Special Documentation Promag W 10, 300, 400, 500

Planning instructions

Installation recommendations for DN 2600 to 3000 (96 to 120")



Document function	 This manual is a Special Documentation and does not replace the Operating Instructions included in the scope of supply. It is part of the Operating Instructions and contains additional information regarding the following sections: Incoming acceptance and product identification: Incoming acceptance Storage and transport: Transporting the product Mounting: Screw-tightening torques Input: Measuring range Performance characteristics: Maximum measured error Mechanical construction: Dimensions, weight, measuring pipe specification 						
Associated documentation	This Special Documentation is an integral part of the following Operating Instructions:						
	Promag W 10 300 400 500						
	HART	BA02070D	BA01918D	BA01063D	BA01400D		
	Modbus RS485	BA02073D	BA01939D	BA01231D	BA01403D		
	EtherNet/IP	-	BA01937D	BA01214D	BA01722D		
	PROFIBUS DP	-	BA01940D	BA01234D	BA01868D		
	PROFIBUS PA – BA01928D – BA01						
	PROFINET – BA01941D – BA01725D						
	PROFINET with Ethernet-APL	-	BA02104D	-	BA02101D		
	FOUNDATION Fieldbus	-	BA01938D	-	BA01481D		

About this document

Incoming acceptance



Incoming acceptance and product identification

- h 3460 to 3808 mm (136 to 150 in)
- l 3082 to 3340 mm (121 to 132 in)
- w 2820 to 2846 mm (111 to 112 in)



ACAUTION

Avoid dropping the device.

- Do not remove the side walls of the wooden crate!
- 1. Remove the screws from the lid of the wooden crate with a screwdriver or cordless screwdriver.

2. Lift off the lid of the wooden crate.

- 3. Lift the "top" support out of the wooden box and place it on the floor.
- 4. Loosen the fastening screws, remove the device from the "bottom" support in the wooden box and place it on the "top" support, which is already on the floor.

Storage and transport

Transporting with a fork lift

If transporting in wood crates, the floor structure enables the crates to be lifted lengthwise or at both sides using a forklift.

ACAUTION

Risk of damaging the magnetic coil

- ▶ If transporting by forklift, do not lift the sensor by the metal casing.
- This would buckle the casing and damage the internal magnetic coils.



Transporting with webbing slings

A DANGER

Potentially life-threatening hazard from suspended loads! The device could fall.

- Secure the device against slipping and turning.
- Do not move suspended loads over people.
- Do not move suspended loads over unprotected areas.

NOTICE

Incorrect lifting equipment can damage the device!

The use of chains as hoists can damage the device.

• Use only the webbing slings provided.

NOTICE

Lifting equipment incorrectly attached!

Lifting equipment attached to unsuitable points can damage the device.

• Attach lifting equipment to both process connections of the device.



Mounting

Screw tightening torques	 Please note the following: The screw tightening torques listed below apply only to lubricated threads and to pipes not subjected to tensile stress. Tighten the screws uniformly and in diagonally opposite sequence. Overtightening the screws will deform the sealing surface or damage the seal. In the case of linings made of hard rubber, seals made of rubber or rubber-like materials are recommended
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NOTICE

Insufficient sealing!

Operational reliability of the measuring device could be compromised.

The values for the screw tightening torques depend on variables such as the seal, screws, lubricants, tightening methods etc. These variables are outside the control of the manufacturer. The values indicated are therefore guideline values only.

Nominal diameter	Pressure rating	Screws	Flange thickness	Nom. screw tightening torque [Nm]
[mm]	[bar]	[mm]	[mm]	Hard rubber
2600	PN 6	60 × M45	91	1488
	PN 10	60 × M52	110	2730
2800	PN 6	64 × M45	101	1632
	PN 10	64 × M52	124	2981
3000	PN 6	68 × M45	102	1722
	PN 10	68 × M56	132	3465

Nominal screw-tightening torques for EN 1092-1

Nominal screw-tightening torques for AWWA C207

Nominal diameter	Pressure rating	Screws	Flange thickness	Nom. screw tightening torque [Nm]
[in]		[in]	[in]	Hard rubber
96	Class D	68 × 2 ¼	3.25	1632
102	Class D	72 × 2 ½	3.25	2178
108	Class D	72 × 2 ½	3.38	2232
114	Class D	76 × 2 ¾	3.50	2900
120	Class D	76 × 2 ¾	3.50	2963

