

# FITTINGS










For science and industry














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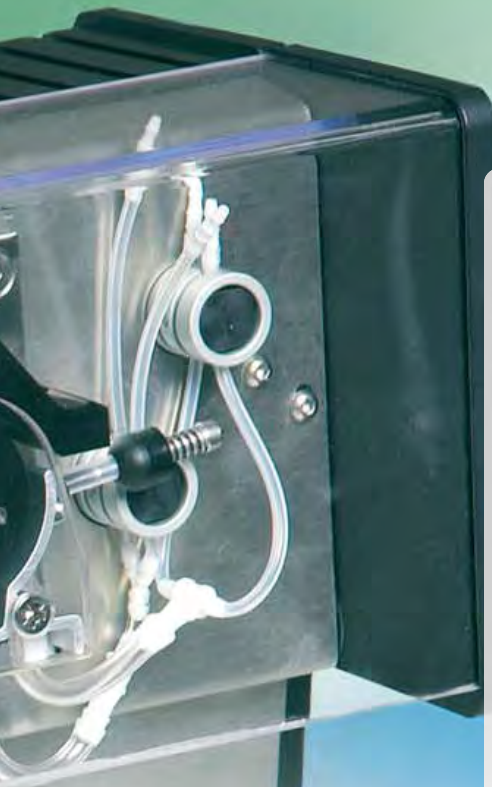
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**Watson-Marlow Alitea** designs and manufactures a wide range of peristaltic pumps for science and industry. A peristaltic pump relies on the tubing it uses for fluid flow. In almost all applications, at the end of the peristaltic pump tube, there is a connection to other equipment. We can help by providing a comprehensive range of connectors and fittings suitable for use in analytical instruments, medical devices and a number of other areas. The scope of this catalogue is to present our range of fittings.

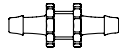
Being part of the Watson-Marlow Bredel group, world leaders in peristaltic pumps, we are committed to developing customised solutions for a huge range of applications. Every year, nearly ten thousand Watson-Marlow Alitea pumps are fitted as original equipment in products ranging from detergent dispensers to fermenters and bioreactors, from waste water treatment to keyhole surgery equipment, from printing applications to seed coating machines. With 25 years in the international market and over a thousand OEM-applications behind us we are the ideal partner to accurately define needs and provide optimised technical solutions for accurate low flow liquid handling. When customers install our pumps, tubings and fittings, they gain from our flexibility and experience with increased efficiency and profitability. Accurately defining our customers needs and providing the optimal technical solution, that's how we build long term relationships with satisfied customers.



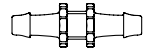
# Straight connectors, equal legs

For flexible tubing

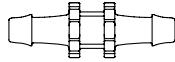
1.6 mm ID  
**N004-6**



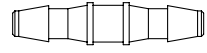
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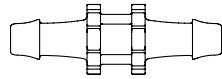
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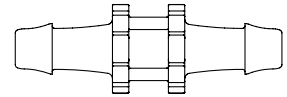
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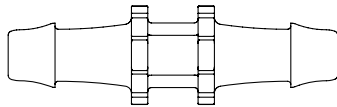
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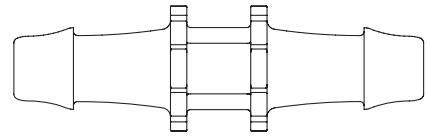
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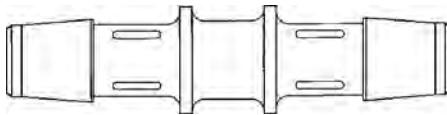
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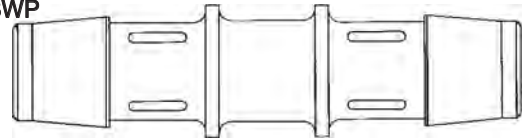
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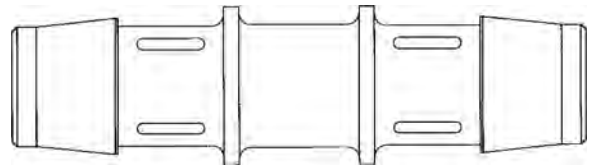
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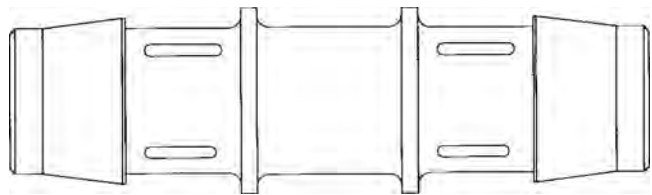
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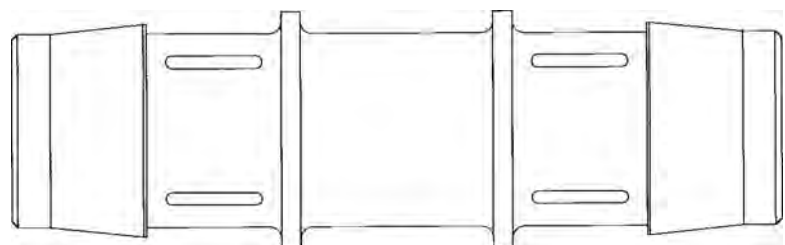
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**C0-10WP**



19.2 mm ID  
**C0-12WP**



25.4 mm ID  
**C0-16WP**



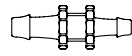
Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Straight reductions

For flexible tubing

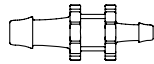
2.4 mm ID to 1.6 mm ID

**N007/004-6**



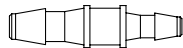
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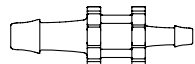
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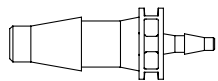
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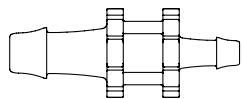
4.8 mm ID to 1.6 mm ID

**1050-6**



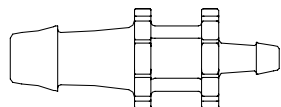
4.8 mm ID to 3.2 mm ID

**N035/013-6**



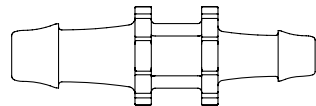
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**N055/013-6**



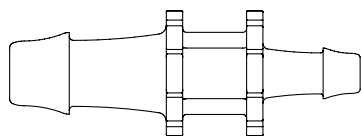
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**N055/035-6**



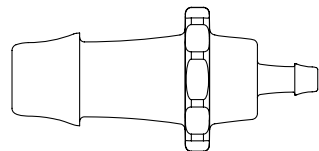
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**N065/035-6**



9.6 mm ID to 3.2 mm ID

**N070/013-6**



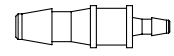
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**C6-5WP**



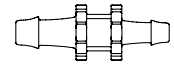
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**N230/210-6**



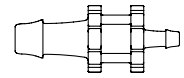
3.2 mm ID to 2.4 mm ID

**N013/007-6**



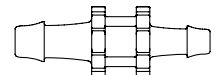
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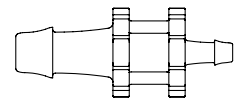
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**N025/013-6**



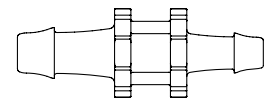
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**N035/007-6**



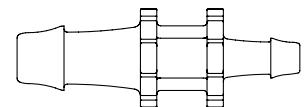
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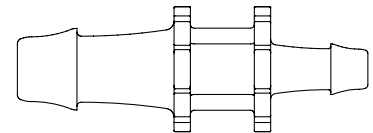
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**N055/025-6**



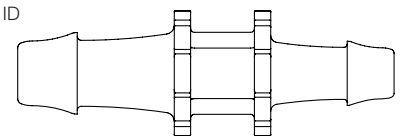
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**N065/025-6**



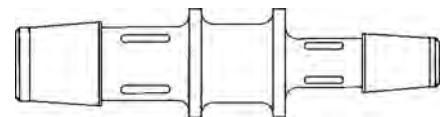
8.0 mm ID to 6.4 mm ID

**N065/055-6**



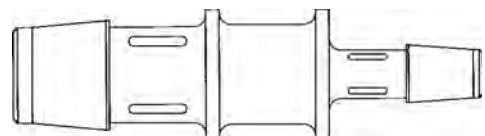
9.6 mm ID to 6.4 mm ID

**C6-4WP**



12.7 mm ID to 6.4 mm ID

**C8-4WP**



Continued

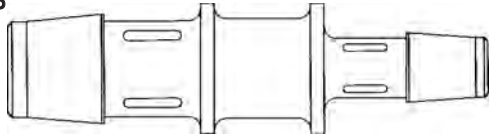
Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## Straight reductions (continued)

For flexible tubing

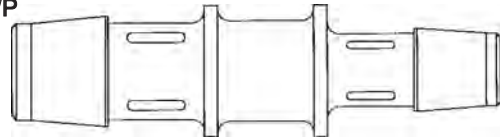
12.7 mm ID to 8.0 mm ID

**C8-5WP**



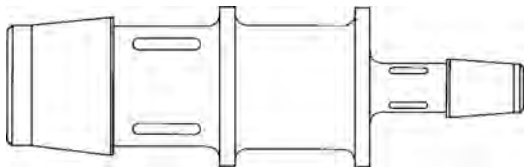
12.7 mm ID to 9.6 mm ID

**C8-6WP**



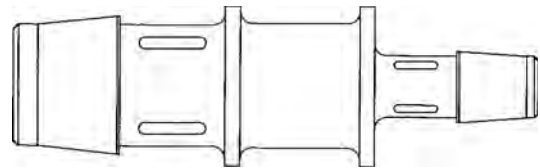
16.0 mm ID to 6.4 mm ID

**C10-4WP**



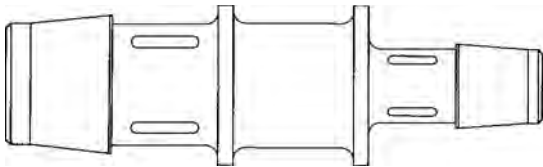
16.0 mm ID to 8.0 mm ID

**C10-5WP**



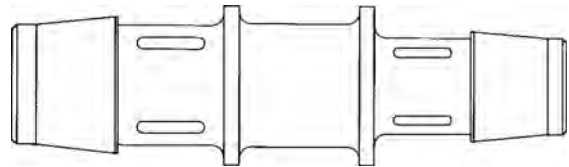
16.0 mm ID to 9.6 mm ID

**C10-6WP**



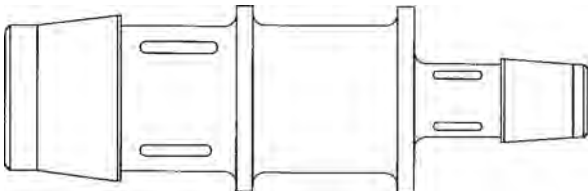
16.0 mm ID to 12.7 mm ID

**C10-8WP**



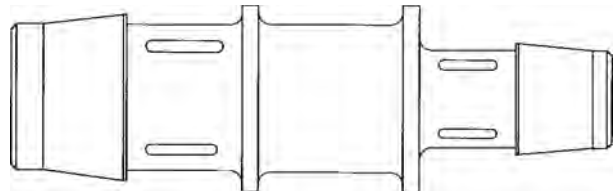
19.2 mm ID to 9.6 mm ID

**C12-6WP**



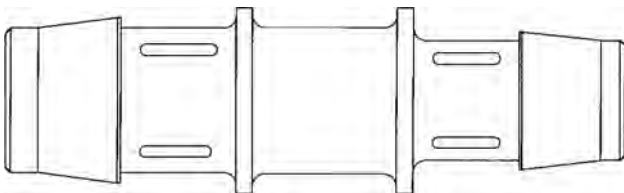
19.2 mm ID to 12.7 mm ID

**C12-8WP**



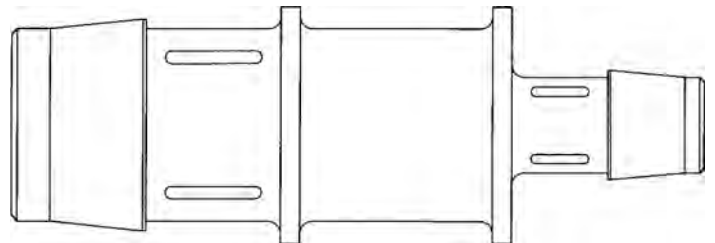
19.2 mm ID to 16.0 mm ID

**C12-10WP**



25.4 mm ID to 12.7 mm ID

**C16-8WP**



Continued

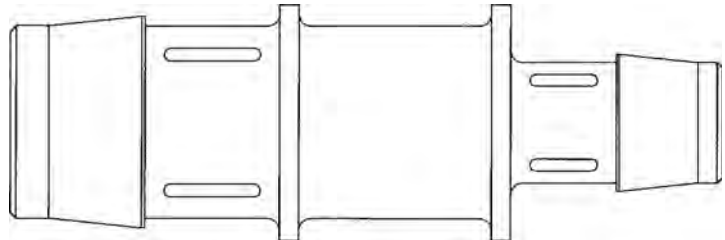
Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## Straight reductions (continued)

For flexible tubing

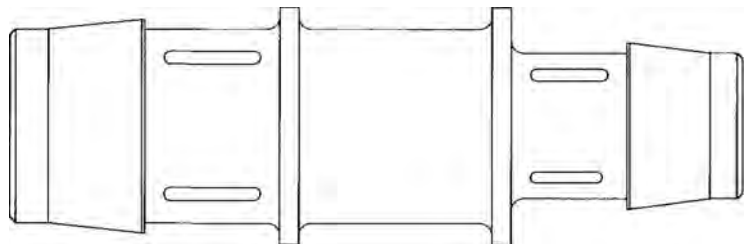
25.4 mm ID to 16.0 mm ID

**C16-10WP**



25.4 mm ID to 19.2 mm ID

**C16-12WP**



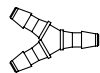
Also see the Panel Mount section for further tube to tube options.

