

WP/Dynamic / BMF Series - Turbine Water Meters

Free of copper alloy, ideal for brine solutions, light caustics & more...



Flanged Mechanical Turbine Water Meters

2 inch to 8 inch

DN 50 to DN 200

Special Features

- All wetted parts are made of plastics or stainless steel
- Enamel Powder Coating provides maximum corrosion protection
- Removable measuring element
- Same performance specifications as standard WP/Dynamic Series Cold and Hot Water Turbine Meters
- Hermetically sealed register (IP 68)
- Hydro-Dynamically balanced rotor (Meinecke Patent)
- Symmetrical calibration adjustment (Meinecke Patent)
- Register may be rotated up to 360°
- High Overload capability
- Not affected by external magnetic fields

Application:

Measurement of

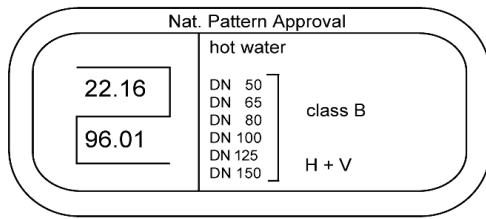
- Desalinated / demineralized water
- Caustic Soda up to 20%
- Saline water up to 10%
- Chlorinated water up to 1%
- Glycol-Water solutions up to 30%
- Caustic Solutions up to pH value of 9
- Cold liquids to 122°F / 50°C
- Hot liquids to 266°F / 130°C

Available Line Sizes:

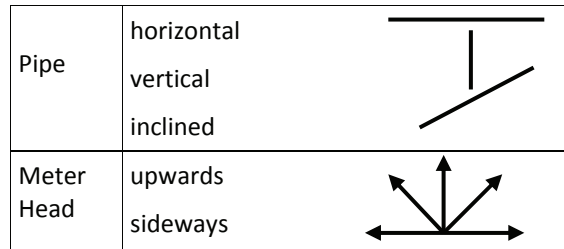
- 2 inches, 3 inches, 4 inches, 6 inches & 8 inches
- 50mm, 80mm, 100mm, 150mm & 200mm,



Design Approval



Installation Guidelines



Installation Requirements

- Provide a minimum of 3 pipe diameters of straight, unobstructed pipe upstream of the meter
- The Pipe Diameter should not be reduced directly in front of or behind the meter.
- No abrupt restrictions directly behind the meter
- All regulation of the flow should be done behind the meter.
- The meter must be installed in the pipe free of stress.
- The location of the meter should be such that it is not possible for air pockets to develop in the meter; For instance, the meter should not be located at high points in the pipeline or operated under half full pipe conditions.

Performance Data

Performance Table - WP/Dynamic Cold Water Meter (< 122°F / 50°C)

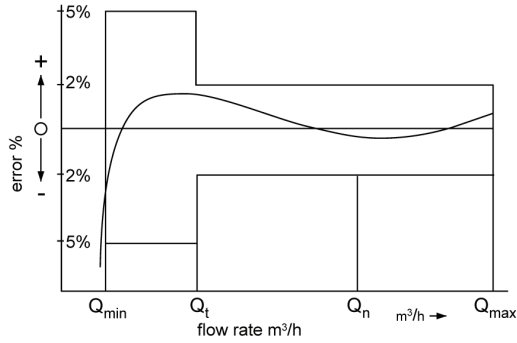
Meter Line Size:			2"	3"	4"	6"	8"
			50mm	80mm	100mm	150mm	200mm
Q _{max}	maximum peak flow	gpm	396.3	880.6	1320.9	2641.7	5283.4
		m ³ /hr	90	200	300	600	1200
Q _n	max continuous flow (+ 2%)	gpm	220.1	528.3	1012.7	1981.3	3522.3
		m ³ /hr	50	120	230	450	800
Q _t	transitional flow (+ 2%)	gpm	3.1	3.5	7.9	17.6	26.4
		m ³ /hr	0.7	0.8	1.8	4.0	6.0
Q _{min}	minimum flow (+ 5%)	gpm	1.3	2.2	3.5	7.9	17.6
		m ³ /hr	0.3	0.5	0.8	1.8	4.0
	starting flow	gpm	0.7	1.1	1.1	4.4	6.6
		m ³ /hr	0.2	0.3	0.3	1.0	1.5

Performance Table - WP/Dynamic Hot Water Meter (< 266°F / 130°C)

Meter Line Size:			2"	3"	4"	6"	8"
			50mm	80mm	100mm	150mm	200mm
Q _{max}	maximum peak flow	gpm	132.1	264.2	616.4	1320.9	2201.4
		m ³ /hr	30	60	140	300	500
Q _n	max continuous flow (+ 2%)	gpm	66.0	198.1	308.2	660.4	1100.7
		m ³ /hr	15	45	70	150	250
Q _t	transitional flow (+ 2%)	gpm	7.9	14.1	21.1	52.8	88.1
		m ³ /hr	1.8	3.2	4.8	12.0	20.0
Q _{min}	minimum flow (+ 5%)	gpm	2.6	6.2	8.8	19.8	35.2
		m ³ /hr	0.6	1.4	2.0	4.5	8.0
	starting flow	gpm	1.1	1.5	2.6	7.5	8.8
		m ³ /hr	0.3	0.4	0.6	1.7	2.0

