

# AMR WATER METERS

## with integrated RF transmitters

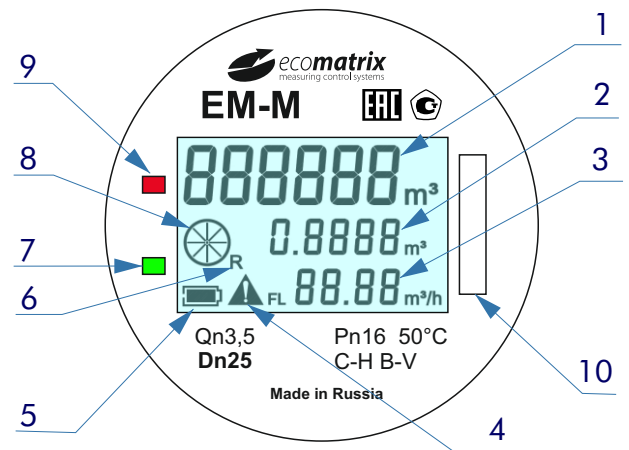
EM-M - Multi-Jet Type Water Meters RF  
Dn 15 ... 50 mm, Class C, IP68

The EM-M meters - is a radio frequency (RF) transmitting class C water meters. RF transmitters integrated into an electronic registers of Multi-Jet impeller water meters (Dn15, 20, 25, 32, 40, 50 mm). Water meter accurately transmits the water consumption data and eliminates the needs for external wiring and complex infrastructure. The system provides accurate metering capabilities for water management - online reading, back flow consumption, tampering and sabotage alarm, waters leakage report etc. EM-M meters has the lithium battery for more then 12 years of operation.

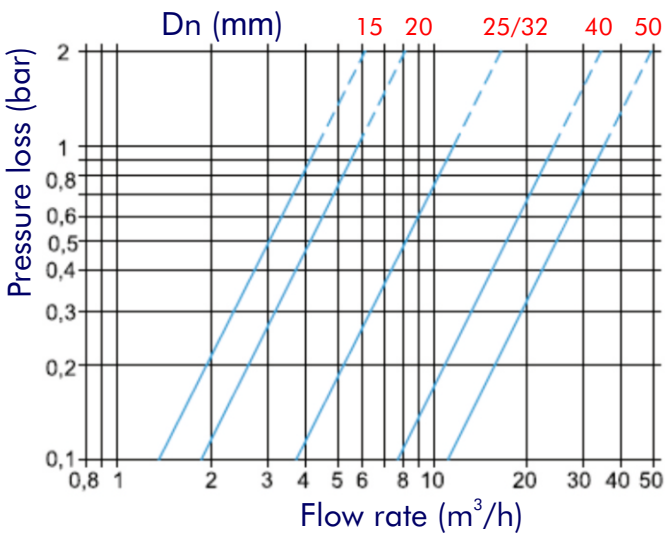
In this meter, only the impeller functions in the wet chamber. The electronic register with the RF transmitter and magnetic sensors is hermetically encapsulated and does not come into contact with the measuring fluid. Water meter has flood-proof protection IP68 - glass and parts of register are hermetically sealed.



EM-M meters electronic register:



Typical pressure loss curve:



- 1, 2 - Volume (m<sup>3</sup>)
- 3 - Flow rate (m<sup>3</sup>/h)
- 4 - Alarm (tamper, back flow etc.)
- 5 - Battery level
- 6 - Back flow
- 7 - RF active - RX
- 8 - Flow direction
- 9 - RF active - TX
- 10 - Antenna location

The EM-M water meters user settings are set by radio with EcoMatrix RF Terminal (EM3011) and the special software. Each meter is set to data transmit sequentially each time according to programmed interval of time - commonly, from 10 seconds and up to 60 seconds. The EM-M meter has internal 1 year data logger (current, hourly and daily consumption archive).

The meter data is transmitted directly to the WalkBy/DriveBy system or (and) to the Fixed Reading Management system for automatic collection.

**EM-M meters RF transmitting parameters:**

- Reading (999999.999 m<sup>3</sup>) - total readings, at measure time
- Reading (999999.999 m<sup>3</sup>) - hourly consumption, for the last hour
- Reading (999999.999 m<sup>3</sup>) - daily consumption, for the last day
- Flow rate (99.99 m<sup>3</sup>/h) - flow rate, at measure time
- Internal temperature (-99 ... +999 °C) - temperature in water meter register
- Tamper/Back flow/Leak alarms

**Technical data:**

		Dn15		Dn20		Dn25		Dn32		Dn40		Dn50	
Class		B	C	B	C	B	C	B	C	B	C	B	C
Q <sub>max</sub>	m <sup>3</sup> /h	3.0		5		7.0		12.0		20.0		30	
Q <sub>n</sub>	m <sup>3</sup> /h	1.5		2.5		3.5		6.0		10.0		15.0	
Q <sub>t</sub>	m <sup>3</sup> /h	0,12	0,0225	0,2	0,375	0,25	0,0525	0,48	0,09	0,8	0,15	1,2	0,225
Q <sub>min</sub>	m <sup>3</sup> /h	0,03	0,015	0,05	0,025	0,07	0,035	0,12	0,06	0,2	0,1	0,3	0,15
Sensitivity, min	m <sup>3</sup> /h	0,015	0,0075	0,025	0,0125	0,035	0,0175	0,06	0,03	0,1	0,05	0,15	0,075
Permissible relative error limits	%	± 5 - from Q <sub>min</sub> to Q <sub>t</sub> ; ± 2 - from Q <sub>t</sub> to Q <sub>max</sub>											
Display range	m <sup>3</sup>	min - 0,0001, max - 999999.9999											
Temperature range	°C	0,1-50											
Operating pressure, max	bar	16											
Position on the pipeline		Horizontal installation - class C, vertical installation - class B											
AMR		RF - FSK 866/868/900 MHz, <25mW											
Mid time between failures, min	hour	150000											
Class protection performance		IP68											
Mid operation time	years	12											
Weight approx.	kg	1,6				2,3				4,4		4,6	

**Dimensions:**

	Dn15	Dn20	Dn25	Dn32	Dn40	Dn50
Thread meter GxB, D1	3/4	1	1 1/4	1 1/2	2	2 1/2
Thread meter GxB, D2	1/2	3/4	1	1 1/4	1 1/2	2
Overall length, L1 (mm)	245	288	378		438	
Overall length, L2 (mm)	165	190	260		300	
Height, H1 (mm)	120		130		145	
Height, H2 (mm)	35		40		50	
Height, H3 (mm)	25		25		25	
Width, B (mm)	100				110	

