

Syringe Manufacturer (all names TM)	Syringe (mL)	Inside Diameter (mm)	Maximum Rate (µL/hr)	Minimum Rate (nL/hr)	Maximum Rate (µL/min)				
B-D	1	4.699	2335	14.59	38.92				
	3	8.585	7796	48.68	129.9				
	5	11.99	9999	94.95	253.4				
	10	14.43	9999	137.6	367				
	20	19.05	9999	239.7	639.7				
	30	21.59	9999	307.9	821.7				
	60	26.59	9999	467	1246				
HSW Norm-Ject	1	4.69	2326	14.53	38.77				
	3	9.65	9850	61.51	164.1				
	5	12.45	9999	102.4	273.2				
	10	15.9	9999	167	445.6				
	20	20.05	9999	265.5	708.7				
	30	22.9	9999	346.4	924.5				
	50	29.2	9999	563.2	1503				
Monoject	1	5.74	3485	21.76	58.08				
	3	8.941	8456	52.8	140.9				
	6	12.7	9999	106.6	284.3				
	12	15.72	9999	163.3	435.6				
	20	20.12	9999	267.4	713.6				
	35	23.52	9999	365.4	975.2				
	60	26.64	9999	468.8	1251				
	140	38	9999	954	2545				
Terumo	1	4.7	2336	14.59	38.94				
	3	8.95	8473	52.91	141.2				
	5	13	9999	111.7	297.9				
	10	15.8	9999	164.9	440.1				
	20	20.15	9999	268.2	715.8				
	30	23.1	9999	352.5	940.7				
	60	29.7	9999	583	1555				
Poulten & Graf (Glass)	1	6.7	4748	29.65	79.14				
	2	8.91	8397	52.44	139.9				
	3	9.06	8682	54.22	144.7				
	5	11.75	9999	91.19	243.4				
	10	14.67	9999	142.2	379.4				
	20	19.62	9999	254.3	678.6				
	30	22.69	9999	340.1	907.6				
	50	26.96	9999	480.1	1281				
Steel Syringes	1	9.538	9623	60.09	160.3				
	3	9.538	9623	60.09	160.3				
	5	12.7	9999	106.6	284.3				
	8	9.538	9623	60.09	160.3				
	20	19.13	9999	241.7	645.1				
	50	28.6	9999	540.3	1442				
		Syringe (µL)	Inside Diameter (mm)	Maximum Rate (µL/hr)	Minimum Rate (nL/hr)	SGE Syringe (mL)	Inside Diameter (mm)	Maximum Rate (µL/hr)	Minimum Rate (nL/hr)
SGE (Glass – Gas Tight)	5	0.343	12.44	0.078	0.25	2.303	561	3.503	
	10	0.485	24.88	0.156	0.5	3.257	1122	7.006	
	25	0.728	56.06	0.351	1	4.606	2244	14.02	
	50	1.03	112.2	0.701	2.5	7.284	5612	35.05	
	100	1.457	224.5	1.403	5	10.3	9999	70.07	
Hamilton Microliter (Glass)	0.5	0.103	1.122	0.008	10	14.57	9999	140.3	
	1	0.146	2.254	0.015	25	23.03	9999	350.3	
	2	0.206	4.488	0.029	50	27.5	9999	499.5	
	5	0.326	11.24	0.071	100	34.99	9999	808.6	

Specifications

<u>Model</u>	<u>Style</u>	<u>Stall Detection</u>	<u>Number of Syringes</u>	<u>Maximum Syringe Size</u>
NE-1002X	Stand-Alone	Yes	1	60 mL; 140 mL partially filled
NE-502X	OEM	Yes	1	60 mL; 140 mL partially filled

Rate & Volume Units:

Rate Units: nL/hr, μ L/hr, nL/min, μ L/min

Volume Units: nL, μ L

RS-232 Command Modifications from Standard NE-1000 Series

Rate Command:

RAT [C | I] [<float> [NM | UM | NH | UH]]

Volume Target and Set Volume Units Command:

VOL [<float> | { NL | UL }]

NM = nL/min
UM = μ L/min
NH = nL/hr
UH = μ L/hr
NL = nL
UL = μ L

Mechanical

Motor type: Step motor
Motor steps per revolution: 400
Motor gearbox reduction: 25:1
Motor to drive screw ratio: 15/28
Drive screw pitch: 20 revolutions/”
Micro-stepping: 1/16 to 1/2 depending on motor speed
Advance per step: 4.25223214 nm to 34.0178571 nm depending on motor speed

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)

Electrical

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

Operational

Accuracy: Within 1% error
Reproducibility: Within 0.1% error
Maximum force: 150 lbs. at minimum speed, 18 lbs. at maximum speed

Syringe inside diameter range: 0.100 to 50.00 mm
Maximum speed: 0.224469144 cm/min
Minimum speed: 8.40896E-05 cm/hr
Maximum pumping rate: 1246 μ L/min with a B-D 60 mL syringe
Minimum pumping rate: 14.59 nL/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