

PRECISION LIQUID HANDLING



Valves and Fittings

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HAMILTON 
THE MEASURE OF EXCELLENCE™

The Measure of Excellence

Hamilton Valves are the highest quality precision valves available. We, at Hamilton Company, combine top quality materials with skilled workmanship, ensuring the highest possible performance level of every precision fluid device that we manufacture. With proper care and handling, Hamilton valves will provide unsurpassed performance in liquid handling year after year.

Hamilton Valves provide the perfect turnkey solution to compliment Hamilton Company's robust valve and syringe drive modules, or manual fluid direction and redirection applications. These valves are designed for use in manual applications or on Hamilton syringe and valve drives where the need for a robust valve is required. The valves are specified to seal and operate with liquids only.



Hamilton (HV) Plug Valves provide an economical and flexible method of custom-building a fluid flow control system, from a simple on/off valve to a more complex multi-valve arrangement, using a combination of loop and distribution valves. The small valve body with its chemically inert flow path is ideally suited for low pressure applications. All HV Plug Valves allow you to select and interchange a wide variety of fittings, adapters and tubing, including male and female luers, FEP tubing assemblies, and adapters which thread directly into the valve providing an endless variety of valve configurations for any flow application. Hamilton (HV) fittings and adapters are installed finger-tight (10 ounce inches) and provide a leak-tight seal tested to 100 psig.



Types of Valves

Hamilton (HV) Plug Valves

The HV valve is physically the smallest valve and constitutes a basic unit for the control of fluids. It is ideal for low pressure applications; from a basic on/off flow to a four-way distribution system.

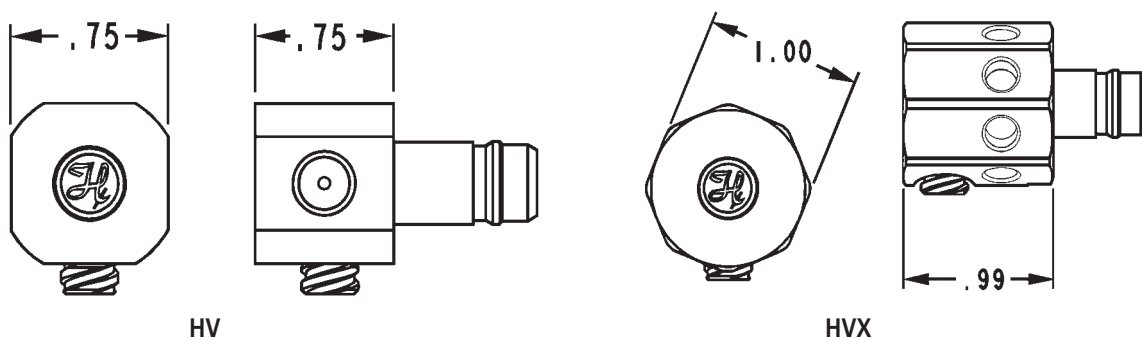
The HVP valve is essentially the same as the HV valve except the HVP can be mounted into panels allowing for custom installation into control panels or instruments.

HVX valves are physically the largest valves. A larger port internal diameter allows increased fluid flows even with moderately viscous fluids. HVX valves can be used free standing or panel-mounted using an optional locking nut, Part # 35121. 6- and 8-port distribution and loop valves are available only in the HVX body style.

Typical Valve Configurations:

Designation	Description
HV	Hamilton Valve, Small Body
HVP	Hamilton Valve, Panel Mount, Small Body
HVX	Hamilton Valve, Large Body
HVM	Hamilton Valve for the Modular Valve Positioner (MVP), Small Body
HVXM	Hamilton Valve for the Modular Valve Positioner (MVP), Large Body
HVI	Hamilton Valve for Precision Syringe Drive Modules (PSD), Small Body
HVXI	Hamilton Valve for Precision Syringe Drive Modules (PSD), Large Body
HVC	Hamilton Valve, Ceramic Flow Path

