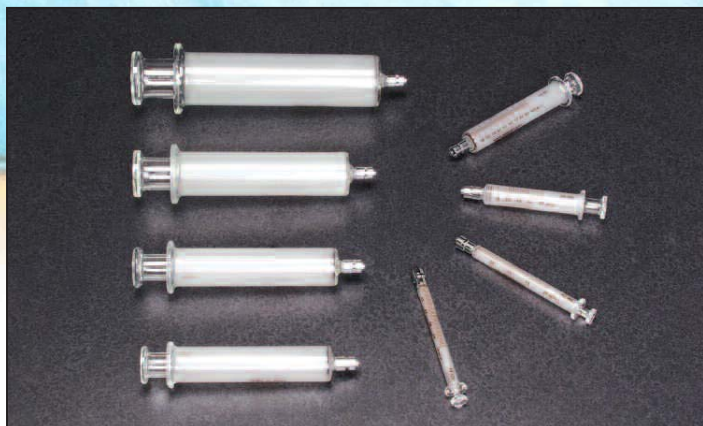


# ***kdS* Glass Syringes**

# **NEW! Full line of Glass Syringes**



## **Glass Syringes**

KD Scientific offers a new line of glass syringes to meet the scientific applications in the laboratory environment. Over ten different sizes of glass syringes ranging from 1.0 ml to 200 ml are available.

All syringes are made from heat resistant borosilicate glass. The material and construction is resistant to breakage from shock and sudden temperature changes. They are all annealed and tested until free of internal strain to withstand repeated washing.

The luer lock tip and the barrel base are reinforced for extra ruggedness. The metal luer lock tip meets the specification of the American National Standards for Medical Materials luer taper fitting performance HIMA MD 70.1 -1983. The fitting is made from chrome plated brass and fits all female luer lock fittings. All glass syringes are clearly marked with permanently fused graduations for lifetime legibility and unique serial numbers for identification of samples.

The cylinder plunger fit is leak proof and meets the requirements of Federal Specification GG-S-921 b. Each plunger is individual ground and fitted to the barrel for smooth movement with no back flow. The barrel rim is flat on both sides to prevent rolling and is wide enough for convenient finger tip grip. The syringes are available in universal fit or custom fit design. The Custom Fit syringes are uniquely numbered and are offered as an option.

KD Scientific also offers a family of syringe pumps to meet all different applications. The full line of KDS pumps includes a simple single syringe dispense only pump, a multi-syringe infuse and withdrawal pump, push and pull pumps, continuous pumps for uninterrupted fluid delivery, nanoliter pumps, and an emulsifier pump. KD Scientific is world renown for its unsurpassed quality and reliability.

**NOTE:** *KD Scientific syringes are for laboratory use only. They have not been approved by the FDA for clinical use.*

## **Benefits**

- Easy to clean and maintain
- Accurate dispensing
- Reusable
- Economical
- Durable
- Chemically resistant
- Resistant to thermal shock

## **Features**

- Universal or Custom Fit
- Flat barrel rim prevents rolling
- Annealed and tested until free of internal strain
- Heat resistant borosilicate glass
- Resistant to breakage from shock and sudden temperature changes
- Clear graduation markings
- Permanently fused graduations – long term legibility
- Reinforced at luer lock tip and barrel base
- Metal luer lock tip meets ANSI standards HIMA MD 70.1 – 1983
- Fitting made from chrome plated brass. Fits all female luer lock fittings
- Individually ground and fitted plunger to barrel for smooth movement with no back flow
- Cylinder-plunger is leak proof and meets federal specifications GG-S-921b

## **Applications**

- Infusing
- Dispensing Reagents
- Diluting
- Calibration
- Aspirating
- Pipetting
- Sampling

## **Markets**

- Pharmaceutical
- Biotech
- Chemical
- Petrochemical
- Neuroscience
- Research and Development
- Government
- Food and Beverage

