

PROTEUS[™] Series

Metering Pumps



PROTEUS Communications Model

The Intelligent Metering Pump

PROTEUS[™]
— THE INTELLIGENT —
CHEMICAL METERING PUMP

PROTEUS™ Metering Pump

The Intelligent Chemical Metering Pump

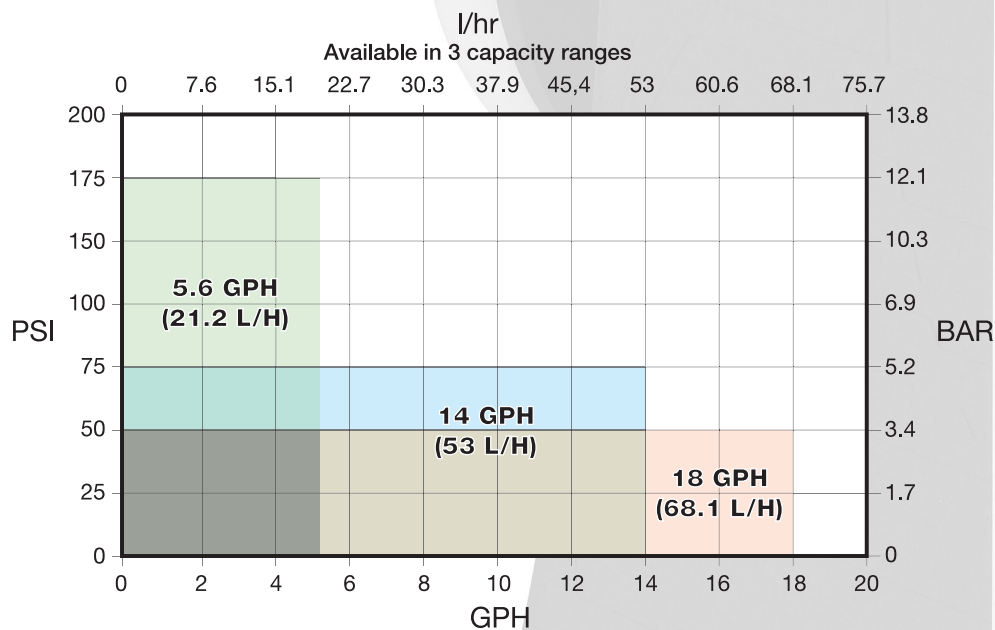
Introducing PROTEUS™, the chemical metering pump: engineered to meet today's most demanding standards for accuracy, reliability, and process control flexibility. The PROTEUS series is not just clever or smart, but a metering pump so intelligent and advanced that it's sure to make a name for itself.

Milton Roy designed the PROTEUS series from the ground up based on valuable feedback received from our customers as well as treatment plant maintenance, operators, and industry experts.

The PROTEUS metering pump features enhanced performance and process control capabilities built on a universal technology platform with the ability to adapt as technology evolves.

Whatever your application, the PROTEUS metering pump is ready to outperform and outsmart your most demanding application.

PROTEUS Performance chart



Applications:

Milton Roy manufactures controlled volume metering pumps for a wide range of industries and applications. The PROTEUS series is designed for the specific requirements of municipal and industrial water and waste treatment but is suitable for many more applications.

- Water treatment
- Waste water treatment
- General Industry
- Agricultural
- Chemical
- Oil & Gas
- Power generation
- Pulp & paper
- Textiles
- Other (contact your local authorized representative)

Valued reputation

At Milton Roy, we take pride in the relationships we've built and the partnerships we've formed. We work hard every day to earn the trust and confidence of our customers. We believe it's this reputation that sets us apart from the competition. Our goal is to manufacture world-class pumps and accessories and to respond to our customers' needs with a sense of urgency and mutual respect. Year after year, we continue to build more than just great pumps!

Culture of innovation

With over 80 years of innovative excellence, Milton Roy continues to build superior products to meet our customers' toughest metering pump applications. Milton Roy consistently delivers the most reliable, comprehensive range of metering pumps on the market today. Our professional and experienced research and development team continues to make huge strides in innovation for tomorrow.

Our global network

With strategically located manufacturing sites and channel partner experts to support you globally, Milton Roy is with you wherever you are. Visit us online at miltonroy.com to find your local authorized representative.

Our commitment to quality

Milton Roy is committed to delivering products of the highest quality standards to our customers. This commitment begins with a culture to continually improve our products and processes by implementing a quality management program based on best practices. Because of this commitment, Milton Roy's pumps are the most reliable and highly regarded pumps on the market.

Easy model selection

Selecting the right pump just got easier. No complicated configurations are necessary to find the right pump. With the Manual, Enhanced, and Communications models, simply pick the features that fit your needs (see page 6 for a complete list). Our models offer a wide range of functionality including backlit display, multilanguage, and 2-way communication to name only a few.



Pictured: PROTEUS Communications model

Features and Benefits

Milton Roy is setting the standard for accuracy and reliability

Milton Roy continues its commitment to innovation and technological advances with the introduction of the PROTEUS Metering Pump. Designed to meet the most challenging application needs, the PROTEUS series brings a new level of accessibility and performance to the field with 3 models to fit your application needs.

