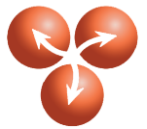




DML-Series

*Pelton wheel
flow meter*



Flow meter manufacture

As a specialist in flow measurement technology, TrigasDM supplies high-quality measuring instruments, electronics and calibrators for liquids and gases.

Made in Germany

Our products are exclusively developed and manufactured in Neufahrn, 20 km north of Munich, ensuring world-class technical know-how for our customers.

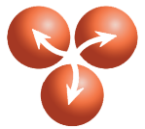


Contact

We are proud of our high-quality products and friendly customer service and welcome you as a valued customer to our growing family. You can benefit from our long-standing experience and our comprehensive technical support.

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Fax: +49 8165 9999 369
Email: info@trigasdm.com
www.trigasdm.com



Technical data

Flow range:	see "Measuring ranges" table
Response time:	<4 ms
Temperature range:	-50 °C to +150 °C
Operating pressure:	up to 400 bar, Depending on connection, optionally also higher pressures possible
Viscosity:	Each turbine is calibrated according to customer specifications and delivered with individual calibration protocols. (Standard viscosity: 1.3 mm ² /s)

Liquid

Calibration accuracy:	≤±0,05% of measured value
Repeatability:	≤±0,01% of measured value
Accuracy:	≤±0,25% of measured value in the linear flow range
Linearity:	≤±0.1% of the measured value in the linear flow range


Gas

Calibration accuracy:	≤±0, 3% of measured value
Repeatability:	≤±0,2% of measured value
Accuracy:	≤±0,60% of measured value in the linear flow range
Linearity:	≤±0,1% of the measured value in the linear flow range
Standard material:	Stainless steel




Measuring ranges

a) Gas

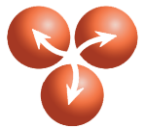
 Model	Linear Range		Extended Flowrange		K-Faktor¹⁾ [Pulse/ml]	max. Frequenz¹⁾ [Hz]
	[ml/min]		[ml/min]			
	min.	max.	min.	max.		
DML 0.6	42,5	425	-	-	170	1200
DML 1.0	70,8	708	57	848	85	1000
DML 2.0	141,5	1415	99	1698	36	860
DML 4.0	339,8	3398	226	5663	14	760
DML 5.0	566,3	5663	425	8495	8,5	800

1) The K-factors and frequency data are average values. Each turbine is calibrated according to customer specifications and delivered with individual calibration protocols.

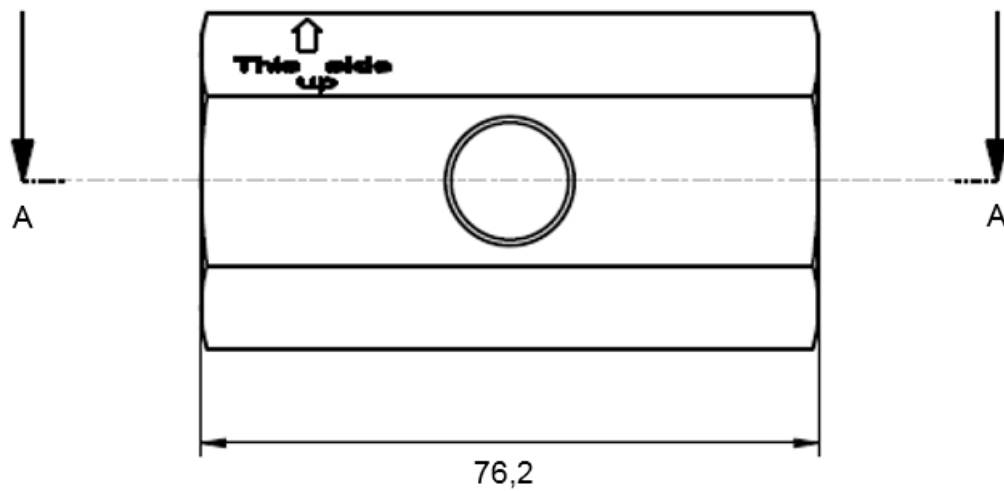
b) Liquid

 Model	Linear Range		Extended Flowrange		K-Faktor¹⁾ [Pulse/ml]	max. Frequenz¹⁾ [Hz]
	[ml/min]		[ml/min]			
	min.	max.	min.	max.		
DML 0.6	7,57	75,7	3,8	303	211	270
DML 1.0	30,3	303	11	605	119	600
DML 2.0	94,6	946	38	1514	48	750
DML 4.0	302,8	3028	76	4920	15	650
DML 5.0	567,7	5677	189	7570	9	825

