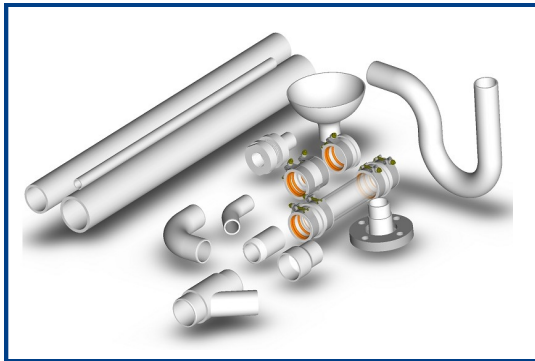


FLUOR-O-FLO® XPress
PTFE Clamp-Joint Piping System
For Drainline & Process Applications



| <u>CONTENTS</u> | <u>PAGE</u> |
|---|-------------|
| • Pipe | 2 |
| • Coupling - Clamps | 2 |
| • P-Traps | 3 |
| • Elbows - 90° | 3 |
| • Elbows - 45° | 4 |
| • Tees - Straight | 4 |
| • Tees - Reducing | 5 |
| • Laterals - Straight | 5 |
| • Laterals - Reducing | 6 |
| • Caps | 6 |
| • Concentric Reducers | 7 |
| • Reducing Coupling - Clamps | 7 |
| • Adapters - Flange | 8 |
| • Adapters - NPT | 8 |
| • Adapters - Tri-Clamp | 9 |
| • Adapters - Pipe to Hose End (Barbs) | 9 |
| • Adapters - Tank (Bulkhead Fittings) | 10 |
| • Sight Flow Tubes | 10 |
| • Engineering Specifications | 11 |

*Refer to U.S. Patent Number 6,976,712

All sales are subject to separately published Terms and Conditions of Sale.

Call today for our
FLUOR-O-FLO® XPress PTFE
Clamp-Joint Piping System
Sales Bulletin and
Installation Instructions

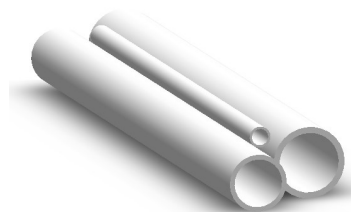
Pipe

| Nominal Size | Part No. (Note 1) | Minimum OD* | Minimum Wall (Note 2) |
|--------------|-------------------|-------------|-----------------------|
| 1" | XP-TUB08NN | 1.315" | 0.125" |
| 1-1/2" | XP-TUB12NN | 1.900" | 0.125" |
| 2" | XP-TUB16NN | 2.375" | 0.125" |

Note 1: For standard 8 foot lengths, replace NN with 96, 16 foot lengths replace NN with 192. For lengths other than standard, replace NN with lengths in inches.

Note 2: FLUOR-O-FLO® XPress PTFE Pipe ODs and Wall Thicknesses given are minimums. In practice, both are typically extruded oversize. For further information, please contact factory.

Unless otherwise noted, fittings or fitting connections have same nominal wall thickness as above.

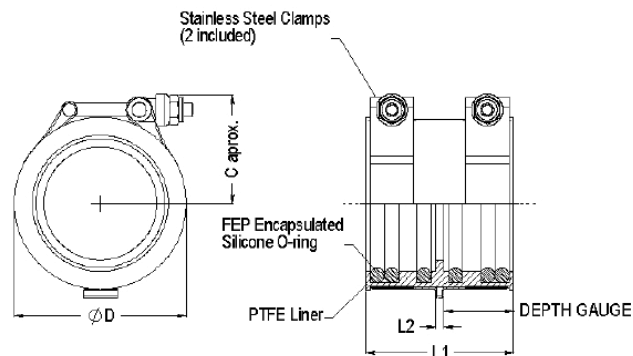
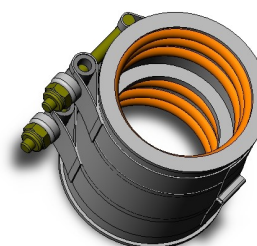


- Standard lengths are 8ft. or 16ft.
- Short lengths and lengths up to 20ft. or more are available upon request.

