

## Gas Delivery Tubing and Accessories



SSI TC-20 Tubing Cutter

A zero dead volume connection is important for maximum chromatographic performance. Unswept volume, caused by a poor fit between tubing and the mating seat, can cause sample dispersion and unsatisfactory chromatographic results.

The SSI Model TC-20 tube cutter assures a zero dead volume connection. Because the tubing is held securely in a clamp vise on the vertical swing arm, a square cut is produced when the swing arm is lowered against the abrasive cutting wheel, which produces a finished end. No lubricant or cutting fluid is required. The unit, which is CE marked, will cut most common tubing used in chromatography. 1/16", 1/8", and 1/4" outside diameter tubing with inside diameters as small as 0.008" can be smooth-cut and dressed without distortion.

The precision ground dressing tool for the 1/16" OD tubing is included and is attached directly to the swing arm: it cannot be misplaced or lost. Dressing tools for all three diameters can be ordered separately.

DESCRIPTION	CAT. NO.	PRICE
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SSI ELECTRIC STAINLESS STEEL TUBING CUTTER

Voltage Selectable: 110/220 Volts  
50-60 Hz, CE Approved

58539-U

#### REPLACEMENT PARTS

Cutting Wheels, TC-20 (pk. of 3)	58540-U
Dressing Tool for 1/16" Tubing	58804
Needle Insert for 1/16" Deburring Tool	58805

#### ADDITIONAL PARTS

Dressing Tool for 1/8" Tubing	58806
Needle Insert for 1/8" Dressing Tool	58807
Cutting Wheels, TC-10 (pk. of 3) <sup>1</sup>	58803

<sup>1</sup> Replacement cutting wheels for SSI Model TC-10 tubing cutter. Will not fit Model TC-20.

Tubing Cutter for 1/16"  
Stainless Steel Tubing



58692-U

Low-cost tool cuts 1/16" stainless steel tubing without obstructing the bore. Easily cut 1/16" OD stainless steel tubing, then use the dressing tool to remove burrs from the cut end, to ensure a uniform flow of gas or liquid. Dressing tool kit includes dressing fixture, dressing tool, and file. Order tubing cutter and dressing tool kit separately.

DESCRIPTION	CAT. NO.	PRICE
Tubing Cutter for 1/16" SS Tubing	58692-U	
Cutting Wheels (pk. of 2)	22411	
Dressing Tool Kit	58691-U	

Tubing Cutters

The heavy duty tubing cutter is perfect for cutting 1/8" to 1 1/8" OD metal tubing. A spare cutting wheel is included.

The pocket-sized Imp tubing cutter is ideal for working in tight spaces.

DESCRIPTION	CAT. NO.	PRICE
Heavy Duty Tubing Cutter	20425-U	
Cutting Wheels (pk. of 3)	20626	
Imp Tubing Cutter	22410-U	
Cutting Wheels (pk. of 2)	22411	

Tubing Benders

The heavy duty benders easily bend aluminum, copper, or stainless steel tubing up to 180°, without kinking or splitting the tubing.

The three-in-one tool bends 1/8", 3/16", or 1/4" (3, 4, or 6mm) tubing of standard wall thickness.

DESCRIPTION	CAT. NO.	PRICE
Heavy Duty Bender for 1/8" OD Tubing	20422-U	
Heavy Duty Bender for 1/4" OD Tubing	20424-U	
Three-Size Tubing Bender	20857	

Tubing Reamer

Does a fine job of opening and rounding the tubing end after cutting.

DESCRIPTION	CAT. NO.	PRICE
Tubing Reamer	20389	



20389














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Gas Chromatography

SUPELCO

## Gas Delivery Tubing Fittings

Swagelok fittings lead the tube connection field because they combine superior design principles with close manufacturing tolerances and rigid quality assurance programs. Since 1947, they have stood the test of time with unparalleled performance on the job. They have been used successfully on some of the most demanding applications in aerospace, chemical processing, oil refining, and clear resin, commercial fossil and nuclear power, laser technology, electronics, pulp and paper and many other industries.



