# Multijacketed Tubing, Single-Jacketed Tubing, and Insulated Tubing



# **Features**

- 1/4 to 1/2 in. and 6 to 12 mm tubing sizes available in 316/316L stainless steel and copper
- Seamless and welded tubing available in stainless steel
- Thermoplastic polyurethane (TPU) and PVC jackets help protect tubing from external corrosion and abrasion
- Fibrous glass insulation reduces heat loss and helps protect personnel



# **Multijacketed Tubing**

Swagelok® multijacketed tubing provides protection against galvanic and atmospheric corrosion and protects the tubing against wear and abrasion. In addition, it reduces costs by enabling installation of up to four tubes at once.

### **Features**

- 316/316L stainless steel instrumentation tubing
- 1/4 to 1/2 in. and 6 to 12 mm tubing sizes
- Low-temperature, UV-resistant thermoplastic polyurethane (TPU) for both individual tube jackets and outer jacket
- Positive identification of individual tubes along entire length
- Tube and jacket marking standard; see Standard Marking, below.

### **Materials of Construction**

Material/Grade
316/316L / ASTM A269, A213 <sup>①</sup>
Thermoplastic polyurethane
Aluminum 3003-0
Polyester film
Closed cell, EPDM foam rubber

① Nominal wall thickness, not minimum wall thickness. Seamless metric sizes also meet DIN 17458 test 1 class material 1.4401/1.4404.

# **Standard Marking**

Standard marking includes model, size, materials, specifications, temperature rating, and batch number for traceability.

### Individual Tube Example:

- $\bullet$  Swagelok Model MJT  $\bullet$  1/2  $\times$  0.049 in. 316/316L SMLS ASTM A269  $\bullet$  TPU Jacket

### **Outer Jacket Example:**

600 ft • Swagelok Model MJT • Two
1/2 × 0.049 in. 316/316L SMLS ASTM A269
• TPU Jacket • Maximum Temperature
250°F/120°C • Caution—May Be Hot •
Batch 12345 • www.swagelok.com •

### **Technical Data**

### **Fractional**

Tube OD	Nominal Wall Thickness	Max Process Temperature	Min Service and Installation Temperature	Pressure -20 to	100°F	Min Bend Radius	Sup Cen	ters
in.	in.	°F	°F	Seamless	Welded	in.	Horiz	Vert
1/4	0.035		-67	5100	4080			
3/8	0.035	250	service;	3300	2640	8.00	6.00	15.0
1/2	0.035①	250	-40	2600	2080	0.00	0.00	15.0
1/2	0.049		installation	3700	2960			

Individual tubes are marked

for positive identification

along their entire length.

#### Metric

Tube OD	Nominal Wall Thickness	Max Process Temperature	Min Service and Installation Temperature	Pressure -28 to	37°Cັ	Min Bend Radius	Sup Cen	ters
mm	mm	°C	°C	Seamless	Welded	cm	Horiz	Vert
6			<b>-</b> 55	420	336			
10	1.0	121	service; -40	240	192	20.3	1.80	4.60
12			installation	200	160			

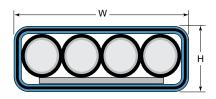
### **Tubing Data**

Refer to *Tubing Data* catalog, MS-01-107, for additional information.

For jacket properties information, see page 5.

### **Dimensions**

Dimensions are for reference only and are subject to change.



Tube		2 Tubes	3 Tubes	4 Tubes	Н	2 Tubes	3 Tubes	4 Tubes	2 Tubes	3 Tubes	4 Tubes
OD	Wall	,	W, Width	1	Height		Weight		Max	Bulk Le	ngth
Dime	nsions		in.				lb/ft			ft	
1/4	0.035	1.06	1.41	1.76	0.73	0.37	0.52	0.68	1100	900	725
3/8	0.035	1.31	1.79	2.26	0.86	0.53	0.76	0.99	850	650	500
1/2	0.035	1.56	2.16	2.76	0.98	0.69	1.00	1.30	700	500	375
1/2	0.049	1.59	2.16	2.76	0.98	0.82	1.18	1.55	600	400	325
Dime	nsions		mm				kg/m			m	
6	1.0	26	35	43	18	0.55	0.78	1.01	395	290	230
10	1.0	34	47	59	22	0.87	1.25	1.63	240	175	135
12	1.0	38	53	67	24	1.03	1.49	1.94	210	150	105



① Not recommended for use with tube fittings in gas service.

