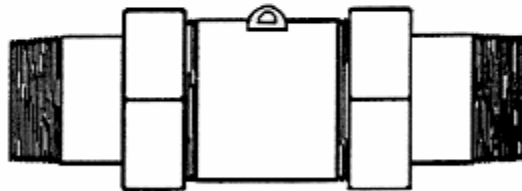
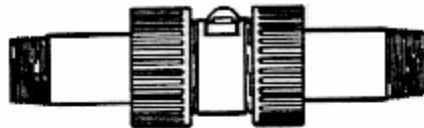


**AUTOTROL TURBINE  
WATER METER**

*INSTRUCTION MANUAL*



**Lakewood Instruments**

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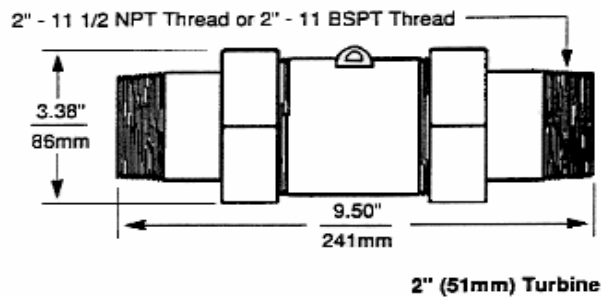
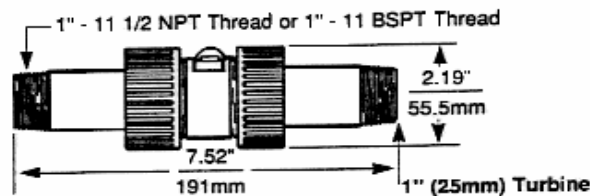


# INSTALLATION INSTRUCTIONS

## FLOW SENSOR INSTALLATION — AUTOTROL TURBINE

Install the turbine assembly in the water line. Observe the flow direction arrow on the turbine. It is recommended that there be a length of straight pipe either side of the turbine of ten times the pipe diameter. If installation conditions do not permit this length, we recommend a minimum of 12 inches (306 mm) of straight pipe before and after the 2 inch (51 mm) turbine, and 6 inches (153 mm) before and after the 1 inch (25 mm) turbine.

**NOTE: DIMENSIONS ARE FOR REFERENCE ONLY.**



Care should be taken to adequately support and align the pipes running into and out of the turbine.



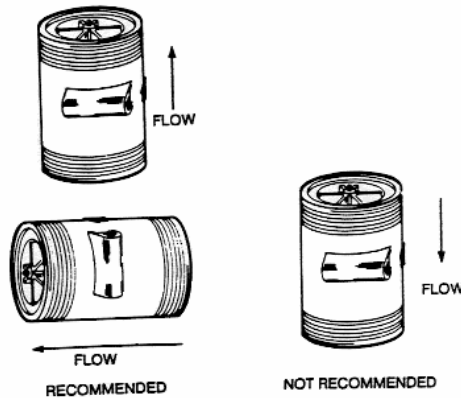
**CAUTION: DO NOT OVER-TIGHTEN THE TURBINE HOUSING ADAPTER NUTS OR YOU MAY DAMAGE THE THREADS.**

Insert sensor probe into turbine housing. The probe will "click" into place when inserted the proper depth into the housing receptacle. Run the cable to the controller along the pipe using cable ties or in conduit, if you wish.



**CAUTION: DO NOT COIL OR TWIST PROBE CABLE TOGETHER WITH POWER LINE WIRING. DO NOT ATTEMPT TO PULL THE HALL EFFECT SENSOR THROUGH CONDUIT.**

Be especially careful of turbine orientation (Figure 2). Both horizontal and vertical orientations are acceptable, however, be certain that you will have a full pipe condition at all times. **DO NOT** mount the turbine in a vertical orientation in a down-flow condition. Under normal conditions, the turbine will require no maintenance. In areas where the make-up water has suspended solids, prefiltration is required. A Wye-type strainer with a 50 mesh specification is recommended.



