

IRRIGATION PROPELLER METERS

MODELS 305/306—IRRIGATION, SADDLE TYPE

100 psi (7 bar) Working Pressure, Magnetic Drive Sealed Gear Housing,
 Sizes 4" through 24" (DN 100mm—DN 600mm)



Standard Sealed Register



E-ROFI Register

DESCRIPTION

APPLICATION: Invensys 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 particulate 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: Invensys Propeller Meters are available with a standard sealed mechanical register (Model 305) or a sealed Electronic Rate of Flow instrument and Transmitter—E-ROFI (Model 306).

INSTALLATION: The meter is installed by first cutting a hole in the existing pipeline and clamping the meter in place. (The hole cut-out template is provided with the meter.) The meter may be installed horizontally, vertically or in the inclined position. It must have a full flow of water in the pipeline for proper registration. Valves, fittings and other equipment, which may create a flow disturbance, should be positioned at least five times the diameter of the pipe upstream, and three to five diameters downstream from the meter.

GASKETS: A flat sheet gasket is used at the connection of the meter head to the body.

INSTRUMENTATION CAPABILITIES: The E-ROFI or High-Speed Pickup Registers are available for interfacing with Invensys Act-Pak Instruments. Refer to Bulletin E-1116 for HSPU and Bulletin E-1110

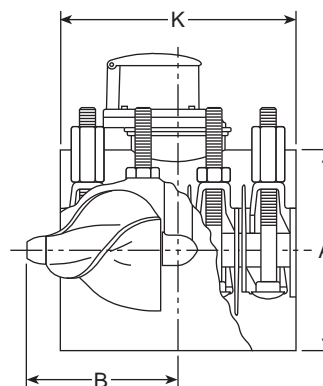
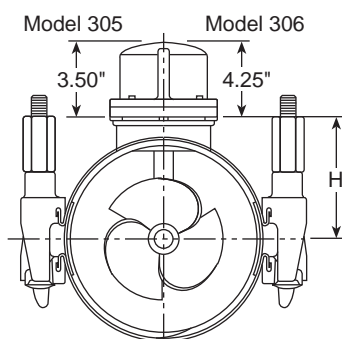


Model 305

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	100 psi (7 bar) maximum working pressure for 4"-12" sizes. 50 psi (3.5 bar) maximum working pressure for 14"-24" sizes.
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 Invensys Propeller Meter to various Invensys 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 Invensys Propeller Meter Head Assemblies using the sealed register type adapter plate assemblies.
MATERIALS	Saddle and Clamp: Stainless Steel Saddle Gasket: Molded Buna-N Lug Strips: Ductile Iron Propeller and Nut: Polypropylene Propeller Spindle: Ceramic-Coated Stainless Steel 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, HSPU for use with Invensys Act-Pak Instruments.

Models 305 and 306



Meter Size	Low Flow GPM m ³ /h ①	Normal Range GPM m ³ /h ②	Dimensions				Shipping Weight Pounds kg
			A in mm ^③	B in mm	H in mm	K in mm	
4" DN 100mm	85 GPM 19.3 m ³ /h	125-500 GPM 28-114 m ³ /h	4-1/2" 114.3mm	7-1/2" 190mm	3-3/4" 95.2mm	10" 254mm	17 lbs. 7.7 kg
6" DN 150mm	160 36.3	220-1200 50-273	6-5/8" 168.2mm	7-1/2" 190mm	4-3/4" 120.6mm	10" 254mm	18 lbs. 254 kg
8" DN 200mm	190 43.2	250-1550 57-341	8-5/8" 219.0mm	7-1/2" 190mm	5-3/4" 146.0mm	10" 254mm	19 lbs. 8.6 kg
10" DN 250mm	260 59.0	330-2000 75-454	10-3/4" 273.0mm	7-1/2" 190mm	6-7/8" 174.6mm	10" 254mm	21 lbs. 9.5 kg
12" DN 300mm	257 62.4	350-3500 80-795	12-3/4" 323.8mm	7-1/2" 190mm	7-7/8" 200.0mm	10" 254mm	22 lbs. 9.9 kg
14" DN 350mm	350 79.5	450-4500 102-1022	14" 355.6mm	7-1/2" 190mm	8-1/2" 215.9mm	10" 254mm	24 lbs. 10.8 kg
16" DN 400mm	450 102.2	550-5500 125-1249	16" 406.4mm	7-1/2" 190mm	9-1/2" 241.3mm	10" 254mm	25 lbs. 11.3 kg
18" DN 450mm	550 124.9	725-7250 165-1647	18" 457.2mm	7-1/2" 190mm	10-1/2" 266.7mm	10" 254mm	26 lbs. 11.7 kg
20" DN 500mm	700 159.0	850-9000 193-2044	20" 508.0mm	7-1/2" 190mm	11-1/2" 292.1mm	10" 254mm	28 lbs. 12.6 kg
24" DN 600mm	1000 227.1	1300-13000 295-2952	24" 609.6mm	7-1/2" 190mm	13-1/2" 342.9mm	10" 254mm	30 lbs. 13.5 kg

① Low Flow — 95% minimum accuracy

② Intermittent Flow — 25% over maximum rated capacity

③ Special Bands Available: 4"-4.500 only/6"-6.000, 6900, 7100/8"-8.000, 9.05/10"-10.000, 11.100, 12"-12.000, 13.200/16"-17.400/18"-19.500/20"-21.600
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