

WP/Dynamic - Turbine Water Meters

for cold water up to 122 °F / 50 °C



Flanged Mechanical Turbine Water Meters

1.5 inch to 12 inch

DN 40 to DN 300

Special Features

- 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
- Pattern approved removable measuring element
- Enamel Powder Coating provides maximum corrosion protection
- Not affected by external magnetic fields

Application:

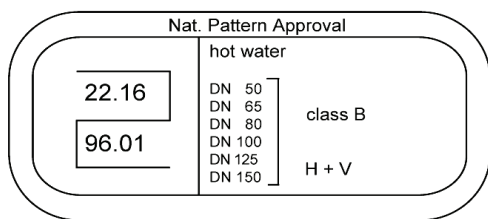
- Measurement of cold water up to 122°F / 50°C
- **Line Sizes:** 1-1/2", 2", 3", 4", 6", 8", 10" & 12" (40mm, 50mm, 80mm, 100mm, 150mm, 200mm, 250mm & 300mm)

Options:

- **Connections:** ANSI 150lb, DIN PN-16 RF Flanges
- **Registration:** 6-Digit Non-Resettable Roller Counter (Odometer Style) reading in US Gallons, Cubic Meters or Barrels
- **Output:** Reed or Opto Style Pulsers
- **Ports:** Available 1/4" connection port for pressure sensor



Design Approval



Installation Guidelines

Pipe	horizontal	
	vertical	
	inclined	
Meter Head	upwards	
	sideways	

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)

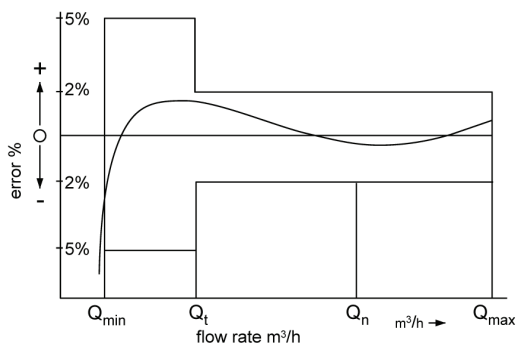
Meter Line Size:			1.5"	2"	3"	4"	6"	8"	10"	12"
			40mm	50mm	80mm	100mm	150mm	200mm	250mm	300mm
Q _{max}	max peak flow	gpm	264.2	396.3	880.6	1320.9	2641.7	5283.4	7044.6	8805.7
		m ³ /hr	60	90	200	300	600	1200	1600	2000
Q _n	max continuous flow (+ 2%)	gpm	176.1	220.1	528.3	1012.7	1981.3	3522.3	5503.6	6164.0
		m ³ /hr	40	50	120	230	450	800	1250	1400
Q _t	transitional flow (+ 2%)	gpm	3.5	3.1	3.5	7.9	17.6	26.4	48.4	66.0
		m ³ /hr	0.8	0.7	0.8	1.8	4.0	6.0	11.0	15.0
Q _{min}	minimum flow (+ 5%)	gpm	1.3	1.3	2.2	3.5	7.9	17.6	26.4	52.8
		m ³ /hr	0.3	0.3	0.5	0.8	1.8	4.0	6.0	12.0
	starting flow	gpm	0.7	0.7	1.1	1.1	4.4	6.6	13.2	35.2
		m ³ /hr	0.2	0.2	0.3	0.3	1.0	1.5	3.0	8.0

Legend

Q _{max}	Max Peak Flow	Once in a lifetime, 24hours @ Q _{max} or 5 minutes @ 1.2 x Q _{max}
Q _n	Max Continuous Flow	± 2%
Q _t	Transitional Flow	± 2%
Q _{min}	Minimum Flow	± 5%