Product Specifications 2.10-2

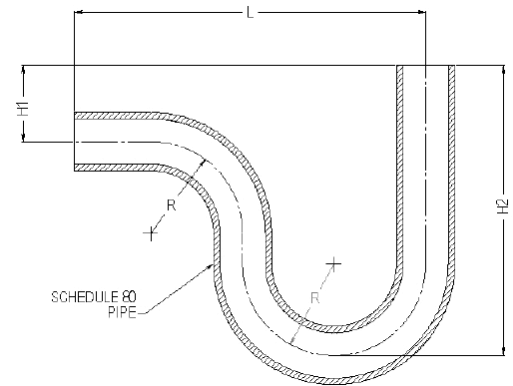
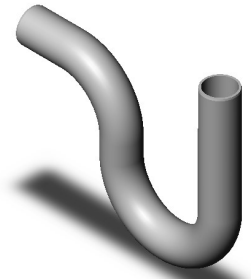
Coupling - Clamps

| Nominal Size | Part No. | OD | L1 | L2 | C |
|--------------|----------|--------|--------|------|--------|
| 1" | XP-CC08 | 1-7/8" | 2-5/8" | 1/8" | 1-1/2" |
| 1-1/2" | XP-CC12 | 2-1/2" | 2-5/8" | 1/8" | 1-3/4" |
| 2" | XP-CC16 | 3" | 2-5/8" | 1/8" | 2" |



P - Traps

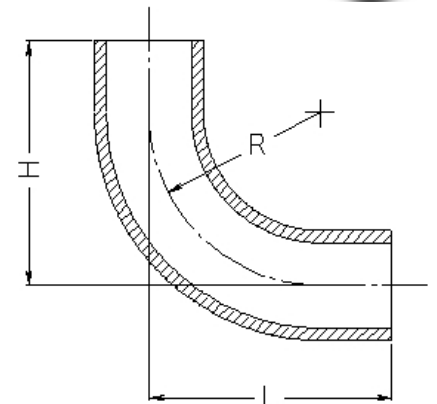
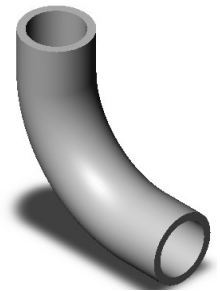
| Nominal Size | Part No. | L | H1 | H2 | R |
|--------------|----------|---------|--------|--------|----|
| 1-1/2" | XP-PT12 | 11-1/2" | 2-1/2" | 9-1/2" | 3" |
| 2" | XP-PT16 | 15" | 3" | 12" | 4" |



Product Specifications 2.10-2

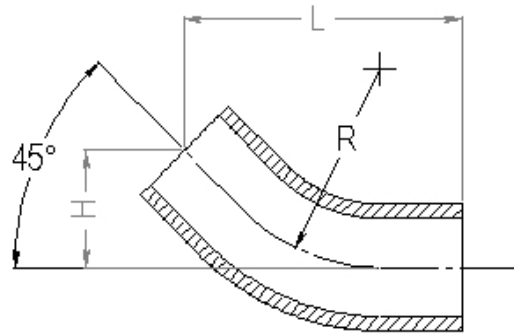
Elbows - 90°

| Nominal Size | Part No. | L | H | R |
|--------------|----------|--------|--------|----|
| 1" | XP-90E08 | 3-1/2" | 3-1/2" | 2" |
| 1-1/2" | XP-90E12 | 4-1/4" | 4-1/4" | 3" |
| 2" | XP-90E16 | 5-1/2" | 5-1/2" | 4" |



Elbows - 45°

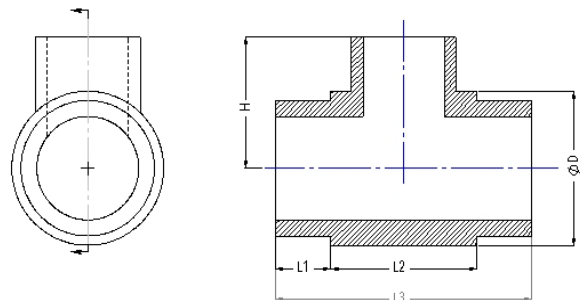
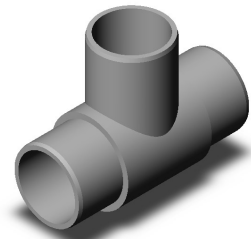
| Nominal Size | Part No. | L | H | R |
|--------------|----------|----------|----------|----|
| 1" | XP-45E08 | 4" | 1-5/8" | 2" |
| 1-1/2" | XP-45E12 | 4-11/16" | 1-15/16" | 3" |
| 2" | XP-45E16 | 5-3/8" | 2-1/4" | 4" |



