

# Isco Syringe Pumps

## 500HL Hazardous Location Syringe Pump

**APPROVED BY UL/DEMKO FOR  
CLASS I, DIV 2 OR ZONE 2 ENVIRONMENTS**

The Isco HL-Series pumps give you the same accurate, predictable flow and pressure control as our standard D-Series, while conforming to safety standards for use in UL Class I, Division 2, Groups A B C & D, T4 or Zone 2, II 3G EEx nC IIC T3 environments. The Hazardous location rating is achieved through internal design modifications including the use of brushless DC motors. This approach eliminates the need for purge boxes or other additional safety devices.

The HL controller has a keypad and LCD, as well as built-in and optional interfaces for computer control and other devices. Programming is easy and flexible, with instant access to menu screens even when the pump is running. This allows you to change operating parameters on the fly.

Wetted materials are compatible with most aqueous and organic liquids, corrosive solutions, heated fluids, liquefied gases, viscous fluids, or slurries and pastes. If needed, optional materials such as Hastelloy C-276 are available on request.

### Applications

- Metering and dispensing in experiments and pilot plants where explosive conditions may occur
- Precision fluid addition in research and manufacturing processes
- Reactant feed in chemical process development, catalyst evaluation, plastic formulation
- Accurate metering of liquefied gases

### Standard Controller Features

#### Operating Modes

- Constant flow or pressure with up to three pumps
- Continuous flow or pressure with dual pump

#### External Interface

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

### Chemical Compatibility

Wetted materials have been tested for compatibility with the following fluids.

- |               |                |
|---------------|----------------|
| ➤ ethane      | ➤ ethylbenzene |
| ➤ butane      | ➤ propane      |
| ➤ diesel fuel | ➤ hexane       |
| ➤ isopropanol | ➤ ammonia      |
| ➤ benzene     | ➤ acetonitrile |
| ➤ ethylene    | ➤ propylene    |
| ➤ butadiene   | ➤ gasoline     |
| ➤ jet fuel    | ➤ methanol     |
| ➤ acetone     | ➤ heptane      |



500 HL Specifications	
<b>Pump module:</b>	500HL
<b>Capacity:</b>	507 mL
<b>Flow range (ml/min):</b>	0.001 – 122 ml/min
<b>Flow accuracy:</b>	± 0.5% of setpoint, (maximum 1.0 µl/min seal leakage)
<b>Displacement resolution:</b>	12.684 nl
<b>Motor stability:</b>	± 0.001% per year
<b>Pressure range:</b>	0.7 - 258.6 bar (10 - 3,750 psi)
<b>Standard pressure accuracy:</b>	0.5% FS
<b>Optional pressure accuracy:</b>	0.1% FS
<b>Wetted materials (standard):</b>	Nitronic 50, Graphite filled PTFE, TFE, Hastelloy C-276, inert polymers, Titanium, Gold
<b>Plumbing ports:</b>	1/8" NPT
<b>Operating temperature:</b>	5 - 40° C Ambient
<b>Power required:</b>	100 Vac, 117 Vac, 234 Vac, 50/60 Hz (specify)
<b>Dimensions (H x W x D):</b>	103cm x 27cm x 47cm (40.6" x 10.7" x 18.5") (pump only)
<b>Weight:</b>	Pump unit – 33.2 kg, Controller – 2.96 kg
<b>Standards conformity:</b>	UL 1604, CSA-213, EN50021, EN61326:1998, EN61010-1, UL6101A-1, CSA1010

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

### 500 HL Options & Accessories

- Hastelloy 276 or Titanium cylinder for added corrosion resistance
- Temperature control jacket (i.e. cylinder cooling for filling with liquefied gas)
- High-temperature pressure transducers (200°C maximum)
- High-precision pressure transducers (0.1% linear accuracy)
- Drivers for LabVIEW - National Instruments
- 4-20 mA input for flow rate and pressure control
- Dual Pump Continuous Flow System -Air Valves-A500HL



A500HL continuous flow system.

### 500 HL Ordering Information

500HL Pump Module (only).....	68-1260-003
HL Series Controller (only) .....	68-1260-006
500HL Syringe Pump (includes controller) .....	67-9000-199
A500HL (continuous flow system) .....	67-9000-204



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