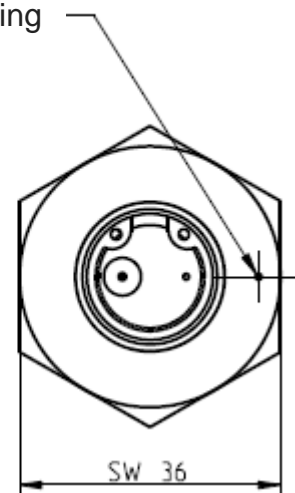
1) The K-factors and frequency data are average values. Each turbine is calibrated according to customer specifications and delivered with individual calibration protocols.



Dimensions,



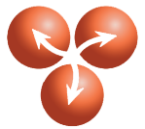
Align while installing



Model	InnerØ [mm]	Housing [mm]		Measuring sensor (pickoff)	
		length A	height/depth B ¹⁾	Screw in depth [mm]	Thread Type
DML0.6	0,6	76,2	SW 36*	17,7	5/8"-18UNF-2B
DML1.0	1,0				
DML2.0	2,0				
DML4.0	4,0				
DML5.0	5,0				

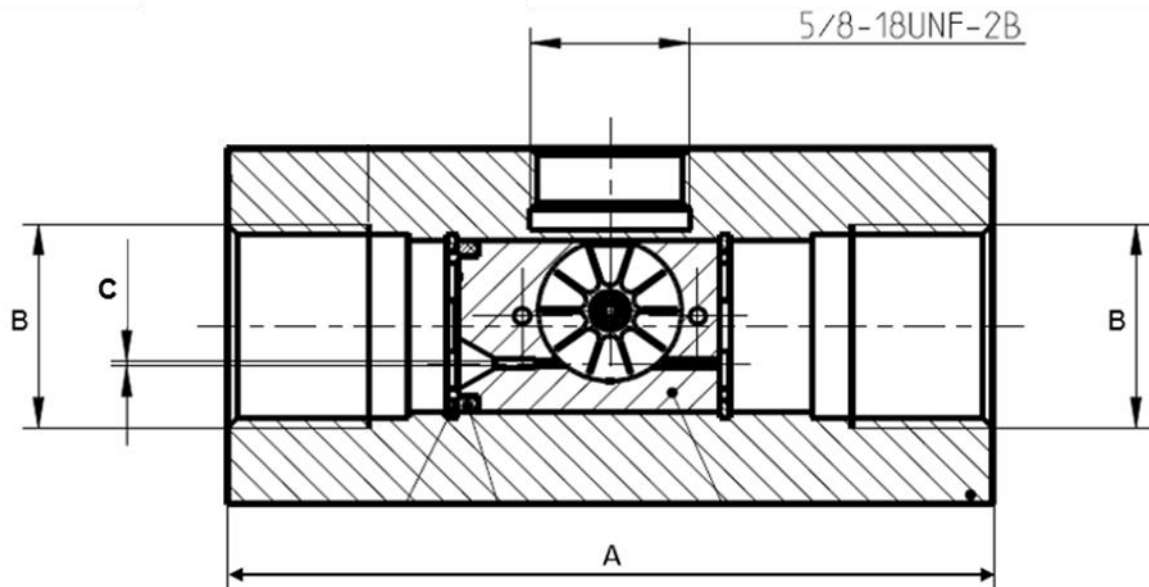
1) The total height is calculated from the height (B) of the flow meter plus measuring element minus the screw-in depth.

*) AF = Width across flats



End Fitting types and operating pressure

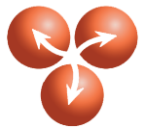
Female threads (GF)



Model	A [mm]	B [Zoll]	C [mm]	max. operating pressure [bar]
DML0.6 - DML5.0	76,2	G1/2" (20,955mm)	0,6	400

