

TBL

# Pharm-A-Line I

## High Performance Pump Tubing

Multiple Autoclave Cycles

Lot and Batch Traceable

Superior Pump Life

Low Particulate

USP Class VI



### Superior Performance in Peristaltic-Pump Applications

Our Pharm-A-Line I tubing was specifically developed to provide superior performance in **peristaltic-pump applications**. Manufactured from virgin, **medical-grade TPV**, and homogeneously extruded to precise dimensional tolerances, Pharm-A-Line I provides an excellent alternative to silicone tubing, especially when chemical resistance is a concern.

Pharm-A-Line I meets today's most stringent **cytotoxicity and extractability** requirements for critical pharmaceutical-process applications. It is also recommended for most biological process fluids.

Pharm-A-Line I is ideal for liquid-coupler connections between process tanks and fluidized bed process equipment. Other applications include **sterile solutions, buffer agents, and food and beverage processing**.

**Pharm-A-Line I**<sup>™</sup>  
Chemically Resistant Precision Pump Tubing

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# TBL

# Pharm-A-Line I

## Benefits

- Superior Pump Life
- Excellent Chemical Resistance
- Low Particle Spallation
- Non Hemolytic
- Low Permeability
- Medical Grade Material
- Autoclavable
- Available in a wide Range of Sizes
- Temperature Range: -60°F to 270°F

## Regulatory Information

- Meets USP Class VI Testing
- ISO 10993 Parts 4 and 5
- Drug Master File
- Title 21 CFR 177.2600
- BSE/TSE Compliant
- REACH Compliant
- RoHs Compliant

## Applications

- Diagnostic Equipment
- Peristaltic Pumps
- Bio-Reactor Process Lines
- Buffer Solutions (acids and bases)
- CIP Chemical Transfer
- Purification Lines
- Sterile Fill
- Vaccine Production

## Sterilization

- Autoclave
- Clean In Place (CIP)
- Ethylene Oxide (ETO)
- Gamma Irradiation

## Pharm-A-Line I Superior Performance Guaranteed.

Guaranteed pump life over other TPE materials.

Pharm-A-Line I is available in a wide range of sizes to facilitate use in most major peristaltic pump manufactures.



Refer to tubing size tables for OEM pump size numbers.



# High Performance Pump Tubing

## Material Properties

	Value (English)	Value (SI)	Test Method
Specific Gravity	0.97	0.97	ASTM D792
Durometer, Shore A (5 sec.)	68	68	ASTM D2240
Compression Set (22 hr.)	16%	16%	ASTM D395B
Tensile Elongation - Across Flow: Break @STP	307%	307%	ASTM D412
Tensile Stress - Flow: 100% Strain @ STP	530psi	3.65Mpa	ASTM D412
Tensile Strength - Flow: Break @STP	720psi	5.0MPa	ASTM D412
Tear Strength - Flow: Break 70 @STP	207lbf/in	36kN/m	ASTM D624
Color	Cream		

See back page for disclaimers



- Bulk Tubing
- Pump Yoke Assemblies
- Over-Molded Tri-Clamp Connections
- EZ Fittings (Reusable Connections)
- Custom Manifolds





# Pharm-A-Line I

## High Performance Pump Tubing

### Standard Coils

### Stock Sizes

*\*Standard length Coils 20', 50', 100'*  
*\* Clean-packed spools available on custom basis*



Part Number	Pump Size	ID	OD	Wall
PHI-031X093		1/32"	3/32"	1/32"
PHI-031X156	#13	1/32"	5/32"	1/16"
PHI-062X125		1/16"	1/8"	1/32"
PHI-062X187	#14	1/16"	3/16"	1/16"
PHI-062X250		1/16"	1/4"	3/32"
PHI-125X187		1/8"	3/16"	1/32"
PHI-125X250	#16	1/8"	1/4"	1/16"
PHI-125X312		1/8"	5/16"	3/32"
PHI-125X375		1/8"	3/8"	1/8"
PHI-187X312	#03, #25	3/16"	5/16"	1/16"
PHI-187X375	#15	3/16"	3/8"	3/32"
PHI-187X437		3/16"	7/16"	1/8"
PHI-187X500		3/16"	1/2"	5/32"
PHI-250X375	#17	1/4"	3/8"	1/16"
PHI-250X437	#24	1/4"	7/16"	3/32"
PHI-250X500	#26	1/4"	1/2"	1/8"
PHI-312X375		5/16"	3/8"	1/32"
PHI-312X437	#18	5/16"	7/16"	1/16"
PHI-312X500	#35	5/16"	1/2"	3/32"
PHI-375X500	#96	3/8"	1/2"	1/16"
PHI-375X562	#73	3/8"	9/16"	3/32"
PHI-375X625	#81	3/8"	5/8"	1/8"
PHI-375X750		3/8"	3/4"	3/16"
PHI-500X750	#82	1/2"	3/4"	1/8"
PHI-500X875		1/2"	7/8"	3/16"
PHI-625X750		5/8"	3/4"	1/16"
PHI-625X812		5/8"	13/16"	3/32"
PHI-625X875		5/8"	7/8"	1/8"
PHI-625X1000	#89	5/8"	1"	3/16"
PHI-750X1062		3/4"	1-1/16"	5/32"
PHI-750X1156		3/4"	1-5/32"	13/64"
PHI-750X1000		3/4"	1"	1/8"
PHI-750X1125	#90, #191	3/4"	1-1/8"	3/16"
PHI-1.00X1375		1.00"	1-1/4"	1/8"

