

## PSNE1010 High pressure syringe pump

### Also available as:

- PSNE1010D - Continuous infusion dual high pressure syringe pump system
- PSNE510 Microfluidics double syringe pump



### PSNE1010 Features:

- Accepts 1 syringes from the smallest size available up to 60 mL. A 140 mL syringe can be filled up to 120 mL.
- PSNE1010 pumping rate as low as 1.459  $\mu\text{L/hr}$  with a 1 mL syringe or as high as 127.2 mL/min with a 60 mL syringe and 208.3 ml/min with a 140mL syringe.
- For more information on the OEM versions refer to the PSNE500 brochure. For the Dual Continuous Infusion version refer to the PSNE1000D brochure

### 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:	Up to 60 mL (140 mL partially filled)
Number of syringes:	1
Motor type:	Step motor
Motor steps per revolution:	200
Micro-stepping:	1/8 to 1/2 depending on motor speed
Motor to drive screw ratio:	15/28
Drive screw pitch:	20 revolutions/inch
DC connector:	2.5 mm, center positive
Voltage at DC connector:	12V 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:	12V DC @ 1000 mA
Dimensions:	22.86 cm x 14.605 cm x 11.43 cm
Weight:	1.63 kg

## Operational

Maximum speed	18.36964 cm/min
Minimum speed	0.008409 cm/hr
Maximum pumping rate	6120 mL/hr with a B-D 60 mL syringe
Minimum pumping rate	1.459 $\mu$ L/hr with a B-D 1 mL syringe
Maximum force	100 lbs. at minimum speed, 18 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 ( $\mu$ L)	Inside diameter (mm)	Maximum rate ( $\mu$ L/hr)	Minimum rate ( $\mu$ L/hr)
SGE (Gas tight)	5	0.343	1081	0.008
	10	0.485	2036	0.016
	25	0.728	4587	0.036
	50	1.03	9183	0.071
	100	1.457	9999	0.141
Hamilton	0.5	0.103	91.83	0.001
	1	0.146	184.5	0.002
	2	0.206	367.3	0.003
	5	0.326	919.9	0.008

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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	191.1	1.459	3.185
	3	8.585	637.9	4.868	10.63
	5	11.99	1244	9.495	20.74
	10	14.43	1802	13.76	30.04
	20	19.05	3141	23.97	52.35
	30	21.59	4035	30.79	67.25
	60	26.59	6120	46.7	102
HSW Norm-Ject	1	4.69	190.4	1.453	3.173
	3	9.65	806.1	6.151	13.43
	5	12.45	1341	10.24	22.36
	10	15.9	2188	16.7	36.47
	20	20.05	3479	26.55	57.99
	30	22.9	4539	34.64	75.65
	50	29.2	7380	56.32	123
Monoject	1	5.74	285.2	2.176	4.753
	3	8.941	692	5.28	11.53
	6	12.7	1396	10.66	23.26
	12	15.72	2139	16.33	35.65
	20	20.12	3504	26.74	58.4
	35	23.52	4788	36.54	79.81
	60	26.64	6143	46.88	102.3
	140	38	9999	95.37	208.3
Terumo	1	4.7	191.2	1.459	3.187
	3	8.95	693.4	5.291	11.55
	5	13	1462	11.17	24.38
	10	15.8	2160	16.49	36.01
	20	20.15	3514	26.82	58.57
	30	23.1	4619	35.25	76.98
	60	29.7	7635	58.26	127.2
Poulten & Graf (Glass)	1	6.7	388.5	2.965	6.476
	2	8.91	687.2	5.244	11.45
	3	9.06	710.5	5.422	11.84
	5	11.75	1195	9.119	19.91
	10	14.67	1862	14.22	31.04
	20	19.62	3332	25.43	55.53
	30	22.69	4456	34.01	74.27
	50	26.96	6291	48.01	104.8
SGE (Gas tight)	0.25	2.303	45.91	0.351	0.765
	0.5	3.257	91.82	0.701	1.530
	1	4.606	183.6	1.402	3.06
	2.5	7.284	459.2	3.505	7.653
	5	10.3	918.3	7.007	15.31
	10	14.57	1837	14.03	30.62
	25	23.03	4591	35.03	76.52
	50	27.5	6546	49.95	109.1
	100	34.99	9999	80.86	

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