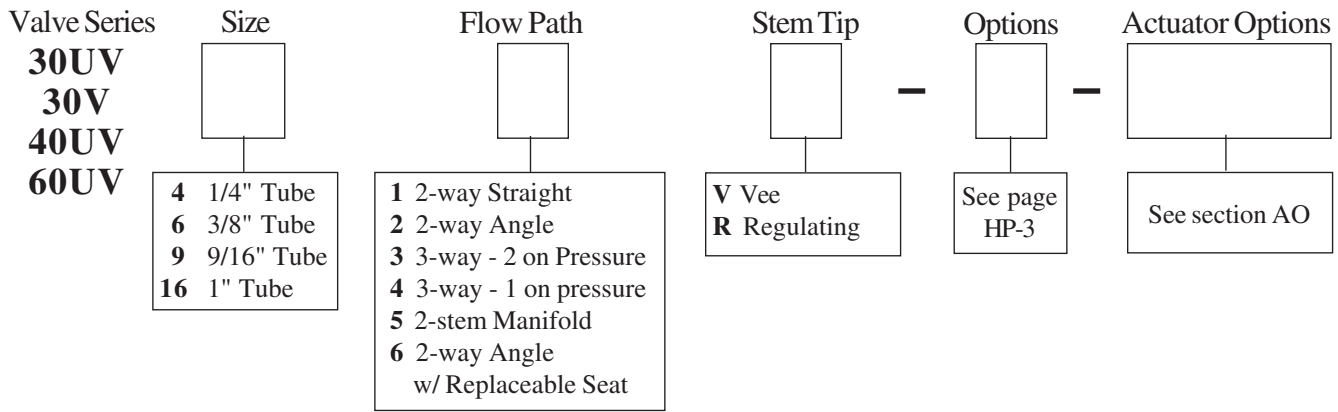


ORDERING INFORMATION & REPLACEMENT PARTS



Examples:

30UV42V specifies a 2-way angle valve for 1/4" tube with a Vee stem

60UV91R-PM specifies a 2-way straight valve for 9/16" tube with regulating stem and panel-mount packing gland option

Replacement Parts

BuTech offers replacement parts in a variety of packages so you can purchase just the parts you need.

Replacement Stem Kit contains just the stem

Replacement Packing Kit contains all soft packing rings

Repair Kits contain stem, stem sleeve, stem nuts and washers, packings and packing washers (replacement seat where applicable)

Valve Series	Repair Kits		Replacement Stem	Replacement Packings	Replacement Valve Body
	All others	Replaceable Seat			
30UV4	RK-30UV4*	RK-30UV46*	30S4*	30PK4*	30UV4+
30UV6	RK-30UV6*	RK-30UV66*	30S6*	30PK6*	30UV6+
30UV9	RK-30UV9*	RK-30UV96*	30S9*	30PK9*	30UV9+
30V16	RK-30V16*	RK-30V166*	30S16*	30PK16*	30V16+
40UV9	RK-40UV*	RK-40UV96*	40S9*	40PK9*	40UV9+
60UV4	RK-60UV4*	RK-60UV46*	60S4*	60PK4*	60UV4+
60UV6	RK-60UV6*	RK-60UV66*	60S6*	60PK6*	60UV6+
60UV9	RK-60UV9*	RK-60UV96*	60S9*	60PK9*	60UV9+

*Complete catalog number by adding the following:

V or R for stem type

Suffix for special packing materials (see page HP-3)
(ex. -GR for Grafoil packings)

Suffix for special materials
(ex. -HC for Hastelloy)

-LT or -HT for cryogenic or high-temperature service

-WAO for a valve fitted with an actuator

+Complete catalog number by adding the flow path designator:

- 1 2-way straight
- 2 2-way angle
- 3 3-way, 2 connections on pressure
- 4 3-way, 1 connection on pressure
- 5 2-stem manifold
- 6 2-way angle with replaceable seat

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

NEEDLE VALVE OPTIONS

Packing and Stem Materials

- GR Grafoil packings for service to 800°F (426°C)
- TFE Virgin Teflon packing for service to 450°F (232°C)
- 316WP 316 wetted parts
- STS Stellite tipped stem
- SRS Stellite replaceable seat (Replaceable seat valves only)

Handle Options

- PH Round plastic handle in place of aluminum (available on 1/4" through 9/16" sizes)
- SS Stainless steel handle in place of aluminum (available on 1/4" through 9/16" sizes, on 1" SS is standard)
- EXT_ Handle extended above valve body, specify number of inches of extra height desired (Ex: **EXT6** is a 6" extension)