## Y-connectors, equal legs

For flexible tubing

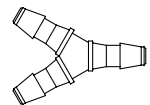
1.6 mm ID

**Y210-6**



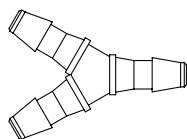
2.4 mm ID

**Y220-6**



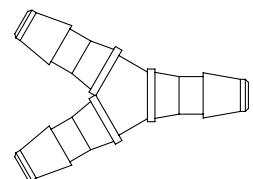
3.2 mm ID

**Y230-6**



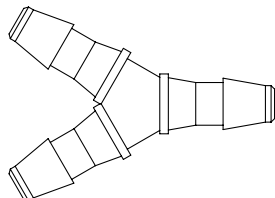
4.0 mm ID

**Y240-6**



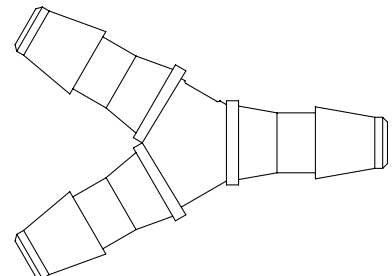
4.8 mm ID

**Y250-6**



6.4 mm ID

**Y260-6**



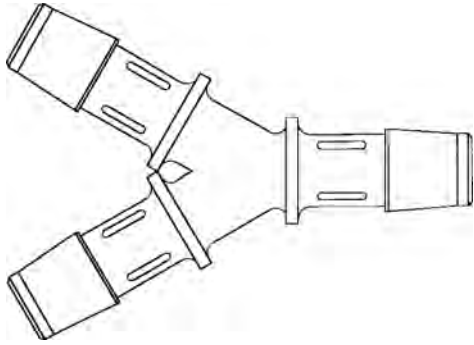
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Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

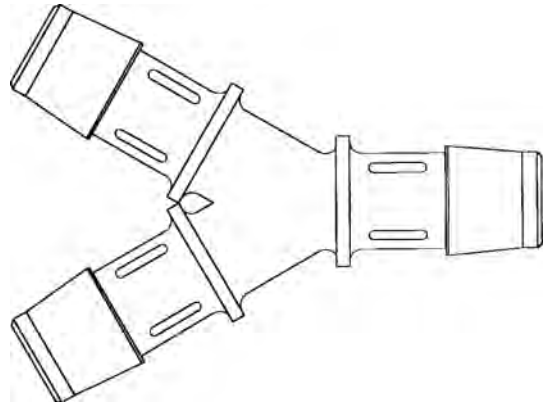
## Y-connectors, equal legs (continued)

For flexible tubing

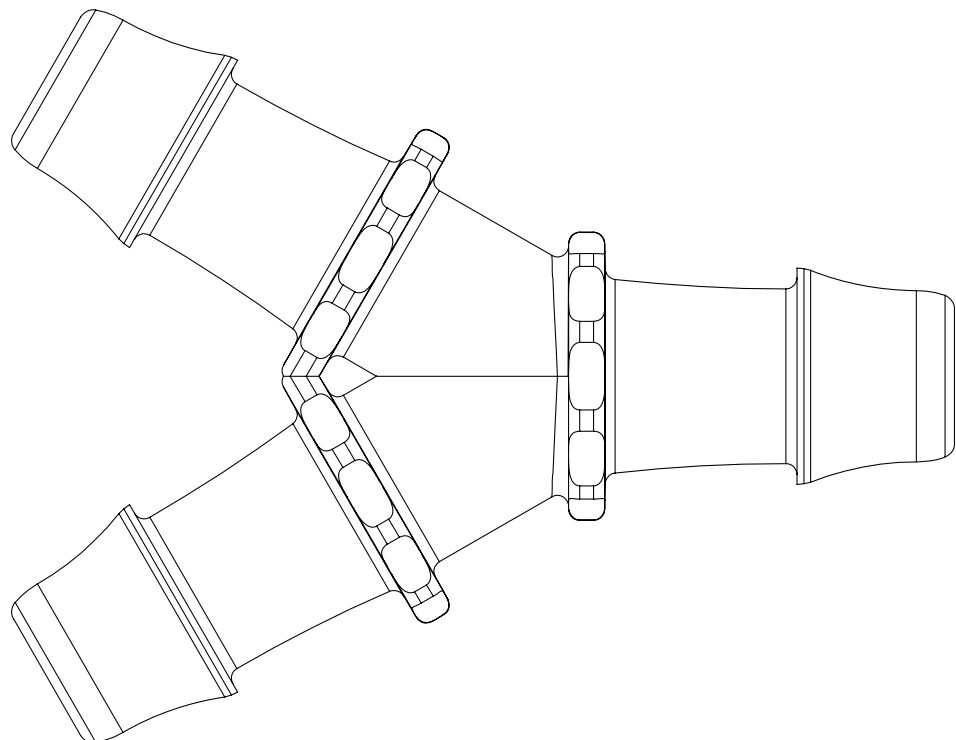
9.6 mm ID  
**Y0-6WP**



12.7 mm ID  
**Y0-8WP**  
16.0 mm ID  
**Y0-10WP**



19.2 mm ID  
**Y100-6**  
25.4 mm ID  
**Y110-6**



Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## Elbow connectors, equal legs

For flexible tubing

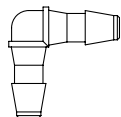
1.6 mm ID  
**L210-6**



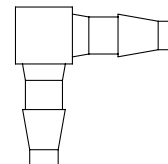
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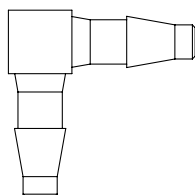
3.2 mm ID  
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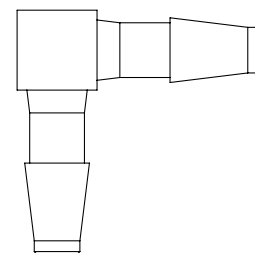
4.0 mm ID  
**L40-6**



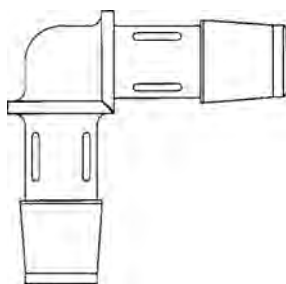
4.8 mm ID  
**L50-6**



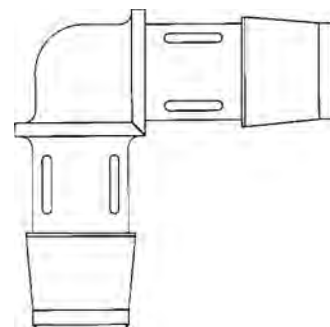
6.4 mm ID  
**L60-6**



9.6 mm ID  
**L0-6WP**



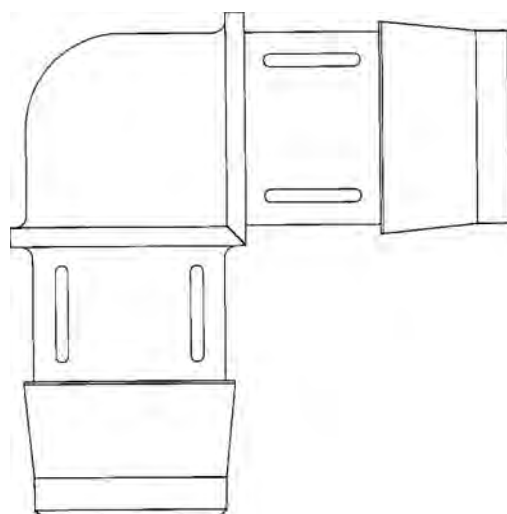
12.7 mm ID  
**L0-8WP**



16.0 mm ID  
**L0-10WP**

19.2 mm ID  
**L0-12WP**

25.4 mm ID  
**L0-16WP**



Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

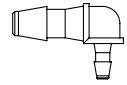
## Elbow, reductions

For flexible tubing

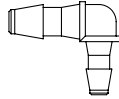
2.4 mm ID to 1.6 mm ID  
**L220/210-6**



3.2 mm ID to 1.6 mm ID  
**L230/210-6**



3.2 mm ID to 2.4 mm ID  
**L230/220-6**



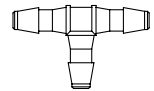
## T-connectors, equal legs

For flexible tubing

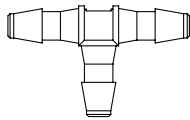
1.6 mm ID  
**T210-6**



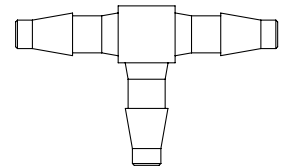
2.4 mm ID  
**T220-6**



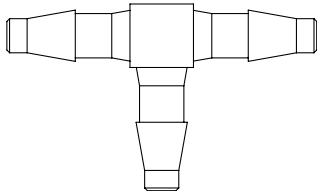
3.2 mm ID  
**T230-6**



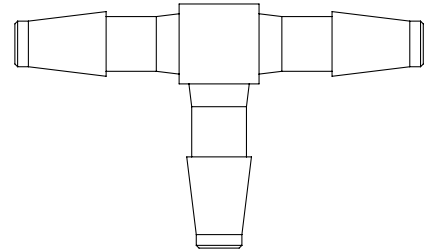
4.0 mm ID  
**T40-6**



4.8 mm ID  
**T50-6**



6.4 mm ID  
**T60-6**



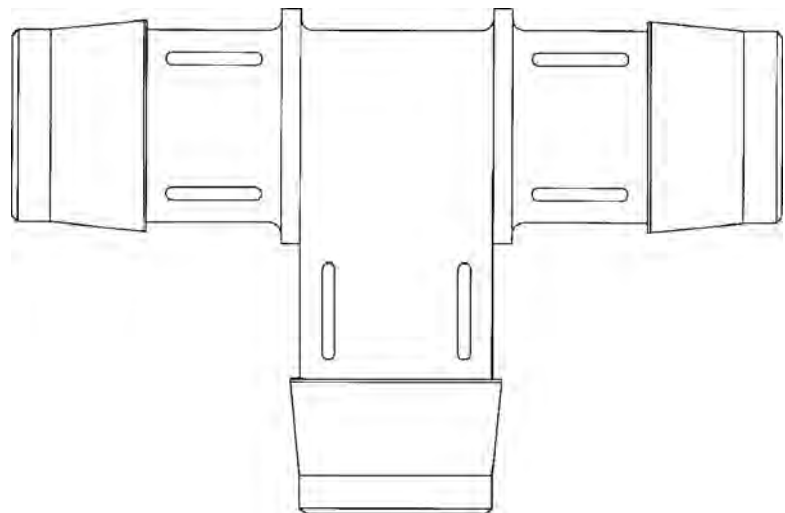
9.6 mm ID  
**T0-6WP**

12.7 mm ID  
**T0-8WP**

16.0 mm ID  
**T0-10WP**

19.2 mm ID  
**T0-12WP**

25.4 mm ID  
**T0-16WP**

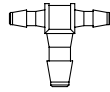


Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

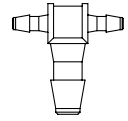
# T-connectors, reductions

For flexible tubing

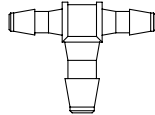
One 2.4 mm ID to two 1.6 mm ID  
**T210/220-6**



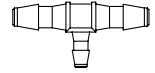
One 3.2 mm ID to two 1.6 mm ID  
**T210/230-6**



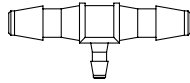
One 3.2 mm ID to two 2.4 mm ID  
**T220/230-6**



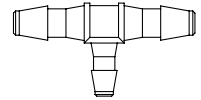
One 1.6 mm ID to two 2.4 mm ID  
**T220/210-6**



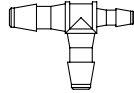
One 1.6 mm ID to two 3.2 mm ID  
**T230/210-6**



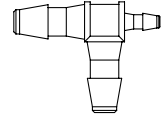
One 2.4 mm ID to two 3.2 mm ID  
**T230/220-6**



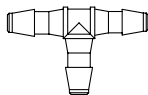
2.4 mm ID elbow with 1.6 mm ID outlet  
**T220R210-6**



