

Teledyne Isco Precision Syringe Pumps

500SP High Pressure Syringe Pump

FOR HEIGHT CONSTRAINED CHEMICAL FEED APPLICATIONS

The 500SP syringe pump is ideal for a wide range of chemical feed applications requiring flow rates up to 204 ml/min at pressures up to 3,750 psi. With its 179 ml capacity, this pump can deliver a precise 1 ml per minute for 3 hours on a single fill. For non-stop continuous flow, we offer dual pump systems with a choice of valve packages.

With a pump height of only 23.9 inches (61 cm), the 500SP can be used in applications where equipment size is limited. As with all D-series pumps, you'll get accurate, predictable flow and pressure control throughout a remarkable operating range. Patented digital position monitoring servo circuitry provides low-flow precision at any pressure, plus the high speed smoothness and power of a DC motor.

The 500SP pump module has a single-ratio drive train with auto-lubricating gears for long life and low maintenance. Special fittings are used to prevent leaks and ensure safety at maximum pressure.

Wetted materials are compatible with most aqueous and organic liquids, corrosive solutions, heated fluids, liquefied gases, viscous fluids, or slurries and pastes.

Applications

- Precision fluid addition in research and manufacturing processes
- Reactant feed in chemical process development, catalyst evaluation, plastic formulation
- Accurate metering of liquified gases

Standard Controller Features

Operating Modes

- Constant flow or pressure with up to three pumps
- Gradient LC programming
- Flow or pressure programming with a single pump
- Continuous flow or pressure with dual pump

External Interface

- RS232 serial interface
- Analog voltage inputs
- Digital inputs and outputs



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500SP Specifications

Pump module:	500SP
Capacity:	179 ml
Flow range (ml/min):	0.00001 – 204 ml/min
Flow accuracy:	± 0.5% of setpoint, (Maximum 1.0 µl/min seal leakage)
Displacement resolution:	31.71 nl/step
Motor stability:	± 0.001% per year
Pressure range:	0.7 - 258.6 bar (10 - 3,750 psi)
Standard pressure accuracy:	0.5% FS
Optional pressure accuracy:	0.1% FS
Wetted materials (standard):	Nitronic 50, Graphite filled PTFE, TFE, Hastelloy C-276, inert polymers
Plumbing ports:	1/8" NPT
Operating temperature:	5 - 40° C Ambient
Power required:	100 Vac, 117 Vac, 234 Vac, 50/60 Hz (specify)
Dimensions (H x W x D):	61 cm x 27cm x 45cm (23.9" x 10.7" x 17.9")
Weight:	Pump unit – 28.3 kg, Controller – 2.96 kg
Standards conformity:	EN1010-1, EN61326:1998, UL6101A-1, CSA1010

Isco is continually improving its products and reserves the right to change specifications without notice.

500SP Options & Accessories



**500SP
Dual Pump
System**

- Temperature control jacket (i.e. cylinder cooling for filling with liquefied gas)
- High-precision pressure transducers (0.1% linear accuracy)
- Drivers for LabVIEW - National Instruments
- 4-20 mA input for flow rate and pressure control
- 4-20 mA output for monitoring flow rate, pressure, and volume
- Analog voltage output for monitoring flow rate and volume

500SP Ordering Information

500SP Pump Module (only)	60-5364-034
500SP Syringe Pump (includes controller)	60-5364-225
500SP Dual Short Air Valve Package.....	60-5364-205



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