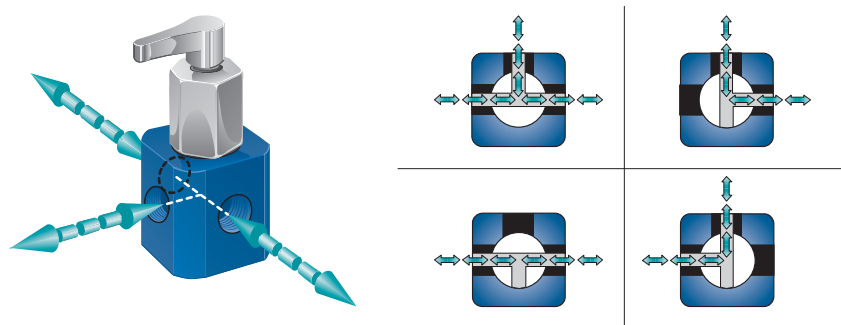
Specifications:



Valve Size	Configuration	Nominal Port Diameter
HV, HVP, HVM, HVI	All	.059"
	2, 3, 4 port	.070"
HVX, HVXM, HVXI	6, 8 port distribution	.059"
	6, 8 port loop	.040"

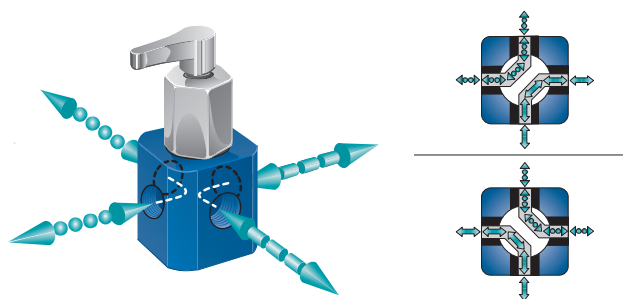
Hamilton (HV) fittings and adapters are installed finger-tight (10 ounce inches) and provide a leak-tight seal tested to 100 psig.

Flow Valves



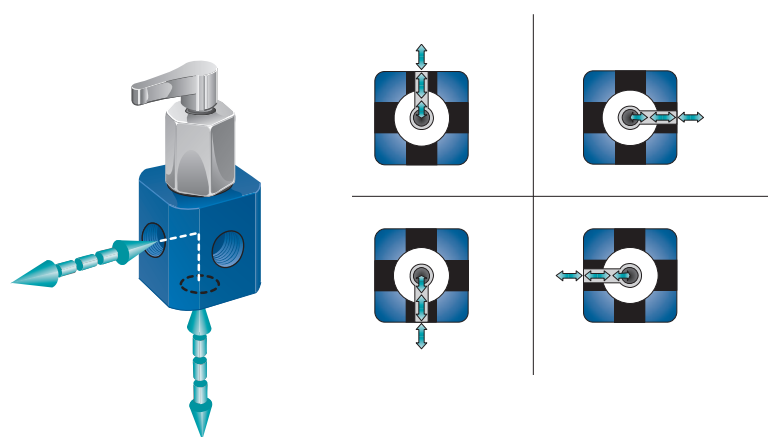
Flow valves are used to direct or redirect fluids. 2-, 3-, and 4 -port valves are available with straight through (180°), 90°, or "T" type plugs for seven different valves. All seven flow configurations are available as HV, HVP and HVX valves. The flow configuration drawings show the possible fluid flow paths for a three port flow valve with a "T" type plug.

Loop Valves



Loop valves are used to direct and redirect fluids. 4-, 6-, or 8- port valves are available with a loop type valve plug. The 4- port valve is available in HV, HVP and HVX body styles. The 6- and 8-port valves are only available in the HVX body style. The flow configuration drawings show the possible fluid flow paths for a 4-port valve with a loop type plug.

Distribution Valves



Distribution valves are used to direct fluid to a number of locations. 2-, 3-, 4-, 6- and 8-port valves are available with a distribution type valve plug. The 2-, 3-, and 4-port distribution valves are available in HV, HVP and HVX body styles. The 6- and 8-port valves are available only in the HVX body style. The flow configuration drawings show the possible fluid flow paths for a 4-port valve with a distribution type plug.

