

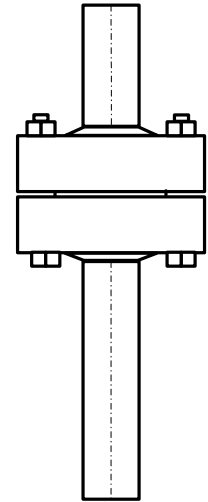
MBL 500 Meter Run DIN 19205

Application

For differential-pressure flow-rate measurement in aggressive and non-aggressive gaseous and liquid media and steam, particularly in smaller pipelines up to DN 50 (2").

Construction

Meter runs and orifice plates with ring chamber taps are provided with calibrated in- and outlet pipes. The two-part carrier-ring according to DIN 19205 has an exchangeable orifice plates. It can be delivered as an orifice plate according to ISO 5167-2, as quarter circle nozzle or as a double coned orifice plate according to appropriate conditions of use. Under special circumstances you may also find venturi tubes. Carrier-ring and orifice plate are supplied with a flat seal. The seal is chosen to suit accurately the medium and the working conditions. The meter runs are delivered fully assembled and ready for installation with either welded or flange ends.



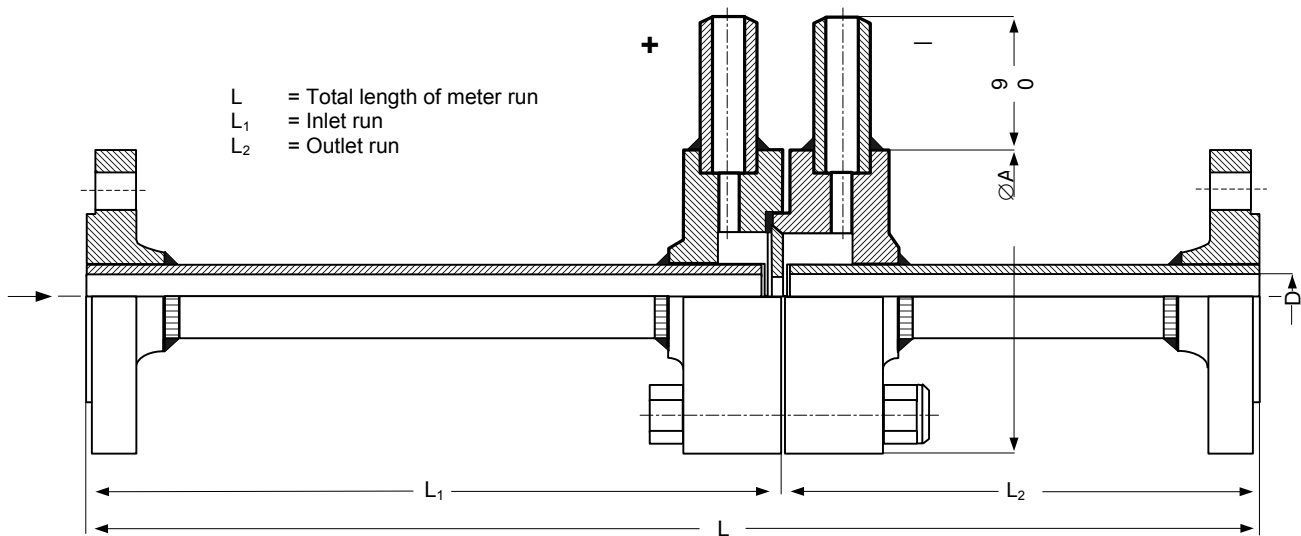
Advantages

Taking accurate measurements in small bore pipe runs are often difficult as the installation itself creates interference. Accurate measurements may be carried out though because this construction, with inlet- and outlet pipes forming a unit with the ring chambers, leads to the orifice without obstruction. The use of calibrated pipes allows an exact value for the inner tube diameter D and surface. The range of measurement may simply be altered by exchanging the orifice plate.