Product Specifications 2.10-2

Tees - Straight

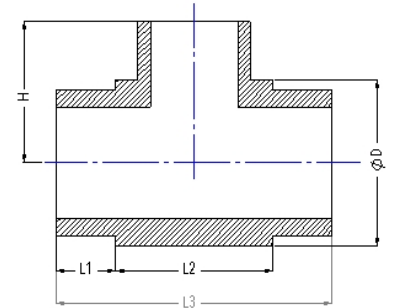
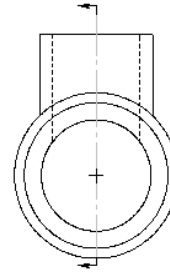
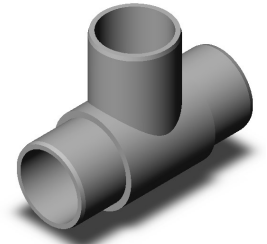
| Nominal Size | Part No. | L1 | L2 | L3 | OD | H |
|--------------|----------|--------|--------|--------|--------|---------|
| 1" | XP-TE08 | 1-1/4" | 1-7/8" | 4-3/8" | 1-1/2" | 2-1/4" |
| 1-1/2" | XP-TE12 | 1-1/4" | 2-3/8" | 4-7/8" | 2-1/4" | 2-9/16" |
| 2" | XP-TE16 | 1-1/4" | 2-7/8" | 5-3/8" | 2-3/4" | 2-7/8" |



Tees - Reducing

| Nominal Size* (Run x Branch) | Part No. | L1 | L2 | L3 | OD | H |
|---------------------------------|------------|--------|--------|--------|--------|--------|
| 1-1/2" X 1" | XP-TER1208 | 1-1/4" | 1-7/8" | 4-3/8" | 2-1/4" | 2-5/8" |
| 2" X 1" | XP-TER1608 | 1-1/4" | 1-7/8" | 4-3/8" | 2-3/4" | 2-7/8" |
| 2" X 1-1/2" | XP-TER1612 | 1-1/4" | 2-7/8" | 5-3/8" | 2-3/4" | 2-7/8" |

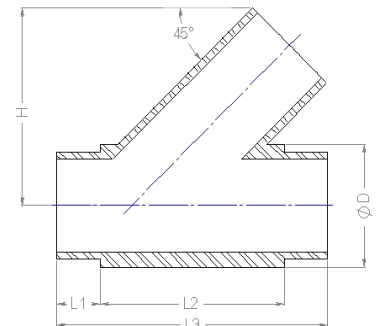
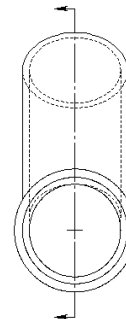
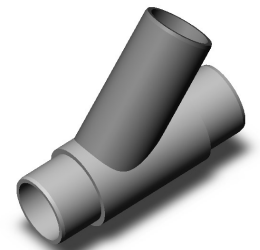
* Other reductions available, contact factory



