

ELBOWS

Catalog Number	Connection	Port	MAWP	A	B	C	D	E	F	Block Thickness	Mounting Holes* G	H	Dia.
60L4	1/4" H/P Tube	0.093" (2.4)	60,000 PSI 4140 bar	1.50" (38.1)	1.00" (25.4)	0.88" (22.4)	0.63" (16.0)	0.50" (12.7)	0.62" (15.7)	1.00" (25.4)	0.25" (6.4)	0.15" (3.8)	0.22" (5.6)
60L6	3/8" H/P Tube	0.125" (3.2)	60,000 PSI 4140 bar	2.00" (50.8)	1.50" (38.1)	1.25" (31.8)	1.00" (25.4)	0.60" (15.2)	0.81" (20.6)	1.00" (25.4)	0.38" (9.7)	0.31" (7.9)	0.22" (5.6)
60L9	9/16" H/P Tube	0.187" (4.7)	60,000 PSI 4140 bar	2.62" (66.5)	1.88" (47.8)	1.88" (47.8)	1.13" (28.6)	0.81" (20.6)	1.18" (30.0)	1.50" (38.1)	2.32" (58.9)	1.38" (35.1)	0.28" (7.1)
40L9	9/16" H/P Tube	0.250" (6.4)	40,000 PSI 2760 bar	2.62" (66.5)	1.88" (47.8)	1.88" (47.8)	1.13" (28.7)	0.81" (20.6)	1.18" (30.0)	1.50" (38.1)	2.37" (60.2)	1.62" (41.1)	0.28" (7.1)
30L16	1" H/P Tube	0.438" (11.1)	30,000 PSI 2070 bar	3.00" (76.2)	3.00" (76.2)	2.06" (52.3)	2.06" (52.3)	0.72" (18.3)	1.38" (35.1)	1.75" (44.5)	0.69" (17.5)	0.69" (17.5)	0.41" (10.3)

TEES

Catalog Number	Connection	Port	MAWP	A	B	C	D	E	F	Block Thickness	Mounting Holes* G	H	Dia.
60T4	1/4" H/P Tube	0.093" (2.4)	60,000 PSI 4140 bar	2.00" (50.8)	1.25" (31.8)	1.00" (25.4)	0.88" (22.4)	0.50" (12.7)	0.62" (15.7)	1.00" (25.4)	0.25" (6.4)	0.12" (3.0)	0.17" (4.3)
60T6	3/8" H/P Tube	0.125" (3.2)	60,000 PSI 4140 bar	2.00" (50.8)	1.56" (39.6)	1.00" (25.4)	1.06" (26.9)	0.60" (15.2)	0.81" (20.6)	1.00" (25.4)	0.31" (7.9)	0.31" (7.9)	0.22" (5.6)
60T9	9/16" H/P Tube	0.187" (4.7)	60,000 PSI 4140 bar	2.62" (66.5)	2.12" (53.8)	1.31" (33.3)	1.38" (35.1)	0.81" (20.6)	1.18" (30.0)	1.50" (38.1)	0.37" (9.4)	0.38" (9.5)	0.28" (7.1)
40T9	9/16" H/P Tube	0.250" (6.4)	40,000 PSI 2760 bar	2.62" (66.5)	2.12" (53.8)	1.31" (33.3)	1.38" (35.1)	0.81" (20.6)	1.18" (30.0)	1.50" (38.1)	0.37" (9.4)	0.38" (9.7)	0.28" (7.1)
30T16	1" H/P Tube	0.438" (11.1)	30,000 PSI 2070 bar	4.12" (104.6)	3.00" (76.2)	2.06" (52.3)	2.06" (52.3)	0.72" (18.3)	1.38" (35.1)	1.75" (44.5)	0.69" (17.5)	0.69" (17.5)	0.41" (10.4)

