

# High-Pressure Operation and Options

## For Teledyne Isco Syringe Pumps

### Overview

Syringe pumps that can operate within a higher pressure range are ideal for high-pressure applications such as bench-scale experiments for offshore drilling.

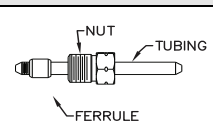
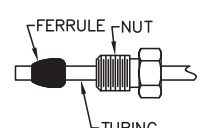
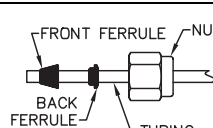
The HP line of pumps are also a good solution when operating at the high end of the standard range, so that in the event of pressure spikes, operation continues uninterrupted.

### Distinguishing Fittings

Teledyne Isco syringe pump tubing connections use F250, Valco, or Swagelok NPT stainless steel compression fittings, depending on the use. Where applicable, this bulletin will state which type of fitting is being used for the listed part.

Table 1 shows the differences between types of tube fittings.

**Table 1: SST Compression Fittings**

Fitting Type	Assembly
Autoclave F250	
Valco	
Swagelok	

### Specifications: HP vs D-Series Models

**Table 2: Comparing Specifications for Single-Pump HP and D-Series Systems**

Model	65D	65HP	260D	260HP	500D	500HP	500HPX
Pressure	0.6895 to 1379 bar	0.7 to 1654.7 bar	0.6895 to 517.1 bar	0.7 to 655 bar	0.6895 to 258.6 bar	0.7 to 344.7 bar	
Flow Rate	0.00001 to 25 mL/min		0.001 to 107 mL/min		0.001 to 204 mL/min		0.001 to 408 mL/min
Port Size	1/4" F250C		1/8" Valco		1/8" NPT		3/8" NPT

**Table 3: Comparing Specifications for Dual-Pump HP and D-Series Systems**

Model	A65D	A65HP	A/E260D	A/E260HP	A/E500D	A/E500HP	A500HPX
Pressure	0.6895 to 1379 bar		0.6895 to 517.1 bar	0.7 to 655 bar	0.6895 to 258.6 bar	0.7 to 344.7 bar	
Flow Rate	0.00001 to 16mL/min		0.001 to 70 mL/min		0.001 to 132 mL/min		0.001 to 264 mL/min
Port Size	1/4" F250C		1/8" Valco		1/8" NPT		3/8" NPT

### Options and Accessories for HP Syringe Pumps

Most options are available to be retrofitted on-site, or installed in the factory, if your needs change. Contact the factory for assistance with selection and ordering.

This bulletin provides brief descriptions of pump options and accessories, followed by a table containing order numbers.

#### Hastelloy Package

For applications involving delivery of highly corrosive fluids, this conversion package includes a cylinder cap, piston, and cylinder made of the resistant alloy hastelloy.



Note that packages for the 500HP, 500HPx and 260HP include a titanium pressure

transducer. Contact the factory if a hastelloy transducer is required.

### High Temperature Package



Designed for operation at temperatures from 100 to 200°C, this package includes an externally mounted Sensotec TJE high-temperature pressure transducer and cap assembly, and high temperature seals. High temperature packages are also available in hastelloy for highly corrosive applications.

### Temperature Control Jacket



Cylinder cooling allows fast, complete filling with a liquefied gas, and is recommended when a continuous flow system is used for rapid delivery of such fluids. The jacket controls the temperature of the cylinder by the circulation of heated or cooled fluid (-30 to 100°C) around it.

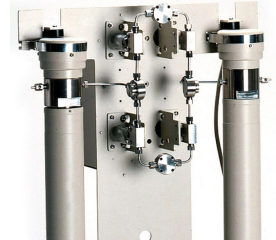
### High Accuracy Package

For higher accuracy applications, an externally mounted 0.1% F.S. accurate pressure transducer replaces the standard transducer. This kit consists of the external transducer and cylinder cap.



### Dual Electric Valve Packages

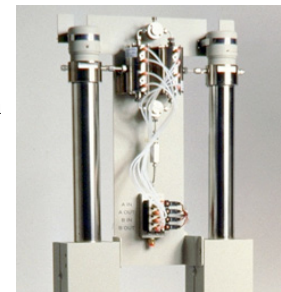
Actively controlled electric valves provide constant volume for pumping a wide range of corrosive fluids, liquefied gasses, and volatile fluids. The valves are stem-and-ball, featuring a unique one-way flow path design for added protection against backflow. For electric valve operation, the pump controller is modified with an internally mounted interface board.



### Dual Air Valve Packages

Actively controlled pneumatic valves provide constant volume during switchover, with no fluid movement during the opening and closing of the valves.

The air valve package requires a user-provided pressurized air source at 80 - 115 psi.



**Table 4: Options & Accessories for HP Pump Models**

Item	65HP	260HP	500HP	500HPX
Hastelloy Package				68-1240-201
High Temperature Package			3/8" NPT 60-5364-318 1/4" NPT 60-5364-204	68-1240-205
Hastelloy High Temperature Package			60-5364-310	
Temperature Control Jacket	68-1247-047	68-1247-047	68-1247-057	68-1247-057
High Accuracy Package		60-5364-405		
Hastelloy High Accuracy Package		60-5364-412 (external)		
Dual Electric Valve Package*		60-1247-090	68-1247-091	
Dual Air Valve Package		60-1247-058	60-1247-061	60-5364-343 Swagelok

\* controller requires electric valve driver board PN 68-1247-122

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