# **Single-Jacketed Tubing**

Swagelok single-jacketed tubing helps provide increased protection against galvanic and atmospheric corrosion. In addition, it helps protect the tubing against wear and abrasion.

### **Features**

- 316/316L stainless steel and copper instrumentation tubing
- 1/4 to 1/2 in. and 6 to 12 mm tubing sizes
- Low-temperature, UV-resistant PVC jacket standard; optional thermoplastic polyurethane (TPU) jacket available for higher-temperature service
- Jacket marking available; see Optional Jacket Marking, below.

## **Technical Data**

### Fractional

Tube OD	Nominal Wall Thickness	Max Process Temperature	Min Service and Installation Temperature	Pressure -20 to	100°F	Min Bend Radius	Sup Cen	ters	Weight	Jacket OD	Max Bul ± 10	, -
in.	in.	°F	°F	Seamless	Welded	in.	Horiz	Vert	lb/ft	in.	Seamless	Welded
			Sta	inless Steel	(ASTM A2	69, A213 <sup>0</sup>	<sup>①</sup> , TP 3 <sup>.</sup>	16/316L	)			
1/4	0.035	220, PVC	-30.	5100	4080				0.12	0.35	2700	2500
3/8	0.035	jacket;	service;	3300	2640	8.00	6.00	15.0	0.19	0.48	1700	2500
1/2	0.035@	250, TPU	-10,	2600	2080	0.00	0.00	15.0	0.25	0.60	1200	800
1/2	0.049	jacket	installation	3700	2960				0.31	0.60	900	1000
			C	Copper (AST	M B68, B6	8M, B75,	UNS 1	2200)				
1/4	0.030	220, PVC	-30.	1400					0.12	0.35	3200	
3/8	0.032	jacket;	service;	900		8.00	6.00	15.0	0.18	0.48	2200	
1/2	0.035 <sup>②</sup>	250, TPU	-10,	800	_	0.00	0.00	15.0	0.26	0.60	1200	-
1/2	0.049	jacket	installation	1100					0.33	0.60	1000	

① Nominal wall thickness, not minimum wall thickness.

### Metric

Tube OD	Nominal Wall Thickness	Max Process Temperature	Min Service and Installation Temperature	Pressure -28 to	37°C	Min Bend Radius	Sup Cen	ters	Weight	Jacket OD	Max Bul ± 10	
mm	mm	°C	°C	Seamless	Welded	cm	Horiz	Vert	kg/m	mm	Seamless	Welded
			Sta	inless Steel	(ASTM A2	69, A213 <sup>0</sup>	<sup>①</sup> , TP 3 <sup>-</sup>	16/316L	)			
6		104, PVC	-34,	420	336				0.18	8.5	670	305
10	1.0	jacket; 121. TPU	service; -23.	240	192	20.3	1.80	4.60	0.32	12.5	335	90
12		jacket	installation	200	160				0.38	14.5	300	90
			C	Copper (AST	M B68, B6	8M, B75,	UNS 1	2200)				
6	1.0	104, PVC	-34,	94.0					0.18	8.5	700	
10	1.0	jacket; 121, TPU	service; -23.	60.0	_	20.3	1.80	4.60	0.32	12.5	305	-
12	1.02	jacket	installation	54.0					0.38	14.5	305	

① Nominal wall thickness, not minimum wall thickness. Seamless metric sizes also meet DIN 17458 test 1 class material 1.4401/1.4404.

# **Optional Jacket Marking**

Optional marking includes model, size, materials, specifications, temperature rating, and batch number for traceability.

### Example:

100 ft • Swagelok Model JT • 1/2 × 0.049 in.

