

MAINLINE PROPELLER METERS

MODELS 101/102

300 psi (20 bar) Working Pressure Magnetic Drive Flanged Tube Type



Standard Sealed Register



E-ROFI Register

DESCRIPTION

MODEL: Invensys 101/102 Propeller Meters are primarily intended for accountability measurement of potable and non-potable cold water with flow in one direction only. Registration accuracy is 100% \pm 2% of actual thruput within specified normal flow ranges. Because all appropriate parts are sealed for protection, the meters can be used in water containing particulate solids (such as sand), without causing undue wear.

PERFORMANCE: The design of the Invensys 101/102 Propeller Meters permits continuous operation up to the maximum rated flow capacity listed for each size, without affecting long term accuracy or causing undue wear. For accurate measurement, a full flow of water through the meter and stated minimum flow rates are required.

CONSTRUCTION: The meter consists of two basic assemblies—the meter tube body and the meter head assembly. Integral straightening vanes in the meter tube body minimize the swirl upstream of the meter so as to direct the flow evenly to the propeller. The 4" through 12" meter tube bodies are internally and externally protected by a superior fusion-bonded epoxy coating for use in potable water systems. The 14" and larger sizes are protected with an epoxy painted finish. The meter head assembly consists of the propeller, bronze gear box and sealed direct reading register.

MAGNETIC DRIVE: Direct magnetic drive eliminates mechanical gearing normally required to operate propeller meter type registers. A ceramic sleeve-type magnet in the propeller assembly drives a follower magnet located in a one piece, all bronze gear box. This gear box is oil filled and factory sealed to provide lubrication and long life to the register drive shaft.

PROPELLER: The propeller and nut are made of polypropylene and rotate on a ceramic coated stainless steel spindle.

REGISTERS: Invensys Model 101 Propeller Meters come equipped with a sealed direct reading (DR) register with low flow indicator. The Model 102 is equipped with an electronic rate of flow indicator (E-ROFI) register. The E-ROFI register is an hermetically sealed unit that electronically displays and transmits totalization and flow rate data to various Invensys act-pak instrumentation to monitor, control and record volume and rate of flow. Other register options available are the impulse contactor (IC) and high speed pickup (HSP). All registers can be positioned in any of four directions for reading ease. Refer to bulletin E-1116 for HSP and bulletin E-1110 for the E-ROFI register.

INSTALLATION: Invensys Propeller Meters can be installed in a horizontal, vertical or inclined position. Valves, fittings or other equipment that might create flow turbulence should be positioned at least 5 pipe diameters upstream of the meter and no less than 3 pipe diameters downstream.

MAINTENANCE: The meter head assembly can be removed, repaired and/or replaced without disturbing the meter tube body in line. A spare meter head assembly can be utilized in the event maintenance is required. Cover plates are also available for maintaining service or flushing of lines when the meter head assembly is removed. Factory testing, repair and meter head assembly exchange programs are available.

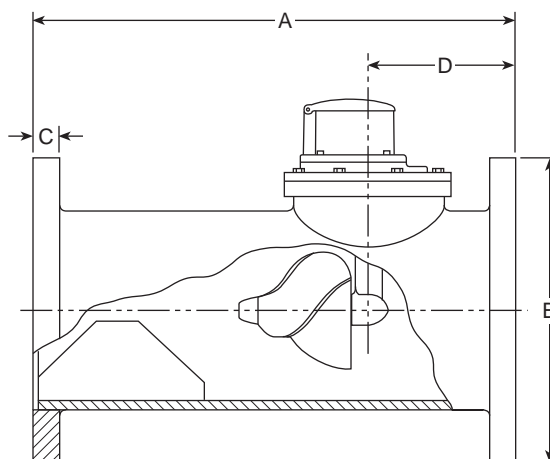
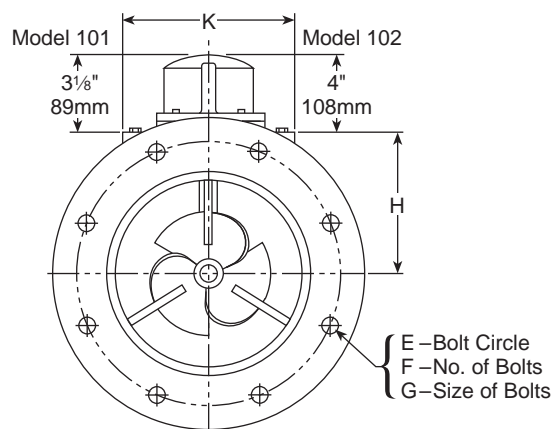


