

Syringe Manufacturer (all names <sup>TM</sup> )	Syringe (mL)	Inside Diameter (mm)	Maximum Rate (mL/hr)	Minimum Rate (µL/hr)	Maximum Rate (mL/min)				
B-D	1	4.699	832.3	6.35	13.87				
	3	8.585	2778	21.2	46.3				
	5	11.99	5418	41.35	90.31				
	10	14.43	7848	59.89	130.8				
	20	19.05	9999	104.4	227.9				
	30	21.59	9999	134.1	292.8				
	60	26.59	9999	203.4	444.1				
HSW Norm-Ject	1	4.69	829.1	6.326	13.81				
	3	9.65	3510	26.79	58.5				
	5	12.45	5842	44.58	97.37				
	10	15.9	9529	72.71	158.8				
	20	20.05	9999	115.7	252.5				
	30	22.9	9999	150.9	329.4				
	50	29.2	9999	245.3	535.6				
Monoject	1	5.74	1241	9.476	20.69				
	3	8.941	3013	22.99	50.22				
	6	12.7	6079	46.39	101.3				
	12	15.72	9314	71.07	155.2				
	20	20.12	9999	116.5	254.3				
	35	23.52	9999	159.1	347.5				
	60	26.64	9999	204.1	445.8				
	140	38	<b>9999</b>	<b>415</b>	<b>907.1</b>				
Terumo	1	4.7	832.6	6.353	13.87				
	3	8.95	3019	23.04	50.32				
	5	13	6370	48.61	106.1				
	10	15.8	9409	71.8	156.8				
	20	20.15	9999	116.8	255				
	30	23.1	9999	153.5	335.2				
	60	29.7	<b>9999</b>	<b>254</b>	<b>554.1</b>				
Poulten & Graf (Glass)	1	6.7	1692	12.91	28.2				
	2	8.91	2992	22.84	49.87				
	3	9.06	3094	23.61	51.56				
	5	11.75	5204	39.71	86.73				
	10	14.67	8112	61.9	135.2				
	20	19.62	9999	110.8	241.8				
	30	22.69	9999	148.1	323.4				
Steel Syringes	1	9.538	3429	26.17	57.15				
	3	9.538	3429	26.17	57.15				
	5	12.7	6079	46.39	101.3				
	8	9.538	3429	26.17	57.15				
	20	19.13	9999	105.3	229.9				
	50	28.6	9999	235.3	513.8				
		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	4434	0.034	0.25	2.303	199.9	1.526	
	10	0.485	8866	0.068	0.5	3.257	399.8	3.051	
	25	0.728	9999	0.153	1	4.606	799.6	6.102	
	50	1.03	9999	0.306	2.5	7.284	1999	15.26	
	100	1.457	9999	0.611	5	10.3	3998	30.51	
Hamilton Microliter (Glass)	0.5	0.103	399.8	0.004	10	14.57	8001	61.05	
	1	0.146	803.4	0.007	25	23.03	9999	152.6	
	2	0.206	1599	0.013	50	27.5	9999	217.5	
	5	0.326	4005	0.031	100	34.99	9999	352.1	

# 1. Specifications

<u>Model</u>	<u>Style</u>	<u>Stall Detection</u>	<u>Number of Syringes</u>	<u>Maximum Syringe Size</u>
NE-1050	Stand-Alone	Yes	1	60 mL; 140 mL partially filled
NE-550	OEM	No	1	60 mL; 140 mL partially filled
NE-551	OEM	Yes	1	60 mL; 140 mL partially filled

## 1.1 Mechanical & Electrical

Motor type: Step motor  
Motor steps per revolution: 200  
Motor to drive screw ratio: 28/15  
Drive screw pitch: 16 revolutions/”  
Micro-stepping: 1/8 to 1/2 depending on motor speed  
Advance per step: 1.8520833 µm to 7.4083333 µm depending on motor speed

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

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)

## 1.2 Operational

Maximum force: 20 lbs. at minimum speed, 10 lbs. at maximum speed

Syringe inside diameter range: 0.100 to 50.00 mm  
Maximum speed: 80.01 cm/min  
Minimum speed: 0.0366 cm/hr  
Maximum pumping rate: 444.1 ml/min with a B-D 60 mL syringe  
Minimum pumping rate: 6.35 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