Security Options

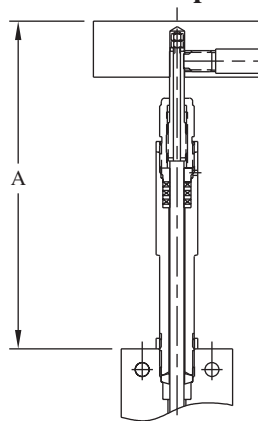
- HLD Handle locking device (prevents unauthorized opening/closing of valve)
- SLD Stem locking device (prevents stem from turning due to vibration)

Extreme Service

- AVG Anti-vibration glands instead of standard glands for applications with excessive vibration or shock
- O2 Cleaned for oxygen service
- SOG For Sour Gas service in accordance with NACE MR-01-75 (See Section OF for details)
- HT Extended stuffing box, graphite packing, and materials for high-temperature service to 1200°F (648°C)
- HTF Finned extended stuffing box, graphite packing, and materials for high-temperature service to 1200°F (648°C)
- LT Extended stuffing box, teflon packing, and materials for cryogenic service to -423°F (-251°C)
- LTF Finned extended stuffing box, teflon packing, and materials for cryogenic service to -423°F (-251°C)

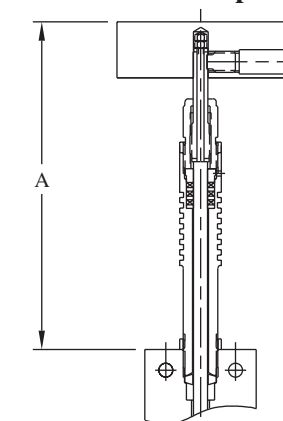
Valve Model	A
30UV	6.14" (156.0)
30V	10.76" (273.3)
40UV	5.88" (149.4)
60UV	5.88" (149.4)

-HT or -LT Options



Cylindrical Bonnet

-HTF or -LTF Options

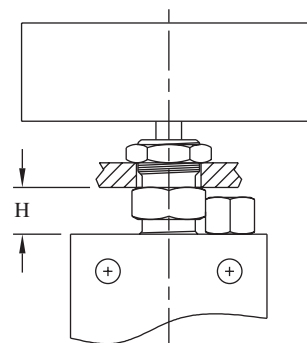


Finned Bonnet

Panel Mount

- PM Panel-mount packing gland

Valve Model	Panel Hole Size	Max Panel Thickness	H
30UV	0.84" (21.3)	0.37" (9.4)	0.48" (12.2)
30V	1.41" (35.8)	0.62" (15.7)	0.97" (24.6)
40UV	0.84" (21.3)	0.37" (9.4)	0.48" (12.2)
60UV	0.84" (21.3)	0.37" (9.4)	0.48" (12.2)



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

NEEDLE VALVES FOR 30,000 PSI (2070 BAR)