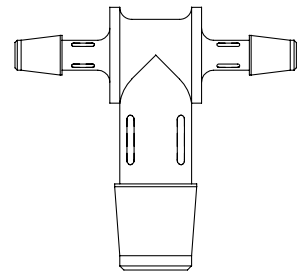
3.2 mm ID elbow with 1.6 mm ID outlet  
**T230R210-6**



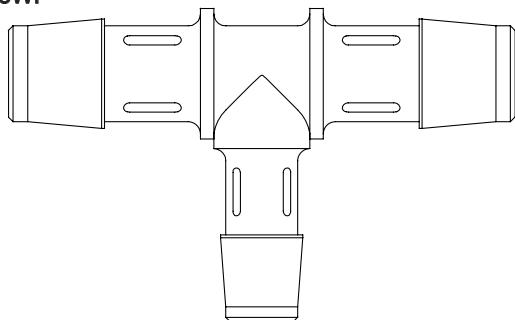
3.2 mm ID elbow with 2.4 mm ID outlet  
**T230R220-6**



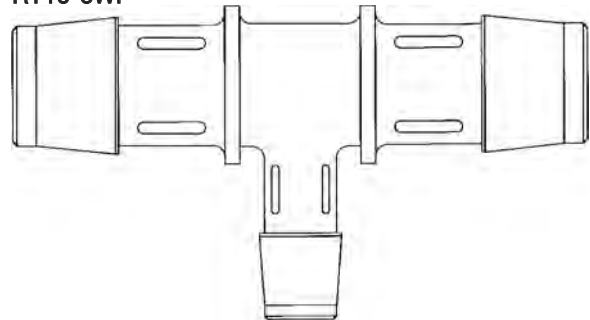
One 9.6 mm ID to two 4.0 mm ID  
**RT2.5-6NP**



One 9.6 mm ID to two 12.7 mm ID  
**RT8-6WP**



One 9.6 mm ID to two 16.0 mm ID  
**RT10-6WP**



Continued

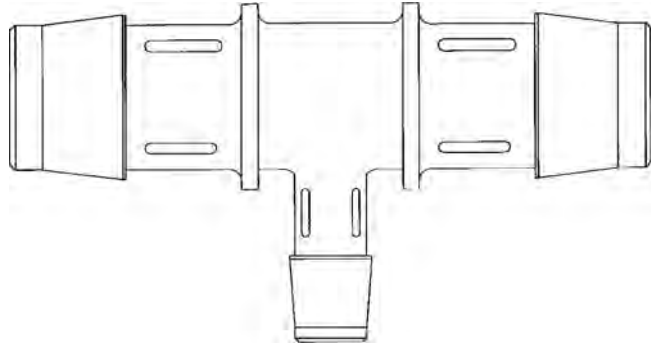
Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## T-connectors, reductions (continued)

For flexible tubing

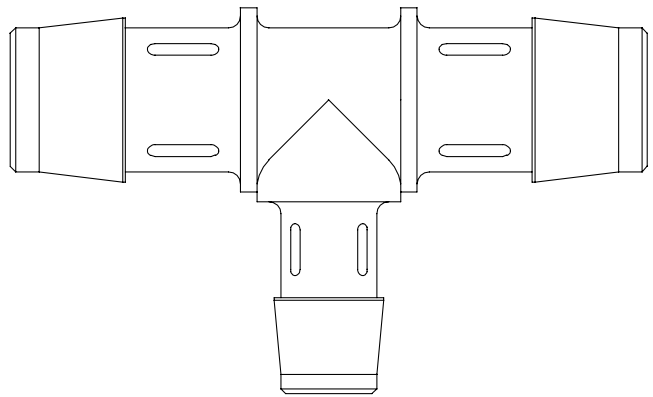
One 9.6 mm ID to two 19.2 mm ID

**RT12-6WP**



One 12.7 mm ID to two 19.2 mm ID

**RT12-8WP**

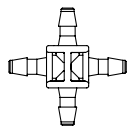


## 4-way connectors, equal legs

For flexible tubing

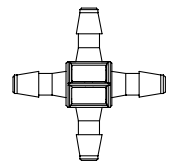
1.6 mm ID

**4PX210-6**



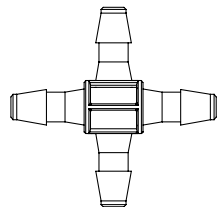
2.4 mm ID

**4PX220-6**



3.2 mm ID

**4PX230-6**



Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Plugs

For flexible tubing

1.6 mm ID  
**PIP210-6**



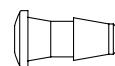
2.4 mm ID  
**PIP220-6**



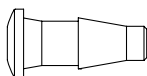
3.2 mm ID  
**PIP230-6**



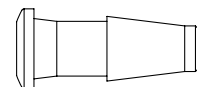
4.0 mm ID  
**PIP240-6**



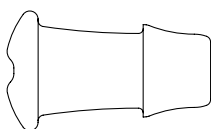
4.8 mm ID  
**PIP50-6**



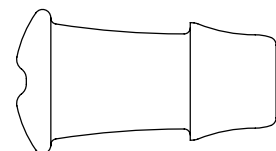
6.4 mm ID  
**PIP60-6**



9.6 mm ID  
**PIP070-6**



12.7 mm ID  
**PIP080-6**

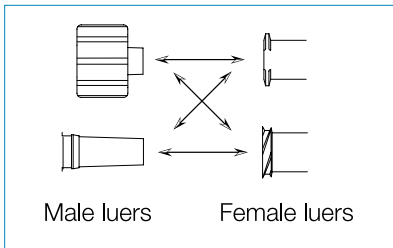


Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Luer Taper Standards

All luers are made to ANSI/HIMA and ISO Standards MD70-1-1983, ISO 594-1-2 and may be connected to other luers which meet these standards. Please test your application to verify performance of your interconnection.

**All Male Luers  
connect to all Females**

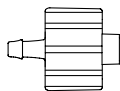


## Luer connectors

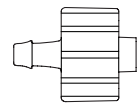
For flexible tubing

### Male Luer, integral fixed lock ring

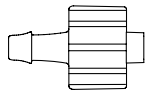
for 1.6 mm ID  
**MTLL004-6**



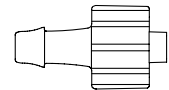
for 2.4 mm ID  
**MTLL007-6**



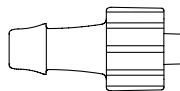
for 3.2 mm ID  
**MTLL013-6**



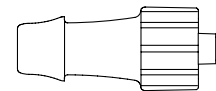
for 4.0 mm ID  
**MTLL025-6**



for 4.8 mm ID  
**MTLL035-6**

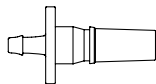


for 6.4 mm ID  
**MTLL055-6**

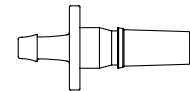


### Male Luer for separate rotating lock ring (Lock ring FSLLR is sold separately)

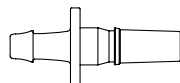
for 1.6 mm ID  
**MLRL004-6**



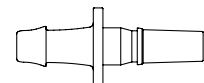
for 2.4 mm ID  
**MLRL007-6**



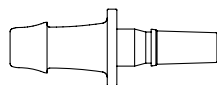
for 3.2 mm ID  
**MLRL013-6**



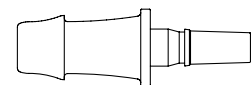
for 4.0 mm ID  
**MLRL025-6**



for 4.8 mm ID  
**MLRL035-6**



for 6.4 mm ID  
**MLRL055-6**



Continued

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## Luer connectors (continued)

For flexible tubing

### Male Luer rotating lock ring

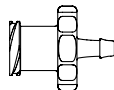
Lock ring (colour coded)

**FSLLR-6**

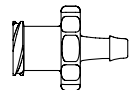


### Female Luer

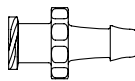
for 1.6 mm ID  
**FTLL004-6**



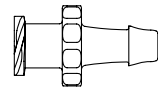
for 2.4 mm ID  
**FTLL007-6**



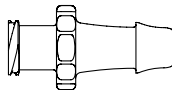
for 3.2 mm ID  
**FTLL013-6**



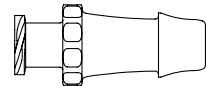
for 4.0 mm ID  
**FTLL025-6**



for 4.8 mm ID  
**FTLL035-6**

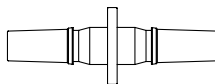


for 6.4 mm ID  
**FTLL055-6**

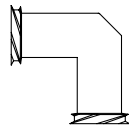


## Luer to Luer connectors and Plugs

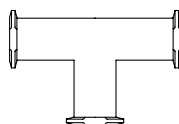
Male to Male Coupler\*  
**MLRLC-6**



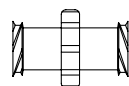
Female Elbow  
**FTLLE-6**



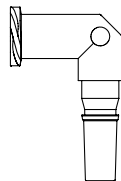
Female T  
**FTLT-6**



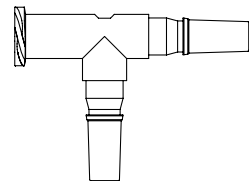
Female to Female Coupler  
**FTLLC-6**



Male to Female Elbow\*  
**LE87-6**



Male (2ea) to Female T\*  
**LT787-6**



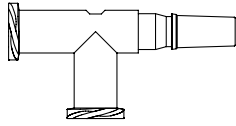
\* May be used with separate rotating lock ring FSLLR.

Continued

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## Luer to Luer connectors and Plugs (continued)

Female (2ea) to Male T\*  
**LT878-6**



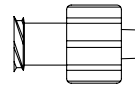
Male Luer Plug  
**LP4-6**



Female Luer Plug  
**FTLLP-6**



Male/female Luer Plug  
**LP34-6**

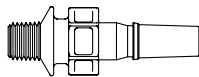


\* May be used with separate rotating lock ring FSLLR.

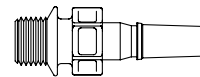
## Luer to thread connectors

### Male Luer

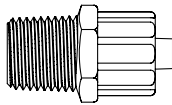
to 10-32 tapered\*  
**XMLRL-6**



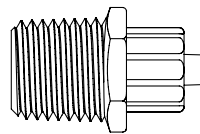
to 1/4-28 UNF\*  
**SMLRL-6**



to 1/8-27 NPT, Integral Lock Ring  
**18MTLL-6**



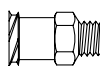
to 1/4-18 NPT, Integral Lock Ring  
**14MTLL-6**



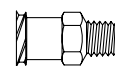
\* May be used with separate rotating lock ring FSLLR.

### Female Luer

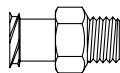
to 10-32 UNF  
**KFTLL-6**



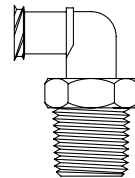
to 10-32 tapered  
**XFTLL-6**



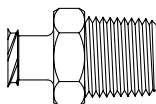
to 1/4-28 UNF  
**SFTLL-6**



Elbow to 1/8-27 NPT  
**18LFTLL-6**



to 1/8-27 NPT  
**18FTLL-6**



See Thread section for thread specifications.  
Also see the Panel Mount section for further Luer options.

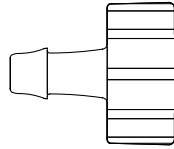
Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Luer connectors, Large Bore

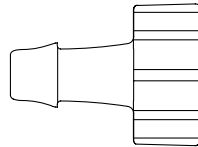
For flexible tubing

## Male Large Bore Luer, integral fixed lock ring

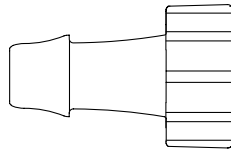
for 4.8 mm ID  
**MLB035-1**



for 6.4 mm ID  
**MLB055-1**

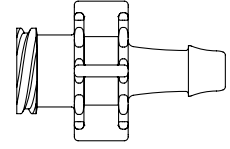


for 8.0 mm ID  
**MLB065-1**

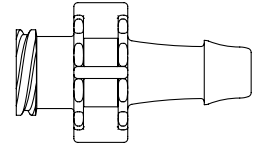


## Female Large Bore Luer

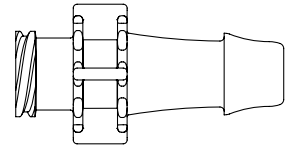
for 4.8 mm ID  
**FLB035-1**



for 6.4 mm ID  
**FLB055-1**

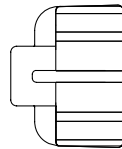


for 8.0 mm ID  
**FLB065-1**

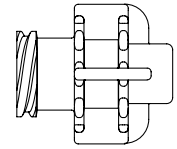


## Plugs

Male plug  
**MLBP-1**



Female plug  
**FLBP-1**



## Large Bore Luers

This series is made for applications where a large through bore is required

Note. This series does not connect to the standard Luer series.

