

PADDLE WHEEL WATER METER

with Magnetic Drive & Electronic Register For
Irrigation & Waste water

Model Turbo-IR-ME

The TURBO-IR-ME uses a multi-blade plastic paddle mounted at the top of the water passage, where disturbance from solids suspended in the water is minimal, providing:

- Accurate metering in water containing solid debris
- Low head loss
- Magnetic drive



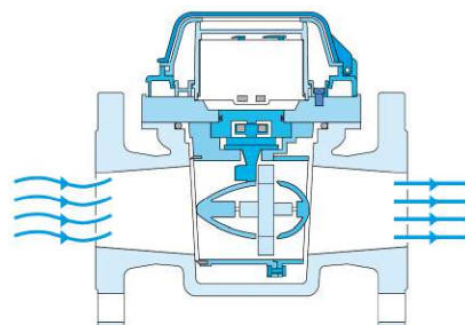
- [1] BERMAD Water Meter Model Turbo-IR
- [2] Combination Air Valve Model C30
- [3] Strainer Model 70-F
- [4] Kinetic Air Valve Model K10
- [5] Flow Control & Pressure Reducing Valve Model IR-472-RVXZ

Features & Benefits

- Universal E-Register - suits all water meters types and sizes made by BERMAD
- Instant flow rate
- Forward and reverse flow indication
- 12 digits LCD display
- Data logging capabilities
- Fast pulse output rate
- Dry, IP68; NEMA 6P Sealed Register
- Battery lifetime - 8 years

Operation:

The TURBO-IR uses a multi-blade plastic paddle mounted at the top of the water passage, where disturbance from solids suspended in the water is minimal, permitting accuracy of metering in water containing up to 30% solid debris. Ideal for irrigation and waste water applications.





Technical Data

Pressure Rating:
250 psi

Operating Temperature:
Water up to 122°F

End Connections - Flanged:
ANSI Class 150

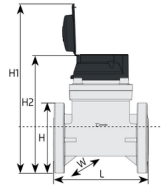
Materials

Body & Cover:
Ductile Iron

Coating:
Polyester Green

Technical Specifications

For other end connection types,
Please refer to [BERMAD](#) full engineering page.



Size (DN)	Pattern	End Connection	Weight (Lb)	L (In)	H (In)	H1 (In)	H2 (In)	W	CV
2" ; DN50	Straight flow	Flanged	23.1	7%	6%	13%	11%	4%	133
2½" ; DN65	Straight flow	Flanged	26	7%	7%	14%	11½	5½	222
3" ; DN80	Straight flow	Flanged	34.2	8%	7%	15	12%	6%	253
4" ; DN100	Straight flow	Flanged	38.6	9%	8%	15½	12½	7%	464
5" ; DN125	Straight flow	Flanged	43	9%	9%	16	13%	7%	675
6" ; DN150	Straight flow	Flanged	67.2	11%	12%	17%	14%	9%	1223
8" ; DN200	Straight flow	Flanged	93.7	13%	14%	19%	16½	11%	2109
10" ; DN250	Straight flow	Flanged	132.2	17%	17%	21%	18½	13%	2741
12" ; DN300	Straight flow	Flanged	181.8	19%	19%	23½	20%	15%	4640

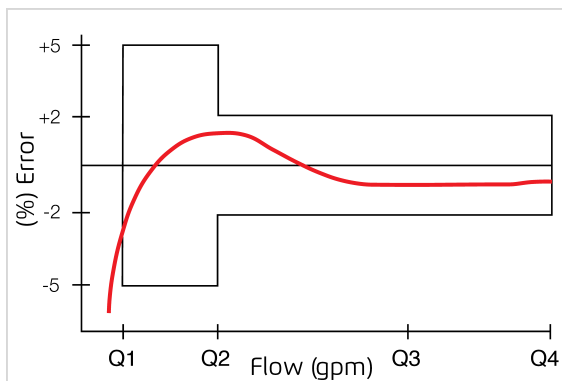
Flow Properties

Size (DN)	Accuracy	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
Q @ (gpm)		2"	2½"	3"	4"	5"	6"	8"	10"	12"
Q1 Minimum Flow	±5%	12.3	17.6	26.4	44	61.6	88	158.5	211.3	281.8
Q2 Transitional Flow	±2%	46.2	66	99	165.1	231.1	330.2	594.4	792.5	1056.7
Q3 Permanent Flow	±2%	154.1	220.1	330.2	550.4	770.5	1100.7	1981.3	2641.7	3522.3
Q4 Maximum Flow (Short Time)	±2%	308.2	440	660.4	1100.7	1541	2201.4	3962.6	5283.4	7044.6
Max. reading, gal		999,999					9,999,999		99,999,999	
Min. reading, gal		2.6							264	