4" Model 101 Propeller Meter

SPECIFICATIONS

SERVICE	Measurement of cold water (potable and non-potable) up to 100°F (38°C) with flow in one direction only.
OPERATING RANGE	Continuous Flows: Refer to the chart on next page Intermittent Flows: 25% over the maximum rated capacity of any given size.
ACCURACY	100% \pm 2% of actual thruput
LOW FLOW	Refer to the chart on next page
MAXIMUM OPERATING PRESSURE	300 psi (20 bar)
FLANGE	4" Size: Round, Ductile Iron 6"-36" Sizes: Round, Steel All Sizes AWWA Class 300
REGISTER	Hermetically Sealed Direct Reading Register with Low Flow Indicator
METER REGISTRATION	Standard: Six digit, straight reading type with Low Flow Indicator. Full 3" dial face with 100 division increments and a center sweep hand. E-ROFI: Twin six digit, LCD totalizer and rate of flow display. Powered by a "C" size lithium battery factory sealed in an hermetically sealed register. Register replacement is recommended every five (5) years.
MATERIALS—METER TUBE BODY	4" Size: Ductile Iron 6"-36" Sizes: Fabricated Steel
STRAIGHTENING VANES	Fabricated Steel
COATINGS	4"-12" Sizes: Fusion-Bonded Epoxy 14"-36" Sizes: Epoxy Paint
METER HEAD	Ductile Iron
PROPELLER AND NUT	Polypropylene
PROPELLER SPINDLE	Ceramic Coated Stainless Steel
GEAR HOUSING	One Piece Cast Bronze
TRIM	Stainless Steel
MAGNETS	Ceramic

Models 101 and 102 300 psi (20 bar)



Meter Size	Low Flow GPM m ³ /h ①	Normal Range GPM m ³ /h ②	Dimensions									Shipping Weight Pounds kg
			A in mm	B in mm	C in mm	D in mm	E in mm	F #	G in mm	H in mm	K in mm	
4" DN 100mm	82 18.6	125-500 28-114	18" 457mm	10" 254mm	1-1/4" 32mm	7-1/2" 190mm	7-7/8" 300mm	8	3/4" 19mm	3-7/8" 99mm	7-1/2" 190mm	89 lbs. 40 kg
6" DN 150mm	160 36.3	220-1200 50-273	22" 559mm	12-1/2" 317mm	1-7/16" 37mm	9" 229mm	10-5/8" 270mm	12	3/4" 19mm	5" 127mm	9" 229mm	146 lbs. 66 kg
8" DN 200mm	190 43.2	250-1650 57-375	24" 610mm	15" 381mm	1-5/8" 41mm	9" 229mm	13" 330mm	12	7/8" 22mm	6" 152mm	9" 229mm	208 lbs. 94 kg
10" DN 250mm	260 59.0	330-2500 75-568	26" 660mm	17-1/2" 443mm	1-7/8" 48mm	10" 254mm	15-1/4" 387mm	16	1" 25mm	7-3/8" 187mm	11" 279mm	277 lbs. 125 kg
12" DN 300mm	257 62.4	350-3500 80-795	28" 711mm	20-1/2" 521mm	2" 51mm	10" 254mm	17-3/4" 451mm	16	1-1/8" 29mm	8-3/8" 213mm	11" 279mm	387 lbs. 175 kg
14" DN 350mm	350 79.5	450-4500 102-1022	42" 1067mm	23" 584mm	2-1/8" 54mm	12" 305mm	20-1/4" 514mm	20	1-1/8" 29mm	9-1/4" 235mm	13-1/2" 343mm	588 lbs. 265 kg
16" DN 400mm	450 102.2	550-5500 125-1249	48" 1219mm	25-1/2" 648mm	2-1/4" 57mm	12" 305mm	22-1/2" 572mm	20	1-1/4" 32mm	10-1/4" 260mm	13-1/2" 343mm	731 lbs. 329 kg
18" DN 450mm	550 124.9	725-7250 165-1647	54" 1372mm	28" 711mm	2-3/8" 60mm	15" 381mm	24-3/4" 629mm	24	1-1/4" 32mm	11-5/8" 295mm	13-1/2" 343mm	883 lbs. 398 kg
20" DN 500mm	700 159.0	850-9000 193-2044	60" 1524mm	30-1/2" 775mm	2-1/2" 64mm	15" 381mm	27" 686mm	24	1-1/4" 32mm	12-5/8" 321mm	13-1/2" 343mm	1085 lbs. 489 kg
24" DN 600mm	1000 227.1	1300-13000 295-2952	72" 1829mm	36" 914mm	2-3/4" 70mm	18" 457mm	32" 813mm	24	1-1/2" 38mm	12-5/8" 321mm	13-1/2" 343mm	1550 lbs. 698 kg
30" DN 750mm	1600 363.4	2100-18600 477-4224	84" 2134mm	43" 1092mm	3" 76mm	18" 457mm	39-1/4" 997mm	28	1-3/4" 44mm	12-5/8" 321mm	13-1/2" 343mm	2208 lbs. 994 kg
36" DN 900mm	2400 545.0	3000-24000 681-5450	96" 2439mm	50" 1270mm	3-3/8" 87mm	20" 508mm	46" 1168mm	32	2" 51mm	12-5/8" 321mm	13-1/2" 343mm	3043 lbs. 1370 kg

① Low Flow — 95% minimum accuracy

② Intermittent Flow — 25% over maximum rated capacity



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