Distributed By: plastiXs manufacturing solutions

SMARTFLOW®

Injection Molding Accessories

Cooling Water Efficiency
Quick Mold Change
Tool Protection
High Temperature Solutions

Form #SF-222 (11.23)

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Aluminum Manifolds

Manufactured to Exacting Standards from High Quality Extrusion and Anodized for Corrosion Protection

- 3/4" to 2" NPT or BSPP Supply
- 1/4" to 1" NPT or BSPP Ports
- SAE Ports available as custom
- Standard red and blue anodizing
- Custom anodizing available
- Valves, meters and fitting assembly are available for time saving installation
- Custom lengths and port spacings per order
- Available accessories: IceCube™ flowmeters, flow regulators, ball valves, hose barbs, quick disconnect fittings

Customized to suit; from box to press and ready to work!

Duoflow® Manifolds are Internally Divided with Shorter Length for Ease of Mounting and Connection.

- 3/4" to 1-1/2" NPT or BSPP Supply
- 1/4" to 1/2" NPT or BSPP Ports
- Dependable, proven design
- Optional assembly of quick disconnect fittings or hose barbs
- Custom lengths and port spacings on request
- Mold-mounted manifolds speed mold changes
- Simplify setups by connecting cooling circuits to molds in storage

Manifold RFQ Checklist

- ☐ Material
- ☐ Pressure & Temperature
- ☐ Supply Thread Size
- ☐ Port Thread Size
- ☐ Port Quantity & Location
- ☐ Manifold Length
- ☐ Mounting Holes
- ☐ Additional Flow Meters or Flow Regulators
- ☐ Ball Valves, Quick Disconnects or Hose Barbs

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Stainless Steel Manifolds

100% Leak-Tested - Protection from Corrosion and Chemical Attack

- Single or Parallel Mounting
- 3/4" to 1-1/2"NPT or BSPP Supply
- 1/4" to 1/2" NPT or BSPP Ports
- Flexible, all-welded construction
- Custom assembly is available for time saving installation
- Custom port sizes, lengths and port spacings available
- Available accessories: IceCube™ flowmeters, flow regulators, ball valves, hose barbs, quick disconnect fittings

High Temperature and Pressure Stainless Steel Manifolds

- 3/4" to 1-1/2" NPT or BSPP Supply
- 1/4" to 1/2" NPT or BSPP Ports
- High temperature flow regulators or flowmeters may be added to suit.

Applies to:

- Pressurized hot water up to 450°F/450psi
- Hot oil cooling system up to 600°F/100psi

Design your Custom Assembly On-Line 24/7 with ManifoldBuilder.com

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Mechanical Flowmeters

Durable Meters for Quick Visual Flow Rate Verification

- 1/4" to 2" NPT or BSPP threaded connections
- Corrosion-resistant wetted materials: Brass, Anodized Aluminum, Stainless Steel, Nylon
- Temperature rating to 210°F (99°C)
- Pressure rated to 100psi (6.9bar)
- Optional Pressure and Temperature Gauges
- 1/4" to 1/2" models available with quick connect fittings
- Various flow rate options
- Factory assembly to manifolds

Low Flow Indicators Confirm Flow Inside Restricted Cooling Channels

- **Indication range: .08 to 1 GPM (0.3 - 4 LPM)**
- **Standard with optional gauges and regulators available: 210°F (99°C)**
- **High Temperature: 400°F (204°C)**

Flowmeters for High Temperature Mold Cooling

Hot Oil

- 1/2" Stainless Steel
- 1" Carbon Steel, Black Oxide
- Temperature Rating: 550°F/288°C
- Pressure Rating: 150psi (10.3bar)

Pressurized Water

- 1/2" Stainless Steel
- Temperature Rating: 400°F/204°C
- Pressure Rating: 250psi (17.2bar)

Flowmeter RFQ Checklist

- ☐ Thread Size
- ☐ Temperature Range
- ☐ Flow Range
- ☐ Material
- ☐ Additional Gauges
- ☐ Ball Valves, Quick Disconnects or Hose Barbs
- ☐ Flow Regulator
- ☐ Manifold Assembly

