

# Fittings and Nipples

## Instrument NPT Pipe Fittings 15,000 psi (1034 bar)

Includes Reducers, Couplings & Check Valves



### Principle of Operation:

Parker Autoclave Engineers use high quality UNS S31600/S31603 316/316L material cold worked to our stringent specifications that enable certification of NPT style Instrument Pipe Fittings to a maximum working pressure of 15,000 psi (1050 bar). It's the strength of the material that allows this superior pressure rating and care should be taken to only use with other similar fittings made to the same specification.

### Pipe Fitting & Nipple Features:

- 1/4", 3/8" and 1/2" NPT Sizes to 15,000 psi (1034 bar)
- 3/4" and 1" NPT Sizes to 10,000 psi (690 bar)
- Barstock Fittings and Pipe Nipples manufactured using UNS S31600/S31603, 316/316L stainless steel material cold worked to Parker Autoclave proprietary standards
- Operating Temperatures from -423°F (-252°C) to \*400°F (204°C)
- Special materials available upon request or when NACE/ISO 15156 requirements demand. See Technical Catalog for more common material options. Note: 316 SS NACE Material (Annealed) reduces pressure rating for all sizes NPT to 10,000 psi MAWP.
- NPT threads made to ANPT (Aerospace) standards and based on requirements of ANSI B1.20.1
- All Parker Autoclave Engineers fittings are marked with manufacturers name, part number, material, heat code and maximum pressure for complete traceability

Fittings and Nipples found in this section are designed using ASME B31.3 Chapter IX High Pressure Piping Standards to be compatible with our 10P and 15P P Series Needle Valves and all of our various Ball Valve configurations. There is a Parker Instrumentation fitting for just about any requirement of fluids under extreme pressure and temperature conditions. For additional conversion adapters, please see our "Adapter" brochure found in our complete catalog or our website.

#### \*Note: NPT Pipe Thread Connections:

**NPT threads** must be sealed using a high quality PTFE tape (3 wraps minimum) and/or thread sealant paste product suitable for process temperature. Refer to thread sealant manufacturer's instructions for application instructions. A good thread lubrication product (metal flake style) capable of process temperatures is also necessary to prevent thread galling. **Sealing performance** may vary based on many factors such as pressure, temperature, media, thread quality, thread material, proper engagement, and proper use of thread sealant. **End user** should limit the number of times an NPT fitting is assembled and disassembled as thread deformation during assembly will result in deteriorating seal quality over time.



ENGINEERING YOUR SUCCESS.

# Pipe Fittings NPT Threaded - Pressures to 15,000 psi (1034 bar)



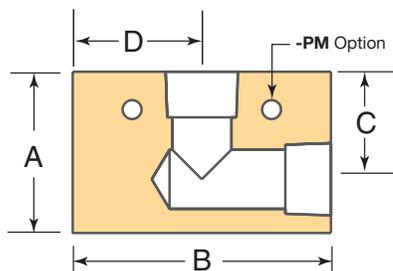
Parker Autoclave Engineers P Series Pipe Fittings are designed for liquid and gas applications. Sizes from 1/4" to 1" NPT are offered. For additional material options please consult our "Technical" brochure further in the catalog or on our website.

**Note:** When converting to NACE approved (-SOG) 316 SS Annealed material, pressure for ALL sizes (1/4" to 1") of NPT P Series Fittings & Nipples is 10,000 psi.

(See "Technical Brochure" for Pressure/Temperature effect on temperatures above ambient.)

## Pipe Elbow

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				Block Thickness
				A	B	C	D	
PL4400	1/4" NPT	15,000 (1034)	.42 (10.67)	1.13 (28.58)	1.50 (38.10)	0.75 (19.05)	0.75 (19.05)	0.75 (19.05)
PL6600	3/8" NPT	15,000 (1034)	.56 (14.22)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	1.00 (25.40)	1.00 (25.40)
PL8800	1/2" NPT	15,000 (1034)	.69 (17.53)	1.88 (47.75)	3.00 (76.20)	1.25 (31.75)	1.50 (38.10)	1.25 (31.75)
PL12	3/4" NPT	10,000 (690)	.89 (22.61)	2.18 (55.37)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	1.38 (35.05)
PL16	1" NPT	10,000 (690)	1.13 (28.58)	2.50 (63.50)	4.12 (104.65)	1.56 (39.67)	2.06 (52.37)	1.75 (44.45)



\*Maximum pressure rating is based on the lowest rating of any component.  
Actual working pressure may be determined by pipe pressure rating, if lower.  
All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

For mounting hole option add suffix **PM** to catalog number. Consult factory for mounting hole dimensions.