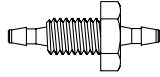
<b>Through Bore</b> $\varnothing$	3.7 mm	4.4 mm	4.9 mm
<b>For tubing ID</b>	4.8 mm	6.4 mm	8.0 mm

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

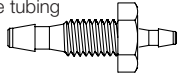
# Panel mount fittings

## Panel mount $\varnothing 5$ mm (10-32 UNF thread)

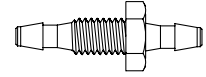
Connector for 1.6 mm ID flexible tubing  
**PMK210-6**



Reduction connector for 2.4 to 1.6 mm ID flexible tubing  
**PMK220/210-6**



Connector for 2.4 mm ID flexible tubing  
**PMK220-6**

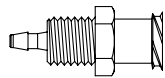


Lock nut, stainless steel, Hex 3/8" (10 mm)  
**PMKN-X0**

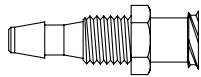


## Panel mount $\varnothing 6.5$ mm (1/4-28 UNF thread)

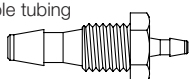
Female Luer to 1.6 mm ID flexible tubing  
**FTLLB210-6**



Female Luer to 3.2 mm ID flexible tubing  
**FTLLB230-6**



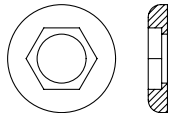
Reduction connector for 3.2 to 1.6 mm ID flexible tubing  
**PMS230/210-6**



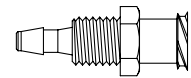
Lock nut  
**LNS-1**



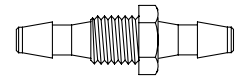
Colour coded ring  
**CCR-1**



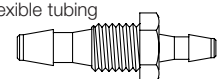
Female Luer to 2.4 mm ID flexible tubing  
**FTLLB220-6**



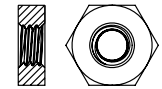
Connector for 3.2 mm ID flexible tubing  
**PMS230-6**



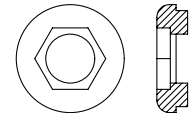
Reduction connector for 3.2 to 1.6 mm ID flexible tubing  
**PMS230/220-6**



Lock nut, stainless steel, Hex 7/16" (11 mm)  
**PMSN-X0**



Colour coded lock ring  
**CCLR-1**



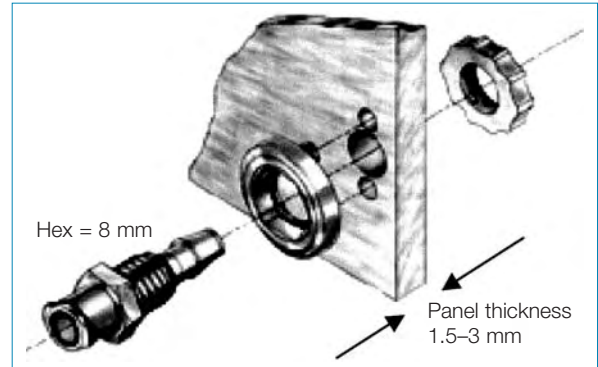
See Panel Mount instruction on the following page.

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Panel Mount Instruction

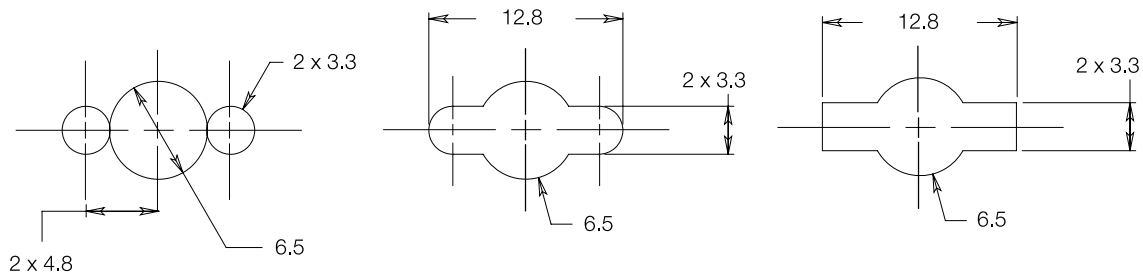
## Non-Threaded Panel Openings

Use any one of the three panel patterns shown below with a CCLR lock ring and LNS lock nut. For PMK-series the center hole diameter may be reduced to  $\varnothing 5$  mm. Together, the panel opening and CCLR prevent the bulkhead fitting from rotating. Tighten LNS snug plus 1/4 turn only.



Panel mount luer shown with CCLR color coding ring, and LNS lock nut.

## Panel Patterns



Dimensions in mm (for inch, multiply by 0.0394). Illustration in scale 2:1.

## Threaded Panel Openings

Tap the panel with 1/4-28 UNF or 10-32 UNF thread and use a CCR color coded ring. In this case, the fitting tightened into the panel prevents fitting rotation. Use an LNS lock nut for additional security; tighten snug plus 1/4 turn only.

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Threads



M5×0.8



M6×1



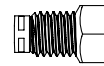
10-32 UNF



10-32 Tapered

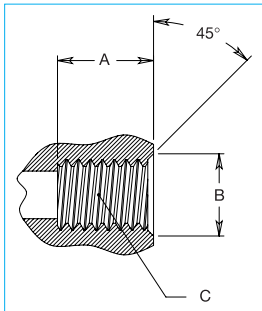


1/4"-28 UNF



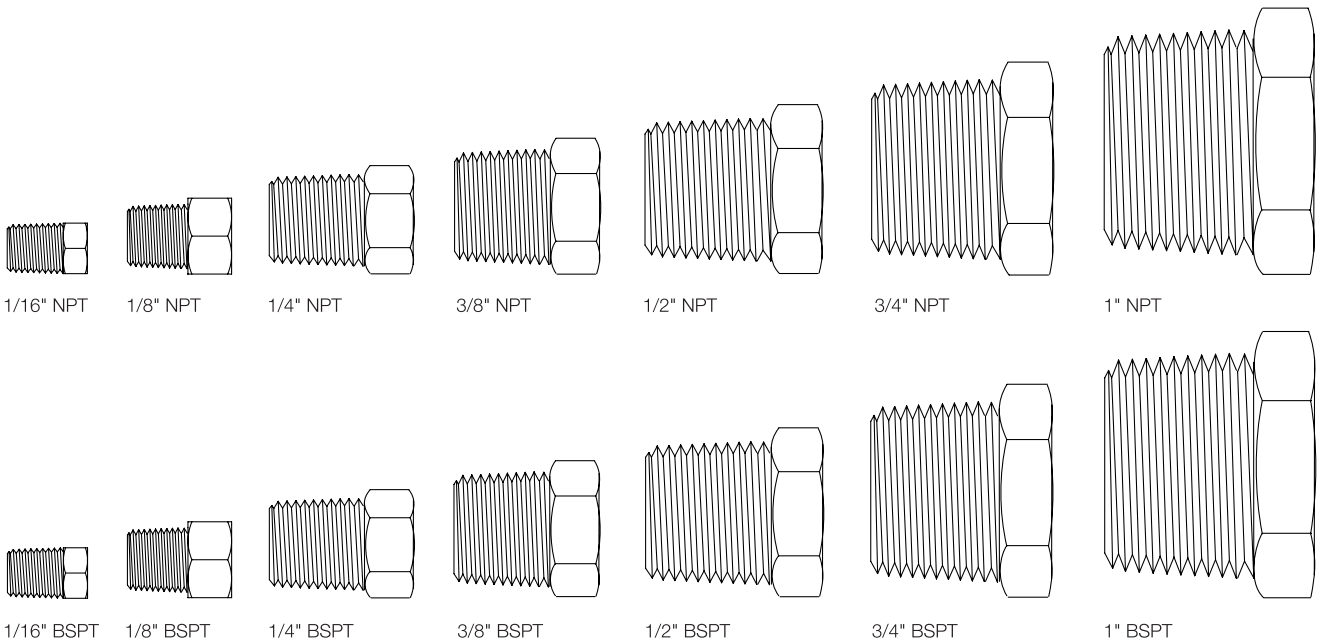
1/4"-28 UNF Bottom Sealed  
(rotating thread)

## Port Design for secure and leak-free connection



Fitting thread series	Dim. A Minimum full thread length	Dim. B Countersink diameter	C Internal screw thread
10-32 Taper	6.4 mm	5.3–5.8 mm	10-32 UNF 2B
10-32	5.1 mm	5.3–5.8 mm	10-32 UNF 2B
1/4-28 UNF	6.4 mm	6.8–7.3 mm	1/4-28 UNF 2B
M5×0.8	6.4 mm <sup>1</sup>	5.3–5.8 mm	M5×0.8
M6×1.0	9.6 mm <sup>1</sup>	6.8–7.3 mm	M6×1.0

<sup>1</sup> This depth provides clearance needed to provide chamfer seal.



Thread	M5	M6	10-32 UNF	10-32 Special Tapered	1/4"-28 UNF	1/16" NPT	1/8" NPT	1/8" BSPT	1/4" NPT
/ inch			32	32	28	27	27	28	18
Hex [mm]	6.5	8	6.5	6.5	8	8	11–12	11–12	15
								R 1/8"	

Thread	1/4" BSPT	3/8" NPT	3/8" BSPT	1/2" NPT	1/2" BSPT	3/4" NPT	3/4" BSPT	1" NPT	1" BSPT
/ inch	19	18	19	14	14	14	14	11.5	11
Hex [mm]	15	18	18	23	23	29	29	35	35
	R 1/4"		R 3/8"		R 1/2"		R 3/4"		R 1"

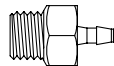
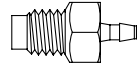
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Threaded connectors

Thread to flexible tubing

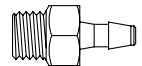
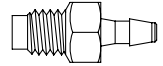
## Straight connectors, thread to 1.6 mm ID

- M5  
**M5210-6**
- M6  
**M6210-6**
- 10-32 UNF  
**K210-6**
- 10-32 tapered  
**X210-6**
- 1/4"-28 UNF  
**S210-6**
- 1/4"-28 UNF Bottom Sealed  
**ABR004-6-1**
- 1/16"-27 NPT  
**16210-6**
- 1/8"-27 NPT  
**8210-6**



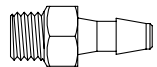
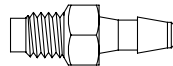
## Straight connectors, thread to 2.4 mm ID

- M5  
**M5220-6**
- M6  
**M6220-6**
- 10-32 UNF  
**K220-6**
- 10-32 tapered  
**X220-6**
- 1/4"-28 UNF  
**S220-6**
- 1/4"-28 UNF Bottom Sealed  
**ABR007-6-1**
- 1/16"-27 NPT  
**16220-6**
- 1/8"-27 NPT  
**18220-6**



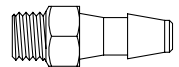
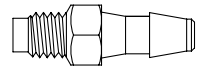
## Straight connectors, thread to 3.2 mm ID

- M5  
**M5230-6**
- M6  
**M6230-6**
- 10-32 UNF  
**K230-6**
- 10-32 tapered  
**X230-6**
- 1/4"-28 UNF  
**S230-6**
- 1/4"-28 UNF Bottom Sealed  
**ABR013-6-1**
- 1/16"-27 NPT  
**16230-6**
- 1/8"-27 NPT  
**18230-6**
- 1/8" BSPT  
**A2B-2WP**
- 1/4" BSPT  
**A4B-2WP**



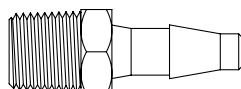
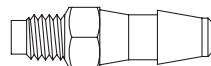
## Straight connectors, thread to 4 mm ID

- M5  
**M5240-6**
- M6  
**M6240-6**
- 10-32 UNF  
**K240-1**
- 10-32 tapered  
**X240-6**
- 1/4"-28 UNF  
**S240-6**
- 1/16"-27 NPT  
**16240-1**
- 1/8"-27 NPT  
**18240-6**
- 1/8" BSPT  
**A2B-2.5WP**
- 1/4" BSPT  
**A4B-2.5WP**



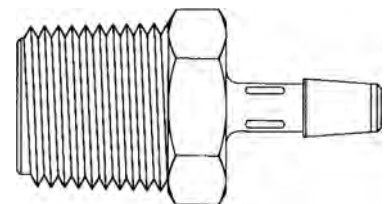
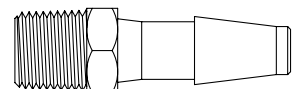
## Straight connectors, thread to 4.8 mm ID

- M6  
**M6250-6**
- 1/4"-28 UNF  
**S250-6**
- 1/16"-27 NPT  
**16250-1**
- 1/8"-27 NPT  
**1850-6**
- 1/4"-18 NPT  
**A4-3WP**
- 1/4" BSPT  
**A4B-3WP**



## Straight connectors, thread to 6.4 mm ID

- M1/4"-28 UNF  
**A4-4WP**
- 1/8"-27 NPT  
**1860-6**
- 3/8"-18 NPT  
**A6-4WP**
- 1/2"-14 NPT  
**A8-4WP**
- 3/4"-14 NPT  
**A12-4WP**
- 1/8" BSPT  
**A2B-4WP**
- 1/4" BSPT  
**A4B-4WP**
- 3/8" BSPT  
**A6B-4WP**



