

Multi syringe programmable pumps High speed editions

PSNE1260



PSNE1660



PSNE1860



Features:

- Holds 2, 4, 6, 8, 10 or 12 syringes of up to 3cc each
- Infusion rates from 0.003 $\mu\text{L}/\text{sec}$ (1cc syringe) to 1.788 mL/sec (3cc syringe)
- Higher flow rate models available
- Easy-to-use keypad interface
- Holds 2, 4 or 6 syringes of up to 60cc each, or 2 or 4 syringes up to 140cc each
- Infusion rates from 0.003 $\mu\text{L}/\text{sec}$ (1cc syringe) to 35.04 mL/sec (140cc syringe)
- Higher flow rate models available
- Easy-to-use keypad interface
- Holds 2, 4, 6 or 8 syringes of up to 10cc each
- Infusion rates from 0.003 $\mu\text{L}/\text{sec}$ (1cc syringe) to 5.053 mL/sec (10cc syringe)
- Higher flow rate models available
- Easy-to-use keypad interface

The PSNE1000 family of syringe pumps features:

- Built for automation
- Operates stand-alone or from a computer
- Infuses and withdraws
- Applications range from simple infusions to complex pumping programs
- Programmable preset protocols
- Program up to 41 pumping phases: change pumping rates, set dispensing volumes, insert pauses, control and respond to external signals, sound the buzzer.
- RS-232 and TTL logic control interfaces

Two pumps connected with a dual cable create a Dual Pump System allowing for continuous infusion or emulsification. Network, control, and monitor up to 100 pumps with one computer. Worldwide power supplies available. Motor stall detection. Non-volatile memory of all parameters and programming. Upgradeable to the X and X2 advanced firmware versions for gradient pumping and increased program memory. Dispensing accuracy of +/-1%. Unlimited lifetime technical support. Two year warranty. Plus many, many more features!

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:	PSNE1260 Up to 3 mL PSNE1660 Up to 140 mL (4 channels), 60 mL (6 channels) PSNE1860 Up to 10 mL
Number of syringes:	PSNE1260 12 PSNE1660 6 PSNE1860 8
Motor type:	Step motor
Motor steps per revolution:	200
Micro-stepping:	1/8 to 1/1 depending on motor speed
Advance per step:	3.11830357 µm to 24.9464286 µm depending on motor speed
Motor to drive screw ratio:	22/14
Drive screw pitch:	8 revolutions/inch
DC connector:	2.1 mm, center positive
Voltage at DC connector:	24V DC at full load
Amperage:	1000 mA at full load
Power supply type:	Unregulated linear external wall adapter, country and power source specific
Power supply output rating:	24V DC @ 1000 mA
Dimensions:	26.035 cm x 38.1 cm x 12.7 cm
Weight:	4.595 kg

Operational

Accuracy	Within 1% error
Reproducibility	Within 0.1% error
Maximum speed	185.4082949 cm/min
Minimum speed	0.061665675 cm/hr
Maximum pumping rate	17.15 mL/sec with a B-D 60 mL syringe
Minimum pumping rate	0.003 µL/sec with a B-D 1 mL syringe
Force applied to all syringes	25 lbs. at minimum speed, 25 lbs. at maximum speed
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 (µL)	Inside diameter (mm)	Maximum rate (µL/sec)	Minimum rate (µL/hr)
SGE (Gas tight)	5	0.343	2.855	0.001
	10	0.485	5.708	0.001
	25	0.728	12.86	0.001
	50	1.03	25.74	0.001
	100	1.457	51.51	0.001
Hamilton	0.5	0.103	0.257	0.001
	1	0.146	0.517	0.001
	2	0.206	1.029	0.001
	5	0.326	2.579	0.001

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Syringe manufacturer	Syringe (mL)	Inside diameter (mm)	Maximum rate (mL/sec)	Minimum rate (µL/sec)	Maximum rate (mL/min)
B-D	1	4.699	0.535	0.003	32.15
	3	8.585	1.788	0.01	107.3
	5	11.99	3.488	0.02	209.3
	10	14.43	5.053	0.029	303.1
	20	19.05	8.807	0.049	528.4
	30	21.59	11.31	0.063	678.7
	60	26.59	17.15	0.096	1029
HSW Norm-Ject	1	4.69	0.533	0.003	32.02
	3	9.65	2.259	0.013	135.5
	5	12.45	3.761	0.021	225.7
	10	15.9	6.135	0.035	368.1
	20	20.05	9.756	0.055	585.3
	30	22.9	12.72	0.071	763.5
	50	29.2	20.69	0.115	1241
Monoject	1	5.74	0.799	0.005	47.97
	3	8.941	1.94	0.011	116.4
	6	12.7	3.914	0.022	234.8
	12	15.72	5.997	0.034	359.8
	20	20.12	9.824	0.055	589.4
	35	23.52	13.42	0.075	805.5
	60	26.64	17.22	0.096	1033
	140	38	35.04	0.119	1284
Terumo	1	4.7	0.536	0.003	32.16
	3	8.95	1.943	0.011	116.6
	5	13	4.101	0.023	246
	10	15.8	6.058	0.034	363.5
	20	20.15	9.853	0.055	591.2
	30	23.1	12.94	0.072	776.9
	60	29.7	21.4	0.119	1284
Poulten & Graf (Glass)	1	6.7	1.089	0.007	65.36
	2	8.91	1.926	0.011	115.5
	3	9.06	1.992	0.012	119.5
	5	11.75	3.35	0.019	201
	10	14.67	5.222	0.029	313.3
	20	19.62	9.342	0.052	560.5
	30	22.69	12.49	0.07	749.6
	50	26.96	17.63	0.098	1058
Steel Syringes	1	9.538	2.207	0.013	132.4
	3	9.538	2.207	0.013	132.4
	5	12.7	3.914	0.022	234.8
	8	9.538	2.207	0.013	132.4
	20	19.13	8.881	0.05	532.8
	50	28.6	19.85	0.111	1191
SGE (Glass)	0.25	2.303	0.128	0.001	7.68
	0.5	3.257	0.257	0.002	15.42
	1	4.606	0.514	0.003	30.84
	2.5	7.284	1.287	0.008	77.22
	5	10.3	2.574	0.015	154.4
	10	14.57	5.151	0.029	309.1
	25	23.03	12.87	0.072	772.2
	50	27.5	18.35	0.102	1101
	100	34.99	29.71	0.165	1783

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