Conversion Adapters can be found in our "Adapter" brochure found further in this catalog or on our website.

### Pipe Elbow

Note: NPT (Pipe) Connections:

- NPT threads must be sealed using a high quality PTFE tape and/or paste product. Refer to thread sealant manufacturer's instructions on how to apply thread sealant.
- Sealing performance may vary based on many factors such as pressure, temperature, media, thread quality, thread material, proper thread engagement and proper use of thread sealant.
- Customer should limit the number of times an NPT fitting is assembled and disassembled because thread deformation during assembly will result in deteriorating seal quality over time. When using only PTFE tape, consider using thread lubrication to prevent galling of mating parts.

Note: Special material components are normally supplied with four flats in place of standard hex. \*Maximum pressure rating is based on the lowest rating of any component.

## Pipe Tee

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				Block Thickness
				A	B	C	D	
PT4440	1/4" NPT	15,000 (1034)	.42 (10.67)	1.13 (28.58)	1.50 (38.10)	0.75 (19.05)	0.75 (19.05)	0.75 (19.05)
PT6660	3/8" NPT	15,000 (1034)	.56 (14.22)	1.50 (38.10)	2.00 (50.80)	1.00 (25.40)	1.00 (25.40)	1.00 (25.40)
PT8880	1/2" NPT	15,000 (1034)	.69 (17.53)	1.88 (47.75)	3.00 (76.20)	1.25 (31.75)	1.50 (38.10)	1.25 (31.75)
PT12	3/4" NPT	10,000 (690)	.89 (22.61)	2.18 (55.37)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	1.38 (35.05)
PT16	1" NPT	10,000 (690)	1.13 (28.58)	2.50 (63.50)	4.12 (104.65)	1.56 (39.67)	2.06 (52.37)	1.75 (44.45)

\*Maximum pressure rating is based on the lowest rating of any component.  
Actual working pressure may be determined by pipe pressure rating, if lower. All dimensions for reference only and subject to change.

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For mounting hole option add suffix **PM** to catalog number. Consult factory for mounting hole dimensions.

**Note: NPT (Pipe) Connections:** See Page 2

**Pipe Tee**

## Pipe Cross

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				Block Thickness
				A	B	C	D	
PX4444	1/4" NPT	15,000 (1034)	.42 (10.67)	1.50 (38.10)	1.50 (38.10)	0.75 (19.05)	0.75 (19.05)	0.75 (19.05)
PX6666	3/8" NPT	15,000 (1034)	.56 (14.22)	2.00 (50.80)	2.00 (50.80)	1.00 (25.40)	1.00 (25.40)	1.00 (25.40)
PX8888	1/2" NPT	15,000 (1034)	.69 (17.53)	2.50 (63.50)	3.00 (76.50)	1.25 (31.75)	1.50 (38.10)	1.25 (31.75)
PX12	3/4" NPT	10,000 (690)	.89 (22.61)	3.00 (76.20)	3.00 (76.20)	1.50 (38.10)	1.50 (38.10)	1.38 (35.05)
PX16	1" NPT	10,000 (690)	1.13 (28.58)	3.13 (79.38)	4.12 (104.65)	1.56 (39.67)	2.06 (52.37)	1.75 (44.45)

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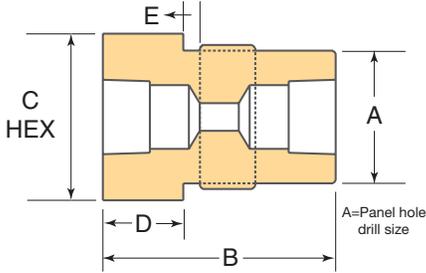
For mounting hole option add suffix **PM** to catalog number. Consult factory for mounting hole dimensions.

