



ABOUT MCMILLAN

McMillan Company is a privately-held manufacturing corporation based in Georgetown, Texas. The company was founded in 1988 and has positioned itself as one of the leaders in ultra-high-purity (UHP) liquid flow measurement and control technology.

Through the use of a patented microturbine sensing technology, liquid flow rates can be precisely and repeatably measured. Flow ranges as low as 15-100 mLpm are available, with ranges up to 50 Lpm.

Some products are available with integrated control valves to regulate flow rate. Such Flow-Controllers incorporate a flow sensor, valve, and smart electronics to receive control signals from the user and make the necessary adjustments to the flow rate automatically. Even with changes in supply pressure, the unit can adjust very quickly to restore the desired flow. This provides very effective chemical dispensing, blending, and batch control.

McMillan provides solutions to many markets on the OEM level. We welcome OEM applications, and we will work closely with our customers to develop a product specifically for their specific application. Generous discounts are available to quantity users.

OTHER PRODUCTS AVAILABLE

For customers with flow sensor or flow controller requirements not related to UHP industries, including analytical and laboratory applications, make sure to request our LAB/OEM Short Form Catalog.



Flow Products for Ultra-High-Purity (UHP) Applications

SHORT FORM CATALOG

McMillan Company
P.O. Box 1340
Georgetown, Texas 78627

Toll-Free: 800.861.0231 (U.S.A. only)
Direct: 512.863.0231
Fax: 512.863.0671

Email: sales@mcmflow.com
Website: www.mcmflow.com



COMPACT FLO-SENSORS FOR UHP LIQUIDS

Products: U707, U708

The Model U707 and U708 are the world's smallest precision liquid flow sensors for UHP fluids.

Requiring 1/8 the volume of comparable differential-pressure flow meters, these products are very useful for OEM applications where space is limited. Units can even be purchased in gangs of 2, 3, or 4 units to reduce footprint even further.

Integrated flare fittings provide easy connections, and each unit provides a connector for interfacing. Several cable options are available.

The Model U707 features pulse outputs; the Model U708 features analog outputs.



Accuracy:	±1.0% F.S.*
Repeatability:	±0.2% F.S.
0-5 VDC Output Available:	<input checked="" type="checkbox"/>
0-10 VDC Output Available:	<input checked="" type="checkbox"/>
4-20 mA Output Available:	<input checked="" type="checkbox"/>
Pulse Output Available:	<input checked="" type="checkbox"/>
Wetted Materials:	PTFE Kal-Rez® sapphire
Highest Pressure Rating:	80 psig
Minimum Flow Range:	15-100 mLpm
Maximum Flow Range:	1-10 Lpm
Available Power Options:	12 VDC 24 VDC

* Some Models

INLINE FLOW PATH FLO-SENSORS FOR UHP LIQUIDS

Products: U705, U706

The Model U705 and U706 Flo-Sensors provide precision flow rate monitoring with an inline flow path. Flow rates as high as 50 Lpm can be measured.

Integrated flare fittings provide easy connections, and each unit provides a power/signal cable with pigtail leads for interfacing.

The Model U705 features pulse outputs; the Model U706 features analog outputs.



Accuracy:	±1.0% F.S.*
Repeatability:	±0.2% F.S.
0-5 VDC Output Available:	<input checked="" type="checkbox"/>
0-10 VDC Output Available:	<input checked="" type="checkbox"/>
4-20 mA Output Available:	<input checked="" type="checkbox"/>
Pulse Output Available:	<input checked="" type="checkbox"/>
Wetted Materials:	PTFE Kal-Rez® sapphire
Highest Pressure Rating:	80 psig
Minimum Flow Range:	15-100 mLpm
Maximum Flow Range:	5-50 Lpm
Available Power Options:	12 VDC 24 VDC

* Some Models



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"U" FLOW PATH FLO-SENSORS FOR UHP LIQUIDS

Products: U701, U702

The Model U701 and U702 Flo-Sensors provide precision flow rate monitoring with a U-type (180°) flow path. Flow rates as high as 50 Lpm can be measured.