Technical Details

Nominal pressure:	PN 6 up to PN 100 (ANSI 150 lbs up to 1500 lbs)
Nominal diameter:	DN 10 (1/2") up to DN 200 (8")
Installation length L:	Pls. refer to table overleaf
Bore- \varnothing d:	The bore- \varnothing is carefully calculated by us from the data supplied considering the relevant standards and regulations and is part of the scope of delivery.
Calibration:	If particular accuracy is required a calibration may be carried out on a test stand whereas by empirical means the flow-rate coefficient α can be determined. This is cost-intensive, though.
Pressure loss:	The remaining pressure loss depends on the nozzle opening ratio $d^2:D^2$ and is approx. 30-80% of dP for orifices and 10-15% for venturi tubes. You will find this information in the data-sheet.
Pressure taps:	The form and arrangement of pressure taps are described on sheet A6 and A7.
Installation:	<p><u>Type MBL 500 F</u> Between flanges on horizontal, vertical or diagonal pipelines. Counterflanges, screws and seals are not part of scope of delivery but may be ordered separately. Concerning the seals you have to consider the regulations regarding the media and conditions of use. Sealing face type: smooth, tongue acc. to DIN 2513 or groove acc. to DIN 2512.</p> <p><u>Type MBL 500 S</u> For welding on horizontal, vertical or diagonal pipelines; for dimensions: see MBL 500 F.</p>
Identification:	Number of orifice plates, PN, D, d, flow direction and + and – for pressure taps.

Dimensional Sketch MBL 500 F/S



DN	10	15	20	25	32	40	50	65	80	100	125	150	200
	0,25"	0,5"	0,75"	1"	1,25"	1,5"	2"	2,5"	3"	4"	5"	6"	8"
L	400	550	700	900	1100	1300	1500	1600	1800	2200	2700	3200	4000
L ₁	230	380	500	650	800	1000	1200	1250	1400	1700	2000	2400	3000
L ₂	170	170	200	250	300	300	300	350	400	500	700	800	1000

Quality assurance

Production and check go along with the relevant guidelines such as TRD, "AD-Merkblatt" and customer-specifications.

Material certificates according to EN 10204 3.1 resp. 3.2.

Materials Table of customary materials. (Given temperature-scopes are guiding data, only)

CARRIER RINGS				ORIFICE PLATES							
Category	Abbreviation	W-No.	Application	Category	Abbreviation	W-No.	Application				
Common mild steel acc. to EN 10025/ EN 10028T2 DIN 17100	ST 37-2	1.0114	-10 ... +350 °C	Stainless steel acc. to EN 10222-5	X6CrNiTi1810	1.4541	-190 ... +300 °C				
	H II	1.0425	-10 ... +390 °C		X6CrNiMoTi17122	1.4571	-60 ... +400 °C				
Quality carbon steel	C 22.8	1.0460	-10 ... +490 °C	Corrosion resistant alloys	Hastelloy C	2.4602	up to max. 400 °C				
Stainless steel acc. to EN 10222-5	X6CrNiTi1810	1.4541	-190 ... +300 °C		Titanium	3.7035	up to max. 300 °C				
	X6CrNiMoTi17122	1.4571	-60 ... +400 °C		Monel	2.4360	up to max. 400 °C				
Plastics	PVC		up to max. 70 °C	PIPES & PRESSURE TAPS	Seamless precision steel tube acc. to DIN 2391	St 35	1.0308				
	PP		up to max. 90 °C					Seamless boiler tube acc. to DIN 17175	ST35.8	1.0305	up to max. 500 °C
	PE		up to max. 80 °C						15Mo3	1.5415	up to 530 °C
	PTFE		up to max. 150 °C					13CrMo44	1.7335	up to 560 °C	
PVDf			up to max. 130 °C	Stainless steel	X6CrNiTi1810	1.4541	-190 ... +300 °C				
					X6CrNiMoTi17122	1.4571	-60 ... +400 °C				

Optional Accessories

Counterflanges, screws and seals for installation.

Shut-off valves, condensate vessels and chambers, manifolds according to various type sheets.