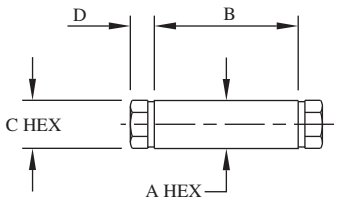
CROSSES

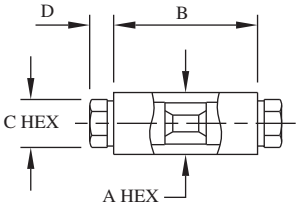
Catalog Number	Connection	Port	MAWP	A	B	C	D	E	F	Block Thickness	Mounting Holes* G	H	Dia.
60X4	1/4" H/P Tube	0.093" (2.4)	60,000 PSI 4140 bar	2.00" (50.8)	1.25" (31.8)	1.00" (25.4)	0.62" (15.7)	0.50" (12.7)	0.62" (15.7)	1.00" (25.4)	0.25" (6.4)	0.12" (3.0)	0.17" (4.3)
60X6	3/8" H/P Tube	0.125" (3.2)	60,000 PSI 4140 bar	2.00" (50.8)	2.12" (53.8)	1.00" (25.4)	1.06" (26.9)	0.60" (15.2)	0.81" (20.6)	1.00" (25.4)	0.31" (7.9)	0.31" (7.9)	0.22" (5.6)
60X9	9/16" H/P Tube	0.187" (4.7)	60,000 PSI 4140 bar	2.62" (66.5)	2.75" (69.9)	1.31" (33.3)	1.38" (35.1)	0.81" (20.6)	1.18" (30.0)	1.50" (38.1)	0.38" (9.7)	0.38" (9.5)	0.28" (7.1)
40X9	9/16" H/P Tube	0.250" (6.4)	40,000 PSI 2760 bar	2.62" (66.5)	2.75" (69.9)	1.31" (33.3)	1.38" (35.1)	0.81" (20.6)	1.18" (30.0)	1.50" (38.1)	0.37" (9.4)	0.38" (9.7)	0.28" (7.1)
30X16	1" H/P Tube	0.438" (11.1)	30,000 PSI 2070 bar	4.12" (104.6)	4.12" (104.6)	2.06" (52.3)	2.06" (52.3)	0.72" (18.3)	1.38" (35.1)	1.75" (44.5)	0.69" (17.5)	0.69" (17.5)	0.41" (10.3)

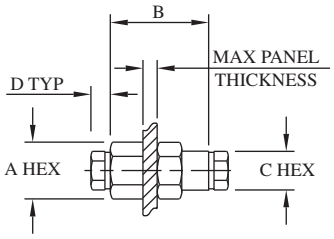
*Mounting holes provided when the catalog number is suffixed by "**-MH**"when ordering.

All dimensions are for reference only and are subject to change.
Dimensions in parentheses are millimeters (mm)

ButTech MILTON ROY
2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com







See bulkhead table below for panel hole drill size

COUPLINGS

Catalog Number	Connection	Port	MAWP	A	B	C	D
60F4	1/4" H/P Tube	0.093" (2.4)	60,000 PSI 4140 bar	0.75" (19.1)	1.38" (35.1)	0.63" (16.0)	0.50" (12.7)
60F6	3/8" H/P Tube	0.125" (3.2)	60,000 PSI 4140 bar	1.00" (25.4)	1.75" (44.5)	0.81" (20.6)	0.60" (15.2)
60F9	9/16" H/P Tube	0.187" (4.7)	60,000 PSI 4140 bar	1.37" (34.8)	2.25" (57.2)	1.18" (30.0)	0.81" (20.6)
40F9	9/16" H/P Tube	0.250" (6.4)	40,000 PSI 2760 bar	1.37" (34.8)	2.25" (57.2)	1.18" (30.0)	0.81" (20.6)
30F16	1" H/P Tube	0.438" (11.1)	30,000 PSI 2070 bar	1.75" (44.5)	3.75" (95.3)	1.38" (35.1)	0.72" (18.3)

REPLACEABLE SEAT COUPLINGS

Catalog Number	Connection	Port	MAWP	A	B	C	D
60UF4	1/4" H/P Tube	0.093" (2.4)	60,000 PSI 4140 bar	0.75" (19.1)	1.50" (38.1)	0.63" (16.0)	0.50" (12.7)
60UF6	3/8" H/P Tube	0.125" (3.2)	60,000 PSI 4140 bar	1.38" (35.1)	1.75" (44.5)	0.81" (20.6)	0.60" (15.2)
60UF9	9/16" H/P Tube	0.187" (4.7)	60,000 PSI 4140 bar	1.38" (35.1)	2.25" (57.2)	1.18" (30.0)	0.81" (20.6)
40UF9	9/16" H/P Tube	0.250" (6.4)	40,000 PSI 2760 bar	1.38" (35.1)	2.25" (57.2)	1.18" (30.0)	0.81" (20.6)
30UF16	1" H/P Tube	0.438" (11.1)	30,000 PSI 2070 bar	1.75" (44.5)	3.75" (95.3)	1.38" (35.1)	0.72" (18.3)

BULKHEADS

Catalog Number	Connection	Port	MAWP	A	B	C	D	Max Panel Thickness	Panel Hole
60BF4	1/4" H/P Tube	0.093" (2.4)	60,000 PSI 4140 bar	1.00" (25.4)	2.00" (50.8)	0.63" (16.0)	0.50" (12.7)	0.50" (12.7)	0.94" (23.0)
60BF6	3/8" H/P Tube	0.125" (3.2)	60,000 PSI 4140 bar	1.38" (35.1)	2.38" (60.5)	0.81" (20.6)	0.60" (15.2)	0.38" (9.7)	1.12" (28.4)
60BF9	9/16" H/P Tube	0.187" (4.7)	60,000 PSI 4140 bar	1.87" (47.5)	2.75" (69.9)	1.18" (30.0)	0.81" (20.6)	0.62" (15.7)	1.75" (44.5)
40BF9	9/16" H/P Tube	0.250" (6.4)	40,000 PSI 2760 bar	1.87" (47.5)	2.75" (69.9)	1.18" (30.0)	0.81" (20.6)	0.62" (15.7)	1.75" (44.5)
30BF16	1" H/P Tube	0.438" (11.1)	30,000 PSI 2070 bar	2.12" (53.8)	3.50" (88.9)	1.38" (35.1)	0.72" (18.3)	0.50" (12.7)	2.00" (50.8)

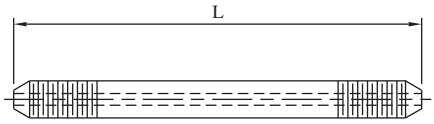
All dimensions are for reference only and are subject to change.
Dimensions in parentheses are millimeters (mm)

2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com

High Pressure Nipples and Tubing

Coned and Threaded Nipples

BuTech stocks pre-cut coned and threaded nipples in lengths up to 12" (305 mm). In addition, nipples can be purchased to any custom length.



