

Differential Pressure Flow Meter

DDM

Design and application

The DDM orifice is designed to measure and control the flow of liquids and gases.

The DDM-DN orifice is fitted between flanges in the pipeline. The DDM-Rp orifice is installed in the pipeline using screw connections with either internal or external thread. The region of steady flow should be 6 DN upstream of the installation point and 4 DN downstream of the installation point. The differential pressure at the orifice is proportional to the square of the volume rate of flow through the pipeline.

The DDM orifice can be equipped with commercially available electrical or mechanical differential-pressure gauges/ switches or transmitters.



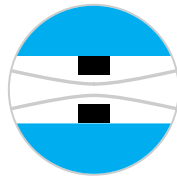
- calibrated to customer specifications for fluids and gases
- horizontal and vertical installation possible between standard flanges and standard threads
- no wear, no moving parts
- measuring range 1:6
- accuracy 5% of full-scale range
- optionally available differential pressure gauge/ -transmitter in various designs
- € 0085BN0052



Kirchner und Tochter

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Differential Pressure Flow Meter



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Type series

Model	Description
DDM-DN	Orifice for in-between flange assembly
DDM-Rp	Orifice for screwed connection
DDM-Gi	Orifice for internal thread
DDM-Ga	Orifice for external thread

Technical Data

Measuring principle	Differential pressure at the orifice
Connection	
DDM-DN	Between flanges PN10 or between flanges PN16 in accordance with DIN EN 1092-1
Screwed connection (Rp)	Nut with cyl. external thread in accordance with DIN ISO 228 T1 and insertion part with cyl. internal thread in accordance with DIN 2999, ISO 7-1.
External thread (Ga)	Cyl. external fastening screw thread in accordance with DIN ISO 228 T1.
Internal thread (Gi)	Cyl. internal fastening screw thread in accordance with DIN ISO 228.
Differential pressure	20-100 mbar with air 100-1000 mbar with H ₂ O
Pressure loss	Ca. 40% of differential pressure
Crushing strength DDM	PN 16 (however max. crushing strength of the indicator device)

Materials

DDM-DN	
Ring	S355J2G3, optionally 1.4301
Orifice	1.4571
DDM-Rp, Gi, Ga	
Screwed connections	malleable cast iron, galvanized (Rp only)
Orifice	brass
Seals	NBR, others on request

Dimensions DDM-DN

DN	d4 [mm]	L [mm]
50	102	55
65	122	55
80	138	55
100	158	55
125	188	55
150	212	55
200	268	55

Dimensions DDM-Rp

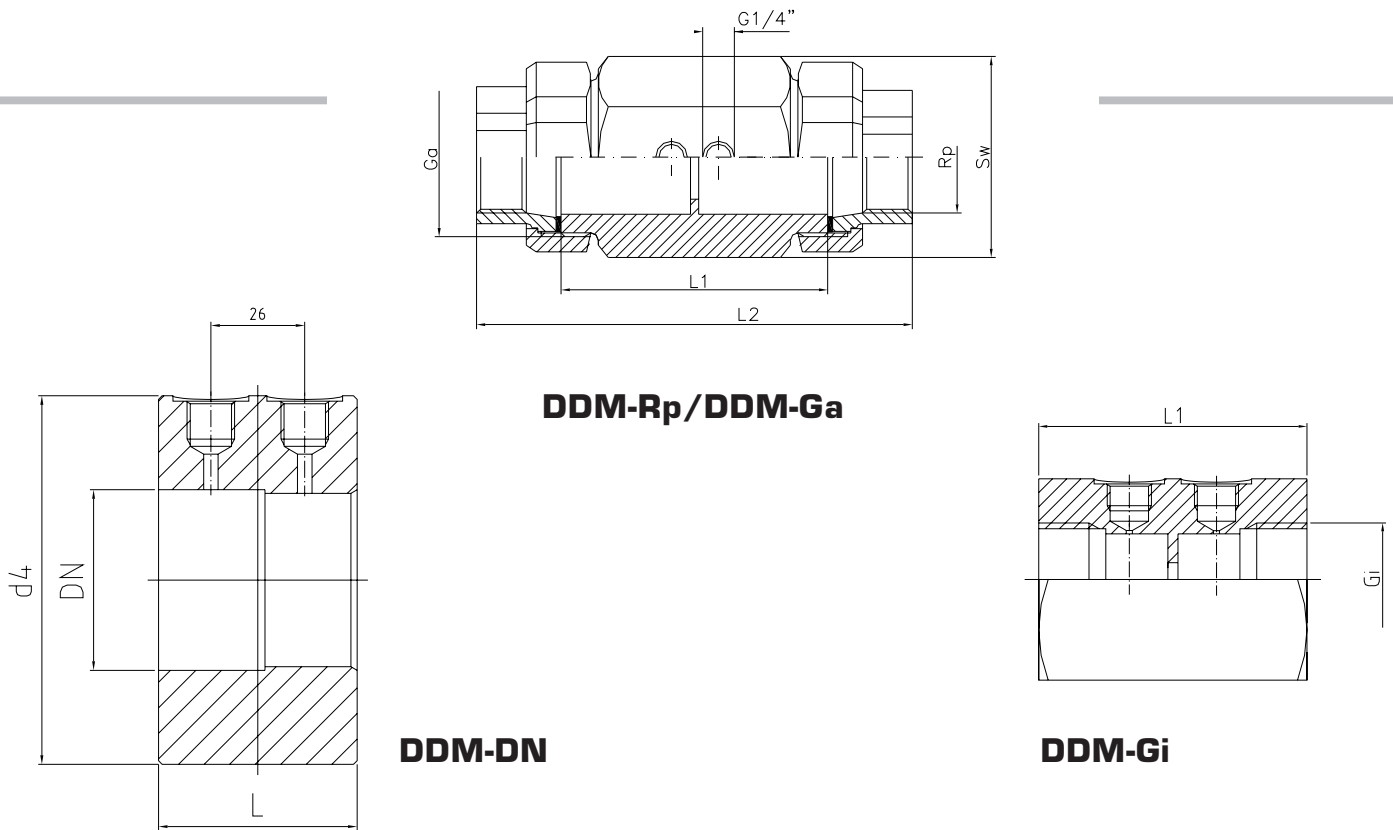
Rp	L1 [mm]	L2 [mm]	SW [mm] ¹⁾
1/4	80	124	41
3/8	80	128	46
1/2	80	128	46
3/4	80	128	50
1	80	136	60
1 1/4	80	146	70
1 1/2	80	149	70
2	90	164	85

