

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	2176	13.59	36.26				
	3	8.585	7263	45.36	121				
	5	11.99	9999	88.47	236.1				
	10	14.43	9999	128.2	342				
	20	19.05	9999	223.4	596.1				
	30	21.59	9999	286.9	765.6				
	60	26.59	9999	435.1	1161				
HSW Norm-Ject	1	4.69	2167	13.54	36.13				
	3	9.65	9177	57.31	152.9				
	5	12.45	9999	95.39	254.6				
	10	15.9	9999	155.6	415.2				
	20	20.05	9999	247.4	660.3				
	30	22.9	9999	322.7	861.3				
	50	29.2	9999	524.7	1400				
Monoject	1	5.74	3247	20.28	54.11				
	3	8.941	7878	49.2	131.3				
	6	12.7	9999	99.25	264.9				
	12	15.72	9999	152.1	405.9				
	20	20.12	9999	249.2	664.9				
	35	23.52	9999	340.5	908.6				
	60	26.64	9999	436.8	1165				
	140	38	9999	888.6	2371				
Terumo	1	4.7	2177	13.6	36.28				
	3	8.95	7894	49.3	131.5				
	5	13	9999	104	277.6				
	10	15.8	9999	153.7	410				
	20	20.15	9999	249.9	666.9				
	30	23.1	9999	328.4	876.5				
	60	29.7	9999	542.8	1448				
Poulten & Graf (Glass)	1	6.7	4424	27.63	73.73				
	2	8.91	7824	48.86	130.4				
	3	9.06	8089	50.51	134.8				
	5	11.75	9999	84.96	226.7				
	10	14.67	9999	132.5	353.5				
	20	19.62	9999	236.9	632.3				
	30	22.69	9999	316.9	845.6				
	50	26.96	9999	447.3	1193				
Steel Syringes	1	9.538	8966	55.99	149.4				
	3	9.538	8966	55.99	149.4				
	5	12.7	9999	99.25	264.9				
	8	9.538	8966	55.99	149.4				
	20	19.13	9999	225.2	601.1				
	50	28.6	9999	503.4	1343				
SGE (Glass – Gas Tight)	5	0.343	11.59	0.073	0.25	2.303	8.712	3.264	
	10	0.485	23.18	0.145	0.5	3.257	17.42	6.528	
	25	0.728	52.23	0.327	1	4.606	34.84	13.06	
	50	1.03	104.5	0.653	2.5	7.284	87.15	32.65	
	100	1.457	209.2	1.307	5	10.3	174.2	65.29	
Hamilton Microliter (Glass)	0.5	0.103	1.045	0.007	10	14.57	348.7	130.7	
	1	0.146	2.1	0.014	25	23.03	871.2	326.4	
	2	0.206	4.182	0.027	50	27.5	1242	465.4	
	5	0.326	10.47	0.066	100	34.99	2011	753.4	

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:	26.832 :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:	3.96190383 nm to 31.69523064 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, 28 lbs. at maximum speed
Syringe inside diameter range:	0.100 to 50.00 mm
Maximum speed:	0.209143135 cm/min
Minimum speed:	7.83482E-05 cm/hr
Maximum pumping rate:	1161 μ L/min with a B-D 60 mL syringe
Minimum pumping rate:	13.59 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