

PSNE8000 High pressure syringe pump

Built for strenght

- Fast prime and purge
- Adjustable force dial
- Program end points with two adjustable limit switches
- Clamp lock holds syringe tightly in channel
- Designed to hold large syringes up to 200 mL
- Dispensing accuracy to $\pm 1\%$
- Easy-to-use keypad interface
- Infusion and withdrawal
- Fully programmable; automation capable
- Operates stand-alone or computer controllable
- Accepts external inputs to trigger events
- Foot Switch (optional) for hands-free operation
- Network, control and monitor up to 100 pumps from one computer port
- Worldwide power supplies available
- Holds 1 syringe from 0.5 μL to 140 mL (200 mL partially filled)
- Infusion rates from 1.726 $\mu\text{L/hr}$ (1 mL syringe) to 247.4 mL/min (140 mL syringe)



Program up to 41 pumping phases:

- Change pumping rates
- Set dispensing volumes
- Insert pauses
- Control and respond to external signals
- Programmable audio alarm indicator

Pumping force up to 200lbs

The PSNE8000 One Channel 200 lb. Force Syringe Pump is designed with stainless steel syringes in mind for applications with strong back pressure or higher fluid viscosity, such as emulsification processes. The syringe pump holds one syringe from 0.5 μL to 140 mL and up to 200 mL when syringe is partially filled. The PSNE8000 operates independently and is programmable through its keypad.

Pumping programs can be uploaded and controlled from a computer via an RS-232 Serial Port (RS-232 Pump-to-PC Primary Network Cable – purchase PSCBL-PC-PUMP-7). An RS-232 to USB Converter Cable is available (purchase PSCBL-USB232). A pumping program generator and terminal emulator software are available as free downloads from our website. For advanced control, consider the SyringePumpPro software for configuration and control of multiple pumps, logging pump activity and sending commands to selected pumps.

Custom Applications

For specialized and OEM applications, contact us!
Custom modifications can be made to the mechanics and/or the firmware.

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Specifications

Mechanical & electrical

Syringe sizes:	Up to 140 mL (200 mL partially filled)
Number of syringes:	1
Stall detection:	No
Drive block type:	Solid, must use purge function to move pusher
Motor type:	Step motor
Motor steps per revolution:	200
Motor to drive screw ratio:	14/22
Micro-stepping:	1/8 to 1/1 depending on motor speed
Advance per step:	0.50511 μ m to 4.0409 μ m depending on motor speed
Drive screw pitch:	20 revolutions/inch
DC connector:	2.1 mm, center positive
Voltage at DC connector:	24V DC at full load
Amperage:	1200 mA at full load
Power supply type:	Unregulated linear external wall adapter, country and power source specific
Power supply output rating:	24V DC @ 1200 mA
Dimensions:	28.575 cm x 15.5575 cm x 16.1925 cm
Weight:	3.55 kg

Operational

Maximum speed:	30.033 cm/min
Minimum speed:	0.00998882 cm/hr
Maximum pumping rate:	340.6 mL/min with a 140 mL syringe
Minimum pumping rate:	1.733 μ L/hr with a B-D 1 mL syringe
Maximum force:	200lbs
Number of program phases:	41
RS-232 pump network:	100 pumps maximum
PS-232 selectable baud rates:	300, 1200, 2400, 9600, 19200
Syringe inside diameter range:	0.100 to 50.00 mm

Syringe manufacturer	Syringe (μ L)	Inside diameter (mm)	Maximum rate (μ L/hr)	Minimum rate (μ L/hr)
SGE (Gas tight)	5	0.343	209.2	0.004
	10	0.485	418.3	0.008
	25	0.728	942.5	0.018
	50	1.03	1886	0.036
	100	1.457	3775	0.071
Hamilton	0.5	0.103	18.86	0.001
	1	0.146	37.91	0.001
	2	0.206	75.47	0.002
	5	0.326	189	0.004

WARNING

Use extreme caution. The PSNE8000 can deliver enough force to break syringes or any objects that get caught in the mechanism. Broken syringes and associated

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plumbing can create dangerous projectiles that can cause bodily harm. Keep fingers and loose clothing away from mechanism.

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Syringe manufacturer	Syringe (mL)	Inside diameter (mm)	Maximum rate (mL/hr)	Minimum rate (µL/hr)	Maximum rate (mL/min)
B-D	1	4.699	312.4	1.733	5.208
	3	8.585	1043	5.783	17.38
	5	11.99	2034	11.28	33.9
	10	14.43	2946	16.34	49.11
	20	19.05	5136	28.48	85.6
	30	21.59	6596	36.57	109.9
	60	26.59	9999	55.47	166.7
HSW Norm-Ject	1	4.69	311.3	1.726	5.188
	3	9.65	1317	7.306	21.96
	5	12.45	2193	12.17	36.56
	10	15.9	3577	19.84	59.63
	20	20.05	5689	31.54	94.82
	30	22.9	7421	41.15	123.6
	50	29.2	9999	66.9	201.1
Monoject	1	5.74	466.2	2.585	7.771
	3	8.941	1131	6.272	18.85
	6	12.7	2282	12.66	38.04
	12	15.72	3497	19.39	58.28
	20	20.12	5729	31.76	95.48
	35	23.52	7829	43.4	130.4
	60	26.64	9999	55.68	167.4
	140	38	9999	113.3	340.6
Terumo	1	4.7	312.6	1.733	5.21
	3	8.95	1133	6.285	18.89
	5	13	2391	13.26	39.86
	10	15.8	3533	19.59	58.88
	20	20.15	5746	31.86	95.77
	30	23.1	7552	41.87	125.8
	60	29.7	9999	69.21	208
Poulten & Graf (Glass)	1	6.7	635.3	3.522	10.58
	2	8.91	1123	6.229	18.72
	3	9.06	1161	6.44	19.36
	5	11.75	1953	10.84	32.56
	10	14.67	3045	16.89	50.76
	20	19.62	5447	30.2	90.79
	30	22.69	7286	40.39	121.4
	50	26.96	9999	57.03	171.4
Steel Syringes	1	9.538	1287	7.138	21.45
	3	9.538	1287	7.138	21.45
	5	12.7	2282	12.66	38.04
	8	9.538	1287	7.138	21.45
	20	19.13	5179	28.71	86.32
	50	28.6	9999	64.18	192.9
	100	34.93	9999	95.72	287.7
	200	44.75	9999	157.2	472.3
SGE (Gas tight)	0.25	2.303	75.06	0.417	1.251
	0.5	3.257	150.1	0.833	2.501
	1	4.606	300.2	1.665	5.003
	2.5	7.284	750.8	4.163	12.508
	5	10.3	1501	8.323	25.02
	10	14.57	3004	16.66	50.07
	25	23.03	9999	41.61	125.1
	50	27.5	9999	59.33	178.3
	100	34.99	9999	96.05	288.7

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