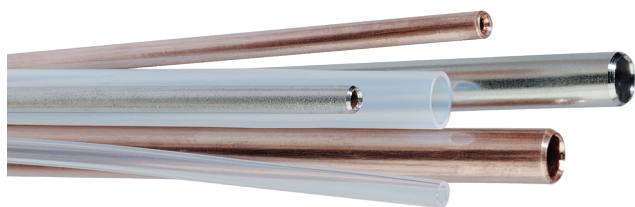


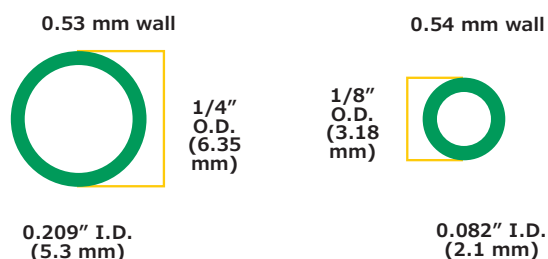
Tubing, Cutters and Fittings

Many types of tubing are available to supply a variety of gases for gas chromatography systems. We recommend using stainless steel for the most sensitive applications, such as high resolution MS detection (MS-MS, ion trap, or TOF). More economical copper tubing is recommended for all other GC and GC-MS plumbing needs. All of our tubing is specially cleaned to remove any residue. Other tubing choices are available and can be found in our catalog and on SigmaAldrich.com.



Premium Grade 304 Stainless Steel Tubing

Stainless Steel Tubing Dimensions



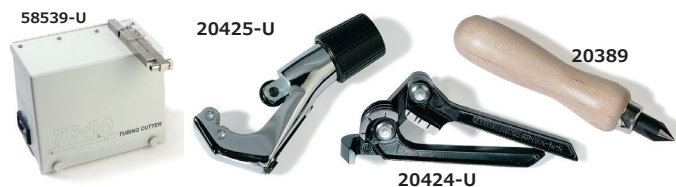
- Virtually impermeable to the diffusion of room air through the tubing walls
- Undergoes a proprietary cleaning procedure to remove all active sites and to ensure inertness
- Best choice for the most sensitive applications, such as high resolution MS detection (MS-MS, ion trap, or TOF)

Cleaned Copper Tubing

- Most commonly used tubing for gas chromatography
- Cleaned according to ASTM B-280 plus a proprietary Supelco® cleaning procedure, resulting in tubing that exceeds instrument manufacturers' requirements
- Best choice for most GC and GC-MS plumbing needs

Description	Cat. No.
Premium Grade 304 Stainless Steel Tubing	
50 ft. x 1/4 inch (6.35 mm) O.D. x 0.209 inch (5.3 mm) I.D.	20527
50 ft. x 1/8 inch (3.18 mm) O.D. x 0.085 inch (2.1 mm) I.D.	20526-U
100 ft. x 1/16 inch (1.59 mm) O.D. x 0.030 inch (0.762 mm) I.D.	20553
Cleaned Copper Tubing	
50 ft. x 1/4 inch (6.35 mm) O.D. x 0.190 inch (4.83 mm) I.D.	20489
50 ft. x 1/8 inch (3.18 mm) O.D. x 0.065 inch (1.65 mm) I.D.	20488

Tubing Cutters



Proper gas line connections are important for maximum chromatographic performance. Leaks, caused by a poor fit between tubing and the mating seat, can cause serious damage to GC columns. Therefore, it is critical for tubing to have crisp, clean ends.

- TC-20 is voltage selectable (110/220 V) and CE compliant
- TC-20 cuts 1/16, 1/8 or 1/4 inch copper or stainless steel
- Heavy duty cuts 1/8 or 1/4 inch copper or stainless steel
- Tubing bender – easily bends copper and stainless tubing up to 180° without kinking
- Tubing reamer – opens and rounds tubing after cutting

Description	Cat. No.
TC-20 Tubing Cutter (110/220 V)	58539-U
Heavy Duty Tubing Cutter	20425-U
1/8 inch O.D. Tubing Bender	20422-U
1/4 inch O.D. Tubing Bender	20424-U
Tubing Reamer	20389

Swagelok® Tubing Fittings

A leak free system is the first requirement in a systematic approach to supplying quality gas to a chromatography system. Swagelok fittings combine superior design principles with close manufacturing tolerance and rigid quality to provide such a leak free connection. Some of the most popular items are listed. For a complete listing, refer to our catalog and/or our website.