- 316/316L SMLS ASTM A269 PVC Jacket
- Maximum Temperature 220°F/104°C
   Caution—May Be Hot
   Batch 12345
   www.swagelok.com

### **Tubing Data**

Refer to *Tubing Data* catalog, MS-01-107, for additional information. For jacket properties information, see page 5.



② Not recommended for use with tube fittings in gas service.

 $<sup>\</sup>ensuremath{@}$  Not recommended for use with tube fittings in gas service.

# **Insulated Tubing**

Swagelok insulated tubing is designed for use in applications such as steam supply, condensate return, and gas and liquid transport lines, where weatherproofing and energy conservation are important. Swagelok insulated tubing helps protect personnel from hot process and steam lines, reduces heat loss, and offers a cost-effective alternative to field-installed insulation of small-diameter tubing systems.

### **Features**

- 316/316L stainless steel and copper instrumentation tubing
- 1/4 to 1/2 in. and 6 to 12 mm tubing sizes
- Low-temperature, UV-resistant PVC jacket standard; optional TPU jacket available
- Absorption-resistant fibrous glass insulation
- Insulation contains less than 100 ppm of water-soluble chlorides
- Jacket marking standard; see **Standard Jacket Marking**, below.

△ Seal insulation ends to prevent contamination of the insulation.

SWAGELOK PIN SS-ST

### **Technical Data**

### Fractional

Tube OD	Nominal Wall Thickness	Max Process Temperature	Min Service and Installation Temperature	Pressure 400 ps	)°F	Min Bend Radius	Cen	port ters	Weight	Jacket OD	Max Bul ± 10	
in.	in.	°F	°F	Seamless	Welded	in.	Horiz	Vert	lb/ft	in.	Seamless	Welded
			Sta	inless Steel	(ASTM A26	69, A213 <sup>0</sup>	<sup>①</sup> , TP 3 <sup>.</sup>	16/316L	)			
1/4	0.035		-30,	4896	3916				0.20	1.03	1700	1250
3/8	0.035	4003	service;	3168	2534	8.00	6.00	15.0	0.30	1.16	1300	1230
1/2	0.0352	400	-10,	2496	1996	8.00	6.00	15.0	0.45	1.28	1000	1000
1/2	0.049		installation	3552	2841				0.45	1.20	900	1000
			(	opper (ASI	M B68, B68	8M, B75,	UNS 1	2200)				
1/4	0.030		-30.	700					0.26	1.03	1600	
3/8	0.032	4003	service;	450		0.00	6.00	150	0.34	1.16	1100	
1/2	0.035@	400	-10,	400	_	8.00	0.00	15.0	0.43	1 00	1100	_
1/2	0.049		installation	550					0.50	1.28	1000	

- ① Nominal wall thickness, not minimum wall thickness.
- ② Not recommended for use with tube fittings in gas service.
- 3 The maximum jacket surface temperature is 140°F with a process temperature of 400°F, an ambient temperature of 80°F, and a wind of 10 mph.

### Metric

Tube OD	Nominal Wall Thickness	Max Process Temperature	Min Service and Installation Temperature	204	Rating at I°C ar	Min Bend Radius	Sup Cen	ters	Weight	Jacket OD	Max Bul ± 10	
mm	mm	°C	°C	Seamless	Welded	cm	Horiz	Vert	kg/m	mm	Seamless	Welded
			Sta	inless Steel	(ASTM A2	69, A213 <sup>0</sup>	<sup>①</sup> , TP 3 <sup>·</sup>	16/316L	)			
6			-34,	403	322				0.40	25.7	400	305
10	1.0	204②	service; -23,	230	184	20.3	1.80	4.60	0.57	29.5	335	90
12			installation	192	153				0.63	31.5	300	90
				Copper (AST	M B68, B6	BM, B75,	UNS 1	2200)				
6	1.0		-34,	47.0					0.40	25.7	400	
10	1.0	204②	service; -23.	30.0	_	20.3	1.80	4.60	0.55	29.5	305	_
12	1.0③		installation	27.0					0.64	31.5	305	

- ① Nominal wall thickness, not minimum wall thickness. Seamless metric sizes also meet DIN 17458 test 1 class material 1.4401/1.4404.
- 2 The maximum jacket surface temperature is 60°C with a process temperature of 204°C, an ambient temperature of 26°C, and a wind of 16 km/h.
- 3 Not recommended for use with tube fittings in gas service.