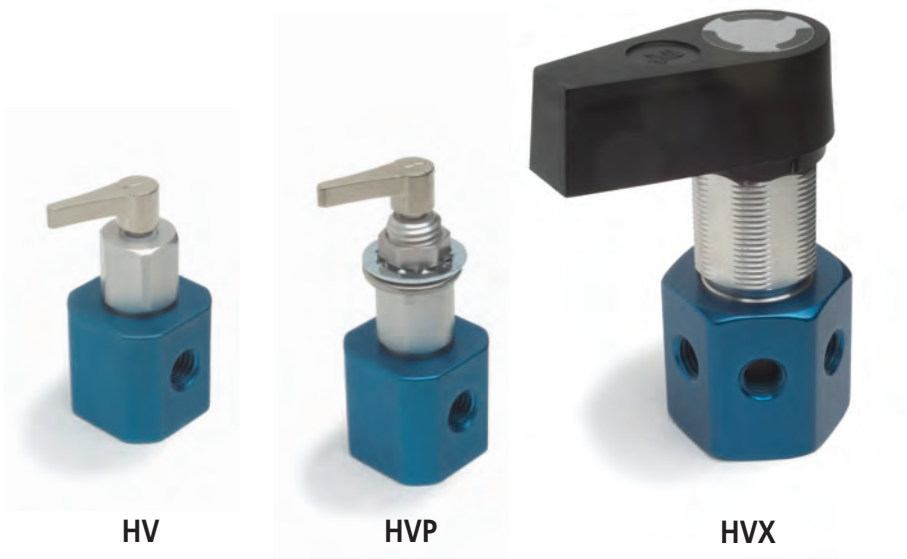
Manual Valves

Hamilton (HV) Plug Valves

- Wetted paths are chemically inert PTFE and Kel-F® materials (100 psig or less)
- Valves are for stand alone use or HVX and HVP valves can also be panel mounted
- Valve position is controlled manually via a handle attached to the valve stem
- Valve connections are via 1/4-28 UNF-2B (Unified Fine) fittings; see specific valve information - thread depths vary

Valve Connections:

Use only HV fittings and adapters for leak-free connections to Hamilton valves






















Hamilton Miniature Inert Valves

	HV	HVP	HVX
Valve Outer Body Dimension	3/4"	3/4"	1"
Port Orifice	.059"	.059"	.118"*
Panel Mounting	No	Yes	Yes
Panel Thickness	N/A	.150" (3.8 mm)	.625" (15.9 mm)

* The port orifice for 6-and 8-way distribution HVX valves is .059".
The port orifice for 6-and 8-way loop HVX valves is .040".
HVX valves require optional locking nut, part #35121, for panel mount applications.

