



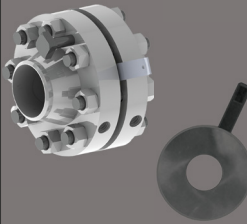
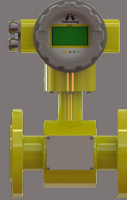



























































Flow Measurement Matrix - Institutional

Meter Type							
	Accelabar®	Verabar®	Vortex Meter	Insertion Vortex	Orifice	Mag Meter	Ultrasonic Meter
Line Size Range (Inches)	1" to 12"	≥ 1.5"	0.5" to 12"	≥ 0.5"	≥ 0.5"	≥ 0.5"	≥ 0.75"
Required Straight Run of Piping - Single elbow additional straight run required for other upstream disturbances	 No straight run required	 7D up and 3D down	 10D up and 5D down	 10D up and 5D down	 3D to 75D Upstream Depending upon Beta Ratio and Disturbance, 2D to 9D Downstream	 5D up and 2D down	 10D up and 5D down
Permanent Pressure Loss	 33 - 35% of Generated Differential	 3 - 4% of Generated Differential	 Inline Vortex (AVF) = Negligible	 Insertion Vortex (AVI) = Negligible	 50 to 70% of Generated Differential	 Zero	 Zero
Accuracy of Flow Coefficient (% of Measured Rate)	 ± 0.5%	 ± 1.0%	 ± 0.7 to 1.5%	 ± 1.2 to 2.0%	 ± 1.0 to 2.0%	 ± 0.3 to 1%	 ± 1%
Turndown in Flow (Dependent on application and flowing conditions)	 65 : 1	 10 : 1	 20 : 1	 20 : 1	 3 : 1	 1000:1	 1000:1
Communication Protocol	 4-20 mA, Relays, MODBUS, BACnet MSTP/ IP	 4-20 mA, Relays, MODBUS, BACnet MSTP/IP	 4-20 mA, MODBUS, BACnet MSTP	 4-20 mA, MODBUS, BACnet MSTP	 4-20 mA, Relays, MODBUS, BACnet MSTP/ IP	 4-20 mA, Relays, MODBUS, BACnet MSTP/IP	 4-20 mA, Relays, MODBUS, BACnet MSTP/IP
Gas							
Liquid						 >5µ Siemens/cm	
Steam							

 Ideal

 Acceptable

 Not Recommended or Least Favorable