Description	Cat. No.
Swagelok Fittings Kit	22668-U
Nuts plus front and back ferrules, brass, 1/8 inch, 10 ea.	22014
Nuts plus front and back ferrules, stainless steel, 1/8 inch, 5 ea.	22040-U
Tee, brass, 1/8 inch	22020-U
Tee, stainless steel, 1/8 inch	22046
On/off throttling valve, brass, 1/8 inch	22138-U
On/off throttling valve, stainless steel, 1/8 inch	22139-U
Toggle valve, brass, 1/8 inch	22699
Toggle valve, stainless steel, 1/8 inch	22698

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
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) ¹	58803	

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

Tubing Cutter for 1/16"
Stainless Steel Tubing

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	
















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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 ¹ 	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 ¹ 	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	

¹ 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.)	QTY.	BRASS		STAINLESS STEEL	
				CAT. NO.	PRICE	QTY.	CAT. NO.
 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		1/8NPT top					
	200-3TTF	1/8 sides	1	22143-U	—	—	—
 Union Crosses	200-4	1/8	1	22684	—	—	—
	400-4	1/4	1	22686	—	—	—
 Pipe Adapters	4-TA-1-2	1/4A x 1/8B	2	22100-U	—	—	—
 Connectors Swagelok to male NPT	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 Swagelok to female NPT	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 Ferrules	103-1	1/16	5	22068	
	203-1	1/8	10	22058	
	403-1	1/4	10	22054	
Back Ferrules	104-1	1/16	5	22069	
	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!

Order: 1.800.325.3010 Technical Service: 1.800.359.3041 Web: www.sigma-aldrich.com/supelco

Gas Chromatography

SUPELCO

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	

Order: 1.800.325.3010 Technical Service: 1.800.359.3041 Web: www.sigma-aldrich.com/supelco

Gas Chromatography

Laboratory Supplies

Tool Kits

Xcelite Tool Kit

This sturdy locking case contains selected, highest quality tools for adjusting or repairing chromatographs and other analytical instruments. There is a specific spot for each tool, plus room in the base for additional tools.

KIT INCLUDES:

PLIERS, WRENCHES, CUTTERS

- 6" straight nose seizer
- adjustable wrench (3/4" opening)
- 5" midjet slip joint pliers (1/2" opening)
- 7" utility pliers (1 1/16" opening)
- 6" long-nose pliers
- 4" diagonal pliers
- 5" diagonal pliers
- 5 1/2" needle-nose pliers
- 8" chain-nose pliers
- 6 1/2" electronic snips
- wire stripper
- electrician's knife

INTERCHANGEABLE SCREWDRIVERS, NUTDRIVERS, HANDLES, ETC.

- regular handle (1 1/16 x 4 1/8")
- tee handle (3 1/2 x 1 5/8")
- 4" extension
- nine Allen hex socket screwdrivers: 1/20", 9/64", 7/64", 5/64", 5/32", 3/32", 3/16", 1/16", 1/8"
- two slotted screwblades: 3/16", 1/4"
- two Phillips screwblades: No. 1, No. 2
- reamer (1/8" to 3/8")
- seven hex nutdriver blades: 11/32", 9/32", 7/32", 5/16", 3/16", 3/8", 1/4"

SCREWDRIVERS FOR SLOTTED SCREWS

- 4 1/2" w/pocket clip
- 5 1/4" w/pocket clip
- 6 5/8" regular
- 10 1/2" regular
- 3 1/4" stubby

SCREWDRIVERS FOR PHILLIPS SCREWS

- 3 7/16" No. 1, stubby

NUTDRIVERS

- 7/16" regular, full hollow shaft
- 1/2" regular, full hollow shaft
- 6 1/8" magnetic (1/4" opening)
- 6 1/8" magnetic (5/16" opening)

SOLDERING EQUIPMENT

- Weller soldering iron (110V)
- Rosin core solder

TAPE MEASURE

- 10-foot tape

Roomy Tool Box Filled with the Most-Needed Tools

This rugged tool box contains tools you need almost daily in the lab, and is large enough to hold many more. 20 3/4 x 8 3/8 x 8 1/2 high (53 x 21 x 20cm).

KIT INCLUDES:

- padlock
- flashlight
- five open-end wrenches: 1/4 x 5/16", 3/8 x 7/16", 1/2 x 9/16", 7/16 x 1/2", 5/8 x 3/4"
- 6" adjustable wrench
- 12" adjustable wrench
- 7 1/2" long-nose pliers
- 7 1/2" slip-joint pliers
- 4" Phillips head screwdriver, No. 1
- 4" Phillips head screwdriver, No. 2
- four flat-blade screwdrivers
- eleven-piece hex key wrench set
- bastard file



DESCRIPTION	CAT.NO.	PRICE
Tool Box and Tools	22913	



DESCRIPTION	CAT.NO.	PRICE
Xcelite Tool Kit	20599	

Order: 1.800.325.3010 Technical Service: 1.800.359.3041 Web: www.sigma-aldrich.com/supelco

Laboratory Supplies

Wrenches

Swagelok Tee Wrench -Made 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.