**Note: NPT (Pipe) Connections:** See Page 2

**Pipe Cross**

## Pipe Bulkhead Coupling

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				E Maximum
				A	B	C Hex	D	
15BF4488	1/4" NPT	15,000 (1034)	.42 (10.67)	0.94 (23.80)	2.00 (50.80)	1" (25)	0.63 (15.755)	0.38 (9.53)
15BF6688	3/8" NPT	15,000 (1034)	.56 (14.22)	1.13 (28.60)	2.38 (60.500)	1-3/8" (35)	0.79 (20.07)	0.38 (9.53)
15BF88880	1/2" NPT	15,000 (1034)	.69 (17.53)	1.68 (42.67)	2.63 (66.80)	1-7/8" (48)	0.91 (23.11)	0.38 (9.53)
10BF121288	3/4" NPT	10,000 (690)	.89 (22.61)	1.68 (42.67)	2.63 (66.80)	1-7/8" (48)	0.91 (23.1110)	0.38 (9.53)
10BF161688	1" NPT	10,000 (690)	1.13 (28.58)	1.94 (49.28)	3.50 (88.90)	1-7/8"+ (48)	1.50 (38.10)	0.38 (9.53)



+ Distance across flats

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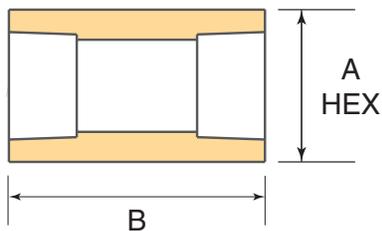
**Note: NPT (Pipe) Connections:** See Page 2

Conversion Adapters can be found in our "Adapter" brochure found further in this catalog or on our website.

**Pipe Bulkhead Coupling**

## Pipe Coupling

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)	
				A Hex	B
15F4488	1/4" NPT	15,000 (1034)	.42 (10.67)	3/4" (19)	1.50 (38.10)
15F6688	3/8" NPT	15,000 (1034)	.56 (14.22)	1" (25)	1.63 (41.28)
15F8888	1/2" NPT	15,000 (1034)	.69 (17.53)	1-3/16" (30)	2.00 (50.80)
10F121288	3/4" NPT	10,000 (690)	.89 (22.61)	1-3/8" (35.6)	2.75 (69.90)
10F161688	1" NPT	10,000 (690)	1.13 (28.58)	1-3/4" (45)	2.50 (63.50)



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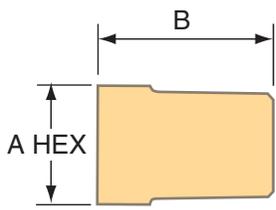
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

**Note:**  
**NPT (Pipe) Connections:** See Page 2

**Pipe Coupling**

## Pipe Plugs

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Dimensions - inches (mm)	
			A Hex	B
PP40	1/4" NPT	15,000 (1034)	5/8" (16)	1.00 (25)
PP60	3/8" NPT	15,000 (1034)	3/4" (19)	1.12 (29)
PP80	1/2" NPT	15,000 (1034)	15/16" (24)	1.38 (35)
PP120	3/4" NPT	10,000 (690)	1-3/16" (30)	1.63 (41)
PP160	1" NPT	10,000 (690)	1-3/8" (35)	1.88 (48)



A HEX

B

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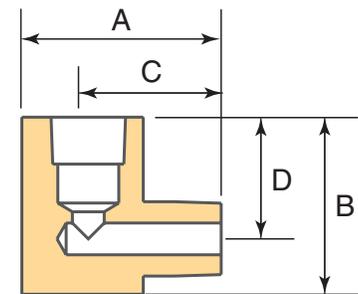
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**Note: NPT (Pipe) Connections:** See Page 2

**Pipe Coupling**

## Street Pipe Elbow

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				Block Thickness
				A	B	C	D	
SPL4400	1/4" NPT	15,000 (1034)	.219 (5.54)	1.50 (38.10)	1.50 (38.10)	1.13 (28.70)	1.00 (25.40)	0.75 (19.05)
SPL6600	3/8" NPT	15,000 (1034)	.297 (7.54)	1.75 (44.75)	1.50 (38.10)	1.25 (31.75)	1.00 (25.40)	1.00 (25.40)
SPL8800	1/2" NPT	15,000 (1034)	.359 (9.12)	2.25 (57.15)	2.00 (50.80)	1.63 (41.40)	1.25 (31.75)	1.25 (31.75)
SPL12	3/4" NPT	10,000 (690)	.609 (14.47)	2.50 (63.50)	2.62 (66.55)	1.75 (44.45)	1.31 (33.27)	1.50 (38.10)
SPL16	1" NPT	10,000 (690)	.765 (19.43)	4.12 (104.65)	2.50 (63.50)	2.69 (68.33)	1.75 (44.45)	1.75 (44.45)



A

C

D

B

\*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by pipe pressure rating, if lower.