Continued →

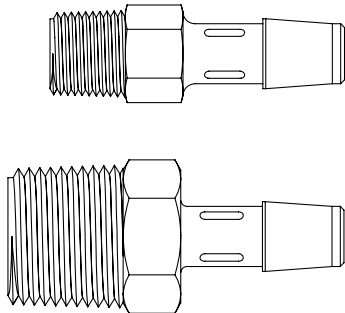
Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Threaded connectors (continued)

Thread to flexible tubing

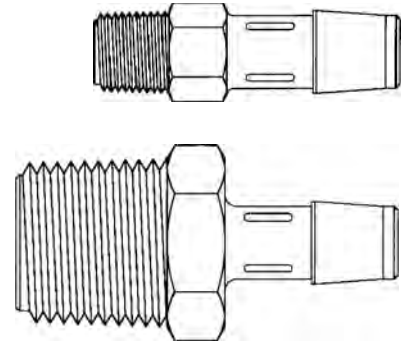
## Straight connectors, thread to 8 mm ID

- 1/4"-28 UNF  
**A4-5WP**
- 1/8"-27 NPT  
**A2-5WP**
- 3/8"-18 NPT  
**A6-5WP**
- 1/4" BSPT  
**A4B-5WP**
- 3/8" BSPT  
**A6B-5WP**



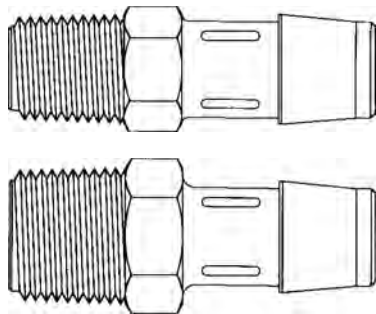
## Straight connectors, thread to 9.6 mm ID

- 1/4"-28 UNF  
**A4-6WP**
- 1/8"-27 NPT  
**A2-6WP**
- 3/8"-18 NPT  
**A6-6WP**
- 1/2"-14 NPT  
**A8-6WP**
- 3/4"-14 NPT  
**A12-6WP**
- 1/8" BSPT  
**A2B-6WP**
- 1/4" BSPT  
**A4B-6WP**
- 3/8" BSPT  
**A6B-6WP**



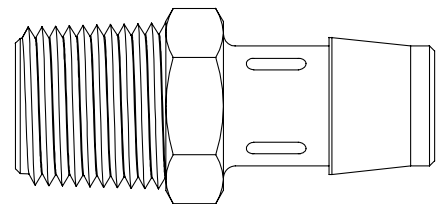
## Straight connectors, thread to 12.7 mm ID

- 1/4"-28 UNF  
**A4-8WP**
- 3/8"-18 NPT  
**A6-8WP**
- 1/2"-14 NPT  
**A8-8WP**
- 3/4"-14 NPT  
**A12-8WP**
- 1/4" BSPT  
**A4B-8WP**
- 3/8" BSPT  
**A6B-8WP**



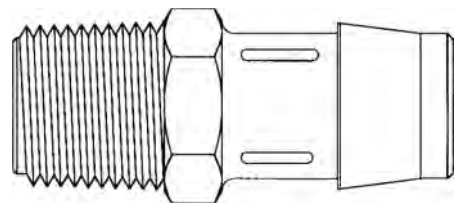
## Straight connectors, thread to 16 mm ID

- 1/2"-14 NPT  
**A8-10WP**
- 3/4"-14 NPT  
**A12-10WP**



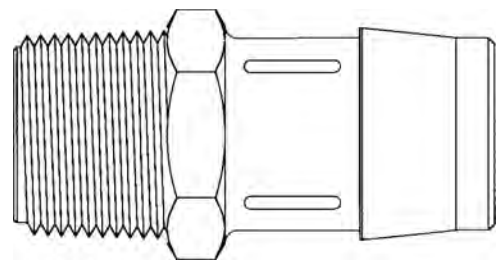
## Straight connectors, thread to 19 mm ID

- 1/2"-14 NPT  
**A8-12WP**
- 3/4"-14 NPT  
**A12-12WP**



## Straight connectors, thread to 25.4 mm ID

- 3/4"-14 NPT  
**A12-16WP**
- 1"-1 1/2 NPT  
**A16-16WP**



Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

Continued

# Threaded connectors (continued)

## Thread to flexible tubing

### Elbow, thread to 1.6 mm ID

10-32 UNF  
**KL210-6**

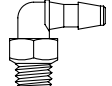
10-32 tapered  
**XL210-6**



### Elbow, thread to 2.4 mm ID

10-32 UNF  
**KL220-6**

10-32 tapered  
**XL220-6**

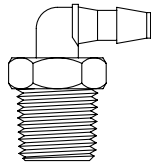


### Elbow, thread to 3.2 mm ID

10-32 UNF      1/4"-18 NPT  
**KL230-6**    **L4-2WP**

10-32 tapered    1/8" BSPT  
**XL230-6**    **L2B-2WP**

1/8"-27 NPT    1/4" BSPT  
**18L230-6**   **L4B-2WP**



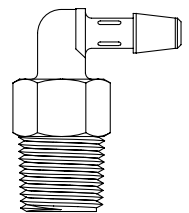
### Elbow, thread to 4 mm ID

1/8"-27 NPT  
**L2-2.5WP**

1/4"-18 NPT  
**L4-2.5WP**

1/8" BSPT  
**L2B-2.5WP**

1/4" BSPT  
**L4B-2.5WP**

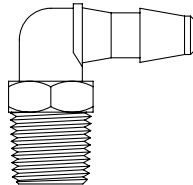


### Elbow, thread to 4.8 mm ID

1/8"-27 NPT  
**18L250-6**

1/4"-18 NPT  
**L4-3WP**

1/4" BSPT  
**L4B-3WP**



### Elbow, thread to 6.4 mm ID

1/8"-27 NPT  
**18L260-6**

1/4"-18 NPT  
**L4-4WP**

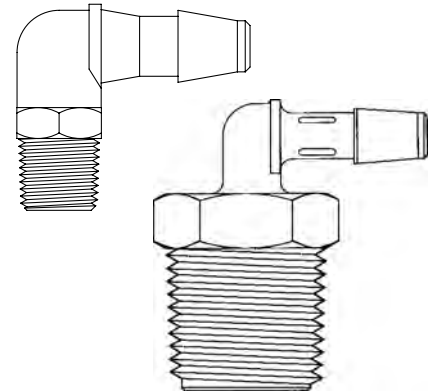
1/2"-14 NPT  
**L8-4WP**

3/4"-14 NPT  
**L12-4WP**

1/8" BSPT  
**L2B-4WP**

1/4" BSPT  
**L4B-4WP**

3/8" BSPT  
**L6B-4WP**



### Elbow, thread to 8 mm ID

1/8"-27 NPT  
**L2-5WP**

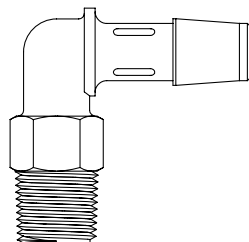
1/4"-18 NPT  
**L4-5WP**

3/8"-18 NPT  
**L6-5WP**

1/8" BSPT  
**L2B-5WP**

1/4" BSPT  
**L4B-5WP**

3/8" BSPT  
**L6B-5WP**



### Elbow, thread to 9.6 mm ID

1/8"-27 NPT  
**L2-6WP**

1/4"-18 NPT  
**L4-6WP**

3/8"-18 NPT  
**L6-6WP**

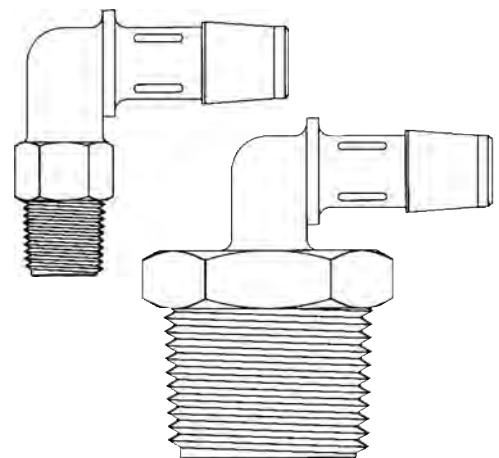
1/2"-14 NPT  
**L8-6WP**

3/4"-14 NPT  
**L12-6WP**

1/8" BSPT  
**L2B-6WP**

1/4" BSPT  
**L4B-6WP**

3/8" BSPT  
**L6B-6WP**



Continued

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## Threaded connectors (continued)

Thread to flexible tubing

### Elbow, thread to 12.7 mm ID

1/4"-18 NPT

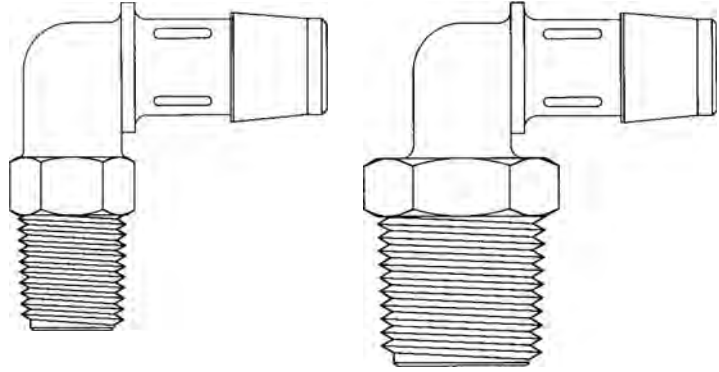
**L4-8WP**

3/8"-18 NPT

**L6-8WP**

1/2"-14 NPT

**L8-8WP**



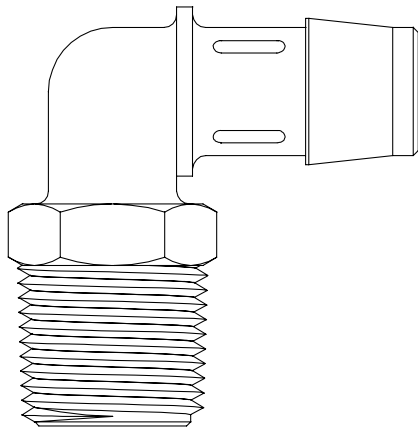
### Elbow, thread to 16 mm ID

1/2"-14 NPT

**L8-10WP**

3/4"-14 NPT

**L12-10WP**



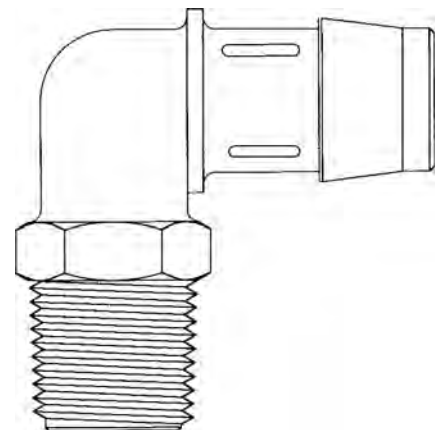
### Elbow, thread to 19 mm ID

1/2"-14 NPT

**L8-12WP**

3/4"-14 NPT

**L12-12WP**



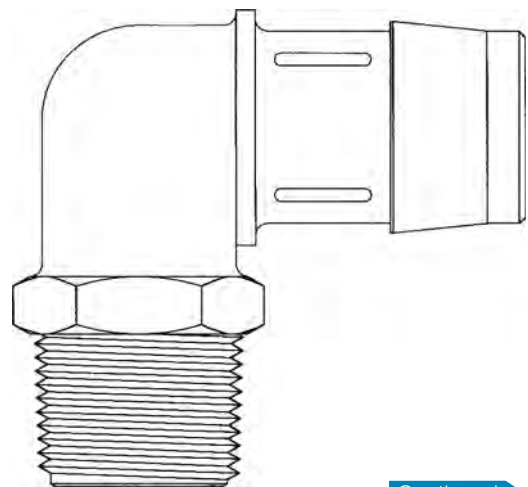
### Elbow, thread to 25.4 mm ID

3/4"-14 NPT

**L12-16WP**

1"-11 1/2" NPT

**L16-16WP**



Continued

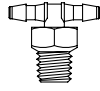
Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## Threaded connectors (continued)