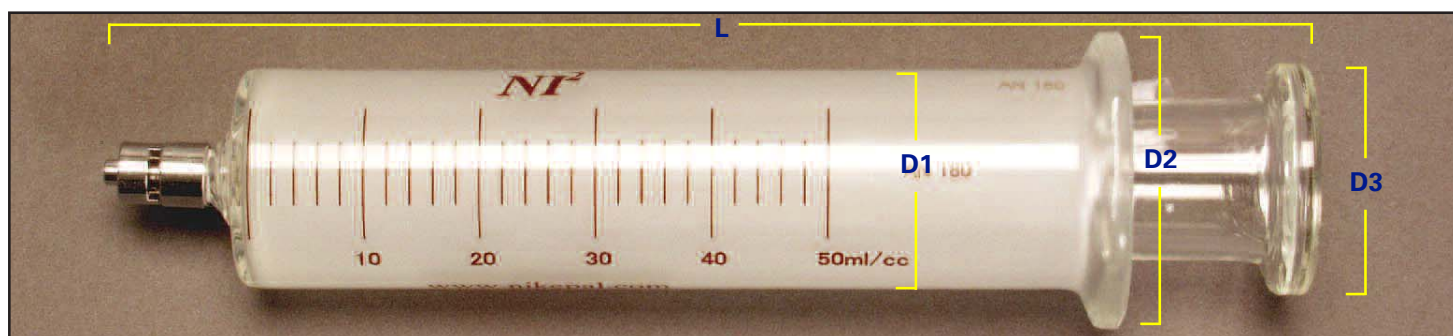
***kdS* Scientific**

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## Specifications

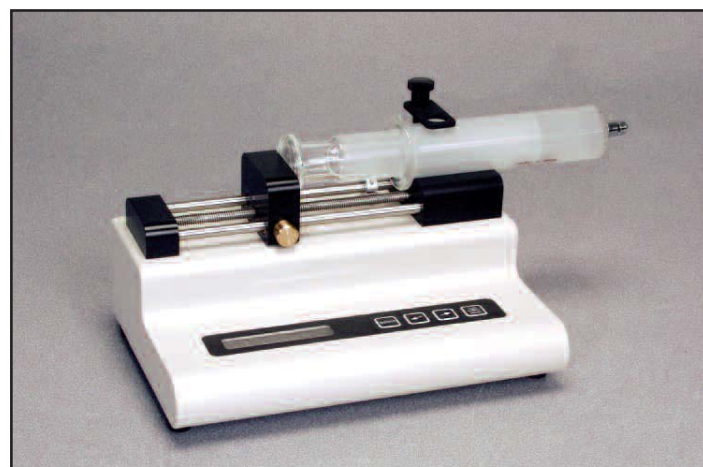
Order Code	78-0871	78-0872	78-0873	78-0874	78-0875	78-0876	78-0877	78-0878	78-0879	78-0880
Min. Order Qty.	6	6	6	6	6	6	6	1	1	1
Volume* (ml)	1.0	2.0	5.0	10.0	20.0	30.0	50.0	100.0	150.0	200.0
Piston Outside Diameter (mm)	4.80 ±0.10	6.45 ±0.10	12.60 ±0.10	15.15 ±0.15	20.40 ±0.20	22.9 ±0.20	27.45 ±0.20	35.90 ±0.25	34.20 ±0.25	42.20 ±0.25
Piston Outside Diameter (in)	0.189 ±0.004	0.254 ±0.004	0.496 ±0.004	0.596 ±0.006	0.80 3±0.008	0.902 ±0.008	1.081 ±0.008	1.413 ±0.010	1.346 ±0.010	1.661 ±0.010
Barrel Diameter Outside (mm) D1	8.30 ±0.20	9.95 ±0.20	15.4 ±0.30	18.35 ±0.35	24.20 ±0.40	27.30 ±0.40	32.35 ±0.55	41.20 ±0.75	39.60 ±0.75	48.00 ±0.75
Barrel Diameter Outside (in) D1	0.327 ±0.008	0.392 ±0.008	0.606 ±0.012	0.722 ±0.014	0.953 ±0.016	1.075 ±0.016	1.274 ±0.022	1.622 ±0.030	1.559 ±0.030	1.89 ±0.030
Barrel Collar Diameter (mm) D2	14.95 ±0.50	16.40 ±0.50	22.25 ±0.75	26.20 ±0.75	33.25 ±0.75	37.55 ±0.75	44.00 ±0.75	55.50 ±0.75	52.00 ±0.75	62.00 ±0.75
Barrel Collar Diameter (in) D2	0.589 ±0.020	0.646 ±0.020	0.876 ±0.030	1.031 ±0.030	1.309 ±0.030	1.478 ±0.030	1.732 ±0.030	2.185 ±0.030	2.047 ±0.030	2.441 ±0.030
Piston Collar Diameter (mm) D3	11.5 ±0.50	12.25 ±0.75	17.25 ±0.55	19.95 ±0.60	24.65 ±0.65	27.95 ±0.65	34.05 ±0.65	42.05 ±0.65	42.00 ±0.65	54.00 ±1.00
Piston Collar Diameter (in) D3	0.453 ±0.020	0.482 ±0.030	0.679 ±0.022	0.785 ±0.024	0.97 ±0.026	1.10 ±0.026	1.341 ±0.026	1.656 ±0.026	1.654 ±0.026	2.126 ±0.039
Length (mm) L	115.00 ±0.50	115.00 ±0.50	105.00 ±0.50	128.50 ±0.50	145.50 ±0.50	163.00 ±0.50	178.00 ±0.50	215.00 ±0.65	275.00 ±0.65	280.00 ±0.65
Length (in) L	4.528 ±0.020	4.528 ±0.020	4.134 ±0.020	5.059 ±0.020	5.728 ±0.020	6.417 ±0.020	7.008 ±0.020	8.465 ±0.026	10.827 ±0.026	11.024 ±0.026
Increment (ml)	0.02	0.05	0.2	0.2	1.0	1.0	2.0	5.0	5.0	5.0

\* Volume is ±1.5% of rated volume



## Glass Properties

Expansion Coefficient	$52 \times 10^{-7} / ^\circ\text{C}$
Density	$2.36 \text{ g/cm}^3 \pm 0.03 \text{ g/cm}^3$
Modulus of Elasticity	$64 \times 10^3 \text{ N/m}^2$
Water Resistance	First Class
Acid Resistance	First Class
Alkali Resistance	First Class
Softening Point	$785^\circ\text{C}$
Melting Temperature	$1260^\circ\text{C}$
Strain Point	$525^\circ\text{C}$
Annealing Point	$570^\circ\text{C}$
Hardness	7
Color	Clear



# kdScientific



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