# Metric Coils Stock Sizes

\*Standard length Coils 20', 50', 100'  
\* Clean-packed spools available on custom basis

## Packaging

Continuous Coils, Heat Sealed Polyfilm

Pump Yoke Configurations

Pre Cut Lengths

Sterile and Clean Room Packed (Optional)

Part Number	Pump Size	ID	OD	Wall
PHI-.5MMX3.7MM	#112	.5MM	3.7MM	1.6MM
PHI-.8MMX4MM	#13	.8MM	4MM	1.6MM
PHI-1.6MMX4.8MM	#14	1.6MM	4.8MM	1.6MM
PHI-1.6MMX6.4MM	#119	3.2MM	6.4MM	1.6MM
PHI-3.2MMX6.4MM	#16	3.2MM	6.4MM	1.6MM
PHI-3.2MMX8MM	#120	3.2MM	8MM	2.4MM
PHI-4.8MMX8MM	#25	4.8MM	8MM	1.6MM
PHI-4.8MMX9.6MM	#15	4.8MM	9.6MM	2.4MM
PHI-4.8MMX11.2MM	#123	4.8MM	11.2MM	3.2MM
PHI-6.4MMX9.6MM	#17	6.4MM	9.6MM	1.6MM
PHI-6.4MMX11.2MM	#24	6.4MM	11.2MM	2.4MM
PHI-6.4MMX12.8MM	#26	6.4MM	12.8MM	3.2MM
PHI-8MMX11.2MM	#18	8MM	11.2MM	1.6MM
PHI-8MMX12.8MM	#121	8MM	12.8MM	2.4MM
PHI-8MMX16MM	#185	8MM	16MM	4MM
PHI-9.6MMX14.4MM	#122	9.6MM	14.4MM	2.4MM
PHI-9.6MMX16MM	#73	9.6MM	16MM	3.2MM
PHI-9.6MMX19.2MM	#190	9.6MM	19.2MM	4.8MM
PHI-12MMX20MM	#186	12MM	20MM	4MM
PHI-12.4MMX18.8MM	#82	12.8MM	18.8MM	3.2MM
PHI-12.7MMX22.3MM	#88	12.7MM	22.3MM	4.8MM
PHI-15.9MMX22.3MM	#184	15.9MM	22.3MM	3.2MM
PHI-15.9MMX29.5MM	#189	15.9MM	29.5MM	4.8MM
PHI-16MMX24MM	#187	16MM	24MM	4MM
PHI-19MMX28.6MM	#191	19MM	28.6MM	4.8MM

Pharm-A-Line I is available in a wide range of packaging configurations including Spools, Coils and Cut Lengths .

Pharm-A-Line I is also available in a wide range of custom sizes and hardness specifications.