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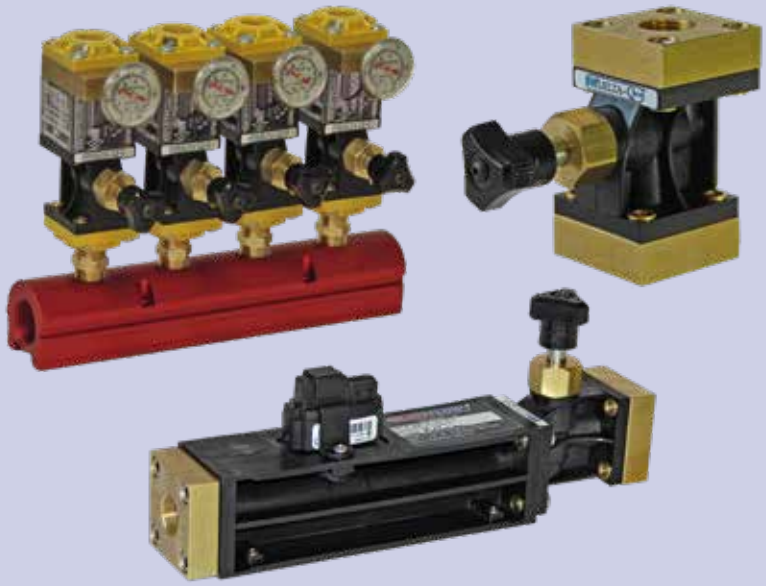
Flow Regulators

Delta-Q® Precision Modular Flow Regulator

Use with manual or electronic flowmeters and accessories. Manually adjustable from full flow to complete shut off.

- 1/4" to 1/2" compatible
- Stainless Steel valve seat and stem
- Temperature rating to 210°F/99°C
- Pressure rated to 100psi (6.9bar)
- No mounting restrictions
- Factory assembly to manifolds is recommended



Brass Flow Regulator

- 1/4" to 1" NPT
- Temperature Rating: 210°F/ 99°C
- Pressure Rating: 150psi (10bar)
- Solid brass body
- Robust operation

Automatic Flow Regulation - Tracer$_{VM}$ with AutoReg™

- **Programmable to Target Flow Rate or Reynolds Number**
- **Actuator Alarm**
- **Flow and Temperature Display**
- **Local or Remote Display**
- **Suitable for lights out operation**

High Pressure/Temperature Flow Regulator

- 1/2"NPT or BSPP
- Temperature Rating: 400°F/ 204°C
- Pressure Rating: 250psi (17.2bar)
- Stainless Steel Construction
- Optional Temperature Gauge

Flow Regulator RFQ Checklist

- ☐ Mechanical or Electronic
- ☐ Flow Range
- ☐ Temperature Range
- ☐ Thread Size
- ☐ Material
- ☐ Additional Gauges
- ☐ Ball Valves, Quick Disconnects or Hose Barbs
- ☐ Manifold Assembly

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Tracer®$_{VM}$ Flowmeters with Local or Remote Interface

Remote or Local Display of Conditions Specific to Injection Mold Cooling

- 3/8" to 1-1/2" NPT or BSPP threaded connections
- Flow Rate and Temperature Display
- English or Metric units selectable
- Turbulent Flow Indication with Glycol adjustment
- Switch for peripheral alarm, signaling outside of user-programmed cooling parameters
- Analog Output for flow and temperature
- Corrosion-resistant materials: Brass, Anodized Aluminum, Stainless Steel, Nylon
- ± 1.5% accuracy vortex shedding sensor
- Temperature Rating to 248°F/120°C
- Pressure Rated to 150psi (10.3bar)
- BTU's Calculation
- Volume Totalizer

Local Display

Remote Display

Features Programmable Switch for Cooling Condition Alert

Legacy Tracer Flowmeters

- Operating Temperature Range: -32 to 180°F / 0 to 82°C
- 3/8" or 2" NPT or BSPP Connection
- Battery Operated
- Display Features
  - Temperature
  - Flow Rate
  - Turbulent Flow
  - BTU's

