

FLOWMETER

ENGINEERING MANUAL

1700 SERIES



FLOW MEASUREMENT & CONTROL SOLUTIONS

PRODUCT OVERVIEW

ISTEC's "Super-Jet" 1700 Series Water Meters are the latest design in multi-wing flow meters. The result: high reliability with great accuracy at a low cost. The design of the "Super-Jet" flow chamber guides the water through the meter to minimize turbulence. For the 1" through 2" meters, no straight piping to the flow meter is necessary for accuracy that exceeds AWWA standards.

All ISTEC flow meters are designed with a trickle-flow indicator showing even the smallest water flow. The flow counter is non-resettable and available with contact pulsers for remote reading or computer interconnections.

For easy installation, all ISTEC flow meters up to 1½" are available with union connections and the 2" model is equipped with standard flanges. The smooth running, self-aligning turbine adds to the list of innovative features providing long life, accuracy and reliability.

COMPONENT DESCRIPTION

BODY

Pipe Size ½" (15mm) to 1½" (40mm)	Brass
Pipes Size 2" (50mm)	Cast Iron

CONNECTIONS

Pipe Size ½" (15mm) to 1" (25mm)	NPT or Sweat
Pipe Size 1¼" (32mm) to 1½" (40mm)	NPT
Pipes Size 2" (50mm)	ANSI 150# Flange

FLOW INSERT

Turbine	Polyamide Fiber Reinforced
Pivot	Stainless Steel
Bearing	Ceramic
Magnet	Cobalt/Samarium
Strainer	Polypropylene
O-Ring	Synthetic Rubber or Viton

COUNTER

Calibration	U.S. Gallons (Metric Available)
Housing	Plastic
Gears	Plastic

ENVIRONMENTAL

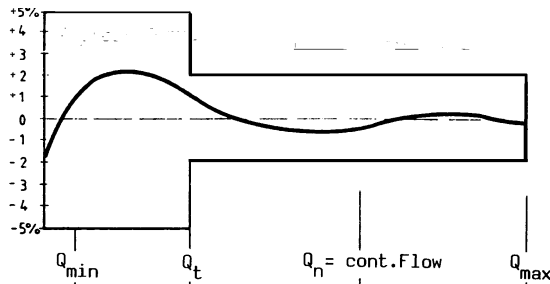
Maximum Temperature	200°F (90°C)
Maximum Pressure	150 PSI (10 BAR)

TECHNICAL SPECIFICATIONS

P/N		1700	1710	1720	1730	1740	1750	
F L O W	R A N G E	MIN	0.13 gpm	0.22 gpm	0.5 gpm	0.5 gpm	0.8gpm	1.3 gpm
			30 lph	50 lph	120 lph	120 lph	200 lph	295 lph
	CONT	6.6 gpm	11 gpm	26.4gpm	26.4gpm	44.0 gpm	66.0 gpm	
		1.5 m ³ ph	2.5 m ³ ph	6 m ³ ph	6 m ³ ph	10 m ³ ph	15 m ³ ph	
	MAX	13.0 gpm	20 gpm	50.0 gpm	50.0 gpm	90.0 gpm	132.0 gpm	
		3.0 m ³ ph	5.0 m ³ ph	12 m ³ ph	12 m ³ ph	20 m ³ ph	30 m ³ ph	
PULSE	gal/pulse	N/A	N/A	N/A	N/A	N/A	N/A	
	liters/pulse	N/A	N/A	N/A	N/A	N/A	N/A	
WEIGHT	pounds	1.1	1.4	5.5	5.5	12.0	27.0	
	kilograms	0.5	0.6	2.5	2.5	5.4	12.4	

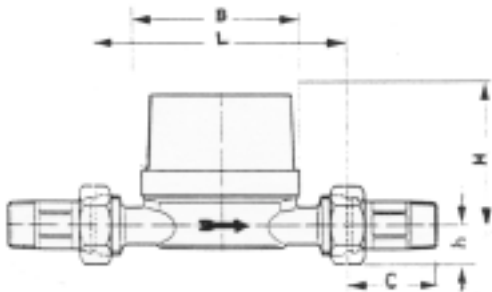
P/N		1702	1712	1722	1732	1742	1752	
F L O W	R A N G E	MIN	0.13 gpm	0.22 gpm	0.5 gpm	0.5 gpm	0.8gpm	1.3 gpm
			30 lph	50 lph	120 lph	120 lph	200 lph	295 lph
	CONT	6.6 gpm	11 gpm	26.4gpm	26.4gpm	44.0 gpm	66.0 gpm	
		1.5 m ³ ph	2.5 m ³ ph	6 m ³ ph	6 m ³ ph	10 m ³ ph	15 m ³ ph	
	MAX	13.0 gpm	20 gpm	50.0 gpm	50.0 gpm	90.0 gpm	132.0 gpm	
		3.0 m ³ ph	5.0 m ³ ph	12 m ³ ph	12 m ³ ph	20 m ³ ph	30 m ³ ph	
PULSE	gal/pulse	1	1	1	1	1	10	
	liters/pulse	1	1	1	1	1	10	
WEIGHT	pounds	1.1	1.4	5.5	5.5	12.0	27.0	
	kilograms	0.5	0.6	2.5	2.5	5.4	12.4	

