

Comparison of the 500HPx and 500HP Syringe Pump Technical Specifications

Overview

This technical bulletin will cover the technical specifications of the 500HPx and the 500HP syringe pumps.

The 500HPx differs from the 500HP in several physical ways. The 500HPx has:

- A taller base height
- Lower gear ratio
- Higher flow rate
- Dual motors

For performance, both pumps provide up to 344.7 bar of pressure; however, the 500HPx delivers nearly double the flow rate of the 500HP (see Table 1).

The accessories are similar for each pump with the exception of the High Temperature package. The HPx has:

HPx Accessories	Part Number
3/8" Swagelok Valve Package	60-5364-343
High Temperature Package	60-1247-169
High Accuracy Package	60-1247-170
Hastelloy Conversion Package	60-1247-163
Temperature Control Jacket (interchangeable between 500HP, 500HPx and 500D)	68-1247-057

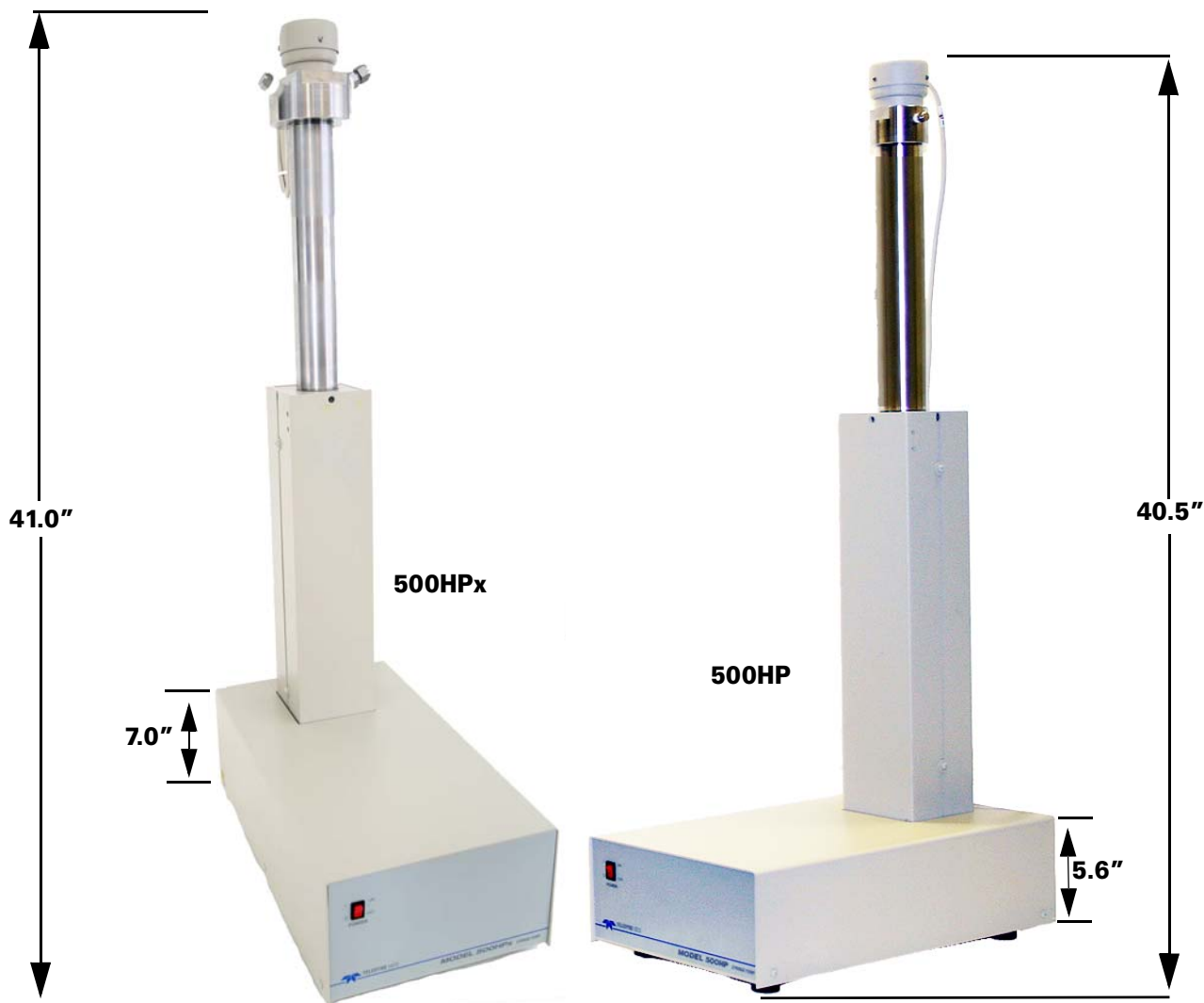


Figure 1: Dimensions of 500HPx (left) and 500HP (right)

Table 1: 500HP and 500HPx Technical Specifications

	500HP	500HPx
CYLINDER CAPACITY	507.38 mL	
POWER REQUIREMENTS (Factory Set) (Mains voltage line cord is a "Disconnect Device")	100 ± 10 VAC, 1.5 A maximum 117 ± 12 VAC, 1.5 A maximum 234 ± 23 VAC, 0.75 A maximum	100 ± 10 VAC, 5A maximum 117 ± 12 VAC, 5A maximum 234 ± 23 VAC, 2.5A maximum
LINE FREQUENCY	50 or 60 Hz	
