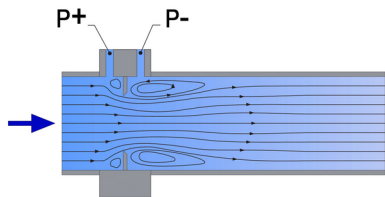
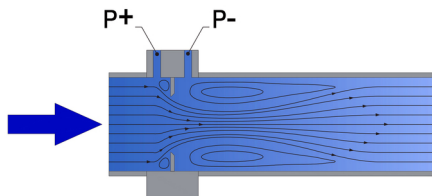
Switching point: Adjustment via handwheel (30 ... 100% of the flow range).

Mounting: Installation of the assembly between flanges or via threaded connections.

Installation conditions: To ensure proper operation, calming sections of 6 x DN (inlet) and 4 x DN (outlet) must be maintained.



Functional diagram



Functional diagram

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

DDW-DS31-DN	Wafer mounting for flanges acc. DIN EN 1092-1
DDW-DS31-Gi	Female threads acc. DIN EN ISO 228
DDW-DS31-Ga	Male threads acc. DIN EN ISO 228
DDW-DS31-Rp	Unions acc. DIN EN 10226-1 (ISO 7-1)

- Devices from Kirchner und Tochter are tested in accordance with the applicable EC/CE directives.
- The corresponding declaration of conformity is available on request.
- The current version in force is available on our website.
- Kirchner und Tochter is certified according to DIN EN ISO 9001.

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**FLOW MONITOR
DDW-DS31**

05-10-2026

D-763.10-EN-AC

DEB

763-10/1

TECHNICAL FEATURES

Setting span	30 ... 100 % of flow range
Monitoring span factor	1 : 3
Ambient temperature	0... +80 °C
Media temperature	0... +80 °C (+100 °C with insulated piping)
Max. operating pressure	16 bar
Differential pressure	600 mbar
Repeatability	3 % full scale
Hysteresis	5 % at Maximum flow 10 % at Minimum flow

Fittings:

Wafer mounting (DN)	PN 10 or PN 16 according DIN EN 1092-1, shape A & B
Threaded pipe connection (Rp)	Two pieces, female thread DIN EN 10226-1 (ISO 7-1) cylindrical
Female thread (Gi)/ Male thread (Ga)	Parallel thread DIN EN ISO 228

Materials:

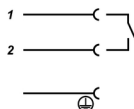
- DDW-DS31-DN	
Ring	S355, optional AISI 316 Ti (1.4571)
Orifice	AISI 316 Ti (1.4571)
Corrosion protection	Epoxy powder coating, traffic blue (RAL 5017), glossy
Corrosion class	C3
- Connection between orifice plate and pressure switch (DDN-DS31-DN)	
Connection Ring - DS31	Galvanized Steel or AISI 316 Ti (1.4571)
Steel gasket rings	Galvanized steel + NBR, optional: AISI 316 Ti (1.4571) + FKM
- DDW-DS31- Rp, Gi, Ga	
Screw connection	Galvanized malleable cast iron (Rp only)
Orifice plate and orifice body	Brass, hard-coated aluminum, optional: AISI 316 Ti (1.4571)
Gasket in screw connection	NBR, optional FKM
- Flow monitor DS31	
Pressure chamber	Brass
Measuring diaphragm	FKM

FEATURES OF THE SWITCH

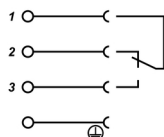
Switching range	continuously 30 ... 100 % of the flow rate
Switch type	Microswitch, change-over or normally open contact
Protection	IP 54
Max. switching capacity	250 V AC 3 A 250 VA 30 V DC 0,4 A 10 W

Connections

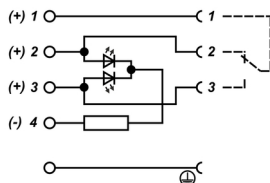
hard-wired numbered cable 2.5 m, switching function: normally open (NO)



Rectangular connector DIN EN 175 301-803-A, 3-pole + PE, Switching function: Change over (CO)



Rectangular connector DIN EN 175 301-803-A, 3-pole + PE, LED, Switching function: change over (CO)
Switching function: Change over (CO), ATTENTION! (max. 30 V DC | 0,4 A | 30 W DC)