Connection	Length 2.75" (69.9)	3.00" (76.2)	4.00" (101.6)	6.00" (152.4)	8.00" (203.2)	10.00" (254.0)	12.00" (304.8)	MAWP
1/4" H/P	60N442-*	60N443-*	60N444-*	60N446-*	60N448-*	60N4410-*	60N4412-*	60,000 PSI 4140 bar
3/8" H/P		60N663-*	60N664-*	60N666-*	60N668-*	60N6610-*	60N6612-*	60,000 PSI 4140 bar
9/16" H/P 0.188" orifice			60N994-*	60N996-*	60N998-*	60N9910-*	60N9912-*	60,000 PSI 4140 bar
9/16" H/P 0.250" orifice			40N994-*	40N996-*	40N998-*	40N9910-*	40N9912-*	40,000 PSI 2760 bar
1" H/P				30N166-*	30N168-*	30N1610-*	30N1612-*	30,000 PSI 2070 bar

*Complete catalog number by adding suffix **316** for 316 stainless steel or suffix **304** for 304 stainless steel

Tubing

Catalog Number	Connection	O.D.	I.D.	MAWP
60-083-*	1/4" H/P	0.250" (6.4)	0.083" (2.1)	60,000 PSI 4140 bar
60-125-*	3/8" H/P	0.375" (9.5)	0.125" (3.2)	60,000 PSI 4140 bar
60-188-*	9/16" H/P	0.562" (14.3)	0.188" (4.8)	60,000 PSI 4140 bar
40-250-*	9/16" H/P	0.562" (14.3)	0.250" (6.4)	40,000 PSI 2760 bar
30-438-*	1" H/P	1.000" (25.4)	0.438" (11.1)	30,000 PSI 2070 bar

*Complete catalog number by adding suffix **316** for 316 stainless steel or suffix **304** for 304 stainless steel. Other materials are also available, please consult factory.

BuTech offers a complete selection of austenitic seamless cold-drawn stainless steel tubing for high pressure applications where both high strength and corrosion resistance are desired. Tubing is available in standard 20-24 foot lengths (6-7 meters), however, longer lengths are available on request.



See Section T for Coning Tools, Threading Tools and Tube Vises!

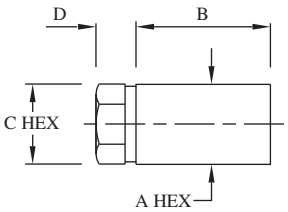
BuTech MILTON ROY

2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com

Connection Components

All BuTech valves and fittings are supplied with glands and collars. To order these components separately, use catalog numbers listed below. When using a plug, the collar is not required.



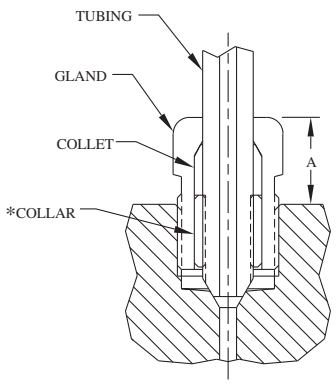


Tube Size	Collar	Gland	Plug
1/4" H/P	60C4	60G4	60P4
3/8" H/P	60C6	60G6	60P6
9/16" H/P 60,000 PSI	60C9	60G9	60P9
9/16" H/P 40,000 PSI	60C9	60G9	40P9
1" H/P	20C16	20G16	30P16

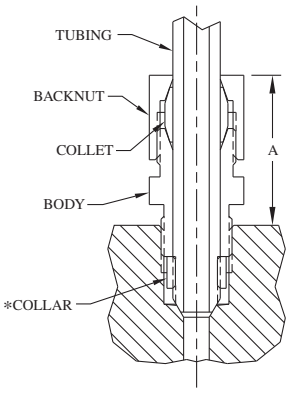
Cap	A	B	C	D
60CA4	0.75" (19.1)	1.06" (26.9)	0.63" (16.0)	0.60" (15.2)
60CA6	1.00" (25.4)	1.25" (31.8)	0.81" (20.6)	0.72" (18.3)
60CA9	1.38" (35.1)	1.62" (41.1)	1.18" (30.0)	0.96" (24.4)
40CA9	1.38" (35.1)	1.62" (41.1)	1.18" (30.0)	0.96" (24.4)
30CA16	1.75" (44.5)	2.25" (57.2)	1.38" (35.1)	0.69" (17.5)

Anti-Vibration Collet Glands

In standard high pressure connection systems, the bending stresses imposed by excessive vibration or shock on the the threaded area of the tubing may cause premature fatigue failure at the back of the thread. By using a BuTech Anti-Vibration Collet Gland, the stress concentration is transferred back to the unthreaded section of the tubing. This transfer and the spring-type gripping action of the collet, strengthens the entire assembly, resulting in virtually unlimited vibration fatigue life. Anti-Vibration Collet Glands are recommended whenever locating a valve or fitting on an unsupported line near a compressor, on equipment subjected to road vibrations, or areas where extreme shock is present.



