

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	53.07	0.73	0.884				
	3	8.585	177.1	2.434	2.952				
	5	11.99	345.5	4.748	5.758				
	10	14.43	500.4	6.876	8.341				
	20	19.05	872.2	11.99	14.53				
	30	21.59	1120	15.4	18.67				
	60	26.59	1699	23.35	28.32				
HSW Norm-Ject	1	4.69	52.86	0.727	0.881				
	3	9.65	223.8	3.076	3.73				
	5	12.45	372.5	5.119	6.209				
	10	15.9	607.6	8.349	10.12				
	20	20.05	966.2	13.28	16.1				
	30	22.9	1260	17.32	21				
	50	29.2	2049	28.16	34.15				
Monoject	1	5.74	79.18	1.088	1.319				
	3	8.941	192.1	2.64	3.202				
	6	12.7	387.6	5.326	6.46				
	12	15.72	593.9	8.161	9.899				
	20	20.12	972.9	13.37	16.21				
	35	23.52	1329	18.27	22.15				
	60	26.64	1705	23.44	28.42				
	140	38	3470	47.7	57.84				
Terumo	1	4.7	53.09	0.73	0.884				
	3	8.95	192.5	2.646	3.208				
	5	13	406.1	5.581	6.769				
	10	15.8	600	8.244	10				
	20	20.15	975.8	13.41	16.26				
	30	23.1	1282	17.63	21.37				
	60	29.7	2120	29.1	35.33				
Poulten & Graf (Glass)	1	6.7	107.8	1.483	1.798				
	2	8.91	190.8	2.622	3.18				
	3	9.06	197.2	2.711	3.288				
	5	11.75	331.8	4.559	5.53				
	10	14.67	517.2	7.107	8.62				
	20	19.62	925.2	12.72	15.42				
	30	22.69	1237	17.01	20.62				
	50	26.96	1746	24.01	29.11				
Steel Syringes	1	9.538	218.6	3.005	3.644				
	3	9.538	218.6	3.005	3.644				
	5	12.7	387.6	5.326	6.46				
	8	9.538	218.6	3.005	3.644				
	20	19.13	879.5	12.09	14.65				
	50	28.6	1965	27.01	32.76				
		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	282.7	0.004	0.25	2.303	12.74	0.176	
	10	0.485	565.3	0.008	0.5	3.257	25.49	0.351	
	25	0.728	1273	0.018	1	4.606	50.99	0.701	
	50	1.03	2549	0.036	2.5	7.284	127.5	1.752	
	100	1.457	5102	0.071	5	10.3	254.9	3.504	
Hamilton Microliter (Glass)	0.5	0.103	25.49	0.001	10	14.57	510.2	7.01	
	1	0.146	51.23	0.001	25	23.03	1274	17.52	
	2	0.206	101.9	0.002	50	27.5	1817	24.98	
	5	0.326	255.4	0.004	100	34.99	2942	40.43	

1. Specifications

<u>Model</u>	<u>Style</u>	<u>Stall Detection</u>	<u>Number of Syringes</u>	<u>Maximum Syringe Size</u>
NE-1000	Stand-Alone	Yes	1	60 mL; 140 mL partially filled
NE-500	OEM	No	1	60 mL; 140 mL partially filled
NE-501	OEM	No	1	60 mL; 140 mL partially filled

1.1 Mechanical & Electrical

Motor type: Step motor
Motor steps per revolution: 400
Motor to drive screw ratio: 15/28
Drive screw pitch: 20 revolutions/inch
Micro-stepping: 1/8 to 1/2 depending on motor speed
Advance per step: 0.2126116 µm to 0.8504464 µm depending on motor speed

Power supply type: External wall adapter, power source specific
Power supply output rating: 12V DC @ 1000 mA
Power connector: 2.1 mm, center positive, DC
Voltage at power connector: 12V DC at full load
Amperage: 750 mA at full load

Dimensions: 8 3/4" x 5 3/4" x 4 1/2" (LxWxH) (Non-OEM versions)
(22.86 cm x 14.605 cm x 11.43 cm)

Weight: 3.8 lbs. (1.63 kg)
Allen Wrench: 3/32 Hex (Not all models)

1.2 Operational

Maximum force: 45 lbs. at minimum speed, 18 lbs. at maximum speed

Syringe inside diameter range: 0.100 to 50.00 mm
Maximum speed: 5.100464828 cm/min
Minimum speed: 0.004204478 cm/hr
Maximum pumping rate: 1699 mL/hr with a B-D 60 mL syringe
Minimum pumping rate: 0.73 µL/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