



# BERMAD TURBO-IR WATER METER SERIES

The TURBO-IR-E/M 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

## Water Meter with Electronic Register

### TURBO-IR-E

#### Features and 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



## Water Meter with Magnetic Register

### TURBO-IR-M

#### Features and Benefits

- Magnetic drive
- Dry, IP68; NEMA 6P SEALED REGISTER
- "Reed switch" sensor allow one or two pulse outputs option
- Easy maintenance

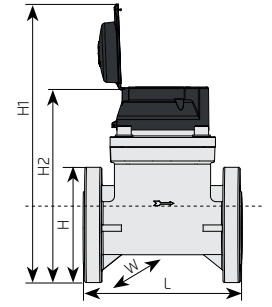




Turbo-IR-E/M

Dimensions and Weights

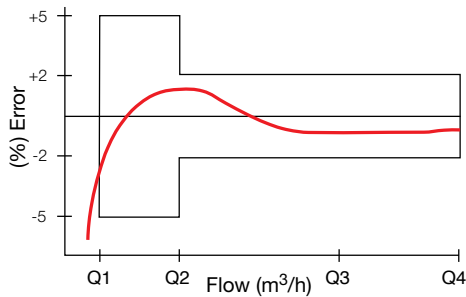
Nominal Size	mm	50	65	80	100	125	150	200	250	300
	Inch	2"	2½"	3"	4"	5"	6"	8"	10"	12"
L, Length (mm)		200	200	225	250	250	300	350	450	500
H, Height (mm)		172.5	182.5	200	215	245	314	372	450	504
H1, Height (mm)		353.5	363.5	381	391	406	434	491	544	599
H2, Height (mm)		281.5	291.5	309	319	334	362	419	472	527
W, Width (mm)		125	140	160	180	200	240	295	350	400
Weight (kg)		10.5	11.8	15.5	17.5	19.5	30.5	42.5	60	82.5



Metrological Data

	Accuracy	DN50	DN65	DN80	DN100	DN125	DN150	DN200	DN250	DN300
		2"	2½"	3"	4"	5"	6"	8"	10"	12"
Qmin (Minimum flow), m³/h	±5%	2.8	4	6	10	14	20	36	48	64
Qt (Transitional flow), m³/h	±2%	10.5	15	22.5	37.5	52.5	75	135	180	240
Qn (Permanent flow), m³/h	±2%	35	50	75	125	175	250	450	600	800
Qmax (Peak flow, short time), m³/h	±2%	70	100	150	250	350	500	900	1,200	1,600
Min reading unit (m³)		0.01	0.01	0.01	0.01	0.01	0.01	0.1	1	1
Max register capacity (m³)		99,999.999 - 999,999.99 - 9,999,999.9 - 99,999,999								
Kv=Q/√Δp		115	192	219	402	584	1,059	1,826	2,373	4,017

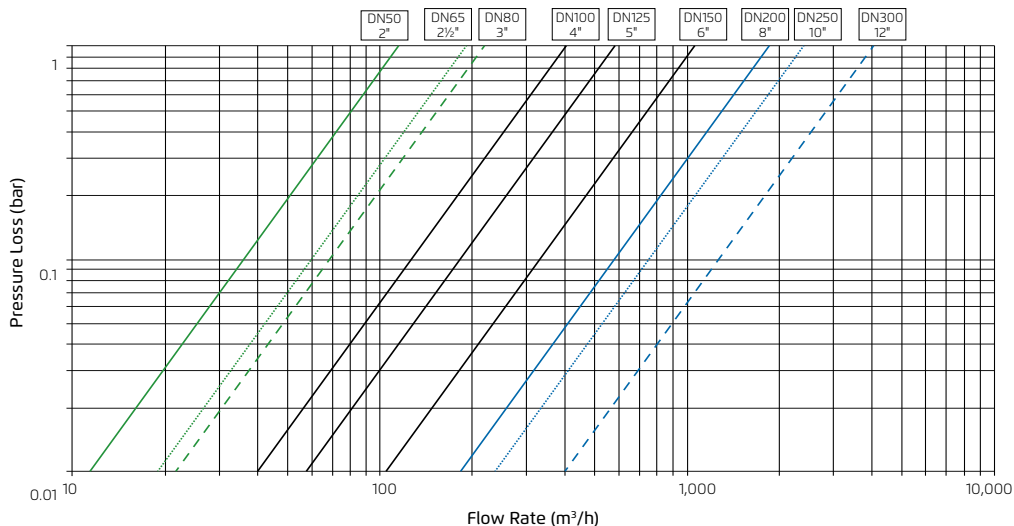
Accuracy Curve



Technical data

- **Body, Cover:** Ductile Iron
- **Coating:** Polyester Green
- **End Connections - Flanged:** ISO PN16, ANSI Class 150
- **Pressure Rating:** ISO PN 16
- **Operating Temperature:** water up to 50°C / 122°F