For 1/4", 3/8" & 9/16" Tube



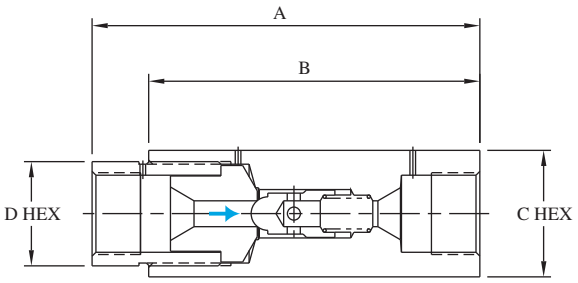
For 1" Tube

Connection	Catalog Number	Gland Hex Size		Height 'A'		Collar*
1/4" H/P	60AVG4	0.62"	(15.7)	0.50"	(12.7)	60C4
3/8" H/P	60AVG6	0.81"	(20.6)	0.75"	(19.1)	60C6
9/16" H/P	60AVG9	1.18"	(30.0)	0.94"	(23.9)	60C9
1" H/P	20AVCG16	1.50"	(38.1)	1.75"	(44.5)	20C16

Anti-vibration glands are manufactured of 316 stainless steel and are available with an optional bonded dry-film Moly lubricant (add suffix **-MC** to catalog number)
*Collars are not included with anti-vibration assembly and must be ordered separately.

2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com

High Pressure Check Valves



BuTech ball check valves prevent reverse flow where leak-tight shutoff is not necessary. Standard materials of construction are 316 stainless steel with 17-4PH poppet for longer life, and 300 series stainless steel spring.

Note: For 316ss wetted parts, add **-316WP** to the catalog number.

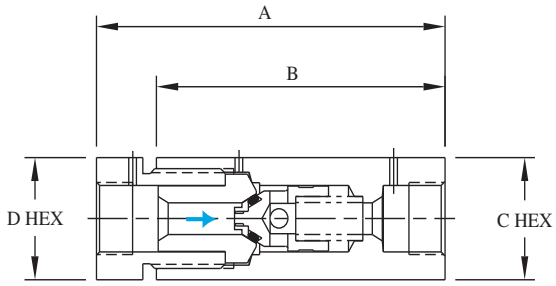
Cracking pressure: 15 PSI (1 bar) approximate
Operating Temperature Range:
-420° to +1200°F
(-251° to +648°C)

BALL CHECK VALVES

Catalog Number	Connection	MAWP	Cv	A	B	C	D
60BC4	1/4" H/P Tube	60,000 PSI 4140 bar	0.15	3.31" (84.1)	2.50" (63.5)	1.12" (28.4)	0.88" (22.2)
60BC6	3/8" H/P Tube	60,000 PSI 4140 bar	0.28	3.75" (95.3)	3.00" (76.2)	1.38" (34.9)	1.12" (28.4)
60BC9	9/16" H/P Tube	60,000 PSI 4140 bar	0.63	4.57" (116.1)	3.38" (85.9)	1.50" (38.1)	1.38" (34.9)
40BC9	9/16" H/P Tube	40,000 PSI 2760 bar	1.00	4.57" (116.1)	3.38" (85.9)	1.50" (38.1)	1.38" (35.1)
30BC16	1" H/P Tube	30,000 PSI 2070 bar	3.40	6.50" (165.1)	5.55" (141.0)	1.75" (44.5)	2.13" (54.1)

To order a valve with a cracking pressure other than the standard 15 PSI, add the cracking pressure to the end of the catalog number. Example: A 60BC9 with 50 PSI cracking pressure would be ordered as **60BC9-50.**

Cracking pressures available up to 100 PSI (7 bar)



BuTech o-ring check valves reliably prevent backflow where leak-tight shutoff for liquids or gases is required. Standard materials of construction are 316 stainless steel with Buna-N o-ring and 300 series stainless steel spring.