LINE VOLTAGE NOISE TOLERANCE	1.7 × nominal rms line voltage, 10 µsecond pulses, any phase angle, random or repetitive	
DIMENSIONS	PUMP Width: 27.18 cm Depth: 46.74 cm Height: 102.36 cm	PUMP Width: 27.18 cm Depth: 46.74 cm Height: 104.14 cm
WEIGHT	PUMP 33.25 kg	PUMP 42.64 kg
FLOW RATE RANGE	Refer to Figure 2 for flow rate/pressure curves	Refer to Figure 2 for flow rate/pressure curves
FLOW RATE ACCURACY	± 0.5% (maximum 1.0 µl/min seal leakage)	
FLOW RATE DISPLAY RESOLUTION	1.0 µl/min	
ANALOG OUTPUT ACCURACY	± 1% of selected range	
DISPLACEMENT RESOLUTION	31.71 nl / step	25.36 nl /step
REFILL TIME	2.5 minutes	1.25 minutes
REFILL OR DEPRESSURIZATION RATE	1.0 µl/min to 204 mL/min at any pressure from 0 to 344.7 bar	1.0 µl/min to 408 mL/min at any pressure from 0 to 344.7 bar
PRESSURE RANGE	0.6895 to 344.7 bar	
PRESSURE ACCURACY	± 0.5% of full scale at constant temperature	
PRESSURE REPEATABILITY	± 0.5% of full scale within 48 hours at constant temperature	
ZERO PRESSURE DRIFT	± 0.25% of full scale within 48 hours at constant temperature	
PRESSURE DISPLAY RESOLUTION	6.895 kPa	
AMBIENT TEMPERATURE RANGE	5 to 40°C	
TEMPERATURE DRIFT	± 0.15% of full scale/°C	
HUMIDITY	95% maximum	
DEAD (HEADSPACE) VOLUME	4.00 ± 0.020 mL	10.45 ± 0.65 mL
POLLUTION DEGREE	2	
INSTALLATION CATEGORY	II	
MAXIMUM ALTITUDE	2000 m	