Ratchet Wrench -Gets into tight places. Jaws open to slip around the nut, then close. Convenient to use in a small chromatograph oven or other confined places. 7/16" wrench is for 1/8" Swagelok fittings, 9/16" wrench is for 1/4" Swagelok fittings.

Open End Wrench Set -Forged from extra strong alloy steel, then chrome plated. Four wrenches include the most commonly used sizes: 1/4 x 5/16", 3/8 x 7/16", 7/16 x 1/2", 1/2 x 9/16". Duplicate sizing allows you to tackle two nuts of the same size. Tough snap-seal vinyl pouch.

Adjustable Wrench -For odd-sized fittings. 10" Crescent wrench made from drop-forged, heat-treated alloy steel, with rust-resistant chrome plating. Jaws open to 1 1/8" (2.8cm).

Allen (Hex Key) Wrench Set - For hollow-head set screws. 12 exact-tolerance hexagonal wrenches made of hardened alloy steel with bright plated finish. Sizes: 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8". Vinyl pouch.

Hex Key Wrenches -Each wrench folds out of and into the handle like a knife blade. Heat-treated chrome-nickel-steel alloy keys in eleven most popular sizes: 0.050", 1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16", 3/8".

DESCRIPTION	CAT. NO.	PRICE
Swagelok Tee Wrench	21983-U	
7/16" Ratchet Wrench	20447	
9/16" Ratchet Wrench	20448	
Open End Wrench Set	22442	
Adjustable Wrench	22439-U	
Allen (Hex Key) Wrench Set	22441	
Hex Key Wrenches	22291	

Pliers

Slip Jaw Pliers -A versatile tool. Precision milled, interlocking jaws have 5 positions, open to 1 1/2" (3.8cm); won't slip. Forged carbon steel is heavier at point of stress. 10" pliers; cushion grip.

Needle-Nose Pliers -Serrated jaws and side cutters with specially hardened edges. Drop-forged from tough alloy steel. long; cushion grip.

Straightening Pliers -For 1/16" tubing. Jaws grooved specifically for 1/16" stainless steel tubing. Grips are spring-loaded for easier operation.

DESCRIPTION	CAT. NO.	PRICE
Slip Jaw Pliers	22438-U	
Needle-Nose Pliers	22437	
Straightening Pliers	58646	



Order: 1.800.325.3010 Technical Service: 1.800.359.3041 Web: www.sigma-aldrich.com/supelco

Laboratory
Supplies

Laboratory Supplies

Hand Tools



Screwdrivers

Fold-Up Screwdriver Set -Six blades fold out of and into the handle like knife blades. 1/8", 3/16", 1/4" flat blades, Phillips No. 1, T-15 star Torx, punch awl.

Screwdriver Kit - Six screwdrivers in one. Three combination blades easily snap in and out of the spring lock in the handle of this handy kit. Blades are flat 3/16", 1/4", 5/16" wide, Phillips No. 1, No. 2, No. 3. The handle can also be used as a 7/16" hex nut driver. Plastic case with clear front.

Jeweler's Screwdrivers Five interchangeable blades connect securely to chuck-type knurled handle with swivel top. Three flat blades: 0.055", 0.070", 0.100"; two Phillips blades: No. 0, No. 1. Vinyl storage pouch.

DESCRIPTION	CAT. NO.	PRICE
Fold-Up Screwdriver Set	22292	
Screwdriver Kit	22436	
Jeweler's Screwdrivers	22440-U	



Tweezers

Stainless Steel Tweezers Perfect for picking up hot injector liners and detector parts or for preventing contamination with finger oils. Also useful for holding ferrules while inserting capillary tubing.

DESCRIPTION	CAT. NO.	PRICE
Stainless Steel Tweezers	22435-U	



Cutting Tools

Scoring Tool - Tungsten carbide tip scores glass capillary tubing.

Heavy-Duty Glass Tubing Knife -3-edge tungsten carbide blade.

Glass Tubing Cutter -Scores uniformly to ensure clean breaks.

DESCRIPTION	CAT. NO.	PRICE
Scoring Tool	23746	
Heavy-Duty Glass Tubing Knife	20598	
Glass Tubing Cutter	20591-U	
Cutting Wheels for 20591-U, pk. of 5	20592	



Flexible Flashlight

Easily beam light into difficult-to-see-and-reach places – FIDs, GC ovens, LC pumps, etc. Simply bend the durable 8" (20cm) coaxial cable as necessary. Stays flexed in any position. Convenient pocket clip. High-impact case. Comes complete with replaceable batteries.

DESCRIPTION	CAT. NO.	PRICE
Flexible Flashlight	22452	