Cracking pressure: 15 PSI (1 bar) approximate
Operating Temperature Ranges:

O-ring Material	Operating Temperature Range	Catalog Suffix
Buna-N	-65° to +250°F (-54° to +121°C)	----
Viton	-40° to +500°F (-40° to +260°C)	-VA
Teflon	-320° to +400°F (-195° to +204°C)	-TFE
Kalrez	-20° to +550°F (-29° to +288°C)	-HT

O-RING CHECK VALVES

Catalog Number	Connection	MAWP	Cv	A	B	C	D
60SC4	1/4" H/P Tube	60,000 PSI 4140 bar	0.15	3.31" (84.1)	2.50" (63.5)	1.12" (28.4)	0.88" (22.2)
60SC6	3/8" H/P Tube	60,000 PSI 4140 bar	0.28	3.75" (95.3)	3.00" (76.2)	1.38" (34.9)	1.12" (28.4)
60SC9	9/16" H/P Tube	60,000 PSI 4140 bar	0.63	4.57" (116.1)	3.38" (85.9)	1.50" (38.1)	1.38" (34.9)
40SC9	9/16" H/P Tube	40,000 PSI 2760 bar	1.00	4.57" (116.1)	3.38" (85.9)	1.50" (38.1)	1.38" (35.1)
30SC16	1" H/P Tube	30,000 PSI 2070 bar	3.40	6.50" (165.1)	5.55" (141.0)	2.13" (54.1)	1.75" (44.5)

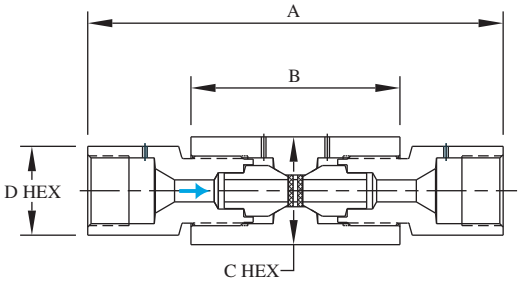
To order a valve with a cracking pressure other than the standard 15 PSI, add the cracking pressure to the end of the catalog number. Example: A 60SC4 with 40 PSI cracking pressure would be ordered as **60SC4-40.**

Cracking pressures available up to 100 PSI (7 bar)

All dimensions are for reference only and are subject to change.
Dimensions in parentheses are millimeters (mm)

BuTech MILTON ROY
2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com

High Pressure Filters



BuTech line filters are used in system lines to remove contaminating particles from the system fluid. Upstream filter of larger micron rating than downstream filter to prevent clogging of downstream filter.

Standard materials of construction are 316 stainless steel with 300 series stainless steel filter discs. Available in nominal ratings of: 0.5, 2, 5, 10, 20, 40, and 100 micron.

LINE FILTERS

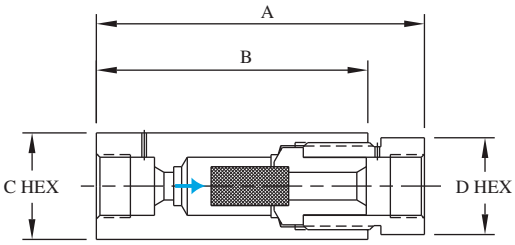
Catalog Number	Connection	MAWP	Area*	A	B	C	D
60LF4	1/4" H/P Tube	60,000 PSI 4140 bar	0.15 in^2 97 mm^2	4.06" (103.1)	2.62" (66.5)	1.38" (34.9)	0.88" (22.4)
60LF6	3/8" H/P Tube	60,000 PSI 4140 bar	0.15 in^2 97 mm^2	4.56" (115.8)	2.62" (66.5)	1.38" (34.9)	1.00" (25.4)
60LF9	9/16" H/P Tube	60,000 PSI 4140 bar	0.15 in^2 97 mm^2	6.00" (152.4)	3.62" (91.9)	1.50" (38.1)	1.38" (35.1)
40LF9	9/16" H/P Tube	40,000 PSI 2760 bar	0.22 in^2 142 mm^2	6.00" (152.4)	3.62" (91.9)	1.50" (38.1)	1.38" (35.1)
30LF16	1" H/P Tube	30,000 PSI 2070 bar	0.50 in^2 323 mm^2	8.18" (207.8)	4.12" (104.6)	2.13" (54.1)	1.75" (44.5)

*Effective area of filter element

Micron rating of filter must be specified. To order, complete the catalog number with the desired micron rating, upstream first:

60LF4-40/20

specifies a line filter with 1/4" H/P connections, a 40 micron filter upstream and 20 micron downstream.



BuTech sintered cup filters offer maximum filtration surface area for removal of contaminating particles from the fluid system. They may be used in systems which require high flow rates with minimum pressure drop.

Standard materials of construction are 316 stainless steel with 300 series stainless steel filter discs. Available in nominal ratings of: 5, 10, 20, 40, and 100 micron.

SINTERED CUP FILTERS

Catalog Number	Connection	MAWP	Area*	A	B	C	D
60SCF4	1/4" H/P Tube	60,000 PSI 4140 bar	0.44 in^2 284 mm^2	3.32" (84.3)	2.50" (63.5)	1.12" (28.4)	0.88" (22.2)
60SCF6	3/8" H/P Tube	60,000 PSI 4140 bar	0.54 in^2 348 mm^2	3.75" (95.3)	3.00" (76.2)	1.38" (34.9)	1.12" (28.4)
60SCF9	9/16" H/P Tube	60,000 PSI 4140 bar	0.86 in^2 555 mm^2	4.70" (119.4)	3.37" (85.6)	1.50" (38.1)	1.38" (34.9)
40SCF9	9/16" H/P Tube	40,000 PSI 2760 bar	1.47 in^2 948 mm^2	6.00" (152.4)	3.62" (91.9)	1.50" (38.1)	1.38" (35.1)
30SCF16	1" H/P Tube	30,000 PSI 2070 bar	1.75 in^2 1129 mm^2	6.50" (165.1)	5.55" (141.0)	2.13" (54.1)	1.75" (44.5)

*Effective area of filter element

Micron rating of filter must be specified. To order, complete the catalog number with the desired micron rating:

60SCF4-20

specifies a line filter with 1/4" H/P connections and a 20 micron filter.