Ordering Information

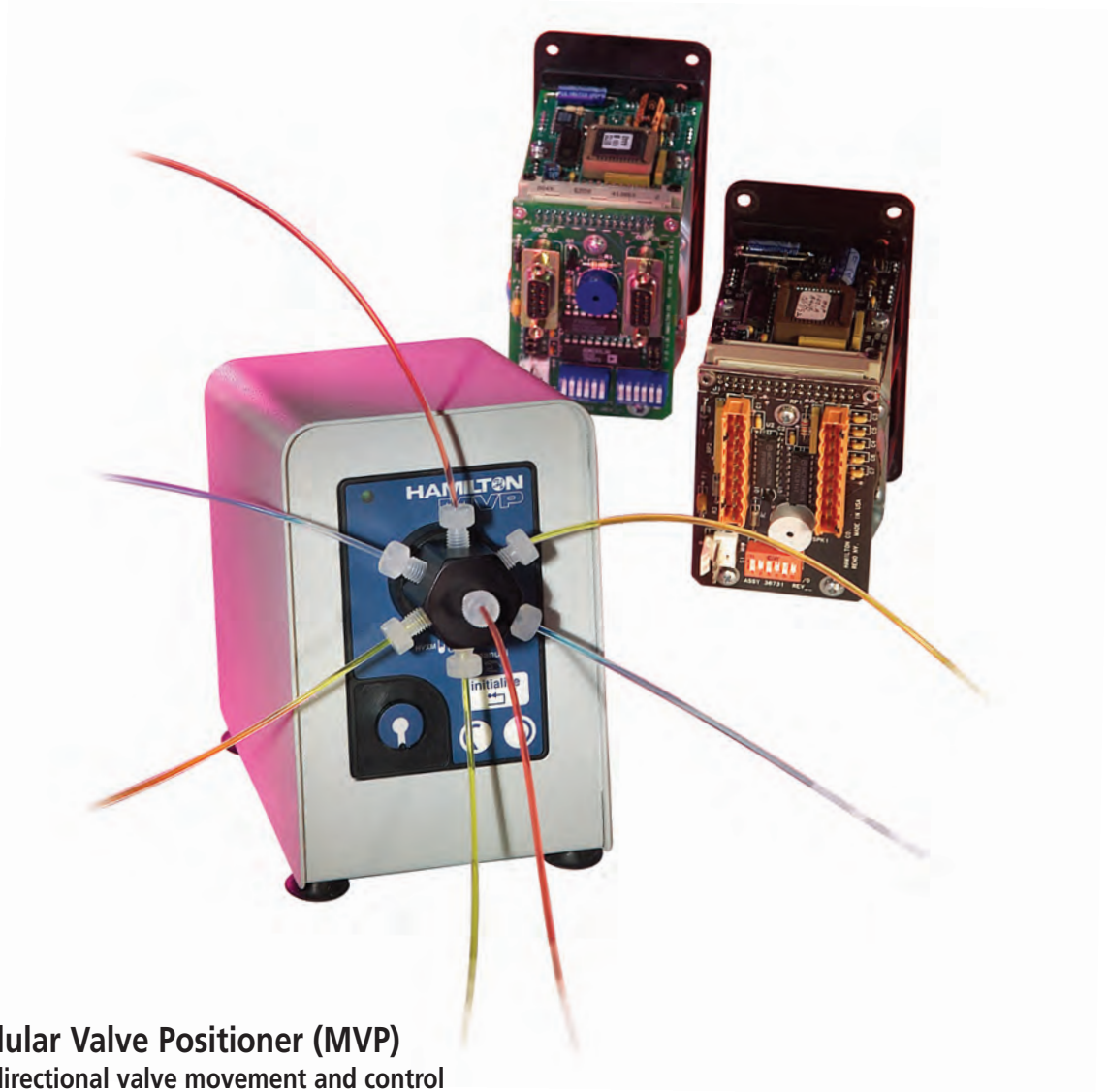
					
Flow Diagram	Valve Description	Valve Model	HV	HVP	HVX
	180° Flow Path 2-ports	1-1	86725	86775	86901*
	90° Flow Path 2-ports	2-2	86726	86776	86902*
	"T" Flow Path 3-ports	3-3	86727	86777	86903*
	90° Flow Path 3-ports	3-2	86728	86778	86904*
	Loop Flow Path 4-ports	4-4	86729	86779	86905*
	"T" Flow Path 4-ports	4-3	86730	86780	
	90° Flow Path 4-ports	4-2	86731	86781	86907*
	180° Flow Path 4-ports	4-1	86732		
	Distribution Flow Path 1-5 2-ports		86735	86785	86910*
	Distribution Flow Path 2-5 2-ports		86736	86786	86911*
	Distribution Flow Path 3-5 3-ports		86737	86787	86912*
	Distribution Flow Path 4-5 4-ports		86738	86788	86913*
	Distribution Flow Path 6-5 6-ports				86915
	Loop Flow Path 6-ports	6-6			86916**
	Distribution Flow Path 8-5 8-ports				86918
	Loop Flow Path 8-ports	8-7			86919**

Note: All valves have .059"/1.5 mm diameter ports unless otherwise specified.

* Valve has .118"/3 mm diameter ports. ** Valve has .040"/1 mm diameter ports.

Thread depth: All valves have 1/4" x 28 UNF 2B ψ .250 threads unless otherwise specified.

Valves for Mechanical Drivers



Modular Valve Positioner (MVP)

- Bi-directional valve movement and control
- Easy “snap-in, snap-out” valve replacement automates any of 24 different Hamilton valve configurations
- Wetted paths are chemically inert PTFE and Kel-F® materials




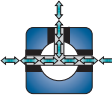


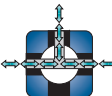
The Modular Valve Positioner (MVP) is a self-contained, bi-directional valve positioner used for fluid selection and redirection. You can choose from two models, digital or RS-232 serial, based on your communication method with the MVP.

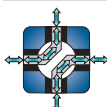





Valve Options

Easily remove and replace the valves for different valve configurations. Choose from valves with two to eight ports. Valves are available in chemically inert PTFE, CTFE and ceramic flow paths.