1/4" H/P TUBE, CONED AND THREADED

2-way Straight

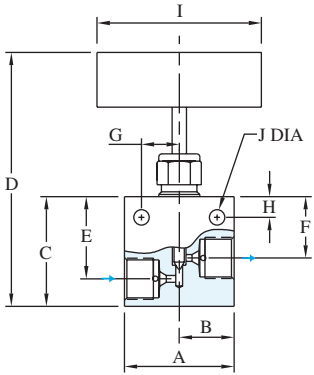


Figure 1

2-way Angle

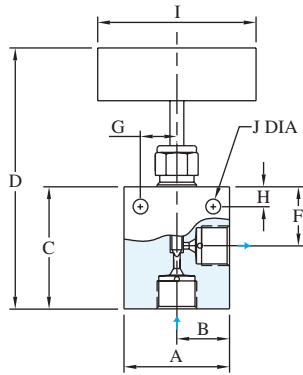


Figure 2

3-way Two on Pressure

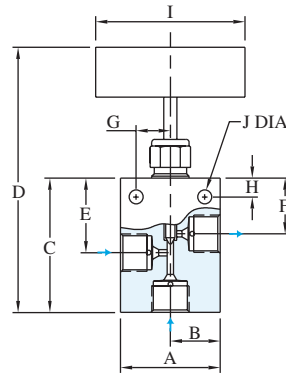


Figure 3

3-way One on Pressure

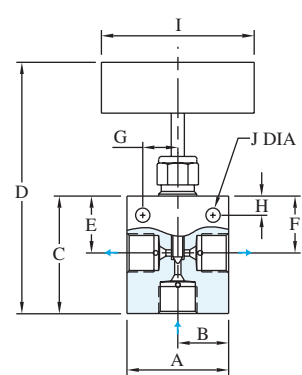


Figure 4

Catalog Number	Stem Style	Connection	A	B	C	D	E	F	G	H	I	J	K	L	Thk.	Fig
30UV41V	Vee	1/4" H/P	2.00"	1.00"	2.00"	4.75"	1.50"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	1
30UV41R	Reg	Tube	(50.8)	(25.4)	(50.8)	(120.7)	(38.1)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV42V	Vee	1/4" H/P	2.00"	1.00"	2.00"	4.75"	---	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	2
30UV42R	Reg	Tube	(50.8)	(25.4)	(50.8)	(120.7)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV43V	Vee	1/4" H/P	2.00"	1.00"	2.12"	4.87"	1.50"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	3
30UV43R	Reg	Tube	(50.8)	(25.4)	(53.8)	(123.7)	(38.1)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV44V	Vee	1/4" H/P	2.00"	1.00"	2.00"	4.75"	1.12"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	4
30UV44R	Reg	Tube	(50.8)	(25.4)	(50.8)	(120.7)	(28.4)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV45V	Vee	1/4" H/P	2.00"	1.00"	3.06"	8.56"	1.53"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	5
30UV45R	Reg	Tube	(50.8)	(25.4)	(77.7)	(217.4)	(38.9)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV46V	Vee	1/4" H/P	2.00"	1.00"	2.38"	5.13"	---	1.12"	0.69"	0.38"	3.00"	0.28"	0.75"	1.47"	1.00"	6
30UV46R	Reg	Tube	(50.8)	(25.4)	(60.5)	(130.3)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	(19.1)	(37.3)	(25.4)	
30MV46V	Meter	1/4" H/P	2.00"	1.00"	2.38"	5.42"	---	1.12"	0.69"	0.38"	3.00"	0.28"	0.75"	1.47"	1.00"	7
30MV46R	Reg	Tube	(50.8)	(25.4)	(60.5)	(137.7)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	(19.1)	(37.3)	(25.4)	
30MMV46V	Micro-Meter	1/4" H/P	2.00"	1.00"	2.38"	6.10"	---	1.12"	0.69"	0.38"	3.00"	0.28"	0.75"	1.47"	1.00"	8
30MMV46R	Reg	Tube	(50.8)	(25.4)	(60.5)	(154.9)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	(19.1)	(37.3)	(25.4)	

See page HP-1 for orifice and Cv

2-stem Manifold

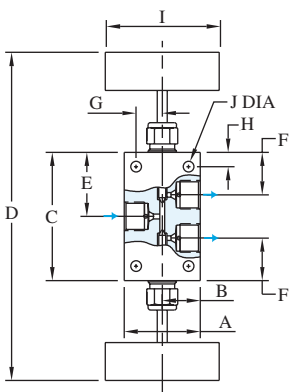


Figure 5

Replaceable Seat

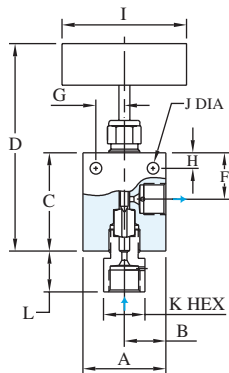


Figure 6

Metering

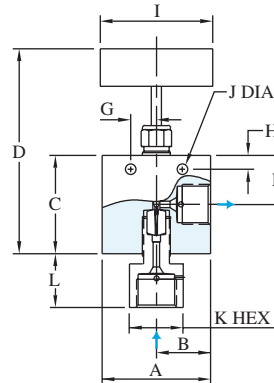


Figure 7

Micro-Metering

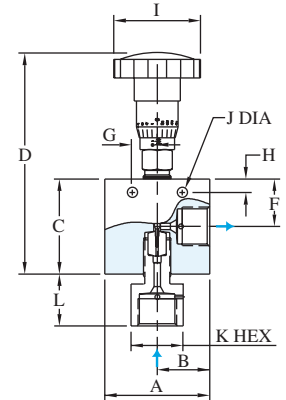


Figure 8

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

NEEDLE VALVES FOR 30,000 PSI (2070 BAR)