Input

Measuring range

Typically v = 0.01 to 10 m/s (0.03 to 33 ft/s) with the specified accuracy

Electrical conductivity: \geq 5 µS/cm for liquids in general

Flow characteristic values in SI units: DN 2600 to 3000 (96 to 120")

Nominal diameter		Recommended Flow rate	Factory settings			
		min./max. full scale value (v ~ 0.3 to 10 m/s)	Full scale value current output (v ~ 2.5 m/s)	Pulse value (~ 2 Pulse/s at v ~ 2.5 m/s)	Low flow cut off (v ~ 0.04 m/s)	
[mm]	[in]	[m³/h]	[m³/h]	[m³]	[m³/h]	
-	96	5000 to 168000	42 000	6	675	
-	102	5700 to 190000	47 500	7	750	
2600	_	5700 to 191000	48000	7	775	
_	108	6500 to 200000	55000	7	850	
2800	_	6700 to 222000	55500	8	875	
-	114	7 100 to 237 000	59500	8	950	
3000	_	7600 to 254000	63500	9	1025	
_	120	7900 to 263000	65 500	9	1050	

Flow characteristic values in US units: DN 96 to 120" (2600 to 3000")

Nominal	diameter	Recommended Flow rate	Factory settings		
		min./max. full scale value (v ~ 0.3 to 10 m/s)	Full scale valuePulse valuecurrent output(~ 2 Pulse/s at(v ~ 2.5 m/s)v ~ 2.5 m/s)		Low flow cut off (v ~ 0.04 m/s)
[in]	[mm]	[Mgal/d]	[Mgal/d]	[Mgal]	[Mgal/d]
96	-	32 to 1066	265	0.0015	4.0
102	-	34 to 1203	300	0.0017	5.0
-	2600	34 to 1212	305	0.0018	5.0
108	-	35 to 1300	340	0.0020	5.0
-	2800	42 to 1405	350	0.0020	6.0
114	-	45 to 1503	375	0.0022	6.0
-	3000	48 to 1613	405	0.0023	6.0
120	-	50 to 1665	415	0.0024	7.0

Performance characteristics

Maximum measured error	o.r. = of reading
	Error limits under reference operating conditions
	Volume flow
	■ ±0.5 % o.r. ± 1 mm/s (0.04 in/s)

• Optional: ±0.2 % o.r. ± 2 mm/s (0.08 in/s)

Mechanical construction

Dimensions



DN 2600 to 3000 mm

DN	Pressure rating	ØA	ØB	С	D	Е	Ø F ¹⁾	ØG	L
[mm]	PN	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
2600	6	2750	2810	1375	1491	2866	2883	2580	2600
2000	10	2780	2850	1390	1506	2896	2883	2572	2600
2900	6	2960	3020	1480	1596	3076	3093	2780	2800
2000	10	3000	3070	1500	1616	3116	3093	2768	2800
2000	6	3160	3220	1580	1696	3276	3293	2976	3000
5000	10	3210	3290	1605	1721	3326	3293	2960	3000

1) Sensor housing jacket

DN 96 to 120"

DN	ØA	Ø B	С	D	E	Ø F ¹⁾	ØG	L
[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]	[in]
96	105.9	108.5	53.0	57.6	110.6	112.7	93.8	96.5
102	111.7	114.5	55.9	60.4	116.3	119.4	99.7	102.4
108	118.0	120.8	59.0	63.5	122.5	126.1	105.6	108.3
114	123.7	126.8	61.9	66.4	128.3	132.9	111.5	114.2
120	129.7	132.75	64.9	69.4	134.3	139.7	117.3	118.1

1) Sensor housing jacket

DN 2600 to 3000 mm

DN	Pressure rating	Without wooden crate	With wooden crate			
[mm]	PN	[kg]	[approx. kg]			
2600	6	6244	7500			
2000	10	7413	8700			
2800	6	6981	8500			
2000	10	9253	10800			
2000	6	8279	9900			
5000	10	11624	13200			

Weight

DN	Without wooden crate	With wooden crate
[in]	[lbs]	[approx. lbs]
96	15226	17900
102	17677	20600
108	20409	23700
114	23 596	27100
120	27 084	30900

DN 96 to 120"



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