Ordering Information

MVP Valves

Flow Diagram	CTFE AL Housing Part #	CTFE AL Housing Part #	Ceramic AL Housing Part #	Ceramic SST Housing Part #
	36650			
		36722*		
	36653	36756*	9411-01	9413-01
	36652			
		36758*		
	36717	36780*	9418-01	9419-01
		36779*		

Flow Diagram	CTFE AL Housing Part #	CTFE AL Housing Part #	Ceramic AL Housing Part #	Ceramic SST Housing Part #
	36654			
	36719	36759*	9415-01	9416-01
		36760		
		36781**		
		36766	9378-01†	9410-01†
		36782**		

Note:

All valves have 0.059"/1.5 mm diameter ports unless otherwise indicated.

* 0.118"/3 mm diameter ports.

** 0.040"/1 mm diameter ports.

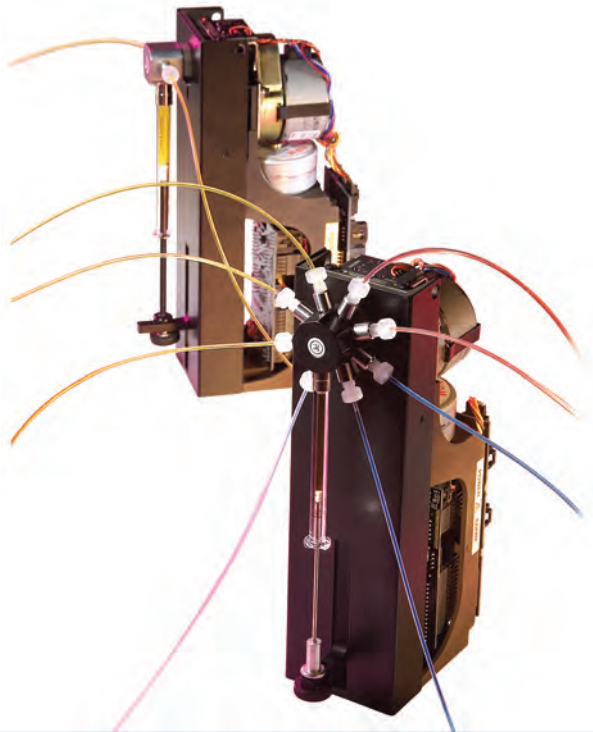
All ceramic thread: 1/4"-28 2B UNF ψ .320" deep deep unless otherwise noted.

All CTFE thread: 1/4"-28 2B UNF ψ .250" deep unless otherwise noted.

† Thread: 1/4"-28 2B UNF ψ .285" deep.

Instrument Valves

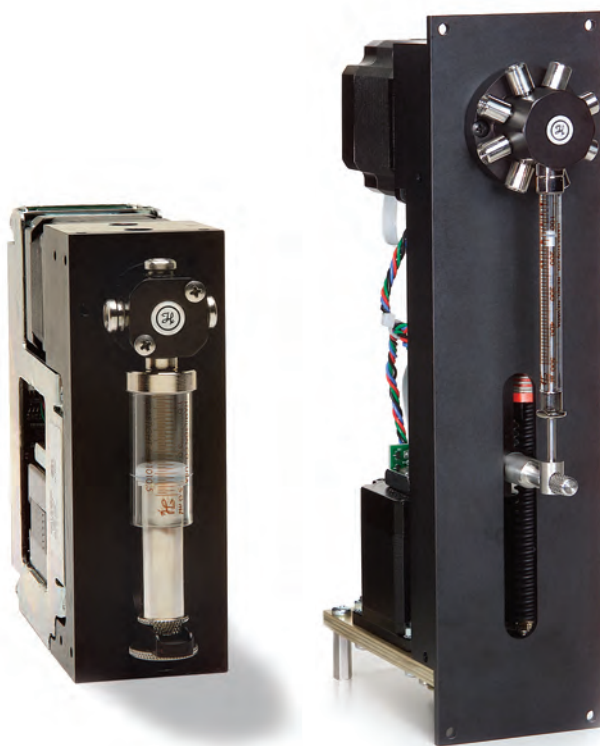
PSD/2 & 3 Syringe Drive Modules



The PSD/2 & 3 modules are highly integrated, self-contained syringe drive modules that can be used as a single unit or can be daisy chained in a system that uses up to 16 units.

