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.

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

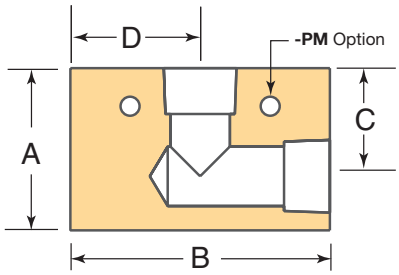
Parker Autoclave Engineers P Series Pipe Fittings are designed for liquid and gas applications. Sizes from 1/4" to 1" NPT are offered. For additional material options please consult our "Technical" brochure further in the catalog or on our website.

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)



Pipe Elbow

*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.

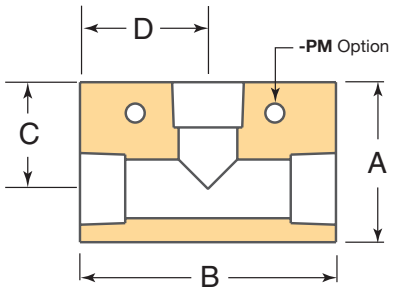
Note: NPT (Pipe) Connections:

- 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)



Pipe Tee

*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.

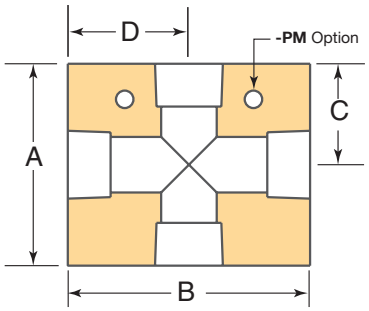
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

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

Note: NPT (Pipe) Connections: See Page 2

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)



Pipe Cross

*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.

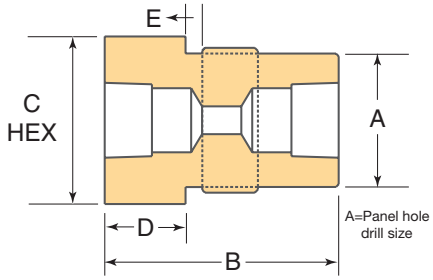
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

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

Note: NPT (Pipe) Connections: See Page 2

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)



Pipe Bulkhead Coupling

+ Distance across flats

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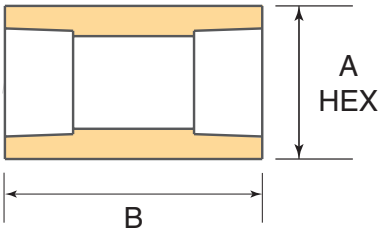
Note: NPT (Pipe) Connections: See Page 2

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

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" (356)	2.75 (69.90)
10F161688	1" NPT	10,000 (690)	1.13 (28.58)	1-3/4" (45)	2.50 (63.50)



Pipe Coupling

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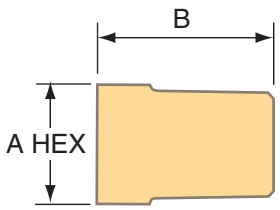
Note:
NPT (Pipe) Connections: See Page 2

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)



Pipe Coupling

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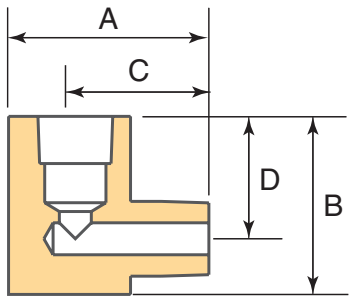
Consult your local representative.

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

Note: NPT (Pipe) Connections: See Page 2

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)



Street Pipe Elbow

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

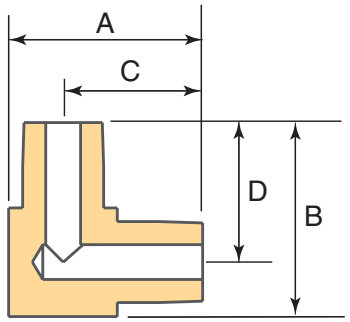
All dimensions for reference only and subject to change.

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

Note:
NPT (Pipe) Connections: See Page 2

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)



Male Pipe Elbow

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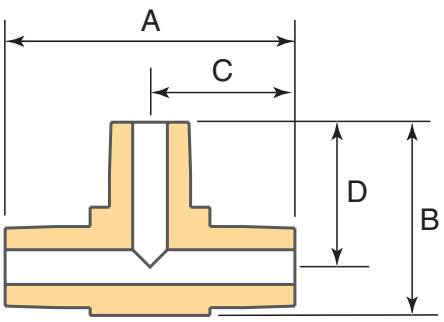
Note: NPT (Pipe) Connections: See Page 2

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

Male Pipe 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)



Male Pipe Tee

*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.

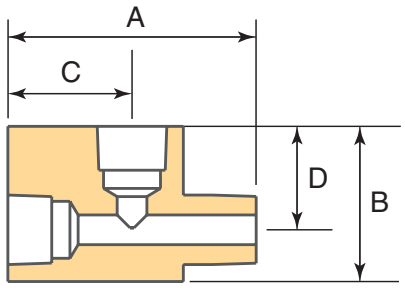
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

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.

