

V3 Syringe Drive Pump

The VersaPump 3 is designed with the flexibility and versatility to meet a variety of system configurations. It can be used as a stand alone controller, or integrated into system configurations. The module is capable of simple closed loop control of an external quantity or process without the need of an external controller for direction.

Mechanically, the syringe pump is driven via stepper motor and precision ball screw. It has a 30mm stroke and is available in two resolutions. The pump can be coupled with a variety of valves and syringes to meet specific needs. Pump communications are compatible with other Kloehn devices.

Physical

Height
5"
Width
2.55"
Depth
4.6" (face plate to back plate)
Weight
2.5 lbs

Power

Operation
24V nominal (20V to 30V)
(with a maximum power ripple of 720mv peak to peak).
Power Consumption
25 watts; 6 watts idle.



Environmental

Operating Temperature
32°F to 131°F (0°C to 55°C)
Operating Humidity
5 to 95% RH, non-condensing at 131°F (55°C)
Storage Temperature
13°F to 185°F (-25° to 85°C)
WEEE & RoHS compliant

Mechanical

Operation
Any orientation
Mounting Holes
Top and bottom
Two Resolutions Available
(6,000 and 12,000 increments)
Speed
(Max. – 8000 steps/sec.)
(Default – 2500 steps/sec.)
Syringe Size
50ul to 5ml
Valve Type
2 way to 6 way

	1/10 Stroke Dispenses	Full Stroke Dispenses
Precision:	0.36% CV, 0.5% max.	0.01% CV, 0.018% max.
Accuracy:	0.44% CV, 0.5% max.	—

Interface

RS-485 or RS-232 communications
Data terminal or OEM protocol
1200 to 38.4K baud, 8 data bits,
1 stop bit, no parity, half duplex
Three inputs, three outputs
Digital voltmeter capability
Switched and wired device address
I / O expansion

Syringe Pump:

VERSAPUMP 3 AVAILABLE SCENARIO CHART

RESOLUTION FEATURE		VALVE FEATURE		DRIVER & CONTROL FEATURE		PUMP PT#
12K	6K	NONE	ROTARY	NONE	DRIVER & CONTROL BOARD	
X		X		X		23257
X		X			X	23255
X			X	X		23256
X			X		X	23254
	X	X		X		23253
	X	X			X	23251
	X		X	X		23252
	X		X		X	23250

Decal is optional, if required add to order P/N 24073.

V3 Syringe Drive Pump

Ancillary items:

Communication cable RS485, 6" long; pump to pump (2 units)	P/N 17736
Pump to pump stacking kit	P/N 23453
Cooling Fan	P/N 24287
Mounting Kit	P/N 24480
Starter Kit (includes all items listed below)	P/N 23427
24VDC Power supply	P/N 23429
Adapter (card edge to AMP connectors)	P/N 23428
Software; operator's manual; and application notes.	P/N 23422
Communications cable	P/N 17734

Software support:

KloehnControl (configuration and debug program)
 KSerial (command-line communication utility)
 KCom (machine language helper program)
 KProbe (communication trouble shooting utility)

Valves - Face:

Configuration	P/N - Distribution	Non - Distribution	Orifice Size
1-WAY (syringe mtg. block)	23272	—	.059 (straight through)
3-WAY	23324	23562	.059
4-WAY	23325	23563	.059
5-WAY	23326	—	1 mm
6-WAY	23327	—	1 mm

Valve construction:

Valve wetted surfaces have a PPS (polyphenylene sulfide) body and PEEK (XP113) rotor.
 Port connection is 1/4-28 UNF.

All valve ports are accessible when using syringes listed and Kloehn spring-loaded fittings (recommended) or standard fittings (Upchurch #P200 fittings or equal).

Valve weep hole port connection is #6-40 UNF-2A. Fittings for this port are available in two materials; PEEK (PT # 24528); and stainless steel 303 (PT # 24529). For use with 1/16 OD tubing.

Valves - Plug:

Configuration	P/N - Distribution	Non - Distribution	Orifice Size
2-WAY	25390	—	0.031
2-WAY	25391	—	0.059
2-WAY	25392	—	0.076
3-WAY	25393	28391	0.031
3-WAY	25394	28393	0.059
3-WAY	25395	28395	0.076
4-WAY	25396	28397	0.031
4-WAY	25397	28399	0.059
4-WAY	25398	28401	0.076
5-WAY	25399	—	0.031
5-WAY	25400	—	1mm
6-WAY	25401	—	0.031
6-WAY	25402	—	1mm

Valve construction:

Valve wetted surfaces have a PCTFE (polychlorotrifluoroethylene) body and PTFE plug.
 Port connection is 1/4-28 UNF.

All valve ports are accessible when using syringes listed and Kloehn spring-loaded fittings (recommended) or standard fittings (Upchurch #P200 fittings or equal).

Valve weep hole port connection is #6-40 UNF-2A. Fittings for this port are available in two materials; PEEK (PT # 24528); and stainless steel 303 (PT # 24529). For use with 1/16 OD tubing.

V3 Syringe Drive Pump

Valves - Ceramic:

Configuration	P/N - Distribution	Non - Distribution	Orifice Size
2-WAY	30138	—	0.031
2-WAY	30149	—	0.059
3-WAY	30139	30144	0.031
3-WAY	30150	30155	0.059
4-WAY	30140	30145	0.031
4-WAY	30151	30156	0.059
5-WAY	30141	30146	0.031
5-WAY	30152	30157	0.040
6-WAY	30142	30147	0.031
6-WAY	30153	30158	0.040

Wetted Materials: PEEK, Alumina Ceramic, FFKM, PTFE

Port connection is 1/4-28 UNF.

All valve ports are accessible when using syringes listed and Kloehn spring-loaded fittings (recommended) or standard fittings (Upchurch #P200 fittings or equal).

Valve weep hole port connection is #6-40 UNF-2A. Fittings for this port are available in two materials; PEEK (PT # 24528); and stainless steel 303 (PT # 24529). For use with 1/16 OD tubing.

Standard Syringes:

Size	Syringe Assy	ZDV Assy	Orifice Size
50ul	23164	27960 *	0.023
100ul	23165	27961 *	0.023
250ul	23166	28006	0.031
500ul	23167	28007	0.031
1.0ml	23168	28008	0.073
2.5ml	23169	28009	0.073
5.0ml	23170	28010	0.073

Syringe construction:

Syringes have Borosilicate glass, PTFE seal and tip wetted surfaces.

Syringe part numbers followed by an asterisk (*) have tips with PTFE coated stainless steel 316L wetted components.

SP-K Syringes:

Size	Syringe Assy	ZDV Assy	Orifice Size
50ul	24411	27958 *	0.023
100ul	24412	27959 *	0.023
250ul	24413	28011	0.031
500ul	24414	28012	0.031
1.0ml	24415	28013	0.073
2.5ml	24416	28014	0.073
5.0ml	24417	28015	0.073

Syringe construction:

Syringes have Borosilicate glass, PTFE seal, and UHMW (B-1000 black) plunger tip wetted surfaces.

Syringe part numbers followed by an asterisk (*) have tips with PTFE coated stainless steel 316L wetted components.

V3 Syringe Drive Pump

Dimensions in. (mm)

