

Teledyne Isco Syringe Pumps

Product Data Sheet

1000HL_f Hazardous Location Syringe Pump



Approved by UL for
Class I, Div 2 Environments

The Teledyne Isco HL_f-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 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.

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.

The HL_f 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.

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 four pumps
- Continuous flow or pressure with dual pump
- Flow or pressure programming with single pump
- Dispense mode

External Interface

- RS232/485 serial interface
- Analog voltage inputs
- Digital inputs and outputs
- Ethernet/USB



Chemical Compatibility

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

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



1000HL_f Specifications

Pump Module:	1000HL _f
Capacity:	1015 mL
Flow Range:	0.001 - 408 mL/min
Flow Accuracy:	±0.5% of setpoint, (Maximum 1.5 µL/min seal leakage)
Displacement Resolution:	25.36 nL/step
Motor Stability:	±0.001% per year
Pressure Range:	0.7 - 137.9 bar (10 - 2,000 psi)
Standard Pressure Accuracy:	0.5% Full Scale
Optional Pressure Accuracy:	0.1% Full Scale
Wetted Materials (Standard):	Nitronic 50, Graphite filled PTFE, TFE, Hastelloy C-276, Inert Polymers, Titanium, Gold
Plumbing Ports:	1/4" 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):	Pump unit - 103 x 27 x 47 cm (40.6 x 10.7 x 18.5 inches)
Weight:	Pump unit - 36.5 kg, Controller - 2.96 kg
Standards Conformity:	UL 61010-1, ANSI/ISA 12.12.01-2012, CSA C22.2 No. 1010 and No. 213-M1987

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

1000HL_f Options & Accessories

- Hastelloy 276 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/output for flow rate and pressure control
- Dual Pump Continuous Flow System - Air Valves-A1000HL_f



A1000HL_f Continuous Flow System

1000HL_f Ordering Information

HL _f Syringe Pump Controller (only)	68-1260-013
HL _f Syringe Pump Controller with 4-20 mA (only)	68-1260-011
1000HL _f Pump Module (only)	68-1260-016
1000HL _f Syringe Pump (includes controller)	67-9000-275
A1000HL _f (continuous flow system)	67-9000-271

