

M190 Hot Water Meter



Size:	1/2"	3/4"	1"	1 1/2"
Q_{min} Min. Flow gpm $\pm 5\%$	0.13	0.22	0.31	0.88
Q_l Low Flow gpm $\pm 3\%$	0.52	0.88	1.23	3.52
Q_n Cont. Flow gpm $\pm 1\%$	6.6	11.0	15.41	44.03
Q_{max} Peak Flow gpm $\pm 1\%$	13.2	22.0	30.82	88.06
Pressure Loss Q_n psi	2.5	3.6	2.5	3.5
Pressure Loss Q_{max} psi	8.7	14.5	7.25	14.5
Operating Pressure psi	230	230	230	230
Operating Temperature °F	266	266	266	266

Register Reading Smallest Qty:

US Gallons	0.01	0.01	0.01	0.10
Cubic Meters	0.0001	0.0001	0.0001	0.0001

Capacity of Register:

US Gallons (millions)	10	10	10	100
Cubic Meters (thousands)	100	100	100	100

Contact Closure Rate (IPG14 Pulsar):

US Gallons	1 Cont/Gal	1 Cont/Gal	1 Cont/Gal	1 Cont/10 Gal
Cubic Meters	1 Cont/Ltr	1 Cont/Ltr	1 Cont/10 Ltr	1 Cont/10 Ltr

Materials:

Main Case	Brass
Top Plate	Brass
O-ring	EPDM
Impeller	PPS
Magnet	Ferrite
Strainer	PVDF
Register cap	PSU
Gearing Wheels	PEI

Operation The M190 (MTH3) is a multijet (inferential) impeller meter. The impeller and magnet are the only moving parts in the measuring chamber. The impeller movement is transferred by a magnetic coupling to the hermetically sealed register, which can be turned to any position for easy reading.

Installation The meter must be installed in a clean pipeline, free from any foreign materials. The meter shall be installed with the direction of flow as indicated by the arrow cast in the meter case. The meter may be installed in horizontal or inclined lines up to 45° with the register facing upward.

Application The meter is for use with hot water up to 266°F (130°C) and working pressure to 230 psi (16 bar). Both pressure loss and accuracy tests are made before shipment. No adjustments need be made before installation.

Construction The meter consists of the main case, a strainer, a measuring chamber, an impeller, a removable top plate and O-ring with a magnetically driven register or register pulser assembly and securing ring. The main case is cast bronze with raised characters showing direction of flow. The securing ring secures the internal mechanism and top plate. The unit is sealed by the O-ring gasket. The measuring chamber is designed so the impeller/magnet transfers the flow to the register. The register is secured to the main case by the securing ring.

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Pulser Wiring The pulse element is a 4-watt rated reed switch which requires power from an external source. The unit is to be wired in series with no regard to polarity.

Note: Maximum voltage: 42 V DC/AC
 Protective resistance: 18 OHM
 Switching cycles: Approx. 10⁷
 Switching current: 100mA

Register. The register is a dust and waterproof hermetically sealed unit (no condensation is caused by variation of temperature). The register can be turned to any position for easy reading.

Pulser The IPG14 pulser consists of a molded insert with a clear housing to read the totalizing register. The pulse element is a dry contact reed switch rated at 4 watts, maximum voltage: 42V DC/AC, 18 OHM resistance. This unit requires power from an external source and normally is wired in series with no regard to polarity, approximately 5 feet of 2-wire unshielded cable exists in a sealed fitting.

Dimensions and Net Weights

Meter Size	Dimensions (inches)				
	A length	B height	C center h	F width	Weight (lbs)
½"	6.50	5.63	3.94	3.74	3.97
¾"	8.66	5.87	4.29	3.74	4.63
1"	10.25	6.26	4.57	3.94	5.95
1 ½"	11.82	7.28	5.47	5.35	11.69

Connections The meter casing spuds have external straight threads conforming to NPSM. Bronze coupling nuts and tailpieces (NPT) are provided.

Temperature/Pressure Rating

Temp. °F	32-150	200	230	250	266
MIN PSIG	-	6	25	45	62

"MIN PSIG" is the minimum line pressure required to prevent flashing within the meter body.

US Gallon

Register

Pulser

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