Thread to flexible tubing

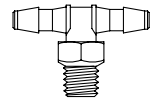
### T-connector, thread to 1.6 mm ID

10-32 UNF  
**T1032-1NP**  
 10-32 tapered  
**XT210-6**



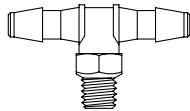
### T-connector, thread to 2.4 mm ID

10-32 UNF  
**T1032-1.5NP**  
 10-32 tapered  
**XT220-1**



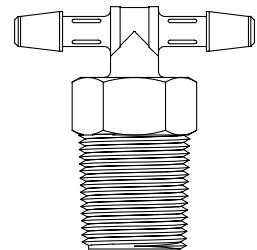
### T-connector, thread to 3.2 mm ID

10-32 UNF  
**T1032-2NP**  
 10-32 tapered  
**XT230-6**



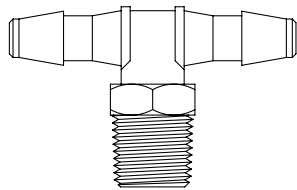
### T-connector, thread to 4 mm ID

1/8"-27 NPT  
**T2-2.5WP**  
 1/4"-18 NPT  
**T4-2.5WP**  
 1/8" BSPT  
**T2B-2.5WP**  
 1/4" BSPT  
**T4B-2.5WP**



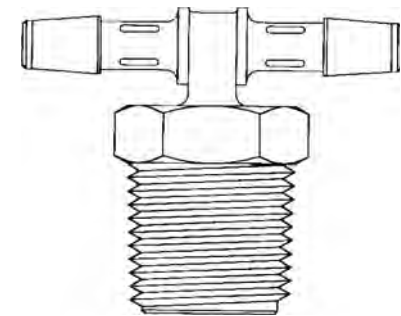
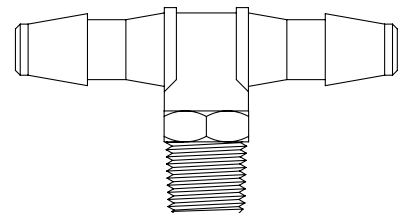
### T-connector, thread to 4.8 mm ID

1/4"-28 UNF  
**T4-3WP**  
 1/8"-27 NPT  
**18T250-6**  
 1/4" BSPT  
**T4B-3WP**



### T-connector, thread to 6.4 mm ID

1/8"-27 NPT  
**18T260-6**  
 1/4"-18 NPT  
**T4-4WP**  
 3/8"-18 NPT  
**T6-4WP**  
 1/2"-14 NPT  
**T8-4WP**  
 3/4"-14 NPT  
**T12-4WP**  
 1/8" BSPT  
**T2B-4WP**  
 1/4" BSPT  
**T4B-4WP**  
 3/4" BSPT  
**T6B-4WP**



Continued

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
 ID = Tubing inner diameter. All illustrations in scale 1:1.

## Threaded connectors (continued)

Thread to flexible tubing

### T-connector, thread to 8 mm ID

1/4"-18 NPT

**T4-5WP**

3/8"-18 NPT

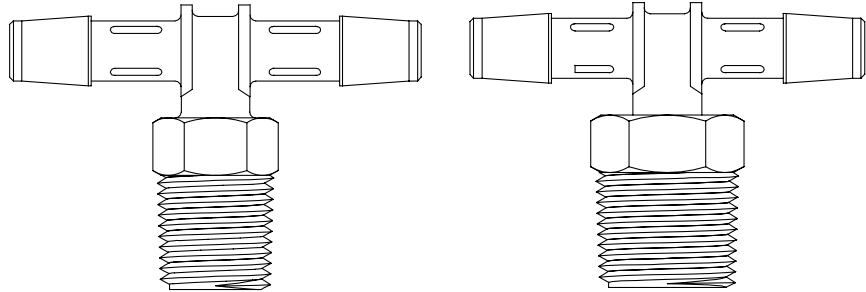
**T6-5WP**

1/4" BSPT

**T4B-5WP**

3/8" BSPT

**T6B-5WP**



### T-connector, thread to 9.6 mm ID

1/8"-27 NPT

**T2-6WP**

1/4"-18 NPT

**T4-6WP**

3/8"-18 NPT

**T6-6WP**

1/2"-14 NPT

**T8-6WP**

3/4"-14 NPT

**T12-6WP**

1/8" BSPT

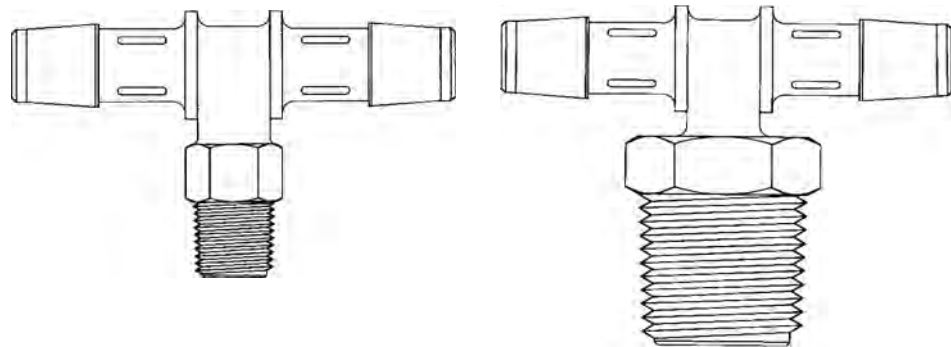
**T2B-6WP**

1/4" BSPT

**T4B-6WP**

3/8" BSPT

**T6B-6WP**



### T-connector, thread to 12.7 mm ID

1/4"-18 NPT

**T4-8WP**

3/8"-18 NPT

**T6-8WP**

1/2"-14 NPT

**T8-8WP**

3/4"-14 NPT

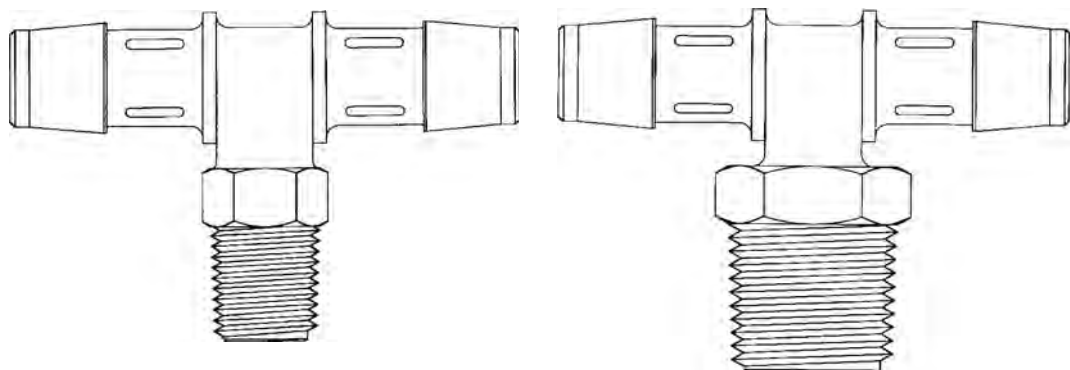
**T12-8WP**

1/4" BSPT

**T4B-8WP**

3/8" BSPT

**T6B-8WP**



Continued

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

## Threaded connectors (continued)

Thread to flexible tubing

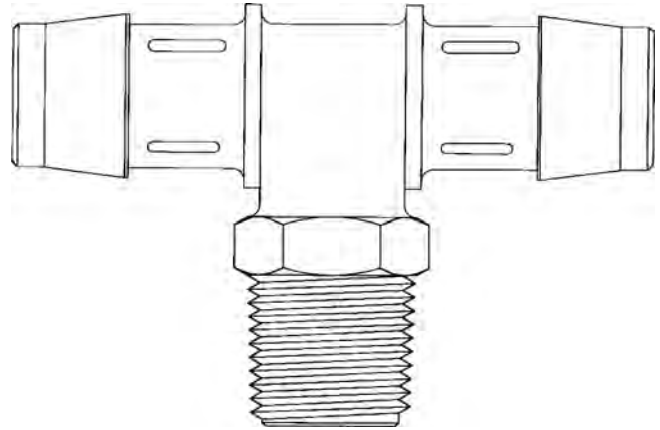
### T-connector, thread to 19.2 mm ID

1/4"-18 NPT

**T8-12WP**

3/4"-14 NPT

**T12-12WP**



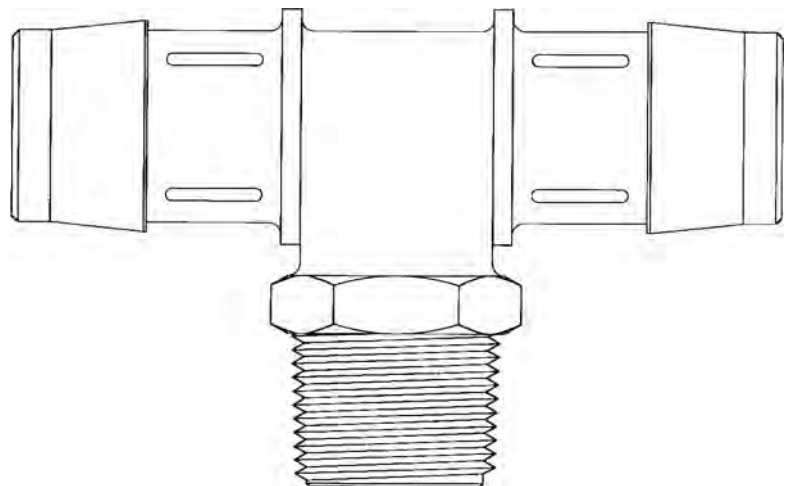
### T-connector, thread to 25.4 mm ID

3/4"-14 NPT

**T12-16WP**

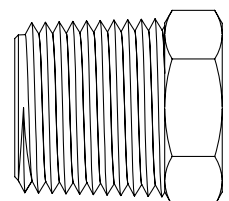
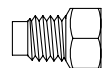
1"-11 1/2" NPT

**T16-16WP**



## Threaded Plugs

M6	1/8"-27 NPT	1"-11 1/2" NPT
<b>M6P-6</b>	<b>1800-6</b>	<b>P16WP</b>
10-32 UNF	1/4"-18 NPT	1/4" BSPT
<b>KP-6</b>	<b>P4WP</b>	<b>P4BWP</b>
10-32 tapered	3/8"-18 NPT	3/8" BSPT
<b>XP-6</b>	<b>P6WP</b>	<b>P6BWP</b>
1/4"-28 UNF	1/2"-14 NPT	
<b>SP-6</b>	<b>P8WP</b>	
1/16"-27 NPT	3/4"-14 NPT	
<b>1600-1</b>	<b>P12WP</b>	

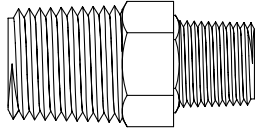


Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Threaded Reductions

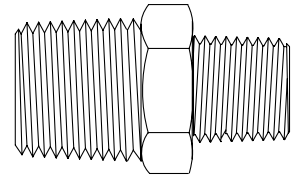
## Reduction, male 1/8"-27 NPT to male

1/4"-18 NPT  
**RN4-2WP**  
 3/8"-18 NPT  
**RN6-2WP**  
 1/2"-14 NPT  
**RN8-2WP**



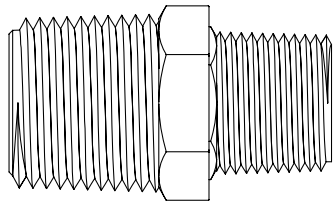
## Reduction, male 1/4"-18 NPT to male

3/8"-18 NPT  
**RN6-4WP**  
 1/2"-14 NPT  
**RN8-4WP**



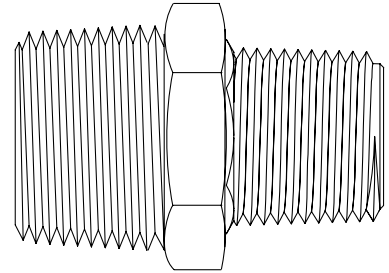
## Reduction, male 3/8"-27 NPT to male

1/2"-14 NPT  
**RN8-6WP**



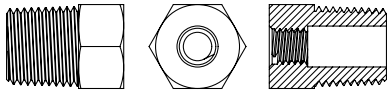
## Reduction, male 3/4"-14 NPT to male

1"-11 1/2 NPT  
**RN16-12WP**



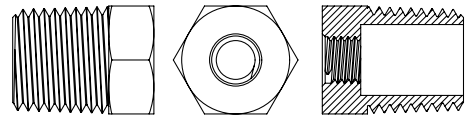
## Reduction, female 10-32 UNF to male

1/8"-27 NPT  
**1801-6**  
 1/4"-18 NPT  
**1401-6**



## Reduction, female 1/4-28 UNF to male

1/8"-27 NPT  
**1802-6**  
 1/4"-18 NPT  
**1402-6**



Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
 ID = Tubing inner diameter. All illustrations in scale 1:1.