500HPx and 500HP Flow Rate Ranges

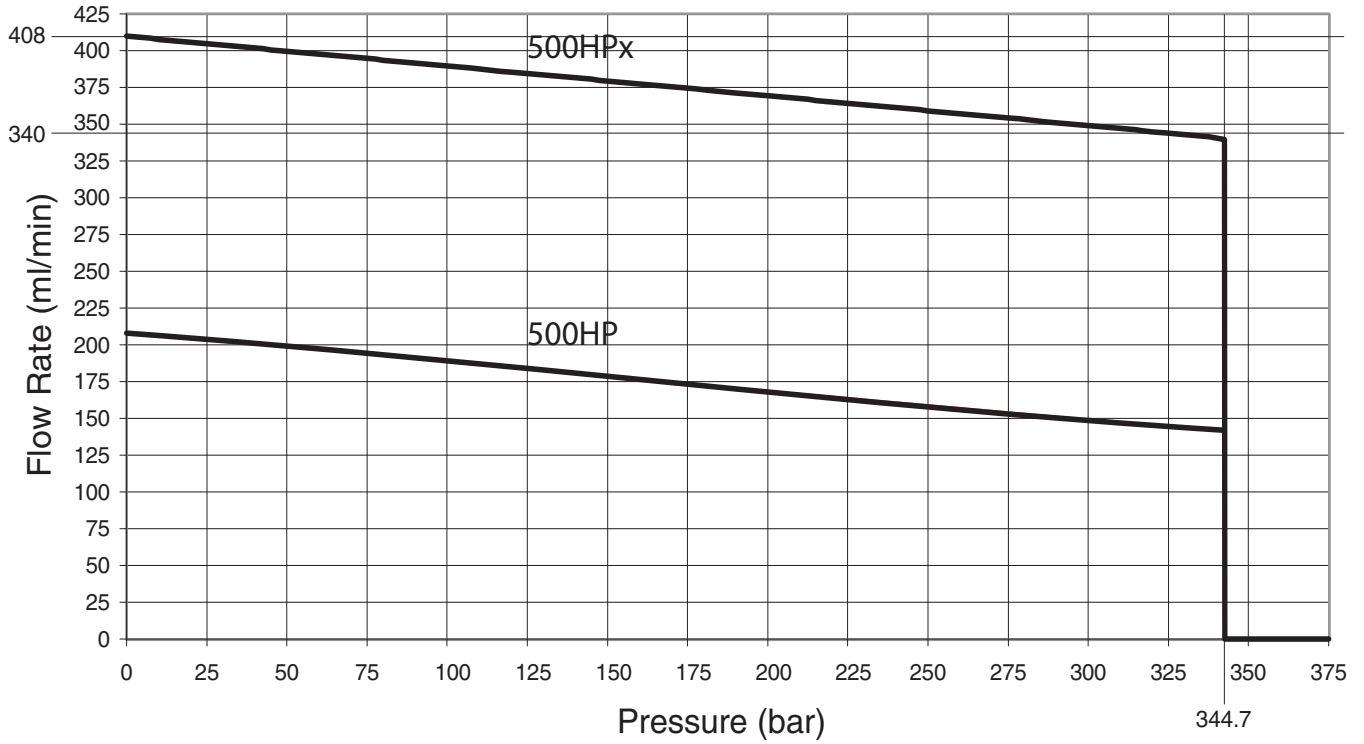








Figure 2: 500HPx and 500HP Flow Rate Ranges

500HPx	500HP
 <p>Figure 3: 500HPx Dual Motor</p>	 <p>Figure 4: 500HP Single Motor</p>
 <p>Figure 5: 500HPx Gear Train</p>	 <p>Figure 6: 500HP Gear Train</p>
 <p>Note: The 500HPx has two fans near the motor. Be sure not to block the fan vent on the bottom of the unit.</p> <p>Figure 7: Bottom view of 500HPx Fan Vent</p>	 <p>Figure 8: Bottom view of 500HP (no fan vent)</p>

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Teledyne Isco

P.O. Box 82531, Lincoln, Nebraska, 68501 USA
 Toll-free: (800) 775-2965 • Phone: (402) 464-0231 • Fax: (402) 465-3001
 E-mail: IscoService@teledyne.com



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