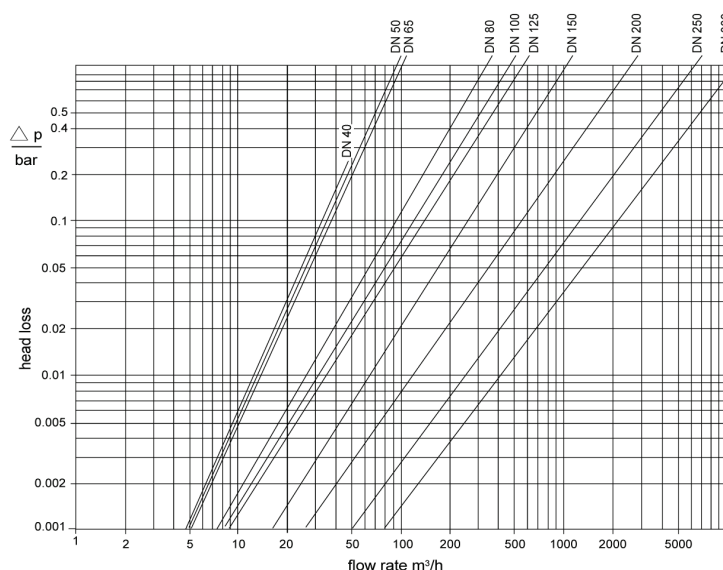


Typical Accuracy Curve



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

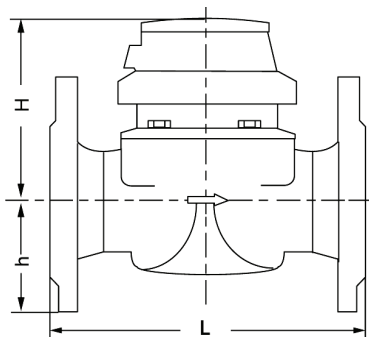
Typical Head Loss Curve



Dimensions & Weight

Size of Meter		inches	1 1/2	2	3	4	6	8	10	12
		mm	40	50	80	100	150	200	250	300
		pressure	(ANSI) 150 PSI / PN-16 (DIN)							
Dimensions	overall length	L inches	8 11/16	7 7/8	8 7/8	9 13/16	11 13/16	13 3/4	17 11/16	19 11/16
		L mm	220	200	225	250	300	350	450	500
	height	H inches	4 3/4	4 3/4	5 7/8	5 7/8	6 15/16	8 1/8	9 1/8	10 1/16
		H mm	120	120	150	150	177	206	231	256
		h inches	2 11/16	2 7/8	3 3/4	4 1/8	5 5/16	6 3/8	7 5/8	8 7/8
		h mm	69	73	95	105	135	162	194	226
Weights	meter	pounds	16.3	17.0	30.9	39.7	78.3	111.3	159.4	218.9
		kg	7.4	7.7	14	18	35.5	50.5	72.3	99.3
	imu only	pounds	3.1	3.1	6.6	6.6	12.1	16.5	16.5	16.5
		kg	1.4	1.4	3	3	5.5	7.5	7.5	7.5
	body only	pounds	13.2	13.9	24.3	33.1	66.1	94.8	140.7	202.4
		kg	6	6.3	11	15	30	43	63.8	91.8

Dimension Picture



Materials of Construction

Body	cast iron
Measuring Element	plastic
Rotor	plastic
We also use the following materials	brass stainless steel



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

Pulsar		1-1/2" to 4" 40mm to 100mm		6" to 12" 150mm to 300mm	
RD-01	Reed Switch	10 gallons 100 gallons	0.1 cubic meters 1.0 cubic meters	100 gallons 1,000 gallons	1.0 cubic meters 10.0 cubic meters
OD-01	Optical Pulsar	0.1 gallons	0.001 cubic meters	1.0 gallons	0.010 cubic meters
OD-03		1.0 gallons	0.010 cubic meters	10.0 gallons	0.100 cubic meters

Available Designs

Meter Line Size	40mm	1-1/2 inch	50mm	2 inch	80mm	3 inch	100mm	4 inch
Model Number	828593		828595		828601		828603	
Meter Line Size	150mm	6 inch	200mm	8 inch	250mm	10 inch	300mm	12 inch
Model Number	828607		828617		828719		828743	

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: US Gallons, Cubic Meters, Barrels
 Options: Pulsers: RD-01, OD-01, OD-02
 Frequency To Current Converters: FM-1D/K, FM-2D/K

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