The PSD/2 & 3 can be fitted with a variety of valve and syringe combinations. With a choice of materials like PTFE, CTFE, FEP, UHMWPE, ceramic and borosilicate glass, a reliable turnkey system can be assembled to meet the requirements of the most demanding applications.

PSD/4 & 8 Syringe Drive Modules



The PSD/4 & 8 are compact syringe pumps designed to perform all liquid handling operations including dispensing and diluting.

The modules can be fitted with a choice of valves to meet even the most demanding applications.

Ordering Information

Valves for PSD/2 & 3

Part #	Flow Diagram	Description	Housing Material	Part #	Flow Diagram	Description	Housing Material
5208-01		HVC 3-2	Aluminum	6765-01		HVCX 4-5	Stainless
6763-01		HVC 3-2	Stainless Steel	6500-01		HVCX 8-5	Aluminum
5208-02		HVC 3-5	Aluminum	6766-01		HVCX 8-5	Stainless Steel
6764-01		HVC 3-5	Stainless Steel	39298		HV 3-2, .059" Port	Aluminum, Plastic Plug
6500-02		HVCX 4-5	Aluminum	39221		HV 3-2, .070" Port	Aluminum, Plastic Plug

Note: All **HV** valves have a thread depth of 1/4"-28 2B UNF ψ .250" deep. All **HVC** valves have a thread depth of 1/4"-28 2B UNF ψ .320" deep. All **HVCX** valves have a thread depth of 1/4"-28 2B UNF ψ .285" deep. All HVC and HVCX valves have a ceramic flow path.

Ordering Information

Valves for PSD/4 & 8

Flow Diagram	Description	Ceramic Part #
	"Y" Valve	8778-01*
	"T" 3-2 Valve	8063-01*
	3-5 Valve	7991-01*
	4-5 Valve	7992-01**
	6-5 Valve	9998-01**
	8-5 Valve	7993-01**
	4-2 Valve	9234-01**

Note: All **HVC** valves .060" diameter ports. All **HVCX** valves .050" diameter ports except for the 4-5 configuration.













* Thread depth of 1/4"-28 2B UNF ψ .320" deep. ** Thread depth of 1/4"-28 2B UNF ψ .285" deep.




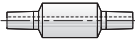
Recommended Fittings

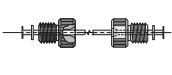
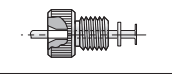
HV and General Laboratory Fittings, Adapters and Tubing



- Use female luer, male luer, luer lock and barbed fittings to connect syringes, equipment, or other devices to Hamilton valves
- Some fittings, e.g. female luer, male luer, luer lock and barbed fittings, are offered in two port diameters for fluid optimization
- Fittings and adapters are Kel-F® (PCTFE) unless otherwise noted