Product Specifications 2.10-2

Laterals - Straight

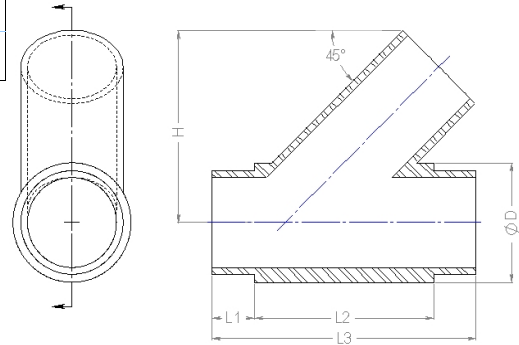
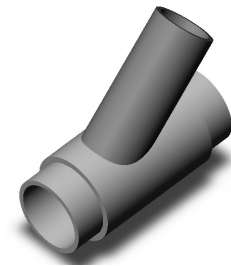
| Nominal Size | Part No. | L1 | L2 | L3 | OD | H |
|--------------|----------|--------|--------|--------|--------|--------|
| 1" | XP-LAS08 | 1-1/4" | 2-3/4" | 5-1/4" | 1-1/2" | 3-1/8" |
| 1-1/2" | XP-LAS12 | 1-1/4" | 3-5/8" | 6-1/8" | 2-1/4" | 3-3/4" |
| 2" | XP-LAS16 | 1-1/4" | 4-1/4" | 6-3/4" | 2-3/4" | 4-3/8" |



Laterals - Reducing

| Nominal Size* (Run x Branch) | Part No. | L1 | L2 | L3 | OD | H |
|---------------------------------|------------|--------|--------|--------|--------|--------|
| 1-1/2" X 1" | XP-LAR1208 | 1-1/4" | 2-3/4" | 5-1/4" | 2-1/4" | 3-1/2" |
| 2" X 1" | XP-LAR1608 | 1-1/4" | 2-1/2" | 5" | 2-3/4" | 3-3/4" |
| 2" X 1-1/2" | XP-LAR1612 | 1-1/4" | 3-3/8" | 5-7/8" | 2-3/4" | 4" |

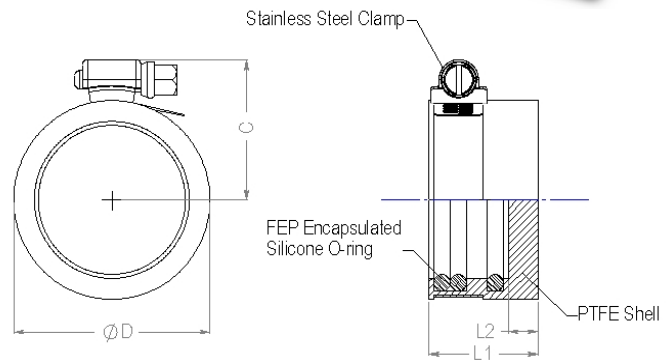
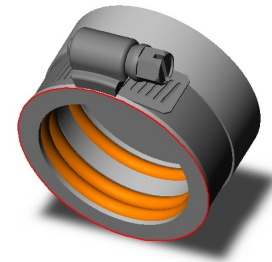
* Other reductions available, contact factory



Product Specifications 2.10-2

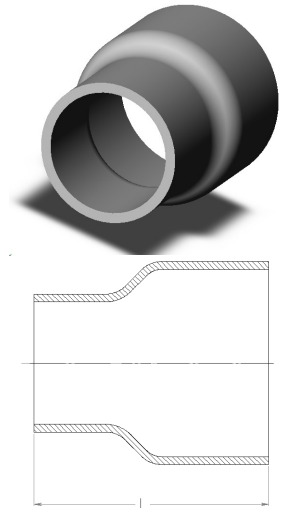
Caps

| Nominal Size | Part No. | OD | L1 | L2 | C |
|--------------|----------|--------|--------|------|--------|
| 1" | XP-CAP08 | 2-1/8" | 1-5/8" | 3/8" | 1-1/2" |
| 1-1/2" | XP-CAP12 | 2-3/4" | 1-5/8" | 3/8" | 1-3/4" |
| 2" | XP-CAP16 | 3-1/4" | 1-5/8" | 3/8" | 2" |



Concentric Reducers

| Nominal Size | Part No. | L |
|--------------|-----------|--------|
| 1-1/2" X 1" | XP-CR1208 | 3" |
| 2" X 1-1/2" | XP-CR1612 | 3" |
| 2" X 1" | XP-CR1608 | 3-3/8" |