3/8" H/P TUBE, CONED AND THREADED

2-way Straight

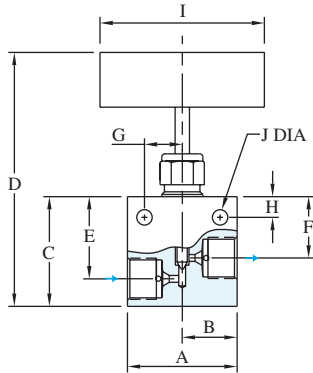


Figure 1

2-way Angle

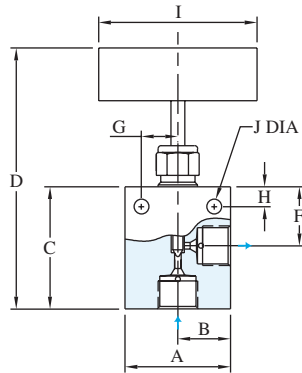


Figure 2

3-way Two on Pressure

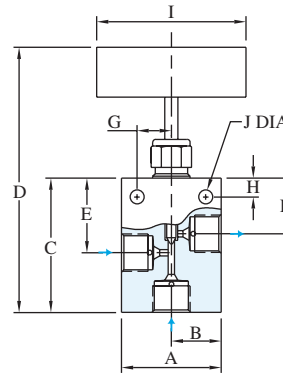


Figure 3

3-way One on Pressure

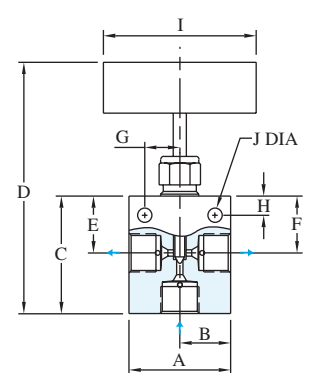


Figure 4

Catalog Number	Stem Style	Connection	A	B	C	D	E	F	G	H	I	J	K	L	Thk.	Fig
30UV61V	Vee	3/8" H/P	2.00"	1.00"	2.00"	4.75"	1.50"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	1
30UV61R	Reg	Tube	(50.8)	(25.4)	(50.8)	(120.7)	(38.1)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV62V	Vee	3/8" H/P	2.00"	1.00"	2.12"	4.87"	---	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	2
30UV62R	Reg	Tube	(50.8)	(25.4)	(53.8)	(123.7)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV63V	Vee	3/8" H/P	2.00"	1.00"	2.50"	5.25"	1.50"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	3
30UV63R	Reg	Tube	(50.8)	(25.4)	(63.5)	(133.4)	(38.1)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV64V	Vee	3/8" H/P	2.00"	1.00"	2.12"	4.87"	1.12"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	4
30UV64R	Reg	Tube	(50.8)	(25.4)	(53.8)	(123.7)	(28.4)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV65V	Vee	3/8" H/P	2.00"	1.00"	3.25"	8.75"	1.62"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.00"	5
30UV65R	Reg	Tube	(50.8)	(25.4)	(82.6)	(222.3)	(41.1)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(25.4)	
30UV66V	Vee	3/8" H/P	2.00"	1.00"	2.38"	5.13"	---	1.12"	0.69"	0.38"	3.00"	0.28"	1.00"	1.15"	1.00"	6
30UV66R	Reg	Tube	(50.8)	(25.4)	(60.5)	(130.3)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	(25.4)	(29.2)	(25.4)	
30MV66V	Meter	3/8" H/P	2.00"	1.00"	2.38"	5.42"	---	1.12"	0.69"	0.38"	3.00"	0.28"	1.00"	1.15"	1.00"	7
30MV66R	Reg	Tube	(50.8)	(25.4)	(60.5)	(137.7)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	(25.4)	(29.2)	(25.4)	
30MMV66V	Micro-Meter	3/8" H/P	2.00"	1.00"	2.38"	6.10"	---	1.12"	0.69"	0.38"	3.00"	0.28"	1.00"	1.15"	1.00"	8
30MMV66R	Reg	Tube	(50.8)	(25.4)	(60.5)	(154.9)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	(25.4)	(29.2)	(25.4)	

See page HP-1 for orifice and Cv

2-stem Manifold

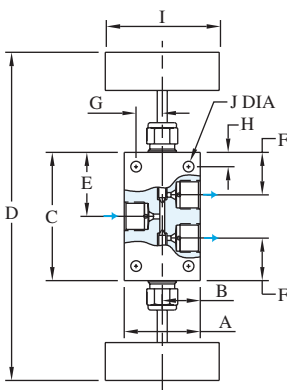


Figure 5

Replaceable Seat

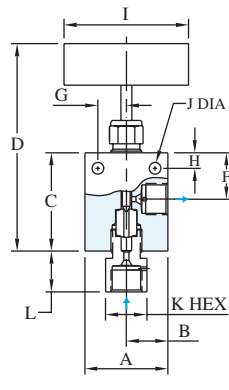


Figure 6

Metering