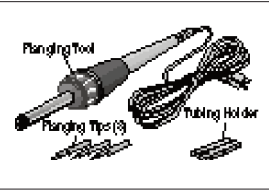
Ordering Information

	Description	Port Diameter	Part #	Compatible with Thread Depth (TD)
	Female Luer, 1/4"-28 UNF	.059"/1.5 mm	35031	.250" or less
	Female Luer, 1/4"-28 UNF	.118"/3.0 mm	35071	.250" or less
	Female Luer, 1/4"-28 UNF	.059"/1.5 mm	32834	.320" or less
	Female Luer, M6x1 inner thread	.059"/1.5 mm	32874	.320" or less
	Male Luer, 1/4"-28 UNF	.059"/1.5 mm	35030	.250" or less
	Male Luer, 1/4"-28 UNF	.118"/3.0 mm	35070	.250" or less
	Male Luer, 1/4"-28 UNF	.059"/1.5 mm	32835	.320" or less
	Male Luer, M6x1 inner thread	.059"/1.5 mm	32875	.320" or less
 Kel-F® and Metal	Male Luer Lock, 1/4"-28 UNF	.059"/1.5 mm	35033	.250" or less
	Male Luer Lock, 1/4"-28 UNF	.118"/3.0 mm	35073	.250" or less
	Male Luer Lock, 1/4" UNF	.059"/1.5 mm	32836	.320" or less
	Male Luer Lock, M6x1 inner thread	.059"/1.5 mm	32876	.320" or less
	1/8" Barb, 1/4"-28 UNF	.059"/1.5 mm	35032	.250" or less
	1/8" Barb, 1/4"-28 UNF	.118"/3.0 mm	35072	.250" or less
	Plug, 1/4"-28 UNF		32802 1/pk	.250" or less
	Plug, 1/4"-28 UNF		88802 10/pk	.250" or less
	Plug, M6x1 inner thread		32852 1/pk	.320" or less
	Plug, M6x1 inner thread		88875 10/pk	.320" or less
	Union, 1/4"-28 UNF		32800 1/pk	.320" or more
	Union, 1/4"-28 UNF		88800 10/pk	.320" or more
 Kel-F® and Metal	Swivel Union, 1/4"-28 UNF	.059"/1.5 mm	35037	.250" or less
 Kel-F® and Metal	Female Luer/Male Luer Lock Connector, 1/4"-28 UNF	.059"/1.5 mm	86513	
	Female Luer Cap, 1/4"-28 UNF		16801	
	Female, M6/Male, 1/4"-28 UNF	.059"/1.5 mm	32821	.320" or less
 Kel-F® and Metal	Male Luer Lock/Threaded Connector, 1/8"-NPT	.059"/1.5 mm	86536	.320" or less
	Male Luer Lock/Male Luer Lock, 1/4"-28 UNF	.059"/1.5 mm	86511	

	Description	Port Diameter	Part #
	Male Luer Lock/Male Luer, 1/4"-28 UNF	.059"/1.5 mm	86512
	Male Luer/Female Luer, 1/4"-28 UNF	.059"/1.5 mm	86507
	Female Luer/Female Luer Connector, 1/4"-28 UNF	.059"/1.5 mm	86505
	Male Luer/Male Luer, 1/4"-28 UNF	.059"/1.5 mm	86506

	Description	Part #	Tubing Gauge	Tubing Length	Thread Type	Compatible with Thread Depth (TD)
	Kel-F® Fittings Assembled with PTFE FEP Tubing	88916	22	12"	1/4"-28	.250" or less
		88917	18	12"	1/4"-28	.250" or less
		88918	12	12"	1/4"-28	.250" or less
		88946	22	12"	1/4"-28	.320" or less
		88947	18	12"	1/4"-28	.320" or less
		88948	12	12"	1/4"-28	.320" or less
	Two Fittings	88950	1/16" O.D., .042" I.D.	25"	M6x1	.320" or less
		88952	1/16" O.D., .031" I.D.	25"	M6x1	.320" or less
		88960	1/8" O.D., .095" I.D.	25"	M6x1	.320" or less
		88962	1/8" O.D., .062" I.D.	25"	M6x1	.320" or less
	One Fitting	88986	22	24"	1/4"-28	.250" or less
		88987	18	24"	1/4"-28	.250" or less
		88988	12	24"	1/4"-28	.250" or less

	Description	Part #	Quantity	Fits Gauge	Thread Type	Compatible with Thread Depth (TD)
	Fitting with washer (no tubing)	88806	10/pk	18-22	1/4"-28	.320" or less
		88842	5/pk	18-22	1/4"-28	.250" or less
		88807	10/pk	12	1/4"-28	.320" or less
		88843	5/pk	12	1/4"-28	.250" or less
	Washer (no tubing)	32882	1/pk	18-22	1/4"-28	
		88882	10/pk	18-22	1/4"-28	
		32883	1/pk	12	1/4"-28	
		88883	10/pk	12	1/4"-28	

	Description	Part #
	Flanging Tool Kit, 120V	88821
	Includes 1 each of the following:	
	Flanging Tool, 120V	32909
	Flanging Tip, 22 gauge	32905
	Flanging Tip, 18 gauge	32906
	Flanging Tip, 12 gauge	32907
	Tubing Holder	32903



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Syringes for Life Science
Instrument Syringes
SoftGrip™ Pipettes
Miniature Valves
Modular Valve Positioner
Laboratory Fittings, Adapters & Tubing
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DURACAL™ Buffer Solutions
HPLC Columns & Resins

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Drug Discovery
Genomics
Proteomics
Forensic
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TRADEMARKS:

The following company trademark have been used in this catalog
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