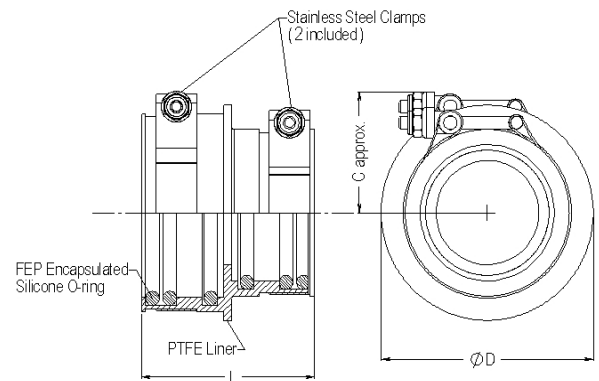
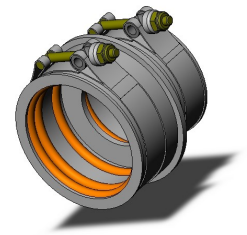


Product Specifications 2.10-2

Reducing Coupling - Clamps

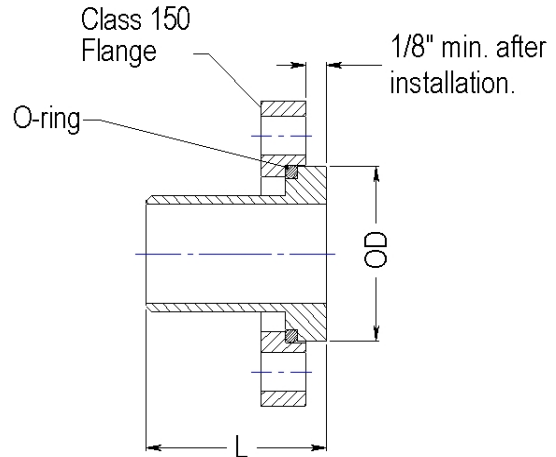
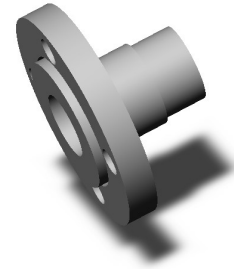
| Nominal Size* | Part No. | OD | C | L |
|---------------|-------------|--------|--------|--------|
| 1-1/2" X 1" | XP-RCCL1208 | 2-3/4" | 1-3/4" | 2-5/8" |
| 2" X 1-1/2" | XP-RCCL1612 | 3-1/4" | 2" | 2-5/8" |

* Other reductions available, contact factory



Adapters - Flange

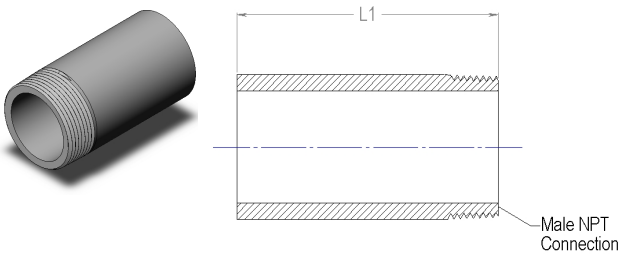
| Nominal Size | Part No. | OD | L |
|--|-----------|--------|----|
| PTFE Stub End With PVC* Flange | | | |
| 1" | XP-FLA08C | 2-1/8" | 3" |
| 1-1/2" | XP-FLA12C | 2-7/8" | 3" |
| 2" | XP-FLA16C | 3-1/2" | 3" |
| PTFE Stub End With PVDF* Flange | | | |
| 1" | XP-FLA08F | 2-1/8" | 3" |
| 1-1/2" | XP-FLA12F | 2-7/8" | 3" |
| 2" | XP-FLA16F | 3-1/2" | 3" |



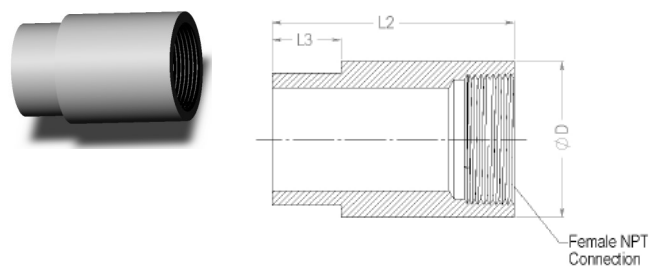
* Other flange materials available, contact factory

Adapters - NPT

Male NPT Connection



Female NPT Connection



| XP to Male NPT | | |
|----------------|-----------|----|
| Nominal Size | Part No. | L1 |
| 1" | XP-MNPT08 | 3" |
| 1-1/2" | XP-MNPT12 | 3" |
| 2" | XP-MNPT16 | 3" |

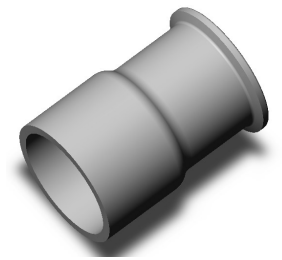
| XP to Female NPT | | | | |
|------------------|-----------|----|--------|--------|
| Nominal Size | Part No. | L2 | L3 | OD |
| 1" | XP-FNPT08 | 3" | 1-1/4" | 1-7/8" |
| 1-1/2" | XP-FNPT12 | 3" | 1-1/4" | 2-3/8" |
| 2" | XP-FNPT16 | 3" | 1-1/4" | 2-7/8" |

NOTE: Use these adapters to connect your XP system to the PTFE pipe or fittings from MICROMOLD'S FLUOR-O-FLO® NPT threaded piping system. This gives you great flexibility to deal with special needs such as tight corners and attachment of small NPT devices.



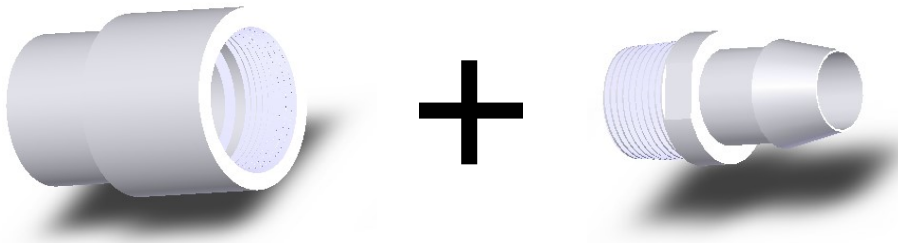
Adapters - Tri-Clamp

| Nominal Size* (Tri-Clamp by XP) | Part No. | L1 | L2 | L3 | OD Nominal | OD2 |
|------------------------------------|----------|--------|--------|--------|------------|--------|
| 1" X 1" | XP-TCA08 | * | * | 2-1/4" | 1.315" | 1.984" |
| 1-1/2" X 1-1/2" | XP-TCA12 | 1-1/4" | 1-1/4" | 2-7/8" | 1.900" | 1.984" |
| 2" X 2" | XP-TCA16 | 1-1/4" | 1-1/4" | 2-7/8" | 2.385" | 2.515" |



* 1" size has no conical reduction, i.e. is straight.

Adapters - Pipe to Hose End (Barbs)



Interfacing your XP system to a hose is easily done using an XP to Female NPT Adapter plus one of our FLUOR-O-FLO® system Male NPT Hose End Adapters. These Adapters are available in sizes from up to 1" (longer on request). In some cases, a reducing bushing may also be required.



Tank Adapters (Bulkhead Fittings)

| Nominal Pipe Size | Part No. (Note 1) | L | T | P | OD-H | OD-B (Note 2) | W Max. (Note 3) | Min. Tank Dia. (Note 4) |
|-------------------|-------------------|--------|------|--------|--------|---------------|-----------------|-------------------------|
| 1" X 1" | XP-BA08 | 3-7/8" | 3/4" | 1-1/4" | 2-5/8" | 2-1/16" | 3/4" | 32" |
| 1-1/2" X 1-1/2" | XP-BA12 | 3-7/8" | 3/4" | 1-1/4" | 3-1/8" | 2-5/8" | 3/4" | 53" |
| 2" X 2" | XP-BA16 | 4-1/4" | 7/8" | 1-1/4" | 3-5/8" | 3-1/8" | 7/8" | 73" |

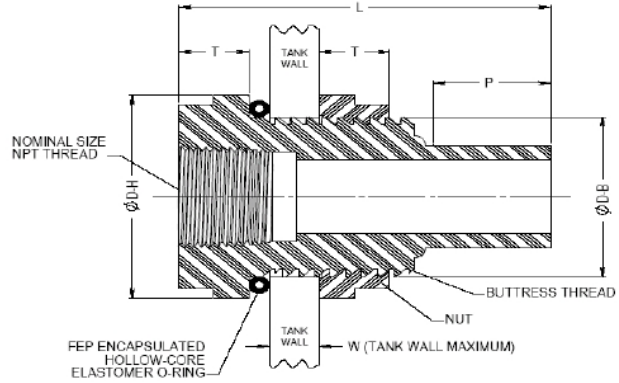


Note 1: Standard fittings include FEP encapsulated, 0.210 diameter, silicone o-ring, other materials available.

Note 2: Through hole diameter should be equal to, or up to 1/32" larger than OD-B.

Note 3: Body can be manufactured longer to accommodate thicker walls.

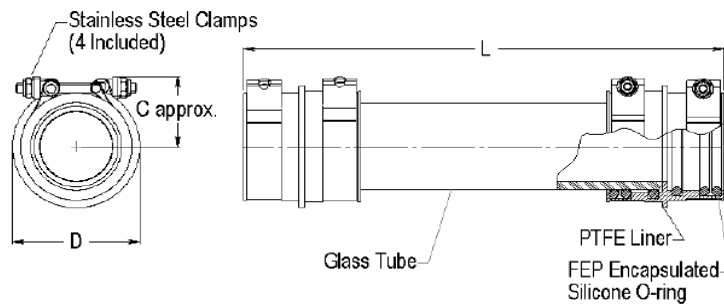
Note 4: As supplied, fittings are suitable for use with flat-wall or most cylindrical, smooth-wall tanks to minimum diameter shown. Custom adapters are available to permit use with smaller diameter tanks.



Product Specifications 2.10-2

Sight Flow Tubes

| Nominal Size | Part No. | D | C | L |
|--------------|----------|--------|--------|---------|
| 1" | XP-SF08 | 2-1/4" | 1-1/2" | 11-1/2" |
| 1-1/2" | XP-SF12 | 2-7/8" | 1-3/4" | 11-1/2" |
| 2" | XP-SF16 | 3-3/8" | 2" | 12" |



FLUOR-O-FLO® XPress Clamp-Joint Piping System - PTFE

Engineering Specifications

All pipe in sizes 1" through 2" shall be made from virgin PTFE (polytetrafluoroethylene) resin conforming to ASTM D4894 Type V.

All fittings shall be made from virgin PTFE resin conforming to ASTM D4894 Type V or ASTM D4894 Type I, II, or III, and shall have wall thickness equal to or greater than that of the pipe.

All Coupling-Clamps shall have 100% PTFE, FEP or PFA primary and secondary fluid contact areas. Sealing forces on Coupling-Clamp shall be exerted by double stainless-steel clamps capable of exerting two fully independent clamping forces, one at each end of the Coupling-Clamp. The forces shall be transmitted to the PTFE, FEP, or PFA contact areas via elastomeric o-rings that will maintain sealing pressure as the PTFE pipe being sealed shrinks slightly under the radial clamping load.

As in the FLUOR-O-FLO® XPress PTFE piping System manufactured by Micromold Products, Inc. (Refer to U.S. Patent Number 6,976,712), installation shall be performed in accordance with Micromold's Technical Bulletin: FLUOR-O-FLO® XPress PTFE Clamp-Joint Piping System Installation Instructions.

Pressure Rating: Maximum pressure in service not to exceed 15psi (or 35 feet of water) at ambient temperatures.

For further information regarding these and other related products, please refer to other MICROMOLD PRODUCTS' publications:

- Technical Bulletin, Pressure Ratings, FLUOR-O-FLO® PTFE Threaded Piping System.
- Sales Bulletin, FLUOR-O-FLO® XPress PTFE Clamp-Joint Piping System for Drainline & Process Applications.
- Sales Bulletin, FLUOR-O-VALVE™ PTFE Plug Valves.
- Sales Bulletin, FLUOR-O-SHIELD™ PVDF & PTFE Y-Strainers.
- Sales Bulletin, FLUOR-O-SHIELD™ PVDF & PTFE Basket Strainers.