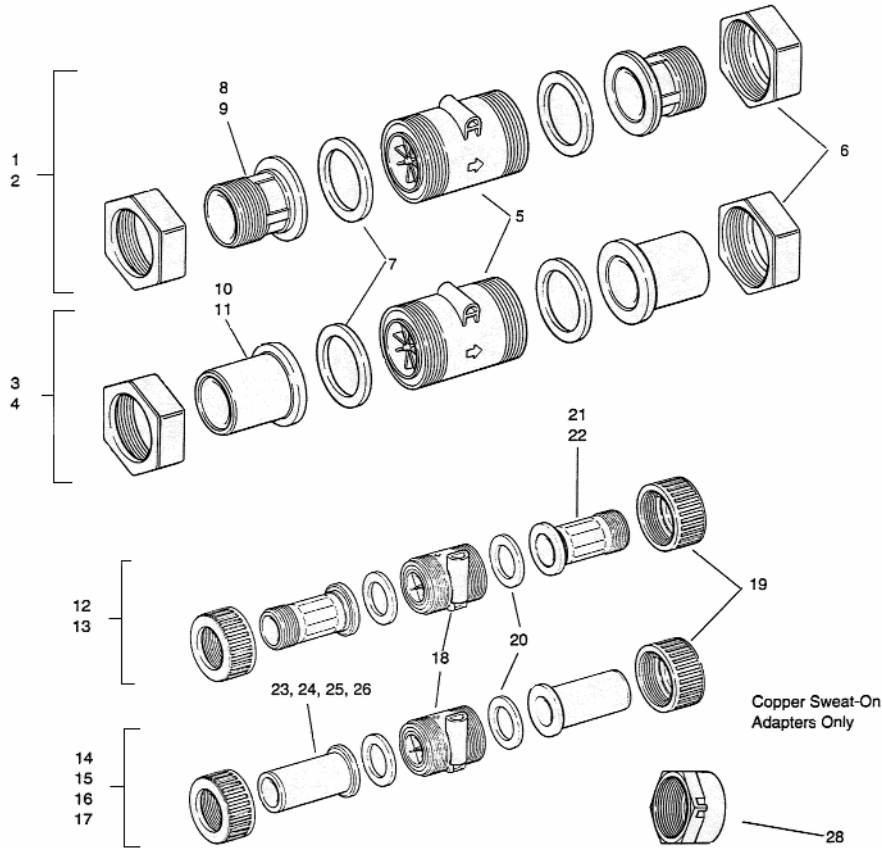
# SPECIFICATIONS

## Flow Sensor Specifications

	<b>Autotrol Turbine</b>	
	1 inch (25 mm)	2 inch (51 mm)
Flow rate range	0.25 – 40 gpm 0.06 – 9.5 M <sup>3</sup> /H)	2 – 250 gpm (0.45 – 60 M <sup>3</sup> /H)
Materials of construction:		
Housing	30% Glass-Filled PPO <sup>1</sup>	30% Glass Filled PPO <sup>1</sup>
Turbine (Impeller)	Polypropylene	Polypropylene
Bearings	Polyimide	Carbon Graphite
Shaft	302 SS	n/a
Accuracy	±3% of reading	±3% of reading
Pressure Drop	1.5 psi @ 30 gpm (10.3 KPa @ 7 M <sup>3</sup> /H)	2.5 psi @ 150 gpm (17.2 KPa @ 34 M <sup>3</sup> /H)
Maximum water temp.	100° F (38° C)	100° F (38° C)
Maximum room temp.	122° F (50° C)	122° F (50° C)
Maximum pressure	127 psi (875 KPa)	100 psi (689
Available cable	5, 10, 20, 25, 50 ft. (1.5, 3.0, 6.1, 7.6, 15.2 m)	5, 10, 20, 25, 50 ft. (1.5, 3.0, 6.1, 7.6, 15.2 m)
Maximum cable – kit form	1,000 ft. (305 m)	1,000 ft. (305 m)

<sup>1</sup> PPO – Polyphenylene Oxide

# Turbine Meter Assemblies



Item No.	Description	Part No.
1	2" NPT Turbine Assembly Complete	480N172G1
2	2" BSPT Turbine Assembly Complete	480N172G2
3	2" PVC Turbine Assembly Complete	480N172G3
4	50 mm PVC Turbine Assembly Complete	480N172G4
5	2" Turbine Meter Only	480B78G1
6	2" Turbine Nuts	170A184
7	2" Turbine Gaskets	480A28
8	2" NPT Brass Adapters	170A183
9	2" BSPT Brass Adapters	170A189
10	2" PVC Solvent Weld	170A217
11	50 mm PVC Solvent Weld	170A232
12	1" NPT Turbine Assembly Complete	400C420-803
13	1" BSPT Turbine Assembly Complete	400C420-804
14	1" PVC Turbine Assembly Complete	400C420-805
15	25 mm PVC Turbine Assembly Complete	400C420-06
16	1" Copper Turbine Assembly Complete	400C420-801
17	28 mm Copper Turbine Assembly Complete	400C420-802
18	1" Turbine Assembly Only	400CB418-701
19	1" Turbine Nuts (for PVC Adapters)	156A38
20	1" Gaskets	151A20
21	1" NPT Brass Adapter	156A40
22	1" BSPT Brass Adapter	156A39
23	1" PVC Solvent Weld Adapter	156A232
24	25 mm PVC Solvent Weld Adapter	156A230
25	1" Copper Sweat-On Adapter	151A22
26	28 mm Copper Sweat-On Adapter	156A223
27	1" Tube Nuts (for Copper Tube Adapters)	156A44
28	1" Turbine Nut (for Brass Adapters)	400A497-001



**For more information call toll free in the USA (800) 228-0839**

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