Integrated flare fittings provide easy connections, and each unit provides a power/signal cable with pigtail leads for interfacing.

The unique U-type flow path reduces effective footprint by allowing fluid connections on the same side of the unit.

The Model U701 features pulse outputs; the Model U702 features analog outputs.



Accuracy:	±1.0% F.S.*
Repeatability:	±0.2% F.S.
0-5 VDC Output Available:	<input checked="" type="checkbox"/>
0-10 VDC Output Available:	<input checked="" type="checkbox"/>
4-20 mA Output Available:	<input checked="" type="checkbox"/>
Pulse Output Available:	<input checked="" type="checkbox"/>
Wetted Materials:	PTFE Kal-Rez® sapphire
Highest Pressure Rating:	80 psig
Minimum Flow Range:	15-100 mLpm
Maximum Flow Range:	5-50 Lpm
Available Power Options:	12 VDC 24 VDC

* Some Models

FLO-CONTROLLERS FOR UHP LIQUIDS

Products: U801, U802

The Model U801 & U802 Flo-Controllers incorporate our advanced flow sensor design with a diaphragm proportional control valve for automated flow control.

When provided a setpoint signal, the flow controller uses logic to adjust the integrated valve and maintain desired flow rate even with pressure fluctuations. This can be very useful for accurate chemical dispense, blending, spiking, and dosing.

Many flow controllers have replaced peristaltic pumps on CMP slurry dispense systems.

The Model U801 includes an external control module for simplified control. The Model U802 is the world's smallest integrated liquid flow controller. Both feature McMillan's patented flow sensor and control valve designs.



Accuracy:	±1.0% F.S.
Repeatability:	±0.2% F.S.
0-5 VDC I/O Available:	<input checked="" type="checkbox"/>
0-10 VDC I/O Available:	<input checked="" type="checkbox"/>
4-20 mA I/O Available:	<input checked="" type="checkbox"/>
Pulse I/O Available:	<input type="checkbox"/>
Wetted Materials:	PTFE Kal-Rez® sapphire
Highest Pressure Rating:	80 psig
Minimum Flow Range:	15-100 mLpm
Maximum Flow Range:	1-10 Lpm
Available Power Options:	24 VDC

* Some Models

DISPLAYS

Products: 210R, 220, 250, 251

The Model 210R is a panel-mountable 3½ digit display. It may be powered with any 5-30 VDC power source and accepts 0-5VDC inputs. It can be configured to read in engineering units.

The Model 220 Ratemeter/Totalizer accepts pulse inputs and is powered by an internal lithium battery. It will display realtime flow rate and also incorporates an 8-digit totalizer. Both rate and total flow can be configured to display in engineering units.

The Model 250 & 251 Multi-Function Displays provide realtime flow rate, total flow, and alarm functions. They also allow linearization of signal for increased accuracy for critical applications.



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RYTON – Registered trademark of Phillips Petroleum Co.

KAL-REZ – Registered trademark of DuPont Dow Elastomers, LLC

Bulletin SFC-UHP001

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SENSING TECHNOLOGY

MICROTURBINE

Unlike traditional “paddle-wheel” type flow meters, McMillan’s patented design allows for measurement of UHP liquids reliably with no particle generation or contamination. A small Pelton-type turbine wheel is suspended in the flow path on a miniature sapphire shaft and bearings. The speed of the wheel is sensed optically using an infrared beam. Wheel speed is converted to an electronic output. By adjusting the intensity and frequency of the light source, the technology is compatible with virtually all media. All PTFE, Kal-Rez® and sapphire wetted parts provide solutions for even the most aggressive applications. Common fluids measured include CMP slurries, photore-sist, hydrofluoric acid, deion-ized water, and organic solvents.