*Tell us about your specific application.*

**Pharm-A-Line I**  
High Performance Pump Tubing



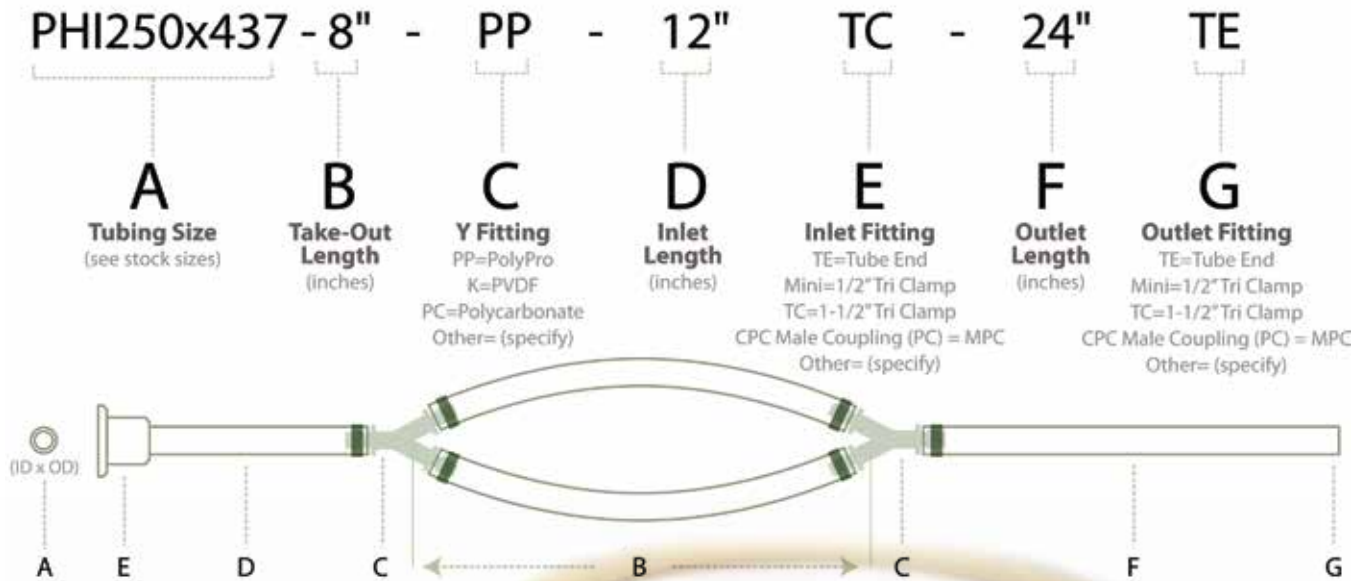
# Pharm-A-Line I

## High Performance Pump Tubing

### Pump Yoke Assemblies

#### Specification Table

Example Part Number PHI250x437-8"-PP-12"TC-24"TE



Note: OETIKER, Series 154,  
Single Ear, Stainless Steel  
Clamps / Insert as standard.

Consult factory for  
custom options.



**Pharm-A-Line I**  
High Performance Pump Tubing



## E-Z Fitting Re-Usable Ends

E-Z Fittings are designed to provide clean and reliable field-fit **sanitary connections**. These fittings are used with Pharm-A-Line I and most types of TBL tubing.

We offer them in a wide range of dimensions and wall thicknesses. All components can withstand repeated autoclave cycles and are durable for long life.

### Materials

Body: 316L Stainless Steel  
Compression Nut: Nylon  
Compression Ring: Nylon

### Finish 15 Ra



1-1/2" Tri-Clamp



1" Tri-Clamp



3/4" Mini

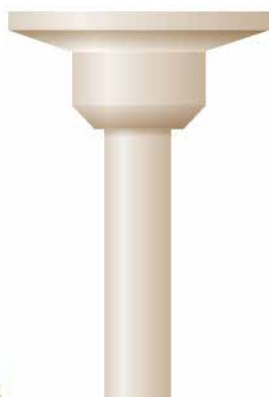


1/2" Mini

## Over-Molded Ends

These types of connections are ideal for applications where cleanability response is a high priority. Over-molding eliminates **barb connections**, which are costly, and can entrap residual fluids, resulting in **contamination**. We manufacture a wide range of over-molded, sanitary connections in metric and American sizes. All over-molded materials meet **USP Class VI** and are **BSE/TSE compliant**. Animal Derived Ingredient Free (**ADIF**) material is also available on request.

In addition to Tri Clamp connections, TBL manufactures several custom designs in many materials.



1-1/2" Tri-Clamp



3/4 Mini Tri-Clamp



Fractional Mini TC



## TBL offers a wide range of end connections

Consult factory for available sizes and material options.





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### Custom Solutions From TBL



All product information is provided only as a reference to aid in material selection. Ultimately, users are expected to determine the effectiveness, safety and regulatory compliance of Thermoplastics Biologic LLC products in any application through tests done using their particular process conditions.

Due to the variety of process conditions present across several markets, we cannot guarantee our products will meet the needs of your application unless such is expressly written by Thermoplastics Biologic LLC. Note, operating temperatures/ pressures and mechanical properties can change depending on the application.

### Pharm-A-Line I

#### High Performance Pump Tubing



Pump Images by OINA VV AB



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