### **Standard Jacket Marking**

Standard marking includes length, ordering number, temperature rating, and batch number for traceability.

# Example:

100 ft • Swagelok SS-ST4-S-035-100-U • 400°F/204°C • Continuous Batch 12345 • www.swagelok.com

### **Tubing Data**

Refer to *Tubing Data* catalog, MS-01-107, for additional information.

For jacket properties information, see page 5.

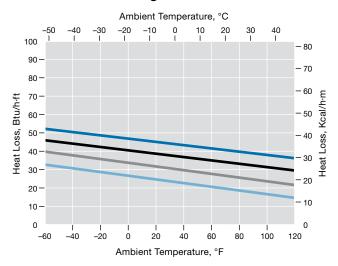


# **Insulated Tubing**

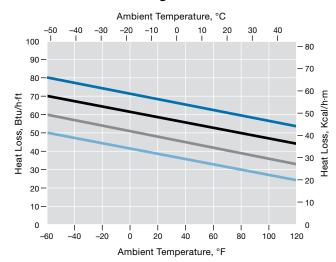
### **Heat Loss**

The information presented represents typical performance data for low-temperature PVC and TPU jackets for the conditions given. Actual results may vary with the conditions of installation. Heat loss calculated with 25 mph (40 km/h) wind.

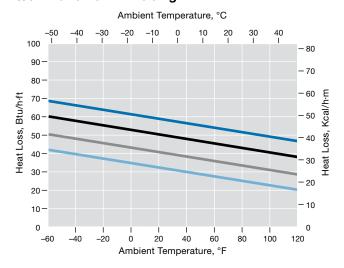
# 1/4 in. and 6 mm Tubing



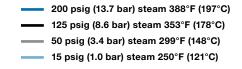
### 1/2 in. and 12 mm Tubing



# 3/8 in. and 10 mm Tubing



# Legend



# **Jacket Properties**

Jacket Properties	Low-Temperature PVC	Thermoplastic Polyurethane (TPU)
Tensile strength	2200 psi (151 bar)	3800 psi (261 bar)
Elongation	350 %	700 %
Hardness, Shore A	80	80
Maximum temperature	220°F (104°C)	250°F (121°C)
Minimum installation temperature	-10°F (-23°C)	-40°F (-40°C)
Minimum service temperature	-30°F (-34°C)	-67°F (-55°C)
Halogenated (chlorides)	Yes	No
Water absorption	0.10 %	1.2 to 1.4 %
Flame resistance	24 rating in accordance with ASTM D2863	V2 in accordance with UL94
UV resistance	750 h in accordance with UL-1581	2000 h in accordance with QUV aging test



# **Ordering Information**

# **Multijacketed Tubing**

Build a multijacketed tubing ordering number by combining the designators in the sequence shown below.

B C D S - MJT 2 - 4-S-035

A Material

SS = 316/316L stainless steel 25M = 316L stainless steel with 2.5% Molybdenum (Fractional only)

**B** Model

MJT = Multijacketed

C Number of Tubes

2 = 2 tubes of same size

3 = 3 tubes of same size

4 = 4 tubes of same size

D Size: Tube OD and Wall Thickness

Seamless Stainless Steel, Fractional

**4-S-035** = 1/4 { 0.035 in. **6-S-035** = 3/8 { 0.035 in. **8-S-035** = 1/2 { 0.035 in. **8-S-049** = 1/2 { 0.049 in.

Seamless Stainless Steel, Metric

6M-S-1.0M = 6 { 1.0 mm 10M-S-1.0M = 10 { 1.0 mm 12M-S-1.0M = 12 { 1.0 mm

Welded Stainless Steel, Fractional

**4-W-035** = 1/4 { 0.035 in. **6-W-035** = 3/8 { 0.035 in. **8-W-035** = 1/2 { 0.035 in. **8-W-049** = 1/2 { 0.049 in.

Welded Stainless Steel, Metric

 $6M-W-1.0M = 6 \{ 1.0 \text{ mm} \}$   $10M-W-1.0M = 10 \{ 1.0 \text{ mm} \}$  $12M-W-1.0M = 12 \{ 1.0 \text{ mm} \}$  E Package Length Unit of Measure

**F** = Feet **M** = Meters

F Package Length, Tolerance

Specify a bulk length up to the maximum bulk length shown on page 2.

