

SMARTFLOW® TRACER®_{VM} with Local or Remote USER INTERFACE



No more guessing or misreading confusing manual flow meters. The TRACE_{VM} USER INTERFACE provides flow rates, temperature, and Turbulent Flow in an easy to read digital display.

Tracer_{VM} Flowmeter with User Interface measures liquid flow rate and temperature while providing a selectable analog voltage and programmable switch. Tracer_{VM} Flowmeter with User Interface calculates BTU's per minute and incorporates FCI (Flow Characteristic Indicator) in support of Scientific CoolingSM principles. Vortex sensor technology is highly accurate and repeatable without moving parts. Flow reading is direction specific. Refer to the arrow on the body for correct flow direction for installation.

8 to 28VDC power source is required to supply the flowmeter. Sealed push-buttons configure the flowmeter and switching operations through user-friendly menus.

Separate analog outputs facilitate data collection of temperature and flow rates. The voltage outputs are user-selectable using on-screen menus: 0 to 5 Volts or 0 to 10 Volts.

FCI helps optimize systemic water usage. "TF" on the digital display signifies the presence of Turbulent Flow, or optimum cooling water efficiency. 0, 10, 20 or 30% glycol mix is supported in Turbulent Flow calculations. SPDT switch is programmable for one to four set points: low flow, high flow, low temperature, high temperature or turbulent flow condition. Set points may be turned on or off in any combination to signify an alarm state.

Totalizer function provides volume display from a user-selected start point. (Maximum value is approximately 42,949,000 liters or 11,338,000 gallons.)

English or Metric units for flow and temperature can be changed at any time.

New Reynolds Number Display provides instant turbulent flow information based on water temperature, flow rate, cooling line diameter and glycol content. See page 4 for turbulent flow and value curve information

Applications Tracer flowmeter is suitable for use in industrial water applications such as: injection mold cooling, die cast cooling, filter condition indication and more.

Tracer_{VM} Flowmeter with User Interface is ideally suited for connection to data acquisition systems. These systems give plastics injection molders real-time statistical process control. Annual calibration is recommended for best results. Flow sensor and user interface electronics are paired and must be used together once calibration is complete.

Remote User Interface User Interface may be mounted up to 2.9M (9.5ft) away from the Tracer_{VM} Base Model (sensor and flow body without display). Use the "R" designator in the model number for a completely new unit or order a stand-alone Remote User Interface to use with an existing Base Model.





VM	3	-	B	-	15	-	L	-	P1Q
Body Size									Special Order Options
3/8" NPT	3								P1 30 psi Pressure Gauge
3/8" BSPP	3B		B or N		15H				P2 60 psi Pressure Gauge
1/2" NPT	4				40H				P3 100 psi Pressure Gauge
1/2" BSPP	4B								P4 160 psi Pressure Gauge (Pressure gauges not available with AL body material)
3/4" NPT	6		AL or SS		100H				
3/4" BSPP	6B								
1" NPT	8		AL or SS		100H				Q Delta-Q® Precision Flow Regulator (use with VM3 or VM4 only)
1" BSPP	8B				200H				
1-1/2" NPT	12		AL or SS		200H				
1-1/2" BSPP	12B								
							L		User Interface
							R		Local (display housing attached to flow body, standard)
									Remote (display housing on mounting plate with 2.9 (M) cable connection to flow body)
			Body Material						Flow Range
			Glass-Filled Nylon with Brass End Caps	B	15H	1 to 15 LPM (.3 to 4 GPM)			
			Nylon End Caps (3/8" and 1/2" only)	N	40H	2 to 40 LPM (.5 to 10.6 GPM)			
			Anodized Aluminum	AL	100H	5 to 100 LPM (1.3 to 26.4 GPM)			
			Stainless Steel	SS	200H	10 to 200 LPM (2.6 to 52.8 GPM)			

How to order
 Two part numbers are required to order.
 1 - Choose the model number from this page
 2 - Choose cable per below
EFM-CBL-OPCA - Loose leads (standard, ends stripped)
CBL-VMI-WWA - 120VAC power supply wall adapter
EFM-CBL-OPC-O - Cylindrical connectors for use with RJG IA1 module



Local User Interface



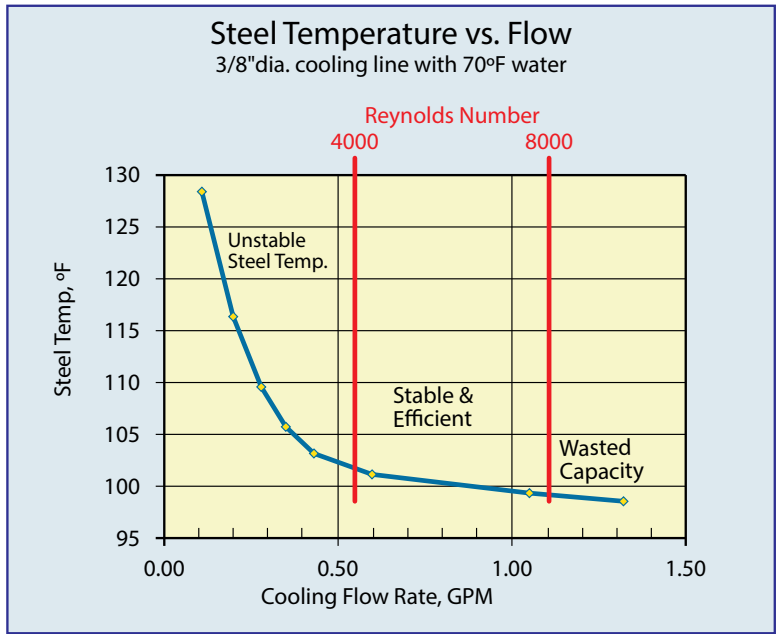
Remote User Interface



Add user interface to existing Tracer_{VM} base model

User Interface can be added at the factory to customer-supplied Tracer_{VM} without local display. Two part numbers are required.

- 1 - Contact the factory for an RMA number
- 2- Local Interface, order part number VMUI-100
- 3- Choose cable per below
 - EFM-CBL-OPC - Loose leads (standard, ends stripped)
 - CBL-VMI-WWA - 120VAC power supply wall adapter
 - EFM-CBL-OPC-O - Cylindrical connectors for use with RJG IA1 module



Turbulent Flow Basics

Turbulent water flow is much more efficient at removing heat in a cooling system than water flowing under laminar conditions. Once turbulent flow is achieved, increasing the flow rate does not significantly improve the cooling rate of the system.

In molding applications, many mold operators try to maximize the flow of water through their cooling systems to ensure turbulent flow. Doing so increases energy costs for pumping more water than necessary through the system. This practice may also limit the amount of cooling water available for cooling additional molds on the same cooling system circuit.

By insuring turbulent flow using FCI Technology, less water can be used in the molding process, saving precious resources.

