 products shown smaller than actual size．

OMEGA ${ }^{\oplus}$ 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．
OMEGA＇s protection tubes are intended for use with OMEGA＇s fine or heavy gage thermocouples and ceramic insulators，as well as OMEGA＇s 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 ${ }^{\circledR}$ ceramic insulators as well as the insulators used in replacement elements．

OMEGA＇s protection tubes can be conveniently secured into pipes， vessels，and chambers by using OMEGALOK ${ }^{\circledR}$ compression fittings．

| To Order |  |  |  |
| :---: | :---: | :---: | :---: |
| Model No． | Material | $\begin{gathered} \mathrm{OD}^{*} \\ \mathrm{~mm} \text { (inch) } \end{gathered}$ | $\begin{gathered} \text { ID }^{*} \\ \mathrm{~mm} \text { (inch) } \end{gathered}$ |
| SS－116－ם口 | $\stackrel{316}{\text { Stainless }} \begin{gathered}\text { Steel }\end{gathered}$ | 1.5 （1／16） | 1.32 （0．052） |
| SS－18－■口 |  | 3.0 （1／8） | 1.78 （0．070） |
| SS－316－■］ |  | 4.5 （3／16） | 3.35 （0．132） |
| SS－14－■ |  | 6.0 （1／4） | 4.93 （0．194） |
| SS－516－■口 |  | 8.0 （5／6） | 6.60 （0．260） |
| SS－38－■ロ |  | 9.5 （3／8） | 8.13 （0．320） |
| SS－716－ם口 |  | 11.0 （7／16） | 9.40 （0．370） |
| SS－12－ロロ |  | 12.5 （1／2） | 10.9 （0．430） |
| INC－116－ם口 | $\begin{gathered} \text { Inconel } \\ 600 \end{gathered}$ | 1.5 （1／6） | 1.32 （0．052） |
| INC－18－■口 |  | 3.0 （1／8） | 1.78 （0．070） |
| INC－316－वD |  | 4.5 （3／16） | 3.35 （0．132） |
| INC－14－■I |  | 6.0 （1／4） | 5.33 （0．210） |
| INC－516－ם口 |  | 8.0 （5／6） | 6.27 （0．247） |
| INC－38－■ロ |  | 9.5 （3／8） | 7.75 （0．305） |
| INC－716－ロロ |  | 11.0 （7／16） | 9.32 （0．367） |
| INC－12－0］ |  | 12.5 （1／2） | 10.9 （0．430） |

[^0]
## Metal Protection Tubes



## To Order

| $\text { Nominal } 3 / 4 \text { " Schedule } 40 \text { Black Steel Pipe }$$\left(0.824^{\prime \prime} \text { ID x } 1.050\right. \text { " OD) }$ |  |  | Nominal $1 / 2{ }^{1 / 2}$ Schedule 40 Black Steel Pipe (0.622" ID x 0.840" OD) |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Thread | Length mm (inch) | Model Number | Thread | Length mm (inch) | Model Number |
| 3/4 NPT | 300 (12) | 3/4-PTBS-12 | 1/2 NPT | 300 (12) | 1/2-PTBS-12 |
| $3 / 4 \mathrm{NPT}$ | 450 (18) | 3/4-PTBS-18 | 1/2 NPT | 450 (18) | 1/2-PTBS-18 |
| 3/4 NPT | 600 (24) | 3/4-PTBS-24 | 1/2NPT | 600 (24) | 1/2-PTBS-24 |
| Nominal $3 / 4$ Schedule 40-304 SS Pipe( $0.824^{\prime \prime}$ ID x 1.050 OD) |  |  | $\begin{aligned} & \text { Nominal } 11 / 2 \text { Schedule } 40-304 \text { SS Pipe } \\ & \left(0.622^{\prime \prime} \text { ID x } 0.840^{\prime \prime}\right. \text { OD) } \end{aligned}$ |  |  |
| Thread | Length mm (inch) | Model Number | Thread | Length mm (inch) | Model Number |
| $3 / 4 \mathrm{NPT}$ | 300 (12) | 3/4-PTSS-12 | $1 / 2$ NPT | 300 (12) | 1/2-PTSS-12 |
| $3 / 4 \mathrm{NPT}$ | 450 (18) | 3/4-PTSS-18 | $1 / 2$ NPT | 450 (18) | 1/2-PTSS-18 |
| 3/4 NPT | 600 (24) | 3/4-PTSS-24 | $1 / 2$ NPT | 600 (24) | 1/2-PTSS-24 |

## Technical Data <br> Male NPT thread on one end, spun closed on the other end

| Material | Max Continuous Operating Temp | Mech. Strength |  | Applications | Remarks |
| :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Cold | Hot |  |  |
| 304SS | $\begin{gathered} 900^{\circ} \mathrm{C} \\ \left(1650^{\circ} \mathrm{F}\right) \end{gathered}$ | Excellent | Fair | Food processing, dairy products, petroleum products, mild acids, alkalies | Embrittles in $425^{\circ} \mathrm{C}\left(800^{\circ} \mathrm{F}\right)$ to $760^{\circ} \mathrm{C}\left(400^{\circ} \mathrm{F}\right)$ range |
| Black Steel | $\begin{gathered} 650^{\circ} \mathrm{C} \\ \left(1200^{\circ} \mathrm{F}\right) \end{gathered}$ | Excellent | Good | Molten babbit, tin, lead and magnesium | Low cost |

[^1]| Discount Schedule |  |
| :--- | :--- |
| $1-10$ Units..........Net | Quantity discount applies |
| $11-24$ Units........10\% | to like tubes. Other sizes, |
| $25-100$ Units. .......20\% | materials and configurations |
| 101 and up $\ldots$. Consult Sales | by quotation. |


[^0]:    ＊Tolerance of $O D$ is $\pm 0.13 \mathrm{~mm}\left(0.005^{\prime \prime}\right)$ ．Tolerance of ID is the same as the tolerance of $O D \pm 15 \%$ of the wall thickness．
    Ordering Example：SS－14－6CLOSED，closed end $6.0 \mathrm{~mm}\left({ }^{(1 / 4)}\right.$ ）OD 316 SS protection tube， 150 mm （6＂）long．

[^1]:    $\dagger$ Other lengths and materials available, consult Sales Department.
    Ordering Example: 3/4-PTSS-12, 300 mm (12") long metal protection tube of 304 stainless steel with a $3 / 4 / 4$ thread. Mounting Flanges and Bushings with standard NPT thread available upon request. Consult Sales for pricing.