**1** = Continuous length, ± 5 % (contains one piece)

2 = Exact length, ± 0.5 % (may contain multiple pieces)

3 = Continuous, exact length, ± 0.5 % (contains one piece)

**4** = Standard length, ± 5 % (may contain multiple pieces)

# Single-Jacketed and Insulated Tubing

Build a single-jacketed or insulated tubing ordering number by combining the designators in the sequence shown below.

A B C D E F SS - ST 4-S-035 - 100 - U - G

A Material

**CU** = Copper

SS = 316/316L stainless steel25M = 316L stainless steel with 2.5% Molybdenum (Fractional only)

,

**B** Model

JT = Single-jacketed

ST = Insulated

Size: Tube OD and Wall Thickness

Copper, Fractional

**4-030** = 1/4 { 0.030 in. **6-032** = 3/8 { 0.032 in. **8-035** = 1/2 { 0.035 in.

 $8-049 = 1/2 \{ 0.049 \text{ in.}$ 

Copper, Metric

**6M-1.0M** = 6 { 1.0 mm **10M-1.0M** = 10 { 1.0 mm **12M-1.0M** = 12 { 1.0 mm

 $12M-1.5M = 12 \{ 1.5 \text{ mm} \}$ 

Seamless Stainless Steel, Fractional

**4-S-035** = 1/4 { 0.035 in. **6-S-035** = 3/8 { 0.035 in.

**8-S-035** = 1/2 ( 0.035 in.

Seamless Stainless Steel, Metric

 $6M-S-1.0M = 6 \{ 1.0 \text{ mm} \}$   $10M-S-1.0M = 10 \{ 1.0 \text{ mm} \}$  $12M-S-1.0M = 12 \{ 1.0 \text{ mm} \}$ 

Welded Stainless Steel, Fractional

**4-W-035** = 1/4 { 0.035 in. **6-W-035** = 3/8 { 0.035 in. **8-W-035** = 1/2 { 0.035 in.

Welded Stainless Steel, Metric

**6M-W-1.0M** = 6 { 1.0 mm **10M-W-1.0M** = 10 { 1.0 mm **12M-W-1.0M** = 12 { 1.0 mm Package Length

Fractional

**100** = 100 ft (30.5 m) **250** = 250 ft (76.2 m)

500 = 500 ft (152 m)

xxxx = Bulk length<sup>①</sup>

Metric

30M = 30 m (98.4 ft)

75M = 75 m (246 ft)

150M = 150 m (492 ft)

xxxx = Bulk length<sup>①</sup>

① See pages 3 and 4 for the maximum bulk length of tubing available.

Options

For multiple options, add designators in alphabetical order.

M = Jacket marking, 6 ft (2 m) intervals (model JT only; see page 3 for details)

**U** = TPU jacket (required for color jacket)

Jacket Colors

 None
 = Black
 P = Purple

 A
 = Grey
 R = Red

 B
 = Blue
 W = White

 G
 = Green
 Y = Yellow

 N
 = Orange

Swagelok

# **Options**

### **Tubing Material and Size**

Other materials and sizes are available. Contact your authorized Swagelok representative.

For maximum sizes available see table.

Tubing M	Tubing Size in. (mm)	
Jacket	1 (25.4)	
Insulat	3/4 (19.1)	
	1 tube	1 (25.4)
Multipolyatod	2 tubes	3/4 (19.1)
Multijacketed	3 tubes	5/8 (15.9)
	4 tubes	1/2 (12.7))

### **Accessories**

### **Heat-Shrink Adhesive-Lined Sleeves**

Used to protect bare tubing and straight fitting connections to jacketed and insulated tubing, these sleeves contain a heat-activated adhesive to provide a watertight seal to the protected area.