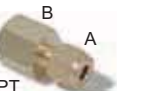
FITTING	SWAGELOK NO.	SIZE (IN.)	BRASS			STAINLESS STEEL		
			QTY.	CAT. NO.	PRICE	QTY.	CAT. NO.	PRICE
Nuts 	102-1	1/16	10	22021		2	22047	
	202-1	1/8	20	22011-U		5	22037	
	402-1	1/4	20	22000-U		5	22026	
Front Ferrules <sup>1</sup> 	103-1	1/16	10	22022-U		2	22048-U	
	203-1	1/8	20	22012		5	22038	
	403-1	1/4	20	22001		5	22027	
Back Ferrules <sup>1</sup> 	104-1	1/16	10	22023		2	22049-U	
	204-1	1/8	20	22013		5	22039	
	404-1	1/4	20	22002		5	22028	
	814-1	1/2	—	—	—	5	25825	
Nut, Front & Back Ferrule Sets 	100-S	1/16	10	22024		1	22050	
	200-S	1/8	10	22014		5	22040-U	
	400-S	1/4	10	22003		5	22029	
Port Connectors 	201-PC	1/8	2	22688		2	22689	
	401-PC	1/4	2	22690-U		—	—	—
	401-PC-2	1/4 to 1/8 reducer	2	22094-U		2	22095-U	
Caps (nuts & ferrules included) 	200-C	1/8	6	22018-U		—	—	—
	400-C	1/4	6	22008		2	22034	
Plugs 	100-P	1/16	3	22136-U		1	22137-U	
	200-P	1/8	6	22019-U		1	22045-U	
	400-P	1/4	6	22009		2	22035-U	
	810P	1/2	3	25814		1	25826	
Reducers 	100-R-2	1/16A x 1/8B	2	22017-U		1	22043	
	100-R-4	1/16A x 1/4B	2	22701		1	22702	
	200-R-4	1/8A x 1/4B	2	22006		1	22032	
	400-R-2	1/4A x 1/8B	2	21516		1	21517	
	400-R-8	1/4A x 1/2B	2	25815		1	25827	
Unions A 	100-6	1/16	1	22025		1	22051-U	
	200-6	1/8	2	22015		1	22041	
	400-6	1/4	2	22004		1	22030-U	
	810-6	1/2	2	25816		1	25828	
Reducing Unions 	200-6-1	1/8 x 1/16	2	22016		1	22042-U	
	300-6-2	3/16 x 1/8	2	22072		—	—	—
	400-6-1	1/4 x 1/16	2	22074		1	22075-U	
	400-6-2	1/4 x 1/8	2	22005		1	22031	
	400-6-3	1/4 x 3/16	—	—	—	1	22077-U	
	810-6-2	1/2 x 1/8	2	22714		—	—	—
Bored-Through Unions 	200-6BT	1/8 x 1/8	—	—	—	1	22088	
	400-6BT	1/4 x 1/4	1	21664		1	21518	
Bulkhead Unions for panel mounting 	100-61	1/16	1	21980-U		1	22665-U	
	200-61	1/8	1	21981-U		1	22666	
	400-61	1/4	1	21982-U		1	22667-U	
Zero-Dead Volume Unions 	1 FO-6-GC	1/16	1	22053-U		1	22052	

<sup>1</sup> Teflon fittings for front and back ferrules are available. See chart on next page.

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P000282, 283, 280, 297, 276, 281, 277, 279, 278, 294, 289, 295

## Gas Delivery Tubing Fittings

FITTING	SWAGELOK NO.	SIZE (IN.)	BRASS		STAINLESS STEEL	
			QTY.	CAT. NO.	PRICE	QTY.
 Tees	100-3	1/16	1	22132-U	1	22133-U
	200-3	1/8	1	22020-U	1	22046
	400-3	1/4	1	22010-U	1	22036
	810-3	1/2	1	25817	1	25829
 Female Branch Tee	200-3TTF	1/8NPT top 1/8 sides	1	22143-U	—	—
	200-4	1/8	1	22684	—	—
 Union Crosses	400-4	1/4	1	22686	—	—
	400-4	1/4	1	22686	—	—
 Pipe Adapters	4-TA-1-2	1/4A x 1/8B	2	22100-U	—	—
	4-TA-1-2	1/4A x 1/8B	2	22100-U	—	—
 Connectors	200-1-2	1/8A x 1/8B	2	22082	1	22084-U
	400-1-2	1/4A x 1/8B	2	22083	1	22085-U
	200-1-4	1/8A x 1/4B	2	22066	1	22067
	400-1-4	1/4A x 1/4B	2	21519	1	22700-U
	810-1-4	1/2A x 1/4B	2	25818	1	25830
 Connectors	200-7-2	1/8A x 1/8B	2	22703	—	—
	400-7-2	1/4A x 1/8B	2	22705-U	1	22706
	200-7-4	1/8A x 1/4B	2	21978-U	1	21979-U
	400-7-4	1/4A x 1/4B	2	22707	1	22708
	810-7-4	1/2A x 1/4B	2	25819	1	25831
 90° Male Elbow	200-2-2	1/8A x 1/8B	2	21970-U	1	21974
	200-2-4	1/8A x 1/4B	2	21971	—	—
	400-2-2	1/4A x 1/8B	2	21972	1	21976-U
	400-2-4	1/4A x 1/4B	2	21973	1	21977-U
 Miniature Quick Connects Stem Assembly	QM2-S-200	1/8	1	22710-U	1	22711-U
 Miniature Quick Connects Body Assembly	QM2-B-200	1/8	1	22712-U	1	22713

P000292, 290, 291, 296, 293, 288, 285, 286, 287

### Teflon Fittings

	SWAGELOK NO.	SIZE (IN.)	QTY.	CAT. NO.	PRICE
Front	103-1	1/16	5	22068	
Ferrules	203-1	1/8	10	22058	
	403-1	1/4	10	22054	
Back	104-1	1/16	5	22069	
Ferrules	204-1	1/8	10	22059	
	404-1	1/4	10	22055-U	

### HELPFUL HINTS

When ordering, please specify the number of packages, not the number per package. For example: 1 package of 22021, not 10 or you might get 10 packages!

