

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	39.27	0.73	0.654			
	3	8.585	131	2.434	2.184			
	5	11.99	255.6	4.748	4.261			
	10	14.43	370.3	6.876	6.172			
	20	19.05	645.4	11.99	10.75			
	30	21.59	829	15.4	13.81			
	60	26.59	1257	23.35	20.95			
HSW Norm-Ject	1	4.69	39.11	0.727	0.651			
	3	9.65	165.6	3.076	2.76			
	5	12.45	275.6	5.119	4.594			
	10	15.9	449.6	8.349	7.493			
	20	20.05	714.9	13.28	11.91			
	30	22.9	932.6	17.32	15.54			
	50	29.2	1516	28.16	25.27			
Monoject	1	5.74	58.59	1.088	0.976			
	3	8.941	142.1	2.64	2.369			
	6	12.7	286.8	5.326	4.78			
	12	15.72	439.4	8.161	7.324			
	20	20.12	719.9	13.37	11.99			
	35	23.52	983.8	18.27	16.39			
	60	26.64	1262	23.44	21.03			
	140	38	2568	47.7	42.8			
Terumo	1	4.7	39.28	0.73	0.654			
	3	8.95	142.4	2.646	2.374			
	5	13	300.5	5.581	5.009			
	10	15.8	443.9	8.244	7.399			
	20	20.15	722.1	13.41	12.03			
	30	23.1	949	17.63	15.81			
	60	29.7	1568	29.1	26.14			
Poulten & Graf (Glass)	1	6.7	79.83	1.483	1.33			
	2	8.91	141.1	2.622	2.353			
	3	9.06	145.9	2.711	2.433			
	5	11.75	245.5	4.559	4.092			
	10	14.67	382.7	7.107	6.379			
	20	19.62	684.6	12.72	11.41			
	30	22.69	915.6	17.01	15.26			
	50	26.96	1292	24.01	21.54			
Steel Syringes	1	9.538	161.7	3.005	2.696			
	3	9.538	161.7	3.005	2.696			
	5	12.7	286.8	5.326	4.78			
	8	9.538	161.7	3.005	2.696			
	20	19.13	650.8	12.09	10.84			
	50	28.6	1454	27.01	24.24			
SGE (Glass – Gas Tight)	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)
	5	0.343	209.2	0.004	0.25	2.303	9.432	0.176
	10	0.485	418.3	0.008	0.5	3.257	18.86	0.351
	25	0.728	942.5	0.018	1	4.606	37.73	0.701
	50	1.03	1886	0.036	2.5	7.284	94.36	1.752
100	1.457	3775	0.071	5	10.3	188.6	3.504	
Hamilton Microliter (Glass)	0.5	0.103	18.86	0.001	10	14.57	377.5	7.01
	1	0.146	37.91	0.001	25	23.03	943.2	17.52
	2	0.206	75.47	0.002	50	27.5	1344	24.98
	5	0.326	189	0.004	100	34.99	2177	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-300	Stand-Alone	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/”
Micro-stepping:	1/8 to 1/2 depending on motor speed
Advance per step:	0.2126 μ m to 0.8504 μ m depending on motor speed
Power supply type:	External wall adapter, country and 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:	800 mA at full load
Dimensions:	8 3/4” x 5 3/4” x 4 1/2” (LxWxH) (22.86 cm x 14.605 cm x 11.43 cm)
Weight:	3.8 lbs. (1.63 kg)

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:	3.7742 cm/min
Minimum speed:	0.004205 cm/hr
Maximum pumping rate:	1257 mL/hr with a B-D 60 mL syringe
Minimum pumping rate:	0.73 μ L/hr with a B-D 1 mL syringe