

Mainline Propeller Meters

Models 119/120 – Welding Saddle Type meter

**150 psi (10 bar) Working Pressure, 300 psi (20 bar) Working Pressure,
Magnetic Drive Sealed Gear Type, Sizes 4" through 72" (DN 100mm—DN 1800mm)**

DESCRIPTION

Application: Sensus Propeller Meters are intended for accountability measurement of potable or non-potable cold (to 100°F/38°C) water where flow is in only one direction. The meters can be installed at any convenient angle from horizontal to vertical; in discharge, suction or pressurized lines; within stated pressure ratings. For accurate measurement, a full flow of water through the meter and stated minimum flow rates are required. Because all appropriate parts are sealed for protection, the meters can be used with water containing articulate solids (as sand), without causing undue wear.

Magnetic Drive: Eliminates mechanical packings and stuffing boxes. A sleeve-type ceramic magnet in the propeller assembly drives a follower magnet located within the sealed gear box.

Right Angle Gearing: The brass bevel gears which drive the register shaft, operate within a factory-sealed, oil-filled, one-piece cast bronze gear box, providing lubrication for the life of the meter.

Ceramic Bearing And Shaft: The double land ceramic bearing retained in the propeller assembly rotates on a ceramic sleeved shaft. The high purity ceramic provides exceptionally good wear characteristics, even in water containing entrained solids.

Registers: Sensus Propeller Meters are available with a standard sealed mechanical register (Model 119) or a sealed Electronic Rate of Flow Instrument and Transmitter—E-ROFI (Model 120).

Installation: The meter is installed by cutting a hole in the pipeline; welding the saddle on the line, and then securing the meter head to the saddle. Using appropriate welding procedures, the cast steel welding saddle permits installation on a wide range of steel, ductile or cast iron pipe. To insure proper calibration and clearances for the propeller, when ordering, it is essential to specify the I.D. and O.D. and material of the pipe on which the meter is to be installed. Straightening vanes should be installed upstream of the meter. Valves, fittings and other equipment that may create a flow disturbance, should be at least five times the diameter of the pipe upstream, and three to five times the diameter downstream from the meter.



Model 119



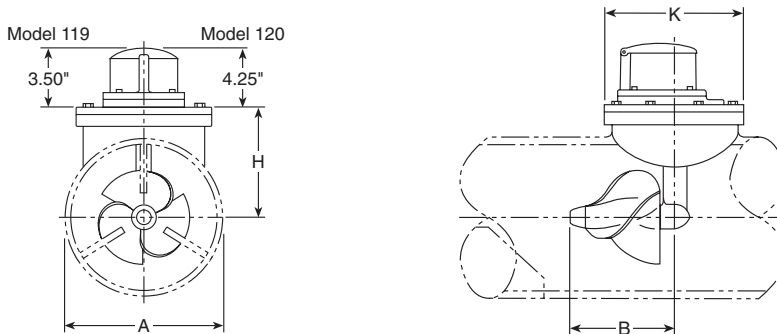
Standard Sealed Register

E-ROFI Register

Gaskets: A flat gasket is used at the connection of the meter head to the body on 4" (DN 100mm) through 8" (DN 200mm). An "O" ring is used on 10" (DN 250mm) and larger sizes.

Instrumentation Capabilities: The E-ROFI or High-Speed Pickup Registers are available for interfacing with Sensus Act-Pak Instruments. Refer to Bulletin E-1116 for HSPU and Bulletin E-1110 for E-ROFI Register.

Maintenance: Should maintenance or testing be needed, the meter head can be removed without disturbing the tube body in the pipeline. Cover plates are available for maintaining service or flushing of lines when the meter head is removed.