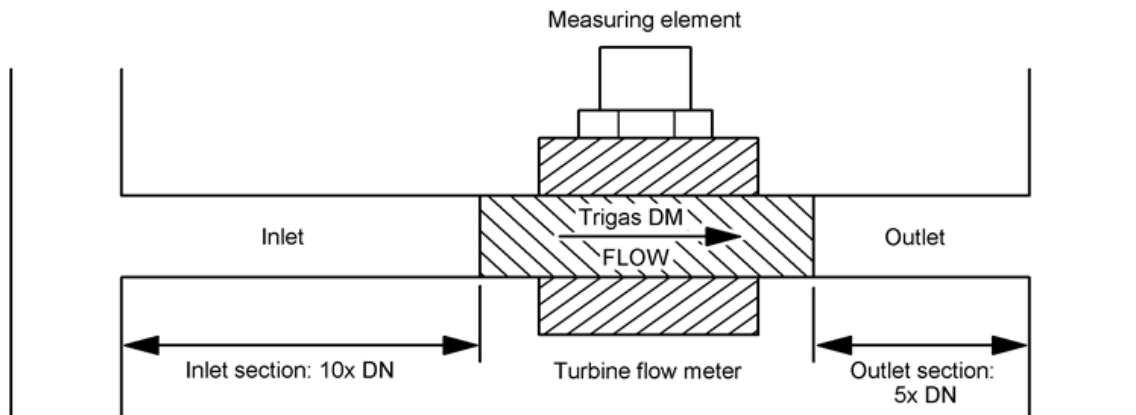
NOTE

Other end fittings can be supplied on request



Piping Configuration

Turbine flow meters can be affected by the velocity profile of the fluid being measured. Installation with proper pipe runs will reduce or completely eliminate flow profile induced measurement errors during calibration and operation.



Inlet section and outlet section, schematic diagram

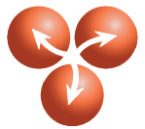
A straight run of pipe of at least 10 times the pipe diameter in an upstream direction, and 5 times the pipe diameter in a downstream direction are recommended (see figure and table). The upstream section should be fitted with flow straightening vane.

Appropriate flow straightening sets (up- and downstream) are available on request.

Contamination / filter

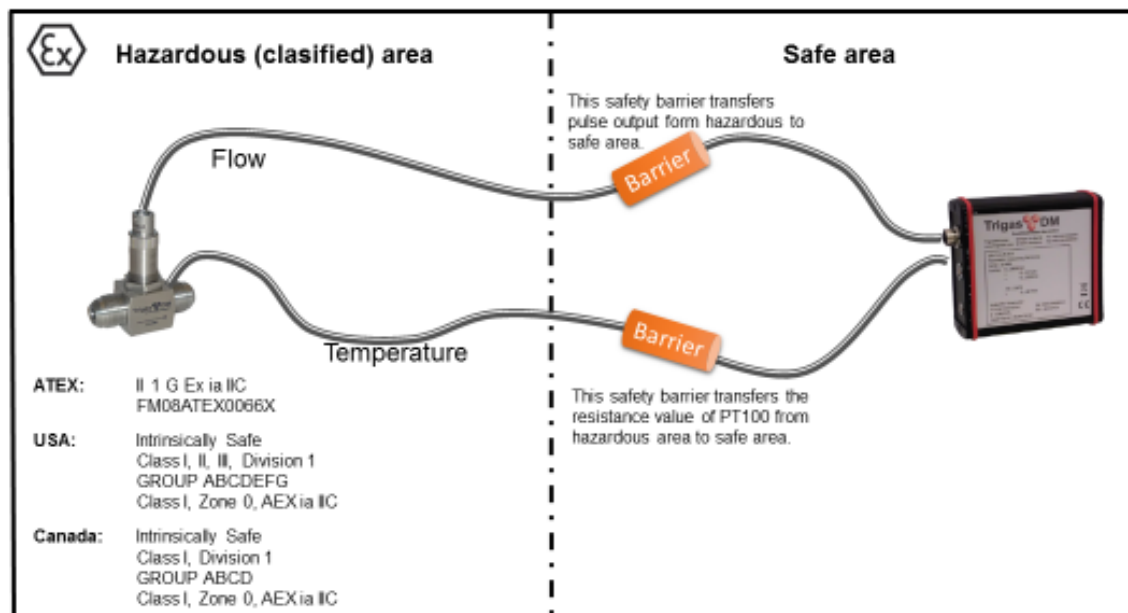
- All pipe sections and components in the metering line must be cleaned prior to the installation of the flow meter. Pipe Sealants, metal shavings and slag can damage the flow meter.
- If the cleanliness of the fluid cannot be guaranteed, a filter should be installed upstream of the flow meter, subject to the diameter of the flow meter. The selection of the filter depends on the precision opening of the flow meter and the bearing of the rotor. Contamination between the inside of the housing and Pelton wheel can lead to a blockage of the flow.
- A filter must always be used for gas measurements