# Tube to tube connectors

For semi-rigid tubing

## Straight connectors, equal legs

for 1.6 mm ID  
**N410-6**



for 2.4 mm ID  
**N420-6**



for 3.2 mm ID  
**N430-6**



for 4.0 mm ID  
**N440-6**



## Straight reductions

2.4 mm ID to 1.6 mm ID  
**N420/410-6**



3.2 mm ID to 1.6 mm ID  
**N430/410-6**



3.2 mm ID to 2.4 mm ID  
**N430/420-6**

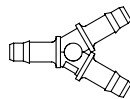


## Y-connectors, equal legs

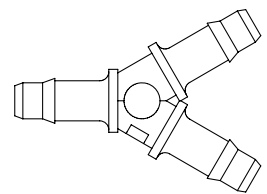
for 1.6 mm ID  
**Y410-6**



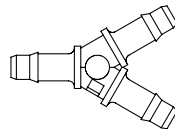
for 2.4 mm ID  
**Y420-6**



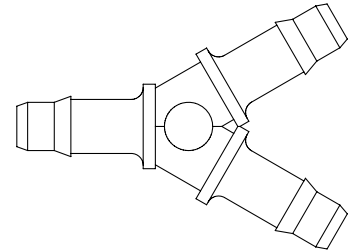
for 4.8 mm ID  
**Y450-6**



for 3.2 mm ID  
**Y430-6**



for 6.4 mm ID  
**Y460-6**



## Elbow connectors, equal legs

for 1.6 mm ID  
**L410-6**



for 2.4 mm ID  
**L420-6**

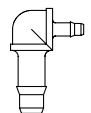


## Elbow reductions

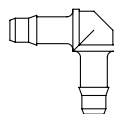
2.4 mm ID to 1.6 mm ID  
**L420/410-6**



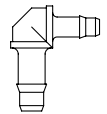
3.2 mm ID to 1.6 mm ID  
**L430/410-6**



for 3.2 mm ID  
**L430-6**



3.2 mm ID to 2.4 mm ID  
**L430/420-6**



Continued 

Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Tube to tube connectors (continued)

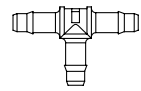
For semi-rigid tubing

## T-connectors, equal legs

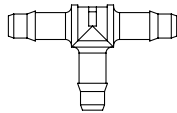
for 1.6 mm ID  
**T410-6**



for 2.4 mm ID  
**T420-6**

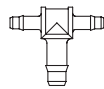


for 3.2 mm ID  
**T430-6**

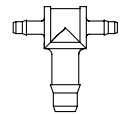


## T-connectors, reductions

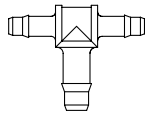
One 2.4 mm ID to two 1.6 mm ID legs  
**T410/420-6**



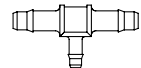
One 3.2 mm ID to two 1.6 mm ID legs  
**T410/430-6**



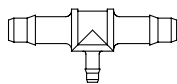
One 3.2 mm ID to two 2.4 mm ID legs  
**T420/430-6**



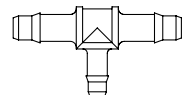
One 1.6 mm ID to two 2.4 mm ID legs  
**T420/410-6**



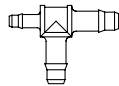
One 1.6 mm ID to two 3.2 mm ID legs  
**T430/410-6**



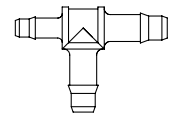
One 2.4 mm ID to two 3.2 mm ID legs  
**T430/420-6**



2.4 mm ID elbow with 1.6 mm ID outlet  
**T420R410-6**



3.6 mm ID elbow with 2.4 mm ID outlet  
**T430R420-6**

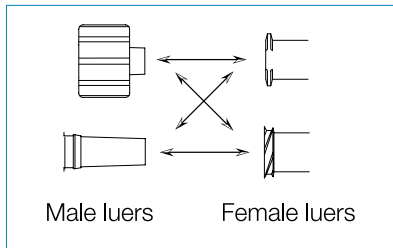


Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Luer Taper Standards

All luers are made to ANSI/HIMA and ISO Standards MD70-1-1983, ISO 594-1-2 and may be connected to other luers which meet these standards. Please test your application to verify performance of your interconnection.

**All Male Luers  
connect to all Females**

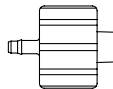


## Luer connectors

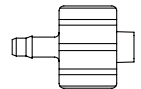
For semi-rigid tubing

### Male Luer, integral fixed lock ring

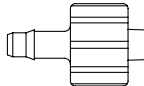
for 1.6 mm ID  
**MTLL410-6**



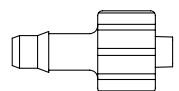
for 2.4 mm ID  
**MTLL420-6**



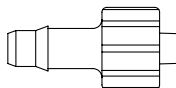
for 3.2 mm ID  
**MTLL430-6**



for 4.3 mm ID  
**MTLL445-6**

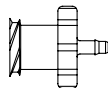


for 4.8 mm ID  
**MTLL450-6**

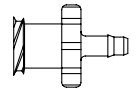


### Female Luer

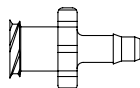
for 1.6 mm ID  
**FTLL410-6**



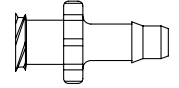
for 2.4 mm ID  
**FTLL420-6**



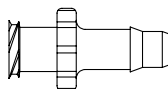
for 3.2 mm ID  
**FTLL430-6**



for 4.3 mm ID  
**FTLL445-6**



for 4.8 mm ID  
**FTLL450-1**



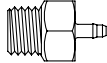
Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Threaded connectors

Thread to semi-rigid tubing

## Straight connector, thread to 1.6 mm ID

M6	10-32 UNF <b>K410-6</b>	10-32 tapered <b>X410-2</b>	
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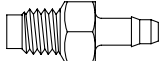
1/4"-28 UNF	1/16"-27 UNF	1/8"-27 NPT	
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## Straight connector, thread to 2.4 mm ID

M6	10-32 UNF <b>K420-2</b>	10-32 tapered <b>X420-6</b>	
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1/4"-28 UNF <b>S420-6</b>	1/4"-28 UNF	1/8"-27 NPT <b>18420-2</b>	
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## Straight connector, thread to 3.2 mm ID

M6 <b>M6430-6</b>	10-32 UNF <b>K430-6</b>	10-32 tapered <b>X430-6</b>	
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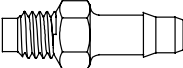
1/4"-28 UNF <b>S430-6</b>	1/16"-27 NPT	1/8"-27 NPT <b>18430-1</b>	
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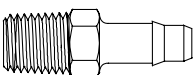
## Straight connector, thread to 4.3 mm ID

M6 <b>M6445-2</b>	10-32 UNF <b>K445-6</b>	10-32 tapered <b>X445-J1A</b>	
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1/4"-28 UNF <b>S445-6</b>	1/16"-27 NPT	1/8"-27 NPT <b>18445-6</b>	
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## Straight connector, thread to 4.8 mm ID

M6	10-32 UNF	10-32 tapered	
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1/4"-28 UNF	1/16"-27 NPT	1/8"-27 NPT	
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## Elbow, thread to 1.6 mm ID

10-32 tapered <b>XL410-J1A</b>	
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## Elbow, thread to 2.4 mm ID

10-32 tapered <b>XL420-6</b>	
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## Elbow, thread to 3.2 mm ID

10-32 UNF <b>KL430-2</b>	
10-32 tapered <b>XL430-6</b>	

## T-connector, thread to 1.6 mm ID

10-32 tapered <b>XT410-J1A</b>	
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## T-connector, thread to 2.4 mm ID

10-32 tapered <b>XT420-J1A</b>	
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## T-connector, thread to 3.2 mm ID

10-32 tapered <b>XT430-2</b>	
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Product codes are for standard material, see the technical section. For additional materials, please see our price list.  
ID = Tubing inner diameter. All illustrations in scale 1:1.

# Barb design

Each barb is designed to combine minimum flow restriction, pressure capability, hold and ease of assembly for a given range of tube sizes and tube materials. Together with the recommendations below the fitting range of this catalogue provides solutions to most applications.

**However**, if your requirements can not be met with the range in this catalogue it is likely that we can offer a similar fitting with an alternative barb design.

### Pressure Capability

The single-barb design enables the tubing to relax behind the barb creating a perfect seal with minimal risk for leakage. The tube is extended over the barb – higher extension is required for more flexible tubing and for handling higher pressure. For the smaller tube bore fittings an over size fitting can be considered to improve the pressure capability. For larger tube bores a clamp can be necessary, see picture below.

### Hold

For example in a peristaltic pump or whenever tension is applied to the tube it has to be prevented from slipping of the fitting. For the smaller tube bore fittings an over size fitting can be considered. For larger tube bores a clamp can be necessary, see picture below.

### Ease of Assembly

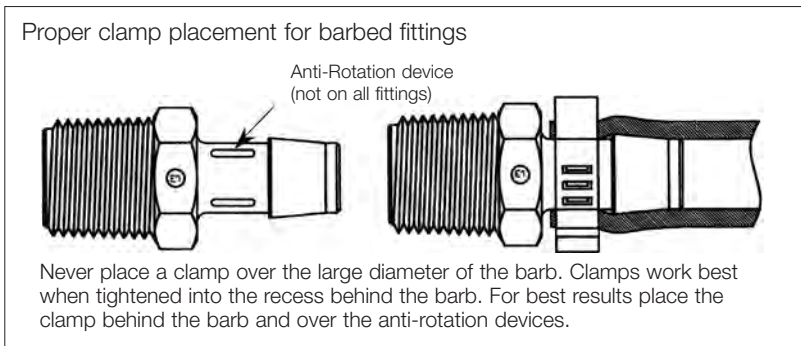
Standard barbs for semi rigid tubing expand the tubing 25% above its nominal inner diameter and barbs for flexible tubing expand 40-60%. Barb for semi-rigid tubing can be used also for flexible tubing when tensile/pressure properties are not highly critical but ease of assembly is.



Barb styles for Flexible tubing

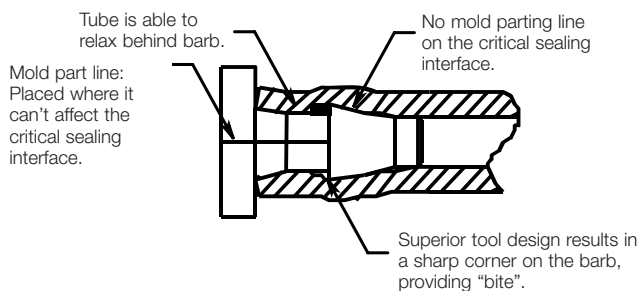


...and for Semi-Rigid

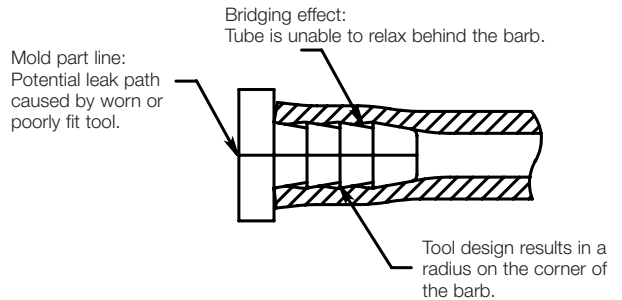


## Benefits with single barb design

### Single-barb



### Multi-barb



## Fitting materials

Guideline information about chemical compatibility and sterilization resistance for common resins.

**Kynar®**, Poly Vinylidene Fluoride or PVDF, is physically strong, damage resistant, and resistant to multiple radiation or autoclave sterilization cycles. In spite of its initially higher cost in comparison with many other materials, its durability and long-term use potential under harsh conditions makes it cost-effective.

**Nylon**, Poly Amide, PA, combines strength, moderate stiffness, high service temperature, and toughness. Nylon resist fuels, lubricants and many chemicals, but are attacked by phenols, strong acids and oxidizing agents. Acceptable sterilization methods include Ethylene Oxide or Autoclave, see sterilization chart for details. Nylon is available in different colours.

**Polypropylene**, PP, is highly resistant to solvents and chemicals. It has outstanding resistance to water and other inorganic environments. It resists most strong mineral acids and bases, but, like other polyolefins, it is subject to attack by oxidizing agents. Polypropylene has excellent resistance to environmental stress-cracking. Acceptable sterilization methods include Gamma Radiation and Ethylene Oxide, see sterilization chart for details.

**PEEK®**, Poly Ether Ether Ketone, has exceptionally high strength properties combined with good toughness over a wide range of temperatures. Insoluble in most common solvents and being semi-crystalline has excellent resistance to a very wide range of organic and inorganic liquids, even at elevated temperatures. Peek has excellent sterilization stability.

**Polycarbonate**, PC, is a clear and colourless resin. Outstanding properties include impact strength and scratch resistance. Polycarbonate resists weak acids, animal and vegetable oils and greases but is attacked by oxidizing agents and hot water. Acceptable sterilization methods are gamma radiation and ethylene oxide

**ABS**, Acrylonitrile Butadiene Styrene, has good mechanical properties even at low temperatures. ABS is chemically resistant to many acids and bases. Acceptable sterilization methods are gamma radiation and ethylene oxide, see sterilization chart for details.