All dimensions are for reference only and are subject to change.
Dimensions in parentheses are millimeters (mm)

2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com

High Pressure Safety Heads & Rupture Discs

BuTech safety head assemblies serve as holders for standard rupture discs (sold separately). Safety heads with rupture discs are used as simple and inexpensive overpressure relief devices. System pressure is relieved as a result of rupture of the replaceable disc.

The safety head assemblies shown are designed for use in high pressure systems up to 60,000 PSI (4140 bar). They can be installed directly into any of our standard couplings, elbows, tees, or crosses. Their versatility also allows direct installation into a standard 3-way valve. The result is a combination valve/safety head with beneficial cost and space advantages.

Standard material of construction is 316 stainless steel.

Safety head assemblies and rupture discs are available in two styles:

The **1/4A** style features a 1/4" blow-out diameter, an angular seat and can be ordered in pressures from 900 to 60,000 PSI (62 to 4140 bar)

The **1/2F** style features a 1/2" blow-out diameter, a flat seat and can be ordered in pressures from 500 to 10,000 PSI (34 to 689 bar). This style also has a reversible hold-down ring which greatly reduces the possibility of premature disc failure associated with installation errors inherent in some designs.

Rupture discs are available in a wide range of burst ratings. Factors such as corrosion, fatigue and temperature may affect the burst pressure of the disc and cause premature failure. This problem may sometimes be overcome by frequent replacement of the disc. All discs rated over 500 PSI (34 bar) have a manufacturing tolerance of 3% under to 6% over the specified rupture pressure rating.

Rupture Discs are not included in the safety head assembly. To order discs separately, use the following part numbering system:

Style	Material	Pressure:
4=1/4" Angled 8=1/2" Flat	AL=Aluminum IN=Inconel MO=Monel NI=Nickel SI=Silver SS=316SS TI=Titanium	List desired pressure at 72°F (21°C) in KSI.

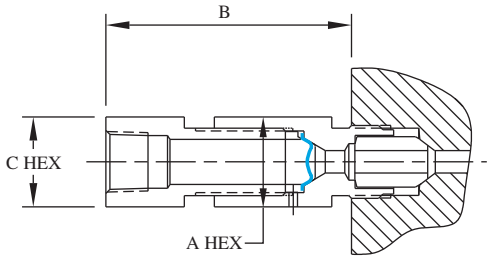
Examples:

An Inconel disc rated for 18,000 PSI in 1/4" Angled style would be ordered as **4IN18.00**

An Aluminum disc rated for 750 PSI in 1/2" Flat style would be ordered as **8AL0.750**

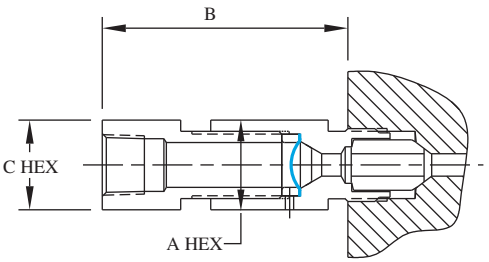
SAFETY HEADS - 1/4" ANGLED DISC

Catalog Number	Connection	MAWP	A	B	C	Discharge
60SH4-1/4A	1/4" H/P Tube	60,000 PSI 4140 bar	1.00" (25.4)	2.75" (69.9)	1.00" (25.4)	3/8" FNPT
60SH6-1/4A	3/8" H/P Tube	60,000 PSI 4140 bar	1.00" (25.4)	2.81" (71.4)	1.00" (25.4)	3/8" FNPT
60SH9-1/4A	9/16" H/P Tube	60,000 PSI 4140 bar	1.38" (35.1)	2.88" (73.0)	1.00" (25.4)	3/8" FNPT
40SH9-1/4A	9/16" H/P Tube	40,000 PSI 2760 bar	1.38" (35.1)	2.88" (73.2)	1.00" (25.4)	3/8" FNPT
30SH16-1/4A	1" H/P Tube	30,000 PSI 2070 bar	1.75" (44.5)	3.38" (85.9)	1.00" (25.4)	3/8" FNPT



SAFETY HEADS - 1/2" FLAT DISC

Catalog Number	Connection	MAWP	A	B	C	Discharge
60SH4-1/2F	1/4" H/P Tube	10,000 PSI 689 bar	1.00" (25.4)	2.68" (68.1)	1.00" (25.4)	3/8" FNPT
60SH6-1/2F	3/8" H/P Tube	10,000 PSI 689 bar	1.00" (25.4)	2.81" (71.4)	1.00" (25.4)	3/8" FNPT
60SH9-1/2F	9/16" H/P Tube	10,000 PSI 689 bar	1.38" (35.1)	2.81" (71.4)	1.00" (25.4)	3/8" FNPT
40SH9-1/2F	9/16" H/P Tube	10,000 PSI 689 bar	1.38" (35.1)	2.81" (71.4)	1.00" (25.4)	3/8" FNPT
30SH16-1/2F	1" H/P Tube	10,000 PSI 689 bar	1.75" (44.5)	3.38" (85.9)	1.00" (25.4)	3/8" FNPT