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## Gas Delivery Tubing Fittings

### High Quality Whitey/Nupro Valves

VALVE	SIZE (IN.)	CAT. NO.	BRASS PRICE	STAINLESS STEEL CAT. NO.	STAINLESS STEEL PRICE
Toggle Valve (quick acting)	1/8 straight	22699		22698	
	1/8 angle	22123-U		22124-U	
	1/4 straight	22697		—	—
	1/4 angle	22125-U		22126-U	
On/Off Throttling Valve	1/8	22138-U		22139-U	
	1/4	22140-U		22141-U	
	1/2	—	—	25832	
Fine Metering Valve for accurate regulation	1/8 straight	22116		22117	
	1/8 angle	22114		22115	
Vernier Handle for fine metering valve (Order valve separately)		22122			



Swagelok Fittings Kit

- Save more than 30%, compared to prices for individual items

A useful assortment of 1/8" and 1/4" brass fittings, packaged in a compartmented clear plastic storage box. Have the parts you need on hand when you need them, and save money as well.

DESCRIPTION	CAT. NO.	PRICE
Swagelok Fittings Kit	22668-U	

The Swagelok Fittings Kit includes:

SWAGELOK NO.	DESCRIPTION	QTY.
202-1	1/8" nut	20
402-1	1/4" nut	20
203-1	1/8" front ferrule	20
403-1	1/4" front ferrule	20
204-1	1/8" back ferrule	20
404-1	1/4" back ferrule	20
200-C	1/8" cap	6
400-C	1/4" cap	6
200-P	1/8" plug	6
400-P	1/4" plug	6
200-6	1/8" union	2
400-6	1/4" union	2
200-2	1/4" x 1/8" reducing union	2
200-3	1/8" tee	2
400-3	1/4" tee	2
200-R-4	Reducer 1/8" Swagelok x 1/4" tube	2
400-R-2	Reducer 1/4" Swagelok x 1/8" tube	2
MS-IG-200	1/8" inspection gauge	1
MS-IG-400	1/4" inspection gauge	1



## Gas Delivery

### Inline Filters, Tube Fitting Accessories



#### Gas Line Filter

This 7 micron gas line filter removes dust and small particles that could otherwise foul the needle valve in your chromatograph.

DESCRIPTION	CAT. NO.	PRICE
For 1/8" Fittings	20620	
For 1/4" Fittings	20621	
For 1/2" Fittings	25833	
Replacement 7µm Filter		
Stainless Steel, 1/8"	25810-U	
Stainless Steel, 1/4"	25809	



#### Tee Wrench

Holds Swagelok fittings firmly and precisely. Made by Swagelok specifically for 1/4" Swagelok union tees and crosses, this wrench allows sure, easy gripping on the fitting body – even in cramped areas. Rugged alloy steel with no-slip vinyl sleeve.

DESCRIPTION	CAT. NO.	PRICE
Swagelok Tee Wrench, 1/4"	21983-U	



#### "T"-Type Gas Line Filter

With 7µm sintered stainless steel frit.

DESCRIPTION	CAT. NO.	PRICE
1/8" Brass	25805	
1/4" Brass	25806	
1/8" Stainless Steel	25807	
1/4" Stainless Steel	25808	
Replacement 7µm Filter		
Stainless Steel	25809	



#### Universal Mounting Brackets

Hold your valve or restrictor firmly in place. Easy and convenient mounting.

DESCRIPTION	CAT. NO.	PRICE
Universal Mounting Brackets (pk. of 2)	22131-U	



#### Gap Inspection Gauge

Ensures correct tightening of Swagelok fittings. Place in the gap between the fitting nut and body. The gauge will not fit if the nut has been tightened sufficiently.

DESCRIPTION	CAT. NO.	PRICE
For 1/8" Fittings	21984-U	

#### Swagelok Manual

A leak-free system requires proper tubing, quality fittings, and skilled installation. The Swagelok Tube Fitter's Manual provides detailed instructions for tubing selection and proper installation of Swagelok fittings. It will help you avoid many installation problems and can easily save you its purchase price.

DESCRIPTION	CAT. NO.	PRICE
Swagelok Manual	22339	

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