### Sterilization

	GAMMA RADIATION	ETHYLENE OXIDE	AUTOCCLAVE
<b>Kynar®</b>	Highly compatible, but will discolor to brownish hue. Physical Properties typically improve.	Excellent	Excellent
<b>Polycarbonate</b>	Compatible to 10 M-Rad dose with little loss of physical properties. Will discolor to light yellow-green hue.	Highly compatible with 100% EtO; may stress crack if sterilized in EtO/ CFC mix, due to molding stresses.	Not recommended. May craze or stress crack due to molding stresses.
<b>Radiation Stable Polycarbonate</b>	Excellent up to 10 M-Rad dose with little loss of physical properties. Light violet hue turns clear upon sterilization.	Highly compatible. Withstands normal EtO sterilization conditions, but multiple exposures can reduce tensile elongation properties.	Not recommended.
<b>Polypropylene</b>	Excellent up to commonly used sterilization doses (approximately 6 M-Rad).	Fair; may stress crack in EtO/ CFC mix due to molding stresses.	Poor. Parts may distort due to low heat deflection temperature.
<b>Nylon and Glass Filled Nylon</b>	Physically compatible with commonly used sterilization doses, but may discolor to brownish hue.	Very Good. Some susceptibility to oxidizing agents.	Very Good. Components may swell slightly due to water absorption.
<b>ABS</b>	Compatible to 10 M-Rad dose with some loss of impact strength, but increased tensile strength. Some discoloration to slight brownish hue.	Excellent retention of properties for at least 5 sterilization cycles.	Poor. Parts may distort due to low heat deflection temperature.
<b>PEEK®</b>	Excellent	Excellent	Excellent

The data presented in this section is for reference only. It was compiled primarily by the resin manufacturers to provide our customers with a means of comparing the characteristics of resins used at the time of publication. The particular conditions of your use and application of our products are beyond our control. Thus, it is imperative that you test our products in your specific application to determine their suitability. All information is provided without implied or expressed warranty or guarantee by W-M Alitea AB, or the resin manufacturers. None of the information provided constitutes a recommendation or endorsement of any kind by W-M Alitea AB. In critical applications please contact W-M Alitea for more information and product certifications. Note, all fittings are not available in all materials.

Continued

## Fitting materials (continued)

### Mechanical Properties

	E-Modulus, GPa	Elongation at break, %	Tensile yield strength, MPa	Izod Impact Notched, J/m	Water absorption, %, 24h	Density, kg/dm <sup>3</sup>
<b>Test Method</b>	DIN 53 457	DIN 53 452	DIN 53 455	ASTM D256	ASTM D510	
<b>ABS</b>	2.1	25	45	85	0.4	1.05
<b>Kynar®</b>	0.8		40	166	0.015	1.76
<b>Nylon</b>	2	200	80	53	1.2	1.14
<b>Polycarbonate</b>	2.3	100	70	> 800	0.15	1.2
<b>Polypropylene</b>	1.5	500	37	69	0	0.9
<b>PEEK®</b>	4	20	115	53	0.25	1.31

Kynar® is a registered trademark of Atochem North America, Inc.  
PEEK® is a registered trademark of Victrex plc.

### Regulatory Status of available base resins

The last 1–4 characters of the product code tell the specific resin of the fitting.

Description	Product code ending with:	Regulatory status of base resin
ABS, White	8012	USP Classification VI, FDA approved, ISO10993 P.1
Kynar (PVDF), Natural	J1A	USP Classification VI, FDA 21 CFR 177.1500
Kynar (PVDF), Natural	NK	USP Classification VI, NSF Standards 51 & 61, FDA
Nylon, Black	2	FDA 21 CFR 177.1500
Nylon, Black	BN	
Nylon, Black, Glass Filled	GFBN	
Nylon, Blue	5	FDA 21 CFR 177.1500
Nylon, Green	4	FDA 21 CFR 177.1500
Nylon, Natural	NN	NSF Standards 51 & 61, FDA
Nylon, Natural	0	FDA 21 CFR 177.1500
Nylon, Orange	06	FDA 21 CFR 177.1500
Nylon, Red	3	FDA 21 CFR 177.1500
Nylon, White	1	FDA 21 CFR 177.1500
Nylon, White	WN	
Nylon, Yellow	07	FDA 21 CFR 177.1500
PEEK, Natural	H1A	
Polycarbonate	9	USP Classification VI, FDA 21 CFR 177.1580
Polycarbonate, Rad. Stable	9002	USP Classification VI, ISO10993
Polyethylene, High Density	HDPE	NSF Standards 51 & 61, FDA 21 CFR177.1520
Polypropylene, Black	62	
Polypropylene, Natural	6	USP Classification VI, FDA 21 CFR 177.1520
Polypropylene, Natural	NP	USP Classification VI, FDA
Polypropylene, White	WP	
Polysulfone, Medical Grade	F1A	USP Classification VI, FDA 21 CFR 177.1655
Stainless Steel	X0	

### Product Certification

To maintain traceability and product quality, products that leave our facility and are returned are never restocked or resold. For classified products, Product Certification documents are provided upon request, free of charge. The Product Certification document references all relevant purchase order, customer order and material lot information.

Continued 

# Chemical compatibility chart

Price index*			0.9	2 – 4	0.9	1.1	1	20
Chemical	Concent.	Temp °C	ABS	Kynar®	Nylon	Polycarb.	Polyprop.	PEEK®
Acetic Acid	5%	23 °C	Excellent	Excellent	Satisfactory	Satisfactory	Excellent	Excellent
Acetone	100%	50 °C	Satisfactory	Unsatisfactory	Satisfactory	Unsatisfactory	Excellent	Excellent
Acetophenone	100%	24 °C	Satisfactory	Unsatisfactory	Excellent		Satisfactory	
Acetylene	100%	24 °C		Excellent	Excellent			Excellent
Air	100%	82 °C	Excellent	Excellent	Excellent			Excellent
Ammonia, Liquid	100%	24 °C	Satisfactory	Unsatisfactory	Satisfactory	Unsatisfactory	Excellent	Excellent
Ammonium Hydroxide	10%	23 °C	Satisfactory	Excellent	Excellent	Unsatisfactory	Excellent	Excellent
Ammonium Hydroxide	10%	70 °C	Unsatisfactory	Excellent	Unsatisfactory	Unsatisfactory	Excellent	Excellent
Barium Sulfide	100%	24 °C	Excellent	Excellent	Satisfactory		Excellent	
Benzene	100%	23 °C	Satisfactory	Excellent	Excellent	Unsatisfactory	Satisfactory	Excellent
Bleach	100%	23 °C	Satisfactory	Excellent	Satisfactory	Unsatisfactory	Satisfactory	Excellent
Boric Acid	7%	35 °C	Excellent	Excellent	Unsatisfactory	Excellent	Excellent	Excellent
Calcium Carbonate	Sat. sol.	24 °C	Excellent	Excellent			Excellent	Excellent
Carbon Dioxide	100%	50 °C	Satisfactory	Excellent	Excellent		Excellent	Excellent
Carbon Monoxide	100%	50 °C	Satisfactory	Excellent	Excellent		Excellent	Excellent
Carbon Tetrachloride	100%	50 °C	Unsatisfactory	Excellent	Excellent	Unsatisfactory	Unsatisfactory	Excellent
Chlorine Water	Dilute	23 °C	Unsatisfactory	Excellent	Satisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory
Chlorine Water	Concent.	23 °C	Unsatisfactory	Excellent	Unsatisfactory	Unsatisfactory	Unsatisfactory	Unsatisfactory
Chlorobenzene	100%	23 °C	Satisfactory	Excellent	Excellent	Unsatisfactory	Unsatisfactory	Excellent
Chlorofluorocarbon 11	100%	24 °C		Excellent	Excellent	Satisfactory		Excellent
Chloroform	100%	23 °C	Unsatisfactory	Excellent	Satisfactory	Unsatisfactory	Unsatisfactory	Excellent
Cyclohexanone	100%	24 °C	Satisfactory	Excellent	Excellent	Unsatisfactory	Satisfactory	Excellent
Dichlorethylene	100%	23 °C		Excellent	Satisfactory		Excellent	Excellent
Ethanol	95%	50 °C	Satisfactory	Excellent	Excellent	Satisfactory	Excellent	Excellent
Ethyl Acetate	95%	50 °C	Satisfactory	Unsatisfactory	Excellent	Unsatisfactory	Satisfactory	Excellent
Ethylene Glycol	100%	23 °C	Excellent	Excellent	Excellent	Satisfactory	Excellent	Excellent
Ethylene Oxide	100%	24 °C	Unsatisfactory	Excellent	Satisfactory	Satisfactory	Satisfactory	Excellent
Ethylene Oxide	100%	79 °C	Unsatisfactory	Excellent	Unsatisfactory	Satisfactory	Unsatisfactory	Excellent
Fatty Acids	–			Excellent			Excellent	Excellent
Fluorine	100%	23 °C	Unsatisfactory	Excellent	Unsatisfactory			Unsatisfactory
Formaldehyde	37%	24 °C	Unsatisfactory	Excellent		Unsatisfactory	Excellent	Excellent
Gasoline	100%	85 °C	Excellent	Excellent	Excellent	Unsatisfactory	Satisfactory	Excellent
Glucose	Concent.	24 °C	Excellent	Excellent			Excellent	
Glycerin	100%	24 °C	Excellent	Excellent		Excellent	Excellent	
Hydrochloric Acid	2%	23 °C	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Hydrochloric Acid	10%	25 °C	Excellent	Excellent	Unsatisfactory	Excellent	Excellent	Excellent
Hydrofluoric Acid	10%	23 °C	Satisfactory	Excellent	Unsatisfactory		Excellent	Excellent
Hydrogen Peroxide	1%	24 °C	Excellent	Excellent	Satisfactory	Excellent	Excellent	Excellent
Hydrogen Peroxide	5%	43 °C	Satisfactory	Excellent	Unsatisfactory	Excellent	Satisfactory	Excellent
Isopropanol	100%	23 °C	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
Kerosene	100%	85 °C	Satisfactory	Excellent	Excellent	Satisfactory	Satisfactory	Excellent
Methanol	100%	23 °C	Unsatisfactory	Excellent	Excellent	Satisfactory	Excellent	Excellent
Methyl Ethyl Ketone	100%	50 °C	Satisfactory	Unsatisfactory	Excellent	Unsatisfactory	Satisfactory	
Methylene Chloride	100%	23 °C	Unsatisfactory	Excellent	Satisfactory	Unsatisfactory	Excellent	Excellent
Nitric Acid	10%	23 °C	Satisfactory	Excellent	Unsatisfactory	Unsatisfactory	Excellent	Excellent
Oxygen	100%	24 °C		Excellent	Satisfactory			Excellent
Ozone	100%	43 °C	Satisfactory	Excellent	Unsatisfactory	Unsatisfactory		Excellent
Phenol	90%	23 °C	Unsatisfactory	Excellent	Unsatisfactory		Excellent	Unsatisfactory
Phosphoric Acid	5%	98 °C	Satisfactory	Excellent	Unsatisfactory	Unsatisfactory	Excellent	Excellent
Propane	100%	23 °C	Satisfactory	Excellent	Excellent			Excellent
Sodium Bicarbonate	Concent.	24 °C	Excellent	Excellent	Excellent		Excellent	Excellent
Sodium Chloride	10%	23 °C	Excellent	Excellent	Excellent		Excellent	Excellent
Sodium Chloride	Sat. sol.	24 °C	Excellent	Excellent	Excellent		Excellent	Excellent
Sodium Hydroxide	10%	70 °C	Satisfactory	Excellent	Satisfactory		Excellent	Excellent
Steam	–	120 °C	Unsatisfactory	Excellent	Unsatisfactory	Unsatisfactory	Satisfactory	Excellent
Sulfuric Acid	30%	23 °C	Satisfactory	Excellent	Unsatisfactory	Excellent	Excellent	Satisfactory
Tetrahydrofuran	100%	23 °C	Satisfactory	Unsatisfactory	Excellent		Unsatisfactory	Excellent
Toluene	100%	50 °C	Satisfactory	Excellent	Excellent	Unsatisfactory	Unsatisfactory	Excellent
Trichloroethylene	100%	23 °C	Satisfactory	Excellent	Satisfactory	Unsatisfactory	Unsatisfactory	Excellent
Water	100%	79 °C	Excellent	Excellent	Excellent	Unsatisfactory	Excellent	Excellent

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\* Price index should only be seen as a guideline. Prices will differ for different products. Note, all fittings are not available in all materials.

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4PX210	12	FTLL007	15	L430/410	29	N025/007	5	T0-10	10	X240	21
4PX220	12	FTLL013	15	L430/420	29	N025/013	5	T0-12	10	X410	32
4PX230	12	FTLL025	15	L4B-2	23	N035	4	T0-16	10	X420	32
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A6-6	22	KL430	32	M5240	21	P6B	27	T2B-6	26	Y260	7
A6-8	22	KP	27	M6210	21	P8	27	T4-2.5	25	Y410	29
A6B-4	21	KT410	32	M6220	21	PIP210	13	T4-3	25	Y420	29
A6B-5	22	KT420	32	M6230	21	PIP220	13	T4-4	25	Y430	29
A6B-6	22	KT430	32	M6240	21	PIP230	13	T4-5	26	Y450	29
A6B-8	22	L0-10	9	M6250	21	PIP240	13	T4-6	26	Y460	29

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