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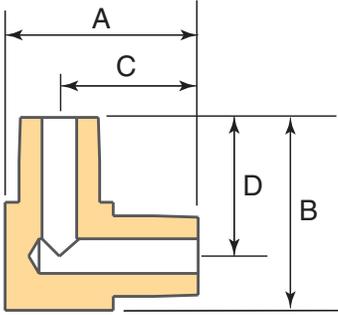
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

**Note:**  
**NPT (Pipe) Connections:** See Page 2

**Street Pipe Elbow**

## Male Pipe Elbow

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				Block Thickness
				A	B	C	D	
MPL4400	1/4" NPT	15,000 (1034)	.219 (5.54)	1.50 (38.10)	1.50 (38.10)	1.13 (28.70)	1.13 (28.70)	0.75 (19.05)
MPL6600	3/8" NPT	15,000 (1034)	.297 (7.54)	1.75 (44.75)	1.75 (44.45)	1.25 (31.75)	1.25 (31.75)	1.00 (25.40)
MPL8800	1/2" NPT	15,000 (1034)	.359 (9.12)	2.00 (50.80)	2.00 (50.80)	1.50 (38.10)	1.50 (38.10)	1.00 (25.40)
MPL12	3/4" NPT	10,000 (690)	.609 (14.47)	2.62 (66.55)	2.62 (66.55)	1.75 (44.45)	1.75 (44.45)	1.50 (38.10)
MPL16	1" NPT	10,000 (690)	.765 (19.43)	3.00 (76.20)	3.00 (76.20)	2.13 (54.10)	2.13 (54.10)	1.38 (35.05)



\*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by pipe pressure rating, if lower.

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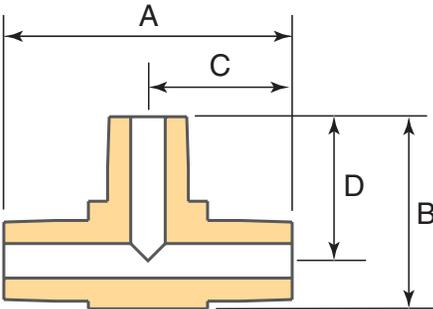
**Note: NPT (Pipe) Connections:** See Page 2

Conversion Adapters can be found in our "Adapter" brochure found further in this catalog or on our website.

**Male Pipe Elbow**

## Male Pipe Tee

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				Block Thickness
				A	B	C	D	
MPT4440	1/4" NPT	15,000 (1034)	.219 (5.54)	2.25 (57.15)	1.50 (38.10)	1.13 (28.70)	1.13 (28.70)	0.75 (19.05)
MPT6660	3/8" NPT	15,000 (1034)	.297 (7.54)	2.50 (63.50)	1.75 (44.45)	1.75 (44.45)	1.25 (31.75)	1.00 (25.40)
MPT8880	1/2" NPT	15,000 (1034)	.359 (9.12)	3.00 (76.20)	2.00 (50.80)	1.50 (38.10)	1.50 (38.10)	1.00 (25.40)
MPT12	3/4" NPT	10,000 (690)	.609 (14.47)	3.50 (88.90)	2.62 (66.55)	1.75 (44.45)	1.75 (44.45)	1.50 (38.10)
MPT16	1" NPT	10,000 (690)	.765 (19.43)	4.12 (104.65)	3.00 (76.20)	2.13 (54.10)	2.13 (54.10)	1.75 (44.45)



\*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by pipe pressure rating, if lower.

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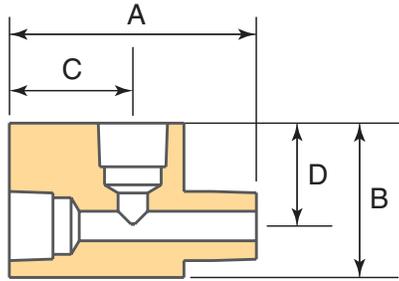
**Note: NPT (Pipe) Connections:** See Page 2