Turbo-IR-E/M Flow Chart





Turbo-IR-E/M

Data Output Options

Irrigation system management requires on line accurate flow data. BERMAD Turbo-IR-E/M provides accurate data metering with all common pulse output specifications.

Electronic register

Output Type	
Programmable open collector pulse output Data	

Cable Characteristics		
	Wire	Function
Output Cable	Red	Pulse Out
	Black	GND/COMMON



Turbo-IR-E Register

Output Characteristics		
Cable Length - supplied	1.5	meter
Maximum Cable Length	50	meter
Maximum Applied Voltage	35	Vdc

Magnetic register

Output Type	
Dry contact output	

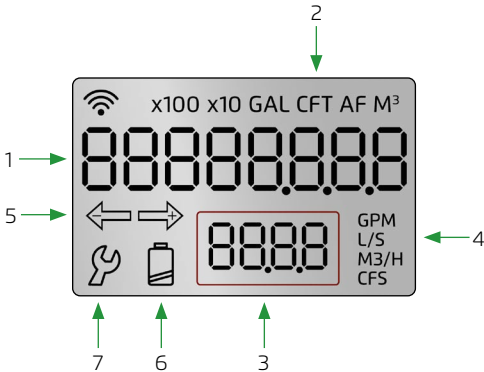
Cable Characteristics		
	Wire	Function
Output Cable	Red	Pulse Out
	Black	GND/COMMON



Turbo-IR-M Register

Output Characteristics		
Cable Length - supplied	1.5	meter
Maximum Cable Length	50	meter
Maximum Applied Voltage	24	AC/DC Max
Switch Current	0.01	A max

E-Register Display



Applicable Icons

1. Volume
2. Volume units
3. Flow Rate
4. Flow Rate units
5. Volume direction
6. Battery level indication
7. General warning

Pulse Output Option - Electronic Register

Cubic Meter Pulse Output Electronic transmission

Model	Size		Open Collector				
			1 Pulse for Each				
	In	mm	10 liter *	100 liter	1 m <sup>3</sup>	10 m <sup>3</sup>	100 m <sup>3</sup>
Turbo-IR-E	1½"-2½"	40-65	✓	✓	✓	✗	✗
	3-10"	80-250	✗	✓	✓	✓	✗
	12"	300	✗	✗	✓	✓	✓

Gallon Pulse Output Electronic transmission

Model	Size		Open Collector				
			1 Pulse for Each				
	In	mm	1 gal	10 gal	100 gal	1,000 gal	10,000 gal
Turbo-IR-E	1½"-2½"	40-65	✓	✓	✓	✗	✗
	3-10"	80-250	✗	✓	✓	✓	✗
	12"	300	✗	✗	✓	✓	✓



### Pulse Output Option - Magnetic Register

#### Cubic Meter Pulse Output Magnetic transmission

Models	Size		Dry contact Reed Switch				Dual pulse output
			1 Pulse for Each				
	In	mm	100 liter	1 m <sup>3</sup>	10 m <sup>3</sup>	100 m <sup>3</sup>	
Turbo-IR-M	1½"-5"	40-125	S3	S2	-	-	S23
	6"-8"	150-200	-	S2	S1	-	S12
	10"-12"	250-300	-	-	S1	S8	S81

#### Gallon Pulse Output Magnetic transmission

Model	Size		Dry contact Reed Switch				Dual pulse output
			1 Pulse for Each				
	In	mm	10 gal	100 gal	1,000 gal	10,000 gal	
Turbo-IR-M	1½"-5"	40-125	S3	S2	-	-	S23
	6"-8"	150-200	-	S2	S1	-	S12
	10"-12"	250-300	-	-	S1	S8	S81

### Installation Recommendations

- The water meter can be installed in any orientation without interfering with metering 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 10 diameters of straight pipe upstream and 5 diameters downstream from the water meter.
- Prior to installation, flush the line to remove debris.
- The TURBO-IR-E/M must be filled with water to operate.