All dimensions are for reference only and are subject to change.
Dimensions in parentheses are millimeters (mm)

BuTech MILTON ROY

2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com

EQUIPMENT FOR 150,000 PSI (10,340 BAR)

2-way Straight

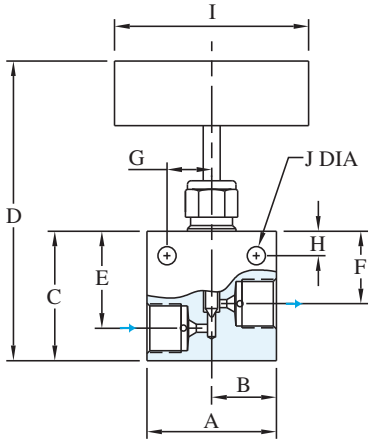


Figure 1

2-way Angle

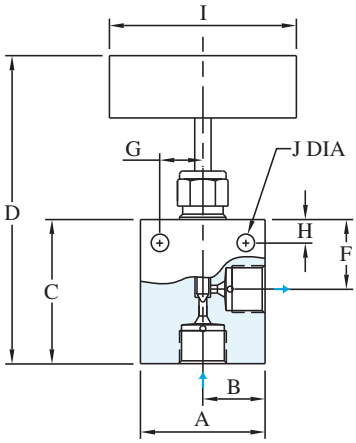


Figure 2

3-way Two on Pressure

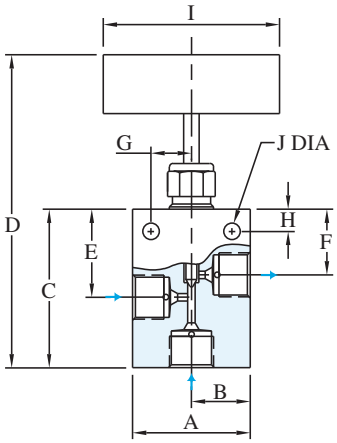
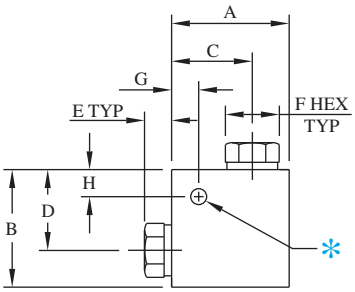
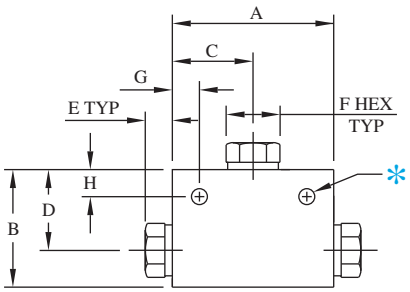
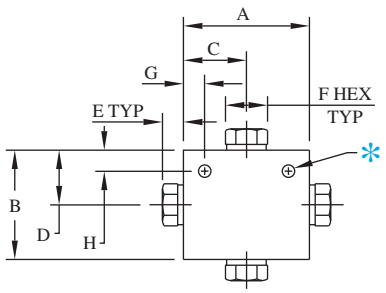


Figure 3

Catalog Number	Stem Style	Connection	Orifice	Cv	A	B	C	D	E	F	G	H	I	J	Thk.	Fig.
150V51V 150V51R	Vee Reg	5/16" H/P Tube	0.094" (2.4)	0.27	3.00" (76.2)	1.50" (38.1)	2.50" (63.5)	5.66" (143.8)	1.75" (44.5)	1.44" (36.6)	0.87" (22.1)	0.50" (12.7)	3.00" (76.2)	0.34" (8.6)	1.50" (38.1)	1
150V52V 150V52R	Vee Reg	5/16" H/P Tube	0.094" (2.4)	0.40	3.00" (76.2)	1.50" (38.1)	2.88" (73.2)	6.27" (159.3)	---	1.44" (36.6)	0.87" (22.1)	0.50" (12.7)	3.00" (76.2)	0.34" (8.6)	1.50" (38.1)	2
150V53V 150V53R	Vee Reg	5/16" H/P Tube	0.094" (2.4)	0.40	3.00" (76.2)	1.50" (38.1)	3.19" (81.0)	6.35" (161.3)	1.75" (44.5)	1.44" (36.6)	0.87" (22.1)	0.50" (12.7)	3.00" (76.2)	0.34" (8.6)	1.50" (38.1)	3