Sleeve Description	Ordering Number
0.75 in. (19.0 mm) dia, shrinks to 0.20 in. (5.1 mm) dia	MS-HSB-S075
1.00 in. (25.4 mm) dia, shrinks to 0.30 in. (7.6 mm) dia	MS-HSB-S100
2.00 in. (50.8 mm) dia, shrinks to 0.75 in. (19.0 mm) dia	MS-HSB-S200
3.00 in. (76.2 mm) dia, shrinks to 1.00 in. (25.4 mm) dia	MS-HSB-S300

# Multijacketed Tubing Heat-Shrink Sleeve Selection

Tube	2 Tubes	3 Tubes	4 Tubes						
OD	Heat Shrink Boot Ordering Number								
1/4 in.	MS-HSB-S100	MS-HSB-S200	MS-HSB-S200						
3/8 in.	MS-HSB-S200	MS-HSB-S200	MS-HSB-S300						
1/2 in.	MS-HSB-S300	MS-HSB-S300	MS-HSB-S300						
6 mm	MS-HSB-S100	MS-HSB-S200	MS-HSB-S200						
8 mm	MS-HSB-S200	MS-HSB-S200	MS-HSB-S200						
10 mm	MS-HSB-S200	MS-HSB-S200	MS-HSB-S300						
12 mm	MS-HSB-S300	MS-HSB-S300	MS-HSB-S300						

### Silicone Sealing Tape

Silicone sealing tape is used in conjunction with heat-shrink sleeves to seal the ends of jacketed and insulated tubing where the jacket material needs to be removed to assemble a fitting.

Each roll is 10 ft (3.0 m) long and 1.5 in. (38.1 mm) wide.

Ordering number: MS-SR-B10

### Silicone Sealant

This silicone RTV sealant is used in conjunction with heatshrink sleeves to seal ends of jacketed and insulated tubing from moisture, and it offers excellent resistance to weather, oil, and many chemicals.

One tube will seal approximately 10 ends; each kit contains 8 tubes.

Service Temperature: -60 to 400°F (-51 to 204°C)

Cure Time: approximately 24 h at 77°F (25°C) and 50 %

relative humidity

Ordering number: MS-RTV-SEAL-KIT

### Jacket Patch Kit

The jacket patch kit can be used to seal a splice in tubing or to repair any incidental field damage to insulation and jacket.

Each kit contains thermal insulation, fiberglass tape, and 10 self-sealing patches.

Ordering number: MS-JP-KIT



### **Weatherproof Strip Insulation**

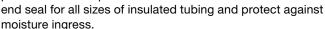
Weatherproof strip insulation provides an effective method of temporarily insulating components.

The jacketed insulation is universal and easy to install. It is approximately 4 in. (102 mm) wide and 1/2 in. (12.7 mm) thick and is available in standard lengths of 10, 30, and 50 ft (3.0, 9.1, and 15.2 m) packages.

Insulation Item	Ordering Number
10 ft (3.0 m) insulation strip	MS-SI-10
30 ft (9.1 m) insulation strip	MS-SI-30
50 ft (15.2 m) insulation strip	MS-SI-50
25 insulation tie straps	MS-SITS-KIT

# Heat-Shrink End-Seal Boots (Insulated Tubing)

Made of thermally stabilized, modified polyolefin, these heat-shrinkable boots provide a weatherproof



Each kit contains 20 end-seal boots.

Ordering number: MS-HSB-KIT

### Caps (Insulated Tubing)

Protective end caps temporarily seal insulated tubing ends and insulatation during storage and installation.

Each kit contains 20 caps.

Tube OD		Ordering	
in.	mm	Number	
1/4	6	MS-46-CAP-KIT	
3/8	6	MS-40-CAP-KII	
1/2	10	MS-8-CAP-KIT	
1/2	12	WIS-6-CAP-KIT	



#### Accessories

### **Mounting Clips**

Stainless steel mounting clips secure jacketed tubing to brackets or tubing trays. Clips consist of a 1/4 x 20 bolt and nut and two 1/4 in. washers.



When using strut-type mounting brackets, also order strut nuts, below.