Tracer$_{VM}$ RFQ Checklist

- ☐ Base or User Interface
- ☐ Flow Range
- ☐ Thread Size
- ☐ Material
- ☐ Display
- ☐ Power Supply
- ☐ Smartlink

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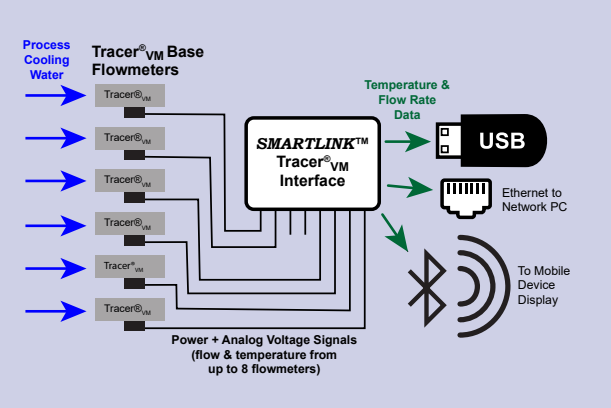
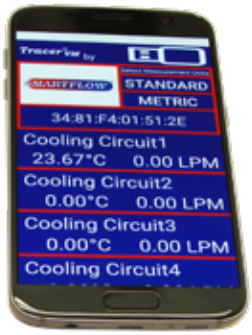
Tracer$_{VM}$ Base Flowmeters for Data Collection/Analysis



Tracer$_{VM}$ Base Flowmeters Feed Data to PLC, Network PC or Mobile App via SMARTLINK®

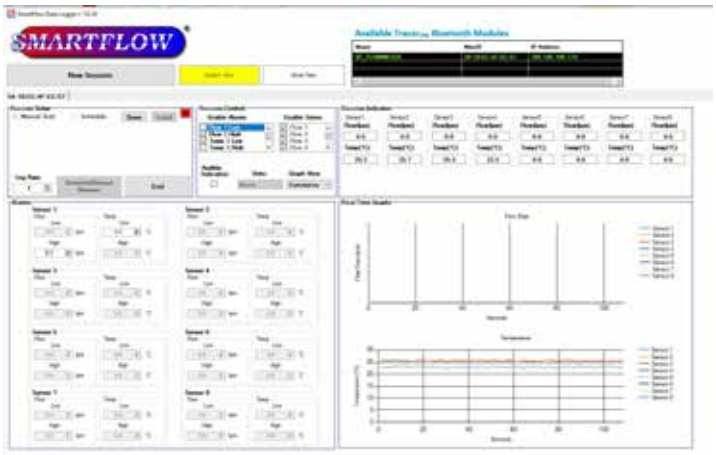
Flow and temperature data from injection mold cooling lines is fed to SMARTLINK Interface for analysis, reporting and monitoring.

- Provides essential data for facilities using IQ/OQ/PQ
- 5V power supply to Tracer$_{VM}$ Base Flowmeters provided by Smartlink
- Out of Range Alarm/Switch programmable for each circuit
- Flow Accuracy ± 1.5% of Full Scale