Meter Size	Low Flow GPM m ³ /h 1	Normal Range GPM m ³ /h 2	A in mm	B in mm	H in mm	K in mm	Shipping Weight Pounds kg
4"	82	125-500	4-1/2"	7-1/2"	3-7/8"	7-1/2"	30 lbs. 13.6 kg
DN 100mm	18.2	28-114 m	114mm	190mm	99mm	190mm	
6"	160	220-1200	6-5/8"	7-1/2"	5"	9"	140 lbs. 18.1 kg
DN 150mm	36.3	50-273	168mm	190mm	127mm	229mm	
8"	190	250-1650	8-5/8"	7-1/2"	6"	9"	40 lbs. 18.1 kg
DN 200mm	43.2	57-375	219mm	190mm	152mm	229mm	
10"	260	330-2500	10-1/2"	7-1/2"	7-3/8"	11"	55 lbs. 25 kg
DN 250mm	59.0	75-568	267mm	190mm	187mm	279mm	
12"	257	350-3500	12-3/4"	7-1/2"	8-3/8"	11"	55 lbs. 25 kg
DN 300mm	62.4	80-795	324mm	190mm	213mm	279mm	
14"	350	450-4500	14"	7-1/2"	9-1/4"	13-1/2"	100 lbs. 45.5 kg
DN 350mm	79.5	102-1022	356mm	190mm	235mm	343mm	
16"	450	550-5500	16"	7-1/2"	10-1/4"	13-1/2"	100 lbs. 45.5 kg
DN 400mm	102.2	125-1249	406mm	190mm	264mm	343mm	
18"	550	725-7250	18"	7-1/2"	11-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 450mm	124.9	165-1647	457mm	190mm	295mm	343mm	
20"	700	850-9000	20"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 500mm	159.0	193-2044	508mm	190mm	321mm	343mm	
24"	1000	1300-13000	24"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 600mm	227.1	295-2952	610mm	190mm	321mm	343mm	
30"	1600	2100-18600	30"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 750mm	363.4	477-4224	762mm	190mm	321mm	343mm	
36"	2400	3000-24000	36"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 900mm	545.0	681-5450	914mm	190mm	321mm	343mm	
42"	2800	3500-28000	42"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 1050mm	635.9	795-6364	1067mm	190mm	321mm	343mm	
48"	3500	4400-35000	48"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 1200mm	794.9	1000-7955	1219mm	190mm	321mm	343mm	
54"	5000	6300-50000	54"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 1350mm	1135.5	1432-11364	1372mm	190mm	321mm	343mm	
60"	6000	7500-60000	60"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 1500mm	1362.6	1705-13636	1524mm	190mm	321mm	343mm	
66"	7500	9400-75000	66"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 1650mm	1703.3	2136-17045	1676mm	190mm	321mm	343mm	
72"	9000	11000-90000	72"	7-1/2"	12-5/8"	13-1/2"	100 lbs. 45.5 kg
DN 1800mm	2043.9	2500-20455	1829mm	190mm	321mm	343mm	

¹ Low Flow — 95% minimum accuracy

² Intermittent Flow — 25% over maximum rated capacity

SPECIFICATIONS

SERVICE	Where fluid flow is in one direction only.
ACCURACY	100 ± 2% of actual flow within specified normal and intermittent flow ranges. 95% minimum at low flow rate.
PRESSURE RATING	150 psi (10 bar) maximum working pressure; 300 psi (20 bar) maximum working pressure.
TEMPERATURE	100°F (38°C) maximum.
MAXIMUM FLOW	Maximum normal flow rates listed are for continuous service. See bulletin PM-725 for details.
INTERMITTENT FLOW	25% overrated capacity for 10% to 15% of the total operating time of the meter.
STANDARD REGISTER	Six-digit straight reading type with full 3" (75mm) diameter, 100-division dial and center sweep test hand. Registration available in gallons, cubic feet, acre feet, litres, cubic meters, miners inch hours, barrels and other standard units.

ELECTRONIC RATE OF FLOW INSTRUMENT/ TRANSMITTER	The electronic rate of flow instrument (E-ROFI) registers are used to display and transmit volume and flow rate data from a Sensus Propeller Meter to various Sensus Act-Pak Electronic Instruments which are used to monitor, control, record volume, and rate of flow. Act-Paks are normally located apart from the meter. The instrument is mounted on Sensus Propeller Meter Head Assemblies using the sealed register type adapter plate assemblies.
MATERIALS—	Meter Head: Ductile Iron with Epoxy Paint Propeller and Nut: Polypropylene Propeller Spindle: Ceramic-Coated Stainless Steel Welding Saddle: Cast Steel with Epoxy Paint Rotor Bearings: Ceramic Magnets: Permanent, Ceramic Sleeve Type Gear Housing: One-Piece Cast Bronze Shafts and Bolts: Stainless Steel
OPTIONAL EQUIPMENT	Blank covers, E-ROFI Registers and HSPU for use with Sensus Act-Pak Instruments.

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P.O. Box 487 | 450 North Gallatin Avenue
Uniontown, PA 15401 USA
T: 1-800-638-3748
F: 1-800-888-2403
www.sensus.com/water
h2oinfo@sensus.com

| sales@mvandc.com | Phone: 877.566.3837 | Fax: 925.407.2903

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