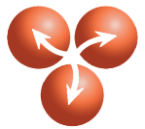
Model	InnerØ [mm]	Filter mesh size for Jewels Pivot bearing	Filter mesh size for Ball bearings
DML0.6 - DML5.0	0,6	min.100 Mikrometer	min.10 Mikrometer



Explosion protection (ATEX)

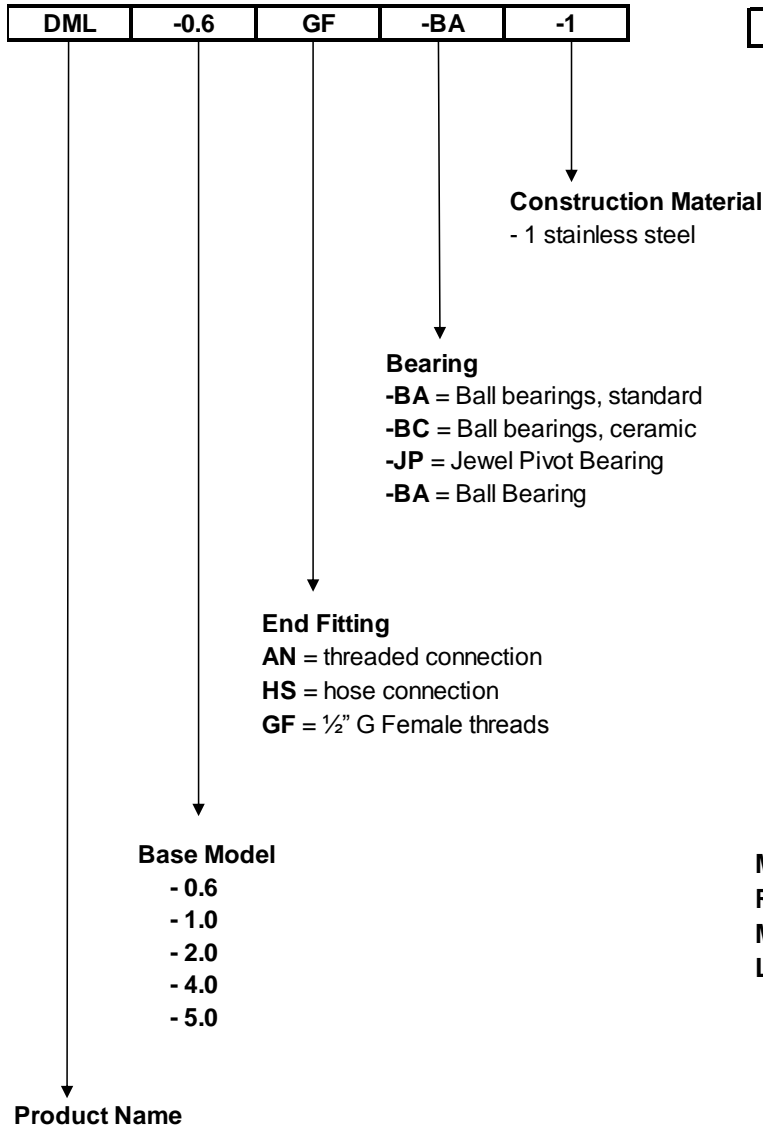
- All DM-Series turbine flow meters are available in intrinsically safe design.
- The design consists of the turbine flow meter and the ATEX Pickoff. The following type of protection applies to this construction:
 - **Flow Sensor ATEX: II 1G Ex ia IIC (Zone 0,1,2)**
 - **Temperature Sensor ATEX: EX II 2G Ex ib IIC T4 Gb (Zone 1,2)**
- The turbine flow meter is installed in the hazardous area.
- The mounting of the barrier and the TriLIN is carried out in the safe area.
- Without barriers, the turbine flow meter must not be operated in the hazardous area.
- Cable lengths of up to 400 m are possible depending on the safety barrier used.





Model Numbering key

DML - Serie (z.B. DML-0.6GF-BA-1)



Pickoff (f.e. L02 L5 T)