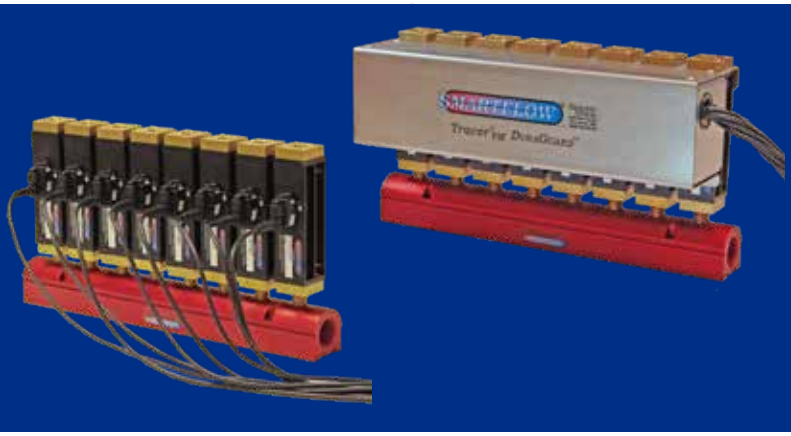
Smartphone App Display

Base Model



PC Datalogger Display Software

Flow condition transparency at a glance



Factory Assembly of Manifold Array with Protective DuraGuard™ Cover

Heavy Gauge Stainless Steel cover protects flow sensors and cable bundle from accidental damage.

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SWAP® Valves

Quick Mold Change Solutions

SWAP Between Process Cooling Water and Compressed Air with a Single Handle Motion.

- Implement SMED in your Mold Changes
- Improve Safety, Keep Production Floors Dry
- 1" or 2" NPT or BSPP Supply
- 3/8" compressed air connection
- Optional Locking Pin enables two-handed operation
- Corrosion-resistant materials: Brass, Stainless Steel, Nylon
- Temperature rating to 250°F/121°C
- Pressure rated to 150psi (10.3bar)

1" Molded Body

1" and 2" Brass Models

Watch the SWAP Valve animation.

Improve OEE with SMED-Friendly SMARTFLOW Accessories

Air Separator

Removes air from cooling water system.

- 1" and 2" Models
- Install at the highest possible location
- Corrosion-resistant materials

SWAP Valve RFQ Checklist

- ☐ Material
- ☐ Size
- ☐ Locking Pin
- ☐ Air Separator Accessory

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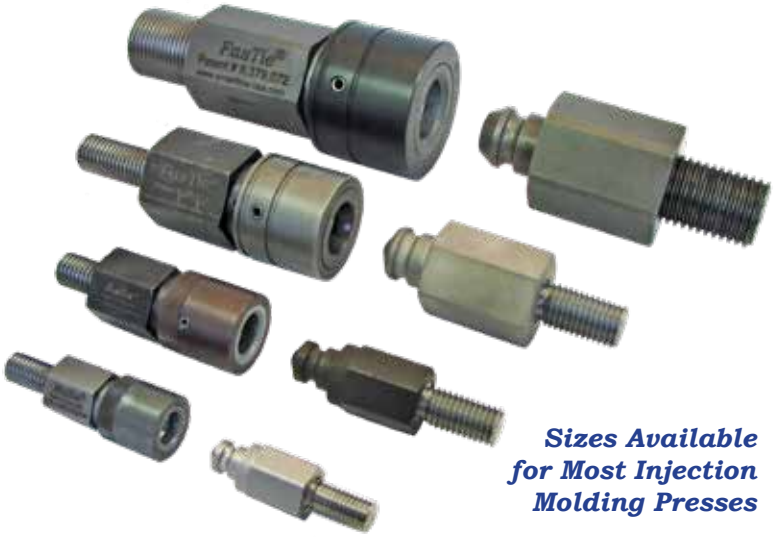
FasTie® Quick Ejector Tie-In



Sizes Available for Most Injection Molding Presses

FasTie Couplers and Pull Studs Mechanically Snap Together

Mix and match thread sizes in metric and US standard for installation in most presses and molds without modification.

- Implement SMED principles to speed mold changes
- Most valuable in small presses where space is limited
- Install in presses up to 1000 tonnes +
- Perfect for Center Knockout
- Various bar and adapter accessories aid installation
- Custom components available

Adjustable Length SpeedBar

Fixed Length Bar

Center Bar

Release With a Burst of Shop Air

Applies to:

- Captive Molders
- Contract Molders
- Center Knockout
- Vertical Knockout
- Horizontal Knockout
- Combinations

Center Adapter

Air Manifold

Watch our Animated Installation Examples

Couplers and pull studs may be installed on either press or mold ejector plates depending on the best option for you.