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**Male Pipe Tee**

## Street Pipe Tee

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				Block Thickness
				A	B	C	D	
SPT4440	1/4" NPT	15,000 (1034)	.219 (5.54)	2.00 (50.80)	1.38 (35.05)	0.81 (20.57)	1.00 (25.40)	0.75 (19.05)
SPT6660	3/8" NPT	15,000 (1034)	.297 (7.54)	2.50 (63.50)	1.50 (38.10)	1.00 (25.40)	1.00 (25.40)	1.00 (25.40)
SPT8880	1/2" NPT	15,000 (1034)	.359 (9.12)	3.00 (76.20)	1.75 (44.45)	1.50 (38.10)	1.25 (31.75)	1.25 (31.75)
SPT12	3/4" NPT	10,000 (690)	.609 (14.47)	3.12 (79.25)	2.62 (66.55)	1.38 (35.05)	1.31 (33.27)	1.50 (38.10)
SPT16	1" NPT	10,000 (690)	.765 (19.43)	4.12 (104.65)	3.00 (76.20)	2.13 (54.10)	2.13 (54.10)	1.75 (44.45)



**Street Pipe Tee**

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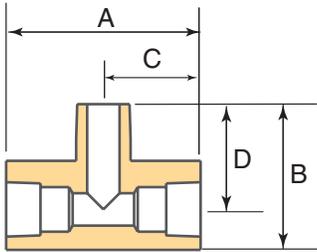
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**Note: NPT (Pipe) Connections:** See Page 2

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## Branch Tee

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)				Block Thickness
				A	B	C	D	
BPT4440	1/4" NPT	15,000 (1034)	.219 (5.54)	2.00 (50.80)	1.50 (38.10)	1.00 (25.40)	1.13 (28.70)	0.75 (19.05)
BPT6660	3/8" NPT	15,000 (1034)	.297 (7.54)	2.00 (50.80)	1.75 (44.45)	1.00 (25.40)	1.25 (31.75)	1.00 (25.40)
BPT8880	1/2" NPT	15,000 (1034)	.359 (9.12)	3.00 (76.20)	2.25 (57.15)	1.50 (38.10)	1.62 (41.15)	1.25 (31.75)
BPT12	3/4" NPT	10,000 (690)	.609 (14.47)	3.00 (76.20)	2.50 (63.50)	1.50 (38.10)	1.75 (44.45)	1.38 (35.05)
BPT16	1" NPT	10,000 (690)	.765 (19.43)	4.12 (104.65)	3.00 (76.20)	2.06 (52.32)	2.13 (54.10)	1.75 (44.45)



**Branch Tee**

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**Note: NPT (Pipe) Connections:** See Page 2

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# Pipe Hex Nipples

**NPT Threaded** - Pressures to 15,000 psi (1034 bar)



For rapid system make-up, Parker Autoclave Engineers supplies pipe nipples in various sizes and lengths for pipe valves and fittings.

## Special Lengths:

In addition to the standard lengths listed in the table below, nipples are available in custom lengths. Consult factory.

(See "Technical Brochure" for Pressure/Temperature effect on temperatures above ambient.)

## Pipe Hex Close Nipples

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)	
				A HEX	B
15MAP4P4	1/4" NPT	15,000 (1034)	.219 (5.54)	5/8" (16)	1.81 (46)
15MAP6P6	3/8" NPT	15,000 (1034)	.297 (7.54)	3/4" (19)	1.88 (48)
15MAP8P8	1/2" NPT	15,000 (1034)	.359 (9.12)	15/16" (24)	2.50 (64)
10MAP12P12	3/4" NPT	10,000 (690)	.609 (14.47)	1-3/16" (31)	2.50 (64)
10MAP16P16	1" NPT	10,000 (690)	.765 (19.43)	1-3/8" (35)	3.19 (81)

A HEX

B

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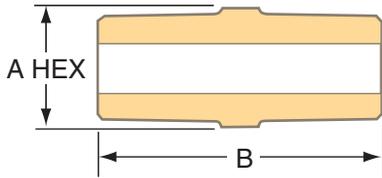
**Note: NPT (Pipe) Connections:** See Page 2