TYPICAL FLOWMETER ACCURACY CHART

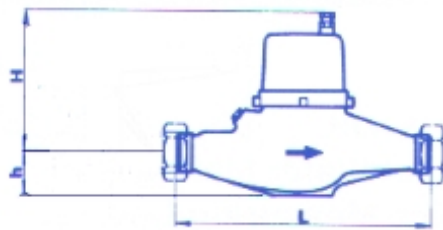


DIMENSIONS

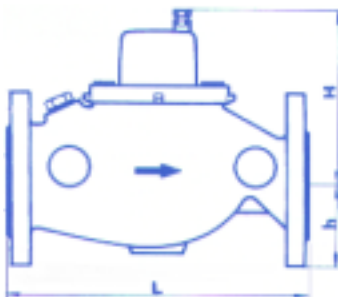
P/N	1700 1702	1710 1712	1720 1722	1730 1732	1740 1742	1750 1751 1752
Size	1/2" 15mm	3/4" 20mm	1" 25mm	1-1/4" 32mm	1-1/2" 40mm	2" 50mm
L (Body)	4-5/16" 110mm	5-1/8" 130mm	10-1/4" 260mm	10-1/4" 260mm	11-3/4" 300mm	10-1/2" 270mm
C (NPT)	2-3/8" 60mm	2-1/2" 63mm	2-5/8" 67mm	2-7/8" 73mm	2-7/8" 73mm	N/A
C (Sweat)	11/16" 17mm	7/8" 22mm	1-1/16" 27mm	N/A	N/A	N/A
B Width	2-3/4" 70mm	2-3/4" 70mm	3-5/8" 92mm	3-5/8" 92mm	4-3/4" 120mm	N/A
H Height	2" 50mm	2" 50mm	3-5/8" 92mm	3-5/8" 92mm	3-5/8" 92mm	5-3/8" 137mm
h Height	3/4" 20mm	7/8" 22mm	1-7/8" 48mm	1-7/8" 48mm	1-7/8" 48mm	3-1/2" 89mm



Flowmeter 1/2" & 3/4"



Flowmeter 1" to 1-1/2"



Flowmeter 2"

FLOWMETER SPECIFICATION: 1700 SERIES

**AS MANUFACTURED BY ISTECH CORPORATION
415 HOPE AVENUE, ROSELLE, NJ 07203**

The contractor shall furnish and install as shown on the plans a multi-wing turbine type Flowmeter. The Flowmeter shall be factory assembled, calibrated and tested, incorporating the following features:

BODY

The Flowmeter shall have a line size of _____ inch(s)/_____mm(s). The body shall be constructed of brass (from ½" (15mm) to 1-1/2" (40mm) sizes) or cast iron (from 2" (50mm) to 12" (300mm)).

FLOW INSERT

The Flow Insert shall be the "single-jet" type on the ½" (15mm) and ¾" (20mm) sizes. It shall be the "multi-jet" style on the 1" (25mm) through 12" (300mm) sizes. The insert assembly shall be capable of being replaced without removing the meter body.

COUNTER

The unit shall have a hermetically sealed "dry-type" mechanical counter. The counter will read in U.S. gallons (cubic meters available) and shall be non-resettable.

ACCURACY

The Flowmeter shall have an accuracy of $\pm 1.5\%$.

FLOW RANGE

The Flowmeter shall have a minimum flow rating of _____ gpm (_____ lph/or m³ph). It shall have a continuous flow rating of _____ gpm (_____ m³ph). The peak flow, which the meter can not be subjected to for more than one hour per day, shall be _____ gpm (_____ m³ph).

PULSER

The Flowmeter shall provide a "pulse" type output of 1 contact closure for every 1/10/100 gallon(s) of flow (metric counters provide 1 pulse for every 1/10/100 liters of flow).