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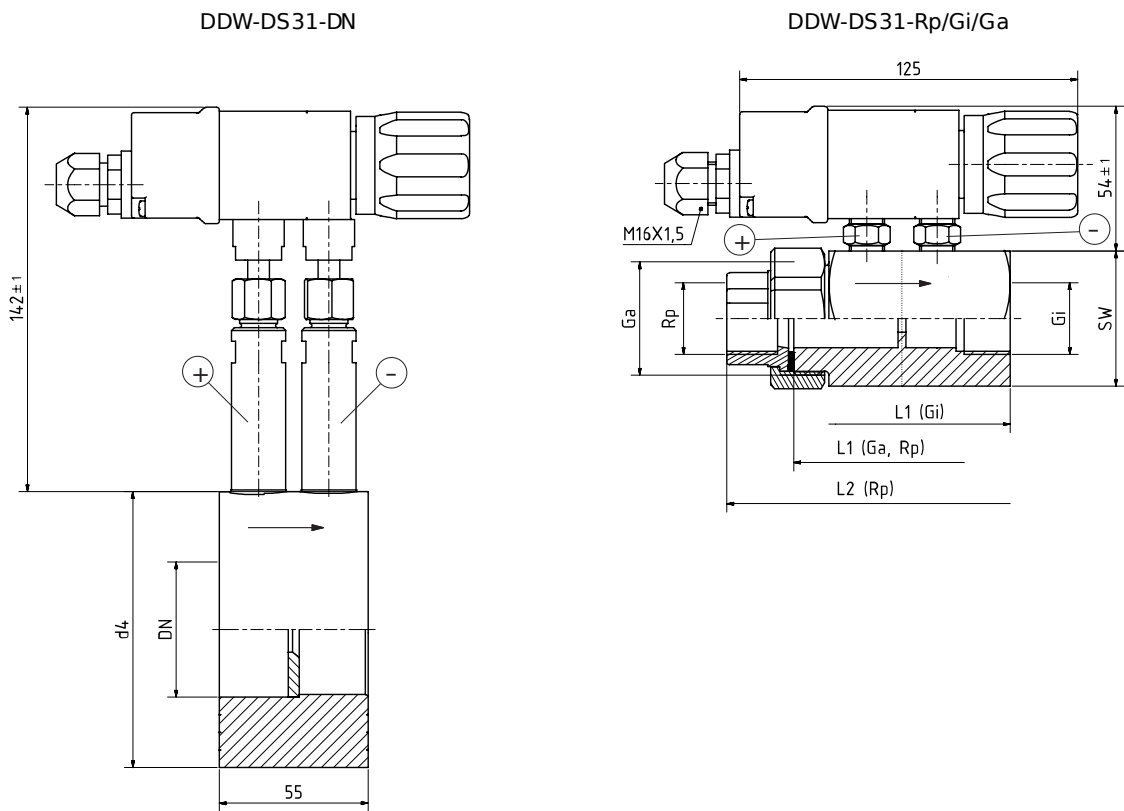
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MEASURING RANGES

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"	5/8"	0,05 - 0,3	0,2 - 1,2
50	1,2 - 7	8,7 - 52	3/8"	3/4"	0,05 - 0,4	0,4 - 2,3
65	2 - 12	13 - 78	1/2"	1 1/8"	0,1 - 0,7	0,75 - 4,5
80	3 - 18	19,7 - 118	3/4"	1 1/4"	0,2 - 1,3	1,4 - 8,5
100	4,7 - 28	30,7 - 184	1"	1 1/2"	0,35 - 2	2,25 - 13,5
125	7,3 - 44	48 - 288	1 1/4"	2"	0,6 - 3,5	4 - 24
150	10,7 - 64	68,8 - 413	1 1/2"	2 1/4"	0,85 - 5	5,35 - 32
200	18,8 - 113	122,5 - 735	2"	2 3/4"	1,25 - 7,5	8,65 - 52

DIMENSIONS



DDW-DS31-DN		DDW-DS31- Rp, Gi, Ga				
DN	d4	Rp / Gi	Ga	L1	L2	SW
		1/4"	5/8"	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