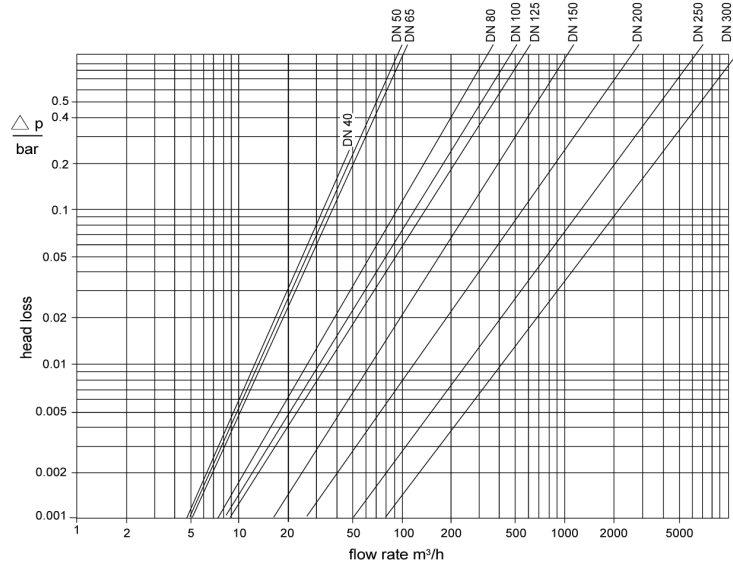


Typical Accuracy Curve



- Q_{max} = maximum peak flow
- Q_n = continuous flow
- Q_t = transitional flow $\pm 2\%$
- Q_{min} = minimum flow $\pm 5\%$

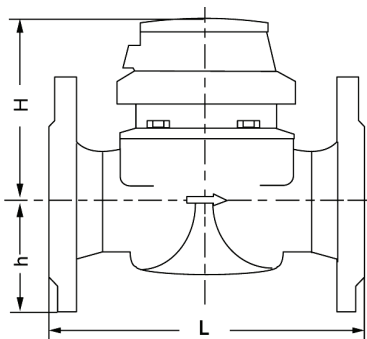
Typical Head Loss Curve



Dimensions & Weight

Size of Meter		inches	2	3	4	6	8	
		mm	50	80	100	150	200	
		pressure	← (ANSI) 150 PSI / PN-16 (DIN) →					
Dimensions	overall length	L inches	7 7/8	8 7/8	9 13/16	11 13/16	13 3/4	
		L mm	200	225	250	300	350	
	height	H inches	4 3/4	5 7/8	5 7/8	6 15/16	8 1/8	
		H mm	120	150	150	177	206	
		h inches	2 7/8	3 3/4	4 1/8	5 5/16	6 3/8	
	H mm	73	95	105	135	162		
Weights	meter	pounds	17.0	30.9	39.7	78.3	111.3	
		kg	7.7	14	18	35.5	50.5	
	imu	pounds	3.1	6.6	6.6	12.1	16.5	
		kg	1.4	3	3	5.5	7.5	
	body only	pounds	13.9	24.3	33.1	66.1	94.8	
		kg	6.3	11	15	30	43	

Dimension Picture



Materials of Construction

(Cold/Hot, where applicable)

Housing	Cast Iron	Calibration Ring	PPO/PPS
Lid Screw	Stainless Steel	Measuring Orifice	PPO/PPS
Head Gasket	EPDM	Rotor (2")	PPE/PPS
Lid Flange	Stainless Steel	Rotor (3"-4")	PPS/PPS
Insert (Cold/Hot)	PPO/PPS	Trans. Shaft	Stainless Steel
Bearing/Bushing	PPS	Calibration Shaft	Stainless Steel
Protecting Tube	PPS	O-Ring (Cal Shaft)	EPDM
Magnet Coupler	Stainless Steel	Magnet	Hard Ferrite
Pin	SS, PPS	Calibration Rod	Stainless Steel
Gear	PPO	Floating Body	PP
Nose Cone	PPO/PPS	Special Gasket	EPDM



Dial Specifications

Line/Meter Size		Smallest Reading		Maximum Reading	
Inches	MM	USG	M ³ /Hr	USG	M ³ /Hr
1-1/2" to 4"	40mm to 100mm	1.0	0.0005	99,999,999	1,000,000
6" to 12"	150mm to 300mm	10.0	0.005	999,999,999	10,000,000

Pulse Values

Pulser		1-1/2" to 4" 40mm to 100mm		6" to 12" 150mm to 300mm	
RD-01	Reed Switch	10 gallons 100 gallons	1.0 cubic meters 10.0 cubic meters	100 gallons 1,000 gallons	10 cubic meters 100 cubic meters
OD-01	Optical Pulser	0.1 gallons	0.01 cubic meters	1.0 gallons	0.1 cubic meters
OD-03		1.0 gallons	0.1 cubic meters	10.0 gallons	1.0 cubic meters

Available Designs

Cold Water BMF Series Meters (< 122°F / 50°C)

Line Size	50mm	2 inch	80mm	3 inch	100mm	4 inch	150mm	6 inch	200mm	8 inch
Model Number	828980		828982		828983		828985		828986	

Hot Water BMF Series Meters (< 266°F / 130°C)

Line Size	50mm	2 inch	80mm	3 inch	100mm	4 inch	150mm	6 inch	200mm	8 inch
Model Number	828987		828989		828990		828992		828993	

Ordering Information

To Order, please specify the following:

Model Code:	See "Available Designs" above
Flange Drilling:	Specify: ANSI 150 or DIN PN-16 (Raised Face Flanges)
Register Reading:	Cold: US Gallons, Cubic Meters, Barrels Hot: US Gallons, Cubic Meters
Options:	Pulsers: RD-01, RD-02, OD-01, OD-02, Frequency To Current Converters: FM-1D/K, FM-2D/K

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