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

*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.

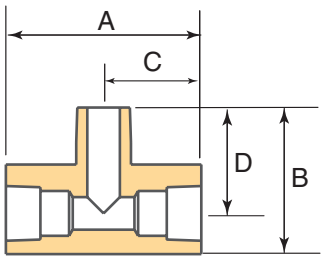
For prompt service, Parker Autoclave Engineers stocks select products. Consult your local representative.

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.

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

*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 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.

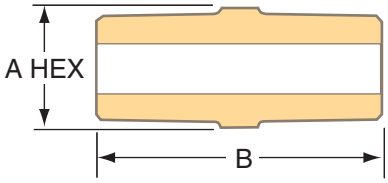
Special Lengths:

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)



Pipe Hex Close Nipples

*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.

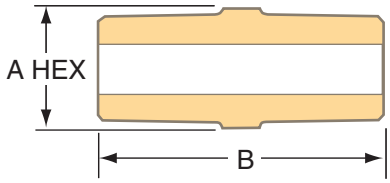
For prompt service, Parker Autoclave Engineers stocks select products.
Consult your local representative.

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 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)



Pipe Hex Close Nipples

*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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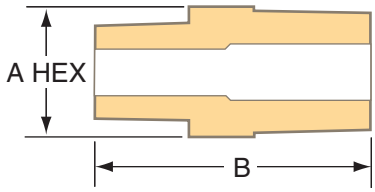
Consult your local representative.

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

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)



Pipe Hex Reducer Nipples

*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.

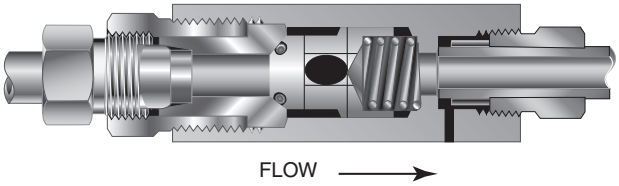
For prompt service, Parker Autoclave Engineers stocks select products.
Consult your local representative.

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 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 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:

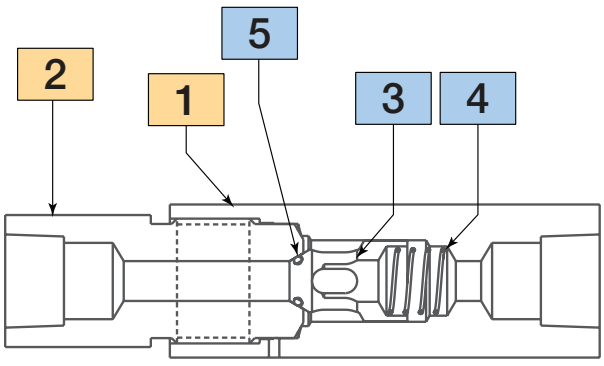
Item #	Description	Material
1	Check Valve Body	316 SS
2	Gland Nut	316 SS
3	Poppet	316 SS
4	Spring	302 SS
5	O-Ring	90 Duro FKM

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)

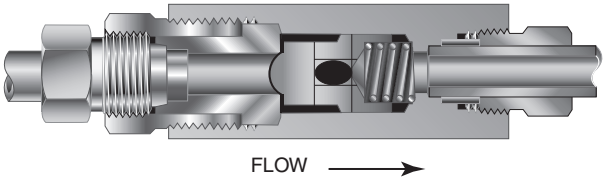
See "Cover Torque" on page 13 for re-assembly. Include any catalog number suffix marked on original part when ordering repair kit.



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 designn 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:

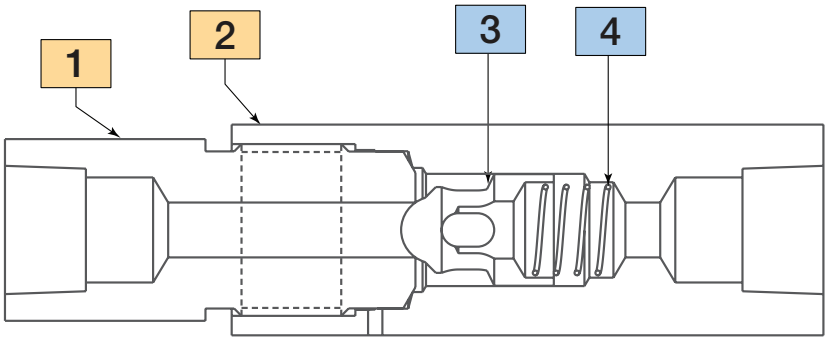
Item #	Description	Material
1	Gland Nut	316 SS
2	Check Valve Body	316 SS
3	Poppet	316 SS
4	Spring	302 SS

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.