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**Pipe Hex Close Nipples**

# Pipe Hex Nipples

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)	
				A HEX	B
15MAP4P4-4	1/4" NPT	15,000 (1034)	.219 (5.54)	5/8" (16)	4.00 (102)
15MAP4P4-6	1/4" NPT	15,000 (1034)	.219 (5.54)	5/8" (16)	6.00 (153)
15MAP4P4-8	1/4" NPT	15,000 (1034)	.219 (5.54)	5/8" (16)	8.00 (203)
15MAP6P-4	3/8" NPT	15,000 (1034)	.297 (7.54)	3/4" (19)	4.00 (102)
15MAP6P6-4	3/8" NPT	15,000 (1034)	.297 (7.54)	3/4" (19)	6.00 (153)
15MAP6P6-8	3/8" NPT	15,000 (1034)	.297 (7.54)	3/4" (19)	8.00 (203)
15MAP8P8-4	1/2" NPT	15,000 (1034)	.359 (9.12)	15/16" (24)	4.00 (102)
15MAP8P8-6	1/2" NPT	15,000 (1034)	.359 (9.12)	15/16" (24)	6.00 (153)
15MAP8P8-8	1/2" NPT	15,000 (1034)	.359 (9.12)	15/16" (24)	8.00 (203)
10MAP12P12-4	3/4" NPT	10,000 (690)	.609 (14.47)	1-3/16" (31)	4.00 (102)
10MAP12P12-6	3/4" NPT	10,000 (690)	.609 (14.47)	1-3/16" (31)	6.00 (153)
10MAP12P12-8	3/4" NPT	10,000 (690)	.609 (14.47)	1-3/16" (31)	8.00 (203)
10MAP16P16-4	1" NPT	10,000 (690)	.765 (19.43)	1-3/8" (35)	4.00 (102)
10MAP16P16-6	1" NPT	10,000 (690)	.765 (19.43)	1-3/8" (35)	6.00 (152)
10MAP16P16-8	1" NPT	10,000 (690)	.765 (19.43)	1-3/8" (35)	8.00 (203)



A HEX

B

\*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by pipe pressure rating, if lower.

All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

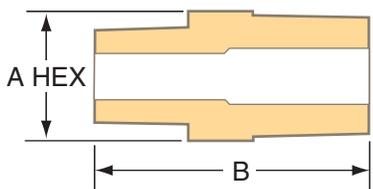
**Note: NPT (Pipe) Connections:** See Page 2

Conversion Adapters can be found in our "Adapter" brochure found further in this catalog or on our website.

**Pipe Hex Close Nipples**

## Pipe Hex Reducer Nipples

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Dimensions - inches (mm)	
				A HEX	B
15MAP4P6	1/4" to 3/8" NPT	15,000 (1034)	.203 (5.16)	3/4" (19)	1.88 (48)
15MAP4P8	1/4" to 1/2" NPT	15,000 (1034)	.203 (5.16)	15/16" (24)	2.31 (59)
15MAP6P8	3/8" to 1/2" NPT	15,000 (1034)	.300 (7.61)	15/16" (24)	2.31 (59)
10MAP6P12	3/8" to 3/4" NPT	10,000 (690)	.300 (7.61)	1-3/16" (30)	2.31 (59)
10MAP8P12	1/2" to 3/4" NPT	10,000 (690)	.359 (9.12)	1-3/16" (30)	2.50 (64)
10MAP8P16	1/2" to 1" NPT	10,000 (690)	.375 (9.53)	1-3/8" (35)	2.88 (73)
10MAP12P16	3/4" to 1" NPT	10,000 (690)	.500 (12.70)	1-3/8" (35)	2.94 (75)



The diagram shows a side view of a pipe hex reducer nipple. Dimension 'A HEX' is indicated by a vertical double-headed arrow on the left, representing the hexagonal width. Dimension 'B' is indicated by a horizontal double-headed arrow at the bottom, representing the length of the nipple.

\*Maximum pressure rating is based on the lowest rating of any component. Actual working pressure may be determined by pipe pressure rating, if lower.

All dimensions for reference only and subject to change.

For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

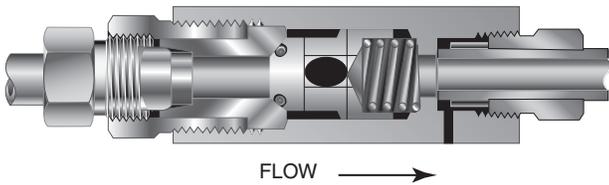
**Note:**  
**NPT (Pipe) Connections:** See Page 2

Conversion Adapters can be found in our "Adapter" brochure found further in this catalog or on our website.

**Pipe Hex Reducer Nipples**

# Pipe O-Ring Check Valves

NPT Threaded - Pressures to 15,000 psi (1034 bar)



CPO Series O-Ring Check Valve

Provide unidirectional flow and tight shut-off for liquids and gases with high reliability. When differential drops below cracking pressure\*, valve shuts off. **(Not for use as relief valve.)**

## Cracking Pressure:

20 psi (1.38 bar) ±30%. Springs for higher cracking pressures up to 100 psi available on special order for O-ring style check valves only.