### Multijacketed

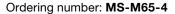
Tube OD		Number	Ordering	
in.	mm	of Tubes	Number	
1/4	6	2	MS-K42	
		3	MS-K43	
		4	MS-K44	
3/8	8	2	MS-K62	
		3	MS-K63	
		4	MS-K64	
1/2	10, 12	2	MS-K82	
		3	MS-K83	
		4	MS-K84	

### Single-Jacketed

Tube OD		Ordering
in.	mm	Number
1/4	6	MS-K41
3/8	8	MS-K61
1/2	10, 12	MS-K81

### **Strut Nuts**

Strut nuts are used when securing jacketed tubing to strut-type mounting brackets





# **Related Products**

### **Jacketed Tube Connector (JTC)**

- For use with 1/4, 3/8, and 1/2 in. jacketed tubing with up to 1/16 in. nominal jacket thickness
- Available in all standard tube fitting configurations
- Provides a leak-tight seal on the tubing jacket preventing environmental ingress

Refer to Jacketed Tube Connector (JTC) catalog, MS-02-438, for additional information.



### **Tools**

### **Breakout and Bending Tools**

The tube breakout bender is used with multijacketed tubing to separate and bend individual tubes up to 1/2 in. or 12 mm outside diameter.



Tube Breakout **Bender** 

The bending tools are used to bend

2-, 3-, or 4-tube multijacketed tubing or insulated tubing bundles with up to 1/2 in. or 12 mm outside diameter tubes.

Description	Ordering Number
Tube breakout bender, <sup>①</sup> 1.75 in. (44.4 mm) radius	MS-BT1
Bending tool, <sup>②</sup> 8 in. (20 cm) radius	MS-BBT
Bending tool, <sup>②</sup> 12 in. (30 cm) radius	MS-BBT-12

- ① Requires 1/2 in. square drive ratchet, not included.
- ② Requires 3/4 in. NPT threaded handle, not included.

## **Combination Spool Stand/Bundle Straightener**

This tool safely pays out and straightens spooled coils of jacketed or insulated tubing. It accepts standard 60 in. (152.4 cm) spool diameters up to 36 in. (91 cm) wide.

#### **Dimensions:**

55.5 H by 50 W by 78 D in. (140.97 H by 127 W by 198.12 D cm)

Ordering number: MS-ST6036

# **Five-Roll Straightener**

The straightener can be mounted to the spool stand for use with single, coiled jacketed or nonjacketed tubing up to 1/2 in. or 12 mm outside diameter.

### Case dimensions:

16 H by 19.5 W by 7.5 D in. (40.6 H by 49.5 W by 19 D cm)

Ordering number:

MS-TST12 (case included for 1/4 in. OD to 1/2 in. OD)

MS-TST24 (case not included for 1/2 in. OD to 1 in. OD)





### Introduction

Since 1947, Swagelok has designed, developed, and manufactured high-quality, general-purpose and specialty fluid system products to meet the evolving needs of global industries. Our focus is on understanding our customers' needs, finding timely solutions, and adding value with our products and services.

We are pleased to provide this global edition of the book-bound *Swagelok Product Catalog*, which compiles more than 100 separate product catalogs, technical bulletins, and reference documents into one convenient, easy-to-use volume. Each product catalog is up to date at the time of printing, with its revision number shown on the last page of the individual catalog. Subsequent revisions will supersede the printed version and will be posted on the Swagelok website and in the Swagelok electronic Desktop Technical Reference (eDTR) tool.

For more information, visit your Swagelok website or contact your authorized Swagelok sales and service representative.

### **Warranty Information**

Swagelok products are backed by The Swagelok Limited Lifetime Warranty. For a copy, visit swagelok.com or contact your authorized Swagelok representative.

### Safe Product Selection

When selecting a product, the total system design must be considered to ensure safe, trouble-free performance. Function, material compatibility, adequate ratings, proper installation, operation, and maintenance are the responsibilities of the system designer and user.

### **⚠** WARNING

Do not mix/interchange Swagelok products or components not governed by industrial design standards, including Swagelok tube fitting end connections, with those of other manufacturers.

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