

# Miniature and Standard Protection Tubes

- ✓ 316 Stainless Steel
- ✓ Inconel® 600
- ✓ Opened or Closed Ends



Compression fitting (e.g., SSLK-14-14) shown on tube, sold separately. All products shown smaller than actual size.

## MOST POPULAR MODELS HIGHLIGHTED!

NEWPORT® miniature and standard protection tubes are available in 316 stainless steel and Inconel 600 nickel alloy. Tubes are available either opened at both ends or with one end closed. Standard length available from stock is 150 mm (6"); however, practically any length tube is available on short delivery.

NEWPORT's protection tubes are intended for use with OMEGA's fine or heavy gage thermocouples and ceramic insulators, as well as standard thermocouples made from OMEGACLAD® thermocouple wire. These items are shown in Section A of this catalog. Bare wire thermocouples can be insulated using OMEGATITE® ceramic insulators as well as the insulators used in replacement elements.

NEWPORT's protection tubes can be conveniently secured into pipes, vessels, and chambers by using OMEGALOK® compression fittings.

### To Order (Specify Model Number)

Model No.	Material	OD* mm (in)	ID* mm (in)	Open End Price per First 150 mm (6")	Closed End Price per First 150 mm (6")	Price per Add'l 25 mm (1")†
SS-116-□□	316 Stainless Steel	1.5 (1/16)	1.32 (0.052)	\$6.00	\$8.50	\$0.80
SS-18 -□□		3.0 (1/8)	1.78 (0.070)	6.00	8.50	0.80
SS-316-□□		4.5 (3/16)	3.35 (0.132)	6.00	8.50	0.80
SS-14 -□□		6.0 (1/4)	4.93 (0.194)	6.00	8.50	0.80
SS-516-□□		8.0 (5/16)	6.60 (0.260)	6.00	8.50	0.80
SS-38 -□□		9.5 (3/8)	8.13 (0.320)	6.00	8.50	0.80
SS-716-□□		11.0 (7/16)	9.40 (0.370)	6.00	8.50	0.80
SS-12 -□□		12.5 (1/2)	10.9 (0.430)	6.00	8.50	0.80
INC-116-□□	Inconel 600	1.5 (1/16)	1.32 (0.052)	\$7.00	\$9.50	\$1.10
INC-18 -□□		3.0 (1/8)	1.78 (0.070)	7.00	9.50	1.10
INC-316-□□		4.5 (3/16)	3.35 (0.132)	7.00	9.50	1.10
INC-14 -□□		6.0 (1/4)	5.33 (0.210)	7.00	9.50	1.10
INC-516-□□		8.0 (5/16)	6.27 (0.247)	7.00	9.50	1.10
INC-38 -□□		9.5 (3/8)	7.75 (0.305)	7.00	9.50	1.10
INC-716-□□		11.0 (7/16)	9.32 (0.367)	8.50	11.00	1.10
INC-12 -□□		12.5 (1/2)	10.9 (0.430)	9.50	12.00	1.10

Closed one end "CLOSED"; Opened "OPEN"  
Length in inches, 6" standard

\* Tolerance of OD is  $\pm 0.13$  mm (0.005"). Tolerance of ID is the same as the tolerance of OD  $\pm 15\%$  of the wall thickness.

† Consult Sales for lengths over 10'.

**Ordering Example:** SS-14-6CLOSED, closed end 6.0 mm (1/4") OD 316 SS protection tube, 150 mm (6") long, \$6.00 + 2.50 = \$8.50.

# Metal Protection Tubes



Thread (Either 3/4 or 1/2 NPT)

Length†

Cutaway is only to show tip construction and thermocouple installation. Tubes are supplied completely spun closed.

PFA Coating Available.  
Consult Sales

Length

**MOST POPULAR MODELS HIGHLIGHTED!**

To Order (Specify Model Number)							
Nominal 3/4" Schedule 40 Black Steel Pipe (0.824" ID x 1.050" OD)				Nominal 1/2" Schedule 40 Black Steel Pipe (0.622" ID x 0.840" OD)			
Thread	Length mm (in)	Model Number	Price	Thread	Length mm (in)	Model Number	Price
3/4 NPT	300 (12)	3/4 - PTBS-12	\$65	1/2 NPT	300 (12)	1/2 - PTBS-12	\$60
3/4 NPT	450 (18)	3/4 - PTBS-18	84	1/2 NPT	450 (18)	1/2 - PTBS-18	79
3/4 NPT	600 (24)	3/4 - PTBS-24	112	1/2 NPT	600 (24)	1/2 - PTBS-24	95
Nominal 3/4" Schedule 40-304 SS Pipe (0.824" ID x 1.050" OD)				Nominal 1/2" Schedule 40-304 SS Pipe (0.622" ID x 0.840" OD)			
Thread	Length mm (in)	Model Number	Price	Thread	Length mm (in)	Model Number	Price
3/4 NPT	300 (12)	3/4 - PTSS-12	\$95	1/2 NPT	300 (12)	1/2 - PTSS-12	\$80
3/4 NPT	450 (18)	3/4 - PTSS-18	125	1/2 NPT	450 (18)	1/2 - PTSS-18	120
3/4 NPT	600 (24)	3/4 - PTSS-24	135	1/2 NPT	600 (24)	1/2 - PTSS-24	130
Technical Data							
Male NPT thread on one end, spun closed on the other end							
Material	Max Continuous Operating Temp	Mech. Strength		Applications	Remarks		
		Cold	Hot				
304SS	900°C (1650°F)	Excellent	Fair	Food processing, dairy products, petroleum products, mild acids, alkalies	Embrittles in 425°C (800°F) to 760°C (400°F) range		
Black Steel	650°C (1200°F)	Excellent	Good	Molten babbitt, tin, lead and magnesium	Low cost		

† Other lengths and materials available, consult Sales Department.

**Ordering Example:** 3/4-PTSS-12, is a 300 mm (12") long metal protection tube of 304 stainless steel with a 3/4" thread, \$95.

Mounting Flanges and Bushings with standard NPT thread available upon request. Consult Sales for pricing.

## Discount Schedule

1-10 Units . . . . .	Net	<b>Quantity discount applies to like tubes. Other sizes, materials and configurations by quotation.</b>
11-24 Units . . . . .	10%	
25-100 Units . . . . .	20%	
101 and up . . . . .	Consult Sales	