## Temperature Ranges:

Viton (FKM) O-ring (std.): 0° to 400°F (-18° to 204°C)  
 Buna-N O-ring (-BO suffix): -20° to 250°F (-29° to 121°C)  
 FFKM O-ring (-KO suffix): 30° to 500°F \*(-18° to 260°C)  
 PTFE O-ring (-TO suffix): -100° to 400°F (-73° to 204°C)  
 PTFE O-ring with Low Temp Spring (-LTTO suffix): to -423°F (-252°C)  
 (See "Technical Brochure" for Pressure/Temperature effect on temperatures above ambient.)

## Installation:

Vertical or Horizontal as required. Flow Direction arrow on valve body

**CAUTION:** While testing has shown O-Rings to provide satisfactory service life, both cyclic and shelf life may vary widely with differing service conditions, properties of reactants, pressure and temperature cycling and age of the O-Ring. FREQUENT INSPECTIONS SHOULD BE MADE to detect any deterioration, and O-rings replaced as required.

**NOTE:** For optional material see Technical Brochure. Special material check valves are normally supplied with four flats in place of standard hex.

## Material of Construction:

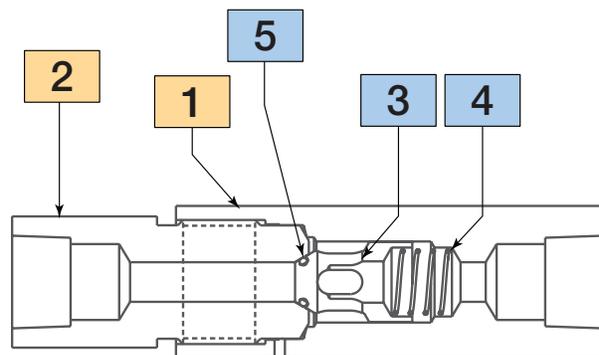
Item #	Description	Material
1	Check Valve Body	316 SS
2	Gland Nut	316 SS
3	Poppet	316 SS
4	Spring	302 SS
5	O-Ring	90 Duro FKM

Typical spare parts found in Repair Kits

### O-Ring Check Valve Repair Kits:

Check Valves are easily repaired. Add "R" to front of valve catalog number for proper repair kit (example: RCPO8800)

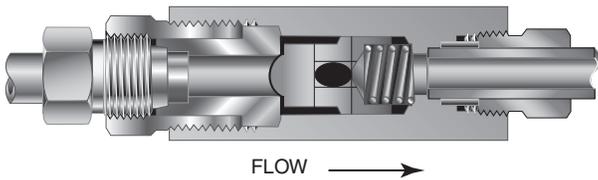
See "Cover Torque" on page 13 for re-assembly. Include any catalog number suffix marked on original part when ordering repair kit.



Do Not use check valve body (1) to tighten gland nut (2) into mating connection. Seal damage will occur.

# Pipe Ball Check Valves

**NPT Threaded** - Pressures to 15,000 psi (1034 bar)



**CPB Series Ball Check Valve**

Prevent reverse flow **where leak-tight shut-off is not mandatory**. When differential drops below cracking pressure, valve closes. With all-metal components, valve can be used up to 800°F (425°C). See Technical Information section for connection temperature limitations. **(Not for use as relief valve.)**

**Ball and poppet are an integrated, one-piece design** to assure positive, in-line seating without “chatter”. Poppet is designed for axial flow with minimum pressure drop.

**Cracking Pressure:** 20 psi (1.38 bar) +/- 30% No optional cracking pressures available.

## Temperature Range:

With All-Metal components, valve can be used to 800°F (425°C). Minimum standard operating temperature is -110°F (-79°C). For Low Temperature operation below 0° to -423°F (-18 to -252°C) use suffix “-LT” (Low Temp Spring)

(See “Technical Brochure” for Pressure/Temperature effect on temperatures above ambient.)

## Installation:

Vertical or Horizontal as required. Flow Direction arrow on valve body

**NOTE:** For optional material see Technical Brochure. Special material check valves are normally supplied with four flats in place of standard hex.