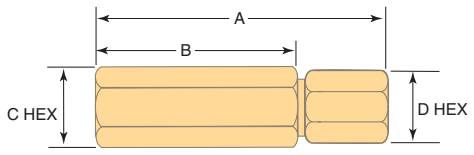
Do Not use check valve body (1) to tighten gland nut (2) into mating connection. Seal damage will occur.

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)



Pipe Check Valves

+ 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.

NOTES:

High Pressure
Valves • Fittings • Tubing
to 150,000 psi.

Reactors • Vessels
Instrumentation

Air Driven, High Flow,
High Pressure Liquid Pumps

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Parker's Motion & Control Technologies

At Parker, we're guided by a relentless drive to help our customers become more productive and achieve higher levels of profitability by engineering the best systems for their requirements. It means looking at customer applications from many angles to find new ways to create value. Whatever the motion and control technology need, Parker has the experience, breadth of product and global reach to consistently deliver. No company knows more about motion and control technology than Parker. For further information call 1-800-C-Parker.

MARKET	KEY MARKETS		KEY PRODUCTS	
 **AEROSPACE**	Aircraft Engines Commercial Commerical Transports Military Aircraft Regional Transports	Business and General Aviation Land-Based Weapons Systems Missiles and Launch Vehicles Unmanned Aerial Vehicles	Flight Control Systems & Components Fluid Conveyance Systems Fluid Metering Delivery & Atomization Devices Fuel Systems & Components	Hydraulic Systems & Components Inert Nitrogen Generating Systems Pneumatic Systems & Components Wheels & Brakes
 **CLIMATE CONTROL**	Agriculture Food, Beverage and Dairy Precision Cooling Transportation	Air Conditioning Life Sciences & Medical Processing	Co2 Controls Electronic Controllers Filter Driers Hand Shut-Off Valves Hose & Fittings	Pressure Regulating Valves Refrigerant Distributors Safety Relief Valves Solenoid Valves Thermostatic Expansion Valves
 **ELECTRO-MECHANICAL**	Aerospace Life Science & Medical Packaging Machinery Plastics Machinery & Converting Semiconductor & Electronics Factory Automation	Machine Tools Paper Machinery Primary Metals Textile Wire & Cable	AC/DC Drives & Systems Electric Actuators, Gantry Robots & Slides Electrohydrostatic Actuation Systems Electromechanical Actuation Systems Human Machine Interface	Linear Motors Stepper Motors, Servo Motors Drives & Controls Structural Extrusions
 **FILTRATION**	Food & Beverage Life Sciences Mobile Equipment Power Generation Transportation	Industrial Machinery Marine Oil & Gas Process	Analytical Gas Generators Compressed Air & Gas Filters Condition Monitoring Engine Air, Fuel & Oil Filtration & Systems	Hydraulic, Lubrication & Coolant Filters Process, Chemical, Water Microfiltration Filters Nitrogen, Hydrogen & Zero Air Generators
 **FLUID and GAS HANDLING**	Aerospace Agriculture Bulk Chemical Handling Construction Machinery Food & Beverage Fuel & Gas Delivery	Industrial Machinery Mobile Oil & Gas Transportation Welding	Brass Fittings & Valves Diagnostic Equipment Fluid Conveyance Systems Industrial Hose	PTFE & PFA Hose, Tubing & Plastic Fittings Rubber & Thermoplastic Hose & Couplings Tube Fittings & Adapters Quick Disconnects
 **HYDRAULICS**	Aerospace Aerial lift Agriculture Construction Machinery Forestry	Industrial Machinery Mining Oil & Gas Power Generation & Energy Truck Hydraulics	Diagnostic Equipment Hydraulic Cylinders & Accumulators Hydraulic Motors & Pumps Hydraulic Systems Hydraulic Valves & Controls	Power Take-Offs Rubber & Thermoplastic Hose & Couplings Tube Fittings & Adapters Quick Disconnects
 **PNEUMATICS**	Aerospace Conveyor & Material Handling Factory Automation Life Science & Medical	Machine Tools Packaging Machinery Transportation & Automotive	Air Preparation Brass Fittings & Valves Manifolds Pneumatic Accessories Pneumatic Actuators & Grippers Pneumatic Valves & Controls	Quick Disconnects Rotary Actuators Rubber & Thermoplastic Hose & Couplings Structural Extrusions Thermoplastic Tubing & Fittings Vacuum Generators, Cups & Sensors
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! CAUTION !

Parker Autoclave Engineers NPT Pipe Thread Pressure Rating of 15,000 psi @ Room Temperature is only possible using materials designed for this service. Any use of materials not supplied by Parker Autoclave Engineers may lower the maximum working pressure of the "system" and new working pressure of system may be reduced and is responsibility of "End User".

WARNING

FAILURE, IMPROPER SELECTION OR IMPROPER USE OF THE PRODUCTS AND/OR SYSTEMS DESCRIBED HEREIN OR RELATED ITEMS CAN CAUSE DEATH, PERSONAL INJURY AND PROPERTY DAMAGE.

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Literature #: 02-9222SE March 2020

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