

Heavy Oil & Oil Sands Research with High Precision Syringe Pumps



Custom Pumps

For a perfect fit, Isco can provide a custom pump tailored to your needs with special features such as:

- Flow rates
- Pressures
- Port sizes
- Software

Simply contact your Isco rep and we will be happy to discuss your requirements.

Solve tough pumping problems with custom syringe pumps!

R&D: In-Situ Methods

Research currently underway for heavy oil or oil sands requires pumps to operate at higher pressures and viscosities. The new 500HP custom pump meets this need with high pressure/temperature operation and 500 ml displacement.

Pump Almost Anything

Since 1971, Teledyne Isco has provided customers in the energy industry with pumps that can handle a wide variety of fluids including:

- Slurries and pastes
- Heated fluids
- Viscous fluids
- Liquefied gases

Isco Syringe Pump Product Line - Programmable & Reliable

Isco's precision syringe pumps provide flow and pressure control with a remarkable operating range, minus the pulsation or flow anomalies associated with other pump types.

- Continuous, pulseless feeds at precise flow rates from sub-microliter to 400 ml/min
- Accuracy of $\pm 0.5\%$ or better
- High temperatures up to 200° C
- Pressures from atmospheric to 20,000 psi



New 500HP offers 200° C & larger port options!

For guidance in selecting a pump to meet your needs, visit us on the web at:

www.isco.com/pumpselector1

500HP High Pressure Syringe Pump

The 500HP syringe pump provides precise, predictable flow and pressure control at flow rates from sub-microliter to 204 ml/min. Exceptional low-flow stability at up to 5,000 psi makes this the ideal pump for high pressure applications from deep well core analysis to multi-dimensional capillary LC using small-bore packed capillary columns.

- Control:**
- Constant flow or pressure
 - Flow or pressure programming
 - Independent control of up to three pumps
 - Continuous flow or pressure with dual pump
 - Serial communication or analog I/O for external control/readout



500HP Accessories

- Temperature control jacket (i.e. cylinder cooling for filling with liquefied gas) (A)
- High-temperature transducer, suitable for operation to 200° C. (B)
- High-accuracy pressure transducers (0.1% linear accuracy) (C)
- Drivers for LabVIEW software - National Instruments
- Hastelloy 276 for added corrosion resistance
- 4-20 mA input for flow rate and pressure control
- 1/4" NPT Port for use with 1/4" tubing

500HP Specifications

Pump module:	500HP
Capacity:	507.38 ml
Flow range (ml/min):	0.001 – 204 ml/min
Flow accuracy:	± 0.5% of setpoint, (Maximum 0.25 µl/min seal leakage)
Displacement resolution:	31.71 nl/step
Motor stability:	± 0.001% per year
Pressure range:	0.7 - 344.7 bar (10 - 5,000 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):	103cm x 27cm x 45cm (40.6" x 10.7" x 17.9")
Weight:	Pump unit – 33.2 kg, Controller – 2.96 kg
Standards conformity:	EN1010-1, EN61326:1998, UL6101A-1, CSA1010



500HP Ordering Information

500HP Syringe Pump (includes controller)	60-5364-016
500HP Pump Module (only)	60-5364-097



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