
Cavro™ XLP 6000

"The Versatile Platform"

Tecan Systems OEM Syringe Pumps



The Versatile Platform

The Cavro XLP 6000 is Tecan Systems' newest and most versatile high performance syringe pump. Designed as the next generation large frame platform, the new pump offers features such as state of the art electronics, universal valve encoder, flash memory, and 6,000/48,000-step resolution.

The XLP firmware is designed for user convenience. In addition to diagnostic tools such as voltage meter and valve and plunger step counters, the new firmware allows the user to set the communication baud rate, configure the pump for different valve types, and set the pump for computer free operation.

Resolution. The Cavro XLP is designed for liquid handling applications in the 5 µL to 25 mL range.

Pump resolution is 6,000 increments in standard mode and 48,000 increments in microstepping and fine positioning modes.

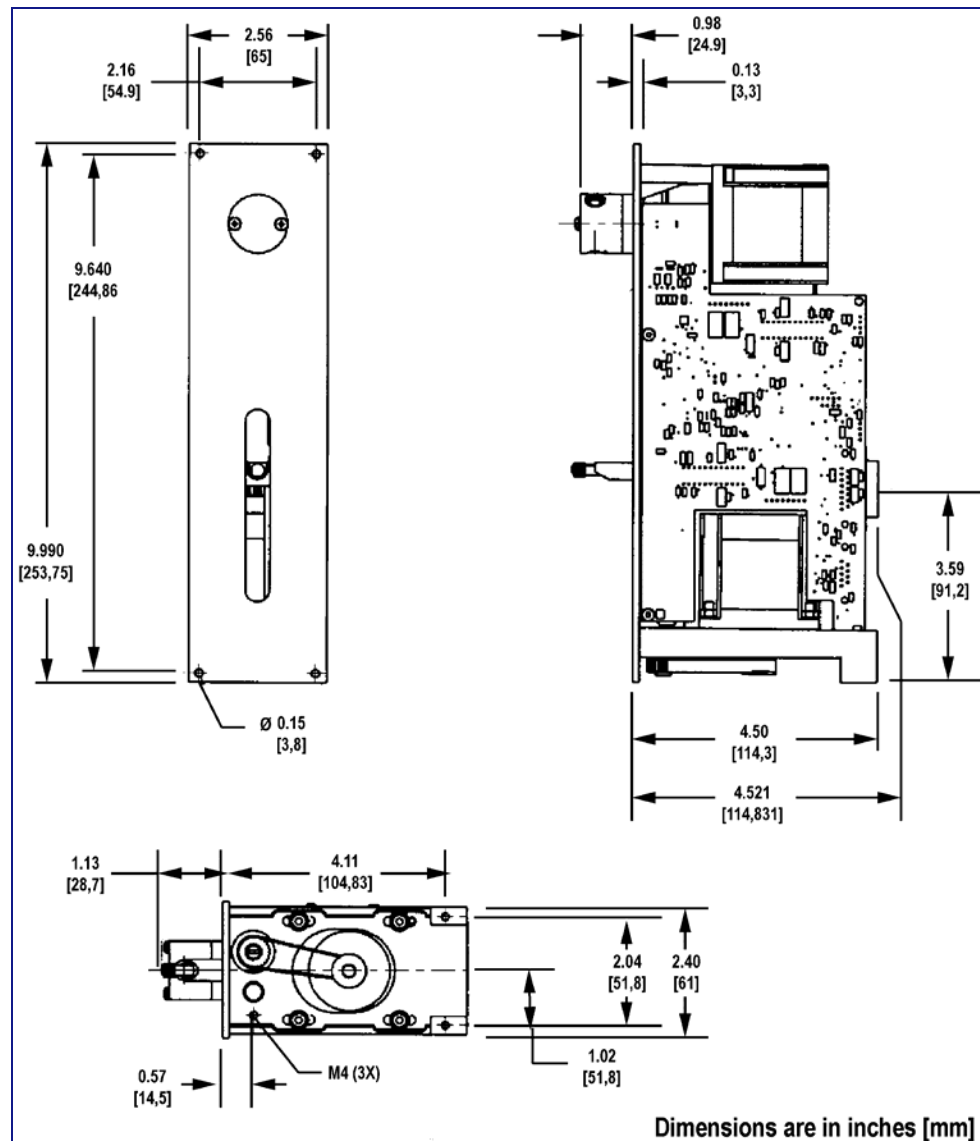
Communication. The Cavro XLP 6000 communicates through RS-232, RS-485 or Controlled Area Network (CAN). Pumps are controlled via OEM or Data Terminal protocol at a rate of 9,600 or 38,400 baud or, in the case of CAN, at 100 Kbyte, 125 Kbyte, 250 Kbyte, 500 Kbyte or 1 Mbyte.