A comprehensive product offering:

- PROTEUS series flow rates extend from 0.006 to 18 GPH (0.023 to 68 l/hr)
- Mechanically actuated diaphragm for years of reliable service
- +/- 1% steady state accuracy over 1000:1 turndown ratio



Highly efficient mechanically actuated diaphragms

Maximum evacuation on every stroke regardless of capacity setting

Universal technology platform

Able to adapt as technology evolves

Advanced easy-to-use operation interface

Backlit color display and enhanced settings enable maximum application customization

Rugged construction

Upgraded NEMA 4X/IP 65 housing and protective cover for the harshest environments

Input/Output

- Manual model - Ideal level of standard features
- Enhanced model - Full range of features

Remote connectivity

Control and feedback in real time

- Enhanced model - Multiple methods of connection to process control signals whether analog or digital

Universal power supply

Providing maximum flexibility



Modbus RTU and Profibus DP enabled

For 2-way communication

Programmable Outputs

Dedicated communication

Programmable Input(s)

Dedicated communication



Pictured: Communication model

Multilanguage, user-friendly navigation

The PROTEUS pump's backlit color display allows for convenient navigation in five languages: English, French, Spanish, Portuguese, and Chinese. The enhanced control version is ready for digital or analog control interface and an extensive variety of inputs and outputs for various digital and analog devices. The newest PROTEUS Communications model offers Profibus DP and Modbus RTU communication protocols to enable communication with many devices connected to the same network. The PROTEUS series provides everything you need to assure you have complete control of your process.



Superior control and accuracy

An innovative drive system creates superior $\pm 1\%$ steady state accuracy over 1000:1 turndown ratio by controlling PROTEUS pump's stroke profile. As a result, PROTEUS provides consistent operation and greater flexibility for handling difficult chemicals such as polymers and other viscous fluids.

Capacity Setting

100%



50%



20%



High viscosity settings allow decreased suction speed.
50% suction speed and 50% capacity

Time →

Features and Benefits

Electronic control by model

Control Version

Manual model
Enhanced model
Communications model

	Manual model	Enhanced model	Communications model
User Interface			
Four Color Backlit graphical display	●	●	●
Flow rate or volume display (GPH, L/hr)	●	●	●
Capacity setting display	●	●	●
Start/Stop button	●	●	●
Mode/Select button	●	●	●
Full capacity (100%) button	●	●	●
Prime button	●	●	●
Active operation mode indication on display	●	●	●
Active alarm indication on display	●	●	●
Calibration status indication on display	●	●	●
Operation Modes			
Manual (Internal)	●	●	●
Analog [0/4-20 mA] (External)		●	●
Pulse [volume/pulse] (External)		●	●
Batch (External)		●	●
Cycle Timer (Internal)		●	●
Timed event (Internal)		●	●
Control Input			
Programmable digital contacts	1	4	4
Single level float switch	●	●	●
Dual low level float switch		●	●
Pulse control		●	●
Remote start/stop	●	●	●
Remote internal/external mode selection		●	●
Programmable analog inputs	0	2	2
Pacing		●	●
Tank level		●	●
Control Protocols			
Modbus RTU*			●
Profibus DP*			●

* Must order pump configured for your control protocol (See section table).

Control Version

Manual model
Enhanced model
Communications model

	Manual model	Enhanced model	Communications model
Control Output			
Programmable digital contacts	0	2	2
Pump running		●	●
Pump standby/stopped [not pumping but ready]		●	●
Alarm status		●	●
User alarm status		●	●
Internal/External mode indication		●	●
Pump stopped		●	●
Stroke pulse		●	●
Timed event running		●	●
Programmable analog output	0	1	1
Flow rate [4-20 mA correlates to 0 - max capacity]		●	●
Mirror analog input 1		●	●
Power supply for remote device [24V] (eg. Flow sensor)	0	1	1
Operation functions			
Capacity control by motor speed variation	●	●	●
Variable stroke profile (variable discharge speed/constant suction speed)	●	●	●
Slow suction mode for viscous or degassing media	●	●	●
Calibration function (single point)	●	●	●
Prime feature (max capacity) button, timer	●	●	●
Totalizer (strokes, volume, hours motor operation, number of power cycles)	●	●	●
Keypad lock (software driven with password)	●	●	●
Clock feature (date and 12 hour time)	●	●	●
Diaphragm replacement mode (sets stroke to extended position)	●	●	●
Display firmware revision	●	●	●
Load factory defaults	●	●	●
Battery to maintain date and time settings when main power is removed	●	●	●
EEPROM nonvolatile memory (configurations saved/powers up in last used mode)	●	●	●
Internal/External input control mode configuration	●	●	●
Alarm output mask configuration (configure which events trigger alarm output relay)	●	●	●
Analog input response curve customization		●	●
Input pulse width setting		●	●
Start/Stop via remote signal	●	●	●
Pump switch off on tank empty	●	●	●
Modbus RTU / Profibus DP protocol			●

Making PROTEUS pumps work for you

For integrators

Specifying PROTEUS metering pumps for critical systems gives process systems integrators the best guarantee of reliability, accuracy, and performance in challenging environments.



For operators

Consider the value of installing a PROTEUS metering pump when making updates to your equipment. The PROTEUS pump series offers field-proven dosing technology, a state-of-the-art technology platform, and an easy-to-use navigation system all backed by authorized industry experts to support you long after the installation.

Options and accessories

A wide range of options and accessories are available to customize the PROTEUS metering pump to your application.

Mechanically actuated diaphragm liquid end materials:

- Polypropylene
- PVDF
- 316L stainless steel

PROTEUS accessories include:

- Backpressure valves
- Safety valves
- Pulsation dampeners
- Calibration columns
- Degassing valves and systems



We are a proud member of Accudyne Industries, a leading global provider of precision-engineered, process-critical and technologically advanced flow control systems and industrial compressors. Delivering consistently high levels of performance, we enable customers in the most important industries and harshest environments around the world to accomplish their missions.



Contact your local representative to find out more about PROTEUS™
the intelligent chemical metering pump.

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