

Syringe Manufacturer (all names TM)	Syringe (mL)	Inside Diameter (mm)	Maximum Rate (mL/hr)	Minimum Rate (µL/hr)	Maximum Rate (mL/min)				
B-D	1	4.699	36.33	0.454	0.605				
	3	8.585	121.2	1.515	2.021				
	5	11.99	236.5	2.954	3.942				
	10	14.43	342.6	4.279	5.71				
	20	19.05	597.1	7.457	9.952				
	30	21.59	766.9	9.578	12.78				
	60	26.59	1163	14.53	19.38				
HSW Norm-Ject	1	4.69	36.19	0.452	0.603				
	3	9.65	153.2	1.914	2.553				
	5	12.45	255	3.185	4.25				
	10	15.9	415.9	5.195	6.933				
	20	20.05	661.4	8.26	11.02				
	30	22.9	862.8	10.78	14.38				
	50	29.2	1402	17.52	23.38				
Monoject	1	5.74	54.21	0.677	0.903				
	3	8.941	131.5	1.643	2.192				
	6	12.7	265.3	3.314	4.423				
	12	15.72	406.6	5.078	6.776				
	20	20.12	666	8.318	11.1				
	35	23.52	910.2	11.37	15.17				
	60	26.64	1167	14.59	19.46				
	140	38	2376	29.7	39.6				
Terumo	1	4.7	36.34	0.454	0.605				
	3	8.95	131.8	1.646	2.196				
	5	13	278	3.473	4.634				
	10	15.8	410.7	5.13	6.846				
	20	20.15	668	8.343	11.13				
	30	23.1	878	10.97	14.63				
	60	29.7	1451	18.1	24.19				
Poulten & Graf (Glass)	1	6.7	73.86	0.923	1.231				
	2	8.91	130.6	1.632	2.177				
	3	9.06	135	1.687	2.251				
	5	11.75	227.1	2.837	3.786				
	10	14.67	354.1	4.422	5.901				
	20	19.62	633.3	7.91	10.55				
	30	22.69	847.1	10.58	14.11				
Steel Syringes	1	9.538	149.6	1.87	2.494				
	3	9.538	149.6	1.87	2.494				
	5	12.7	265.3	3.314	4.423				
	8	9.538	149.6	1.87	2.494				
	20	19.13	602.1	7.52	10.03				
	50	28.6	1345	16.81	22.43				
		Syringe (µL)	Inside Diameter (mm)	Maximum Rate (µL/hr)	Minimum Rate (µL/hr)	SGE Syringe (mL)	Inside Diameter (mm)	Maximum Rate (mL/hr)	Minimum Rate (µL/hr)
SGE (Glass – Gas Tight)	5	0.343	193.5	0.003	0.25	2.303	8.727	0.109	
	10	0.485	387	0.005	0.5	3.257	17.45	0.218	
	25	0.728	872	0.011	1	4.606	34.9	0.436	
	50	1.03	1745	0.022	2.5	7.284	87.3	1.091	
	100	1.457	3492	0.044	5	10.3	174.5	2.18	
Hamilton Microliter (Glass)	0.5	0.103	17.45	0.001	10	14.57	349.2	4.362	
	1	0.146	35.07	0.001	25	23.03	872.7	10.9	
	2	0.206	69.82	0.001	50	27.5	1244	15.54	
	5	0.326	174.8	0.003	100	34.99	2014	25.16	

1. Specifications

<u>Model</u>	<u>Style</u>	<u>Stall Detection</u>	<u>Number of Syringes</u>	<u>Maximum Syringe Size</u>
NE-1600	Stand-Alone	Yes	6	140 mL
NE-1800	Stand-Alone	Yes	8	10 mL
NE-1200	Stand-Alone	Yes	12	3 mL

1.1 Mechanical & Electrical

Motor type: Step motor
Motor steps per revolution: 200
Drive screw pitch: 24 revolutions/”
Motor to drive screw ratio: 5/1
Micro-stepping: 1/8 to 1/2 depending on motor speed
Advance per step: 0.132291667 μ m to 0.5291667 μ m depending on motor speed

Power supply type: External wall adapter, power source specific
Power supply output rating: 12V DC @ 1000 mA
Power connector: 2.5 mm, center positive, DC
Voltage at power connector: 12V DC at full load
Amperage: 1000 mA at full load

Dimensions: 10 1/4” x 15” x 5” (LxWxH)
(26.035 cm x 38.1 cm x 12.7 cm)
Weight: 10.125 lbs. (4.595 kg)

1.2 Operational

Force applied to all syringes: 160 lbs. at minimum speed, 30 lbs. at maximum speed

Syringe inside diameter range: 0.100 to 50.00 mm
Maximum speed: 3.4917 cm/min
Minimum speed: 0.0026 cm/hr
Maximum pumping rate: 1163 mL/hr with a B-D 60 mL syringe
Minimum pumping rate: 0.454 μ L/hr with a B-D 1 mL syringe

Number of Program Phases: 41

RS-232 pump network: 100 pumps maximum
RS-232 selectable baud rates: 300, 1200, 2400, 9600, 19200