ELBOW

Catalog Number	Connection	Port	MAWP	A	B	C	D	E	F	Block Thickness	Mounting Holes* G	H	Dia.
150L5	5/16" H/P Tube	0.062" (1.6)	150,000 PSI 10340 bar	2.25" (57.2)	2.00" (50.8)	1.75" (44.5)	1.38" (35.1)	0.62" (15.7)	0.75" (19.1)	1.50" (38.1)	0.50" (12.7)	0.50" (12.7)	0.34" (8.6)

TEE

Catalog Number	Connection	Port	MAWP	A	B	C	D	E	F	Block Thickness	Mounting Holes* G	H	Dia.
150T5	5/16" H/P Tube	0.062" (1.6)	150,000 PSI 10340 bar	3.00" (76.2)	2.25" (57.2)	1.50" (38.1)	1.62" (41.1)	0.62" (15.7)	0.75" (19.1)	1.50" (38.1)	0.50" (12.7)	0.50" (12.7)	0.34" (8.6)

CROSS

Catalog Number	Connection	Port	MAWP	A	B	C	D	E	F	Block Thickness	Mounting Holes* G	H	Dia.
150X5	5/16" H/P Tube	0.062" (1.6)	150,000 PSI 10340 bar	3.00" (76.2)	3.00" (76.2)	1.50" (38.1)	1.50" (38.1)	0.62" (15.7)	0.75" (19.1)	1.50" (38.1)	0.50" (12.7)	0.50" (12.7)	0.34" (8.6)

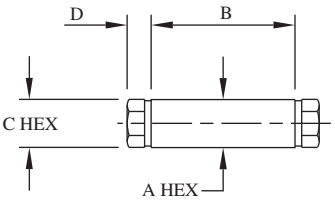
*Mounting holes provided when the catalog number is suffixed by "**-MH**"when ordering.

2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com

EQUIPMENT FOR 150,000 PSI (10,340 BAR)

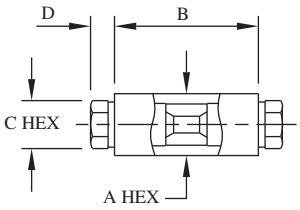
COUPLING

Catalog Number	Connection	Port	MAWP	A	B	C	D
150F5	5/16" H/P Tube	0.062" (1.6)	150,000 PSI 10340 bar	1.12" (28.4)	2.62" (66.5)	0.75" (19.1)	0.62" (15.7)



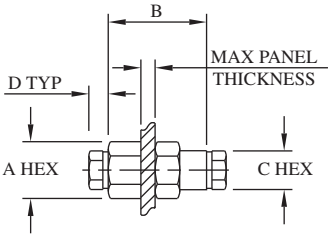
REPLACEABLE SEAT COUPLING

Catalog Number	Connection	Port	MAWP	A	B	C	D
150UF5	5/16" H/P Tube	0.062" (1.6)	150,000 PSI 10340 bar	1.12" (28.4)	2.62" (66.5)	0.75" (19.1)	0.62" (15.7)



BULKHEAD

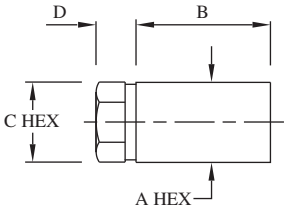
Catalog Number	Connection	Port	MAWP	A	B	C	D	Max Panel Thickness	Panel Hole
150BF5	5/16" H/P Tube	0.062" (1.6)	150,000 PSI 10340 bar	1.75" (44.5)	3.25" (82.6)	0.75" (19.1)	0.62" (15.7)	0.50" (12.7)	1.44" (36.6)



Connection Components

All BuTech valves and fittings are supplied with glands and collars. To order these components separately, use catalog numbers listed below. When using a plug, the collar is not required.



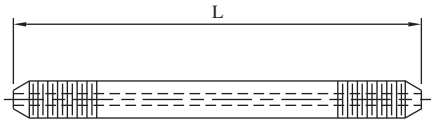


Tube Size	Collar	Gland	Plug
5/16" H/P	150C5	150G5	150P5

Cap	A	B	C	D
150CA5	1.12" (28.4)	1.50" (38.1)	0.75" (19.1)	0.62" (15.7)

Coned and Threaded Nipples

BuTech stocks pre-cut coned and threaded nipples in lengths up to 12" (305 mm). In addition, nipples can be purchased to any custom



	Length					
Connection	4.00" (101.6)	6.00" (152.4)	8.00" (203.2)	10.00" (254.0)	12.00" (304.8)	MAWP
5/16" H/P	150N554-316	150N556-316	150N558-316	150N5510-316	150N5512-316	150,000 PSI 10340 bar

Tubing

Catalog Number	Connection	O.D.	I.D.	MAWP
150-063-316	5/16" H/P	0.312" (7.9)	0.063" (1.6)	150,000 PSI 10340 bar

BuTech offers a complete selection of austenitic seamless cold-drawn stainless steel tubing for high pressure applications where both high strength and corrosion resistance are desired. Tubing is available in standard 20-24 foot lengths (6-7 meters), however, longer lengths are available on request.

BuTech MILTON ROY

2121 EBCO Drive, Suite 1 • Erie, PA 16506 USA • Ph: (814) 833-4904 • Fax: (814) 833-2612 • E-mail: hq@butech-valve.com