Multi-pump communication is possible through RS-485 or CAN interface. When operating in a multi-drop arrangement, up to 15 pumps can be addressed through a single communication bus. The XLP also provides two digital inputs and three outputs for TTL level signals.

Syringe Drive. The XLP uses a Teflon coated lead screw with backlash compensation nut that is driven by a stepper motor. The travel length of the plunger is 60 mm and the drive incorporates a quadrature encoder for step loss detection. Available syringe sizes range from 50 μL to 25 mL.

Speed Selection. The XLP 6000 speed ranges from 1.2 seconds per stroke to over 160 minutes per stroke in fine positioning mode. The firmware allows the user to enhance fluid break-off by changing the start speed, top speed, slope, and cut-off speeds. Ramp-up and ramp-down rates are programmable.

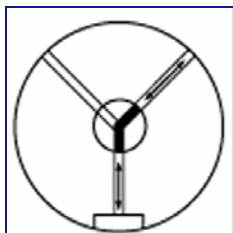
Design and Maintenance. Due to the use of a Teflon coated lead screw, the XLP 6000 does not require lubrication. Valves are easy to install and an innovative carriage design ensures proper valve and syringe alignment. Pump diagnostic functions are available in the firmware enhancing the serviceability of the pump.



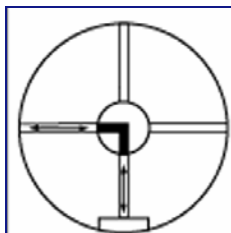
Cavro XLP 6000 OEM Syringe Pump Specifications

Plunger Drive				
Principle	Stepper motor driven lead screw with optical encoder for step loss detection			
Travel	60 mm			
Syringes	50 µL, 100 µL, 250 µL, 500 µL, 1.0 mL, 2.5 mL, 5.0 mL, 10 mL, and 25 mL			
Valve/Valve Drive				
Materials	Kel-F/Teflon and Kel-F/ceramic			
Options	120° 3-port, 90° 4-port			
Turn time	< 250 ms between adjacent ports			
Fittings	¼-28 or M6 tubing fitting, ¼-28 syringe fitting			
Firmware	Programmable ramps, cutoff speed, backlash compensation, plunger speeds, delays and loops, change speed on the fly, terminate moves, delays, diagnostics, absolute and relative positions			
Dimensions				
	Height	Width	Depth	Weight
	254 mm (10.00")	65 mm (2.56")	121 mm (4.76 ")	2.13 kg (4.70 lb)
Power Requirements	Supply voltage: 24 VDC 10%		Peak Current: 1 A	
Resolution	Standard: 6,000 (standard) / 48,000 (microstepping) increments			
Speed	1.2 seconds - 160 minutes per stroke			
Precision	< 0.05% CV within run at full stroke*			
Accuracy	≤ 0.5 % deviation from theoretical result at full stroke*			
Interface				
Type	RS-232, RS-485, or CAN			
Baud rate	RS232/485: 9,600 or 38,400		CAN: 100Kb, 125Kb, 250Kb, 500Kb, and 1Mb	
Format	Data Bits: 8	Parity: None	Stop Bit: 1	Half Duplex
Addressing	Maximum of 15 pumps can be addressed individually			
Communications	Data Terminal and OEM protocol (with error recognition)			
Environmental (Operating Mechanism)				
Operating Temperature	15° - 40°C (59° - 104°F)			
Humidity(Non-Condensing)	20-95% RH at 40°C (104°F)			
Safety and Regulatory Compliance	Tecan Systems operates in a manufacturing facility with an ISO 13485 and QSR compliant quality system.			
	*Precision and accuracy data collected with DI water at 23°C and 1 mL syringe.			

Specifications are subject to change without notice.



3-Port Valve



4-Port Valve

Ordering Information

Cavro XLP 6000

3-Port (120°), ¼-28	734714
3-Port (120°), M6	735098
4-Port (90°), ¼-28	735100
4-Port (90°), M6	735102

For other valve configurations contact your local Tecan representative.