TURBINE FLOW METER APPLICATION GUIDE

IMPORTANT POINTS TO CONSIDER REGARDING ONICON TURBINE FLOW METERS

1. General - Typically used for conductive, low viscosity liquids in full, pressurized pipes (with filters or strainers in open loops.)
2. Specifications - Review engineering specifications carefully to determine if LCD display and/or 316 SS wetted components are specified for the project. Many specifications based on industrial meters will require these features.
3. Output Signals - The models shown below are most commonly used in these applications. However, any available output signal can be used for any application. With the System-10 BTU Meter, we typically use frequency output flow meter models.
4. PVC or SS Pipe - Insertion turbine flow meters must have 316 SS option to prevent galvanic corrosion. Also, use of PVC or SS pipe may indicate a process application with chemical compatibility or low conductivity to consider.
5. Installation Hardware - Costs vary greatly based on pipe material, pipe size and standard vs. hot tap installation. Be specific about which pipe material and install kit types are required to determine the cost.

Please refer to www.onicon.com for information on choice of single vs. dual turbine meters based on straight pipe run.

APPLICATION	LOCATION & PIPE SIZE	MODEL (SIGNAL TYPE)	REQUIRED OPTIONS	DISPLAY / BTU METERS
HVAC APPLICATIONS				
Chilled Water	¾"- 1" (0.8 to 38 gpm)	F-1310 (analog)	None	System-10
Hot Water (280°F)	1¼" - 2"	F-1110 (analog)	316 SS for HW over 250°F 316 SS for non-metallic pipe	
	2½" and up with developed flow (long pipe runs)	F-1110 (analog)		
Condenser Water* (closed loop)	2½" and up with undeveloped flow due to short pipe runs	F-1210 (analog)		
Primary / Secondary Bypass	Any bi-directional application in 2½" and larger pipes	FB-1210 (analog)	Check project specifications for required features	D-100
Stratified Thermal Storage	Any bi-directional application in 2½" and larger pipes	FB-1210 (analog)		System-10
Make-up Water	1¼"- 2"	F-1130 (pulse)	316 SS wetted metal components are required for insertion type meters in these applications.	D-100
Domestic Hot Water **Domestic Cold Water**	Choose single or dual based on straight pipe run	F-1130 or F-1230 (pulse)		
Steam Condensate	Typically small pipes	F-1130 or F-1330 (pulse)	316 SS wetted metal components are required for insertion type meters in these applications.	
Boiler Feed Water (to 280°F)	Typically small pipes	F-1130 (pulse)		
MUNICIPAL WATER				
Municipal Water	1¼" and up with developed flow (long pipe runs)	F-1111 (iso-analog)	316 SS wetted metal components required.	D-100
	2½" and up with undeveloped flow due to short pipe runs	F-1211 (iso-analog)		
PROCESS APPLICATIONS				
Process Water **Process Cooling**	1¼" - 2"	F-1111 (iso-analog)	316 SS wetted metal components typically required.	D-100
	2½" and up with developed flow (long pipe runs)	F-1111 (iso-analog)		
	2½" and up with undeveloped flow due to short pipe runs	F-1211 (iso-analog)		
Process Cooling Low Conductivity	1¼" and up with developed flow (long pipe runs)	F-1111 (iso-analog)	Requires 316 SS welded construction and low conductivity option.	

* Note regarding open loop condenser water applications:
Open loop cooling towers may introduce debris that could cause fouling of the turbines. Please consider Model F-3500 Insertion Electromagnetic type flow meter for open loop applications.