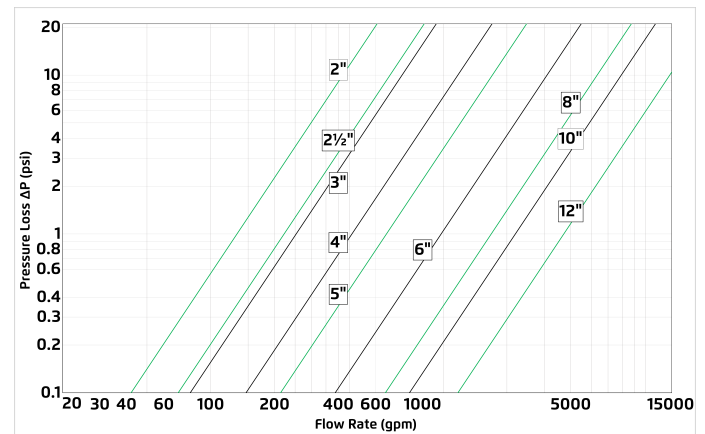
Pulse Option

Register Type	Electronic			
Size (DN)	One pulse per			
	1 Gal	10 Gal	100 Gal	10000 Gal
1½"-2½" ; DN40-65	✓	✓	✓	
3"-10" ; DN80-250		✓	✓	✓
12" ; 300				✓

Accuracy Curve



Flow Chart



Differential Pressure & Flow Calculation

$$\Delta P = \left(\frac{Q}{Cv} \right)^2$$

Cv = gpm @ ΔP of 1 psi
Q = gpm
ΔP = psi



Electronic register



Turbo-IR-E Register

Output Type

Programmable open collector pulse output
Data

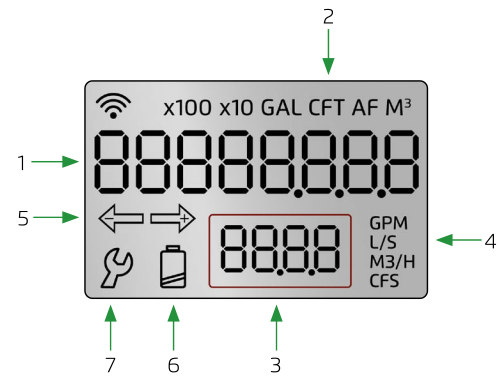
Output Cable Characteristic

Wire	Function
Red	Pulse Out
Black	GND/COMMON

Output Characteristic

Cable Length - supplied	4.9 ft
Maximum Cable Length	164 ft
Maximum Applied Voltage	35 Vdc

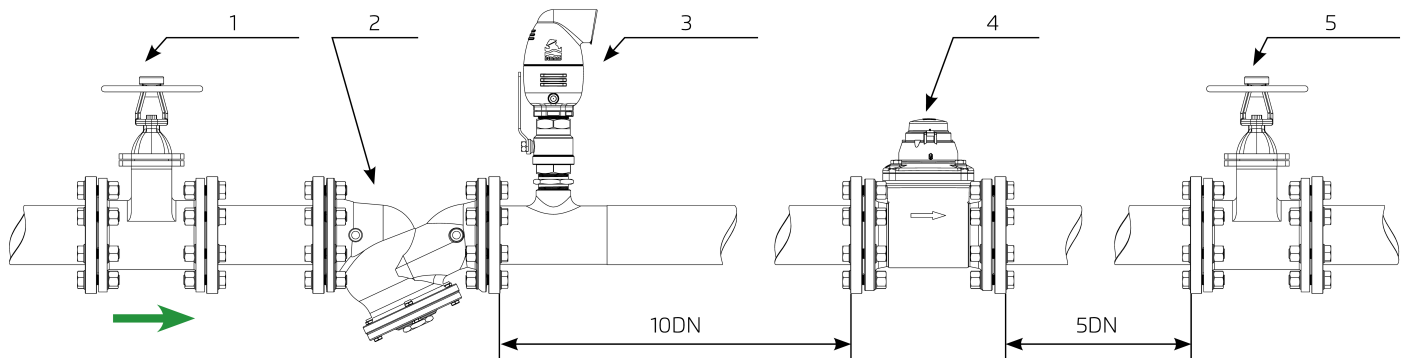
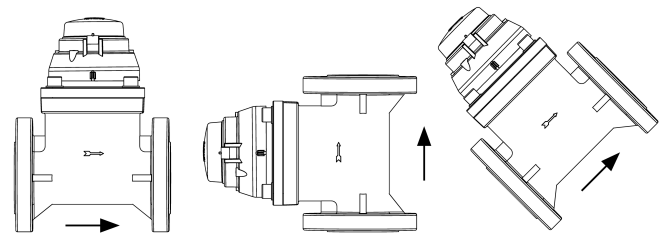
Display



Num	Description
1	Volume
2	Volume units
3	Flow rate
4	Flow rate units
5	Volume direction
6	Battery level indication
7	General warning

Installation Recommendations

- The water meter can be installed in any orientation without interfering with metrological performance.
- The arrow on water meter body must be in the same direction with the flow.
- To avoid turbulence that may interfere with accurate measurement, it is recommended to have a length of straight pipe equal to 5 diameters upstream from the water meter.
- Prior to installation, flush the line to remove debris.
- The Turbo-IR must be filled with water to operate.



[1] Isolation Valve

[2] Strainer

[3] Air Valve

[10DN] Unrestricted
pipe, minimum
10XDN

[4] Turbo-IR

[5] Isolation Valve

[5DN] Unrestricted
pipe, minimum
5XDN