¹⁾ width over flats of hexagonal body

Dimensions DDM-Gi/DDM-Ga

Gi	Ga	L1 [mm]	SW [mm] ¹⁾
1/4	3/4	80	41
3/8	3/4	80	46
1/2	1 1/8	80	46
3/4	1 1/4	80	50
1	1 1/2	80	60
1 1/4	2	80	70
1 1/2	2 1/4	80	70
2	2 3/4	90	85

¹⁾ width over flats of hexagonal body



Measuring ranges for water

Connection for screwed connection
for internal thread, for external thread

Rp	smallest measuring range [m ³ /h] H ₂ O	largest measuring range [m ³ /h] H ₂ O
1/4	0.05 - 0.3	0.2 - 1.2
3/8	0.05 - 0.4	0.4 - 2.3
1/2	0.1 - 0.7	0.75 - 4.5
3/4	0.2 - 1.3	1.4 - 8.5
1	0.35 - 2	2.25 - 13.5
1 1/4	0.6 - 3.5	4 - 24
1 1/2	0.85 - 5	5.35 - 32
2	1.25 - 7.5	8.65 - 52

Other measuring ranges on request

Connection for in-between flange assembly

DN	smallest measuring range [m ³ /h] H ₂ O	largest measuring range [m ³ /h] H ₂ O
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

Other measuring ranges on request

Measuring ranges for air

Connection for screwed connection
for internal thread, for external thread

Rp	smallest measuring range [m ³ /h] air ¹⁾	largest measuring range [m ³ /h] air ¹⁾
1/4	0.5 - 3	1.3 - 8
3/8	0.8 - 5	2.3 - 14
1/2	1.0 - 6	3.5 - 21
3/4	1.3 - 8	7.5 - 45
1	2.0 - 12	9.0 - 54
1 1/4	4.0 - 24	18.0 - 108
1 1/2	5.8 - 35	25.0 - 150
2	8.3 - 50	45.0 - 270

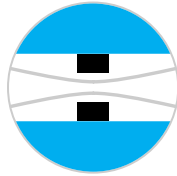
¹⁾ at STP (0 °C and 1013 mbar)
in-between ranges possible

Connection for in-between flange assembly

DN	smallest measuring range [m ³ /h] air ¹⁾	largest measuring range [m ³ /h] air ¹⁾
50	9 - 54	45 - 270
65	13.5 - 81	83 - 500
80	20 - 120	125 - 750
100	35 - 210	180 - 1080
125	60 - 360	292 - 1750
150	75 - 450	433 - 2600
200	125 - 750	667 - 4000

¹⁾ at STP (0 °C and 1013 mbar)
in-between ranges possible

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The equipment from KIRCHNER has been tested in compliance with applicable CE-regulations of the European Community. The respective declaration of conformity is available on request.

The KIRCHNER QM-System will be certified in accordance with DIN EN ISO 9001:2000. The quality is systematically adapted to the continuously increasing demands.



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