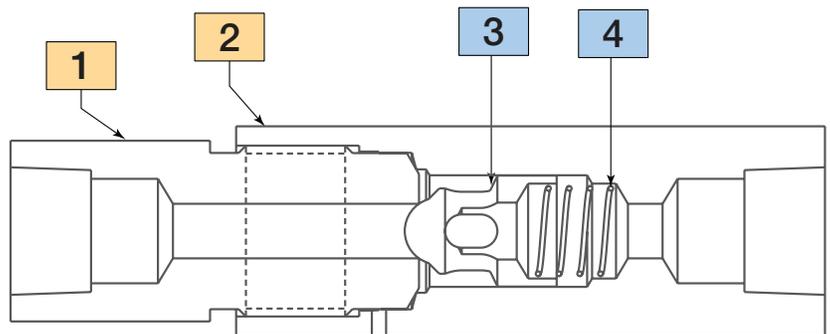
## Material of Construction:

Item #	Description	Material
1	Gland Nut	316 SS
2	Check Valve Body	316 SS
3	Poppet	316 SS
4	Spring	302 SS

Typical spare parts found in Repair Kits

### O-Ring Check Valve Repair Kits:

Check Valves are easily repaired. Add “R” to front of valve catalog number for proper repair kit (example: RCPB8800) See “Cover Torque” on page 13 for re-assembly. Include any catalog number suffix marked on original part when ordering repair kit.



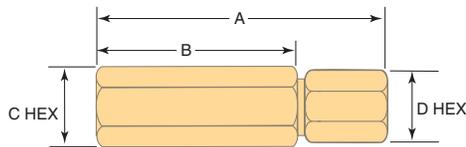
Do Not use check valve body (1) to tighten gland nut (2) into mating connection. Seal damage will occur.

## Pipe O-Ring Check Valves

Catalog Number	Connection Type	Pressure Rating psi (bar)*	Orifice inches (mm)	Rated Cv	Cover Torque ft. bl. (Nm)	Dimensions - inches (mm)			
						A	B	C Hex	D Hex
CPO4400	1/4" NPT	15,000 (1034)	.012 (3.05)	.28	40 (54)	3.37 (85.60)	2.38 (60.33)	0.81 (20.57)	0.81 (20.57)
CPO6600	3/8" NPT	15,000 (1034)	.22 (5.59)	.84	65 (88)	3.95 (100.33)	2.88 (73.15)	1.00 (25.40)	1.00 (25.40)
CPO8800	1/2" NPT	15,000 (1034)	.36 (9.14)	2.30	140 (190)	5.36 (136.14)	3.88 (98.55)	1.38 (35.05)	1.19 (30.23)
CPO12	3/4" NPT	10,000 (689)	.52 (13.21)	4.70	230 (312)	6.29 (159.77)	4.75 (120.65)	1.75 (44.45)	1.38 (35.05)
CPO16	1" NPT	10,000 (689)	.69 (17.53)	7.40	700 (950)	7.71 (195.83)	5.75 (146.05)	1.88+ (47.75)	1.88 (47.75)

## Pipe Ball Check Valves

CPB4400	1/4" NPT	15,000 (1034)	.012 (3.05)	.28	40 (54)	3.37 (85.60)	2.38 (60.33)	0.81 (20.57)	0.81 (20.57)
CPB6600	3/8" NPT	15,000 (1034)	.22 (5.59)	.84	65 (88)	3.95 (100.33)	2.88 (73.15)	1.00 (25.40)	1.00 (25.40)
CPB8800	1/2" NPT	15,000 (1034)	.36 (9.14)	2.30	140 (190)	5.36 (136.14)	3.88 (98.55)	1.38 (35.05)	1.19 (30.23)
CPB12	3/4" NPT	10,000 (689)	.52 (13.21)	4.70	230 (312)	6.29 (159.77)	4.75 (120.65)	1.75 (44.45)	1.38 (35.05)
CPB16	1" NPT	10,000 (689)	.69 (17.53)	7.40	700 (950)	7.71 (195.83)	5.75 (146.05)	1.88+ (47.75)	1.88 (47.75)



+ Distance across flats

All dimensions for reference only and subject to change.  
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

**Note: NPT (Pipe) Connections:**

- NPT threads must be sealed using a high quality PTFE tape and/or paste product. Refer to thread sealant manufacturer's instructions on how to apply thread sealant.

- Sealing performance may vary based on many factors such as pressure, temperature, media, thread quality, thread material, proper thread engagement and proper use of thread sealant.

- Customer should limit the number of times an NPT fitting is assembled and disassembled because thread deformation during assembly will result in deteriorating seal quality over time. When using only PTFE tape, consider using thread lubrication to prevent galling of mating parts.

**Note:** Special material components are normally supplied with four flats in place of standard hex.

\*Maximum pressure rating is based on the lowest rating of any component.

### Pipe Check Valves