FasTie RFQ Checklist

- ☐ Press Tonnage
- ☐ Platen Thread Size
- ☐ Injection Mold Thread Size
- ☐ Moving Platen Thickness
- ☐ Moving Platen Thru-Hole Size
- ☐ Knockout Quantity
- ☐ Air Manifold Accessory

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In-Mold Sensors

Protect Valuable Tooling with the Right Sensor for Your Injection Mold

- Original Thinswitch for Ejector Plate Return 3/16" thickness for standard US rest buttons
- Liquid-resistant and high temperature options
- Global Thinswitch for Ejector Plate Return; 3mm or 4mm thickness for European Standard rest buttons
- Smartlock, Slide Retainer and Limit Switch
- Versaswitch for Core Pull applications

THINSWITCH®

LIQUID-RESISTANT THINSWITCH®

Reliable Mold Position Confirmation

GLOBAL THINSWITCH®

SMARTLOCK® Slide Retainer & Limit Switch

VERSASWITCH™

Non-Electric Mold Temperature Regulators

Control Mold Cooling Water Temperature Between 80°F and 120°F (27°C and 49°C)

- Recovers waste heat from the resin shot
- Internal valve automatically opens and closes to maintain steady temperature setting
- Useful to maintain single cooling circuit temperature separate from other sections of the mold

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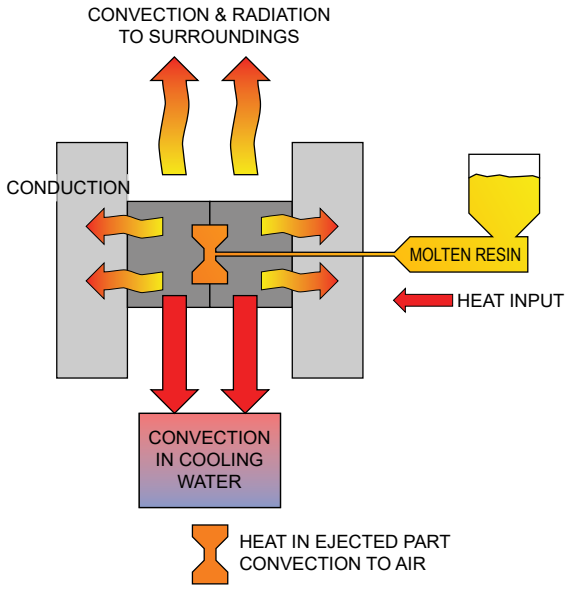
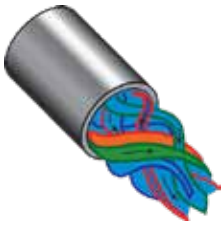
Scientific Cooling℠ Classes



Learn the tools needed to analyze Heat Energy Flow and Mold Cooling Management required to produce consistent, profitable parts

Course Objectives

- Learn energy principles in relation to specific polymers.
- Understand how Heat Transfer and Energy Flow affect part quality and cycle time.
- Apply formulas to solve heat transfer calculations for different materials of molds and parts.
- Understand Reynolds Number's relationship to Turbulent Flow.
- Learn how Energy and Water Conservation can be supported using heat transfer calculations.
- Study the 3 R's of Scientific Cooling to develop and maintain efficient cooling setup and processes.
- Investigate the biggest impact on cooling: Part Design, Mold Design or Processing.
- Discover water chemistry's effect on cooling efficiency and why mold maintenance is so important.
- Receive an introduction to pump performance curves.
- Participate in "Hands-On" activities and worksheets to reinforce learning objectives.



Energy cannot be created or destroyed.

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plastiXs® manufacturing solutions

SMARTFLOW®

Free Efficiency Tools:

Scientific Cooling Calculator

Calculate the minimum cooling circuit length needed to extract heat from the part based on process variables:

- **Resin**
- **Cycle Time & Shot Weight**
- **Environmental Conditions**
- **Coolant Temperature, ΔT and Cooling Circuit Diameter**

Turbulent Flow Calculator

Calculate the Reynolds number based on variables in your process:

- Coolant Temperature
- Glycol Percentage
- Cooling Circuit Cross Section
- Cooling Circuit Diameter

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