

# 100HL<sub>f</sub>

## Hazardous Location Syringe Pump

Teledyne ISCO HL<sub>f</sub>-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, T3B 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.

*10,000 psi (690 bar) approved by UL for Class I, Division 2 Environments*

The HL<sub>f</sub> 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.

### Chemical Compatibility

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

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



### Applications:

- Metering and dispensing in experiments and pilot plants where explosive conditions may occur
- Precision fluid addition in research and manufacturing processes
- Chemical/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 four pumps
  - Continuous flow or pressure with dual pump
  - Flow or pressure programming with a single pump
  - Dispense mode
- External Interface
  - RS232/485 serial interface
  - Analog voltage inputs
  - Digital inputs and output
  - Ethernet/USB

## 100HL<sub>f</sub> Specifications

<b>Pump Module:</b>	100HL <sub>f</sub>
<b>Capacity:</b>	102 mL
<b>Flow Range (mL/min):</b>	0.01 µL–60 mL/min*
<b>Flow Accuracy:</b>	+ 0.3% of setpoint, (Maximum 0.25 µL/min seal leakage)
<b>Displacement Resolution:</b>	3.86 nL/stop
<b>Pressure Range:</b>	10–10,000 psi (0.7–689.5 bar)
<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, Gold, Titanium
<b>Plumbing Ports:</b>	1/8" Valco
<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>	39.8 x 10.7 x 18.4 in (101 x 27 x 47 cm)
<b>Weight:</b>	Pump unit—72.3 lb (32.8 kg) Controller—6.5 lb (3.0 kg)
<b>Standards Conformity:</b>	UL 61010-1, ANSI/ISA 12.12.01-2012, CSA C22.2 No. 1010 and No. 213-M1987

\*Maximum flow rate is dependent upon operating pressure. (See manual for additional information.)

## 100HL<sub>f</sub> Options & Accessories

- Temperature control jacket (i.e. cylinder cooling for filling with liquefied gas)
- Drivers for LabVIEW—National Instruments
- 4-20 mA inputs and outputs for flow rate and pressure control

## Ordering Information

100HL <sub>f</sub> Pump Module, Nitronic .....	68-1260-014
HL <sub>f</sub> Series Controller, Basic .....	68-1260-013
HL <sub>f</sub> Series Controller with 4-20mA (only) .....	68-1260-011
Continuous Flow Air Valves, Nitronic.....	60-1247-141
Manual Refill Kit.....	68-1247-077
Manual Outlet Kit.....	68-1247-078
Temperature Control Jacket .....	68-1247-047



HL<sub>f</sub> Continuous Flow System



## Teledyne ISCO

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Teledyne ISCO is continually improving its products and reserves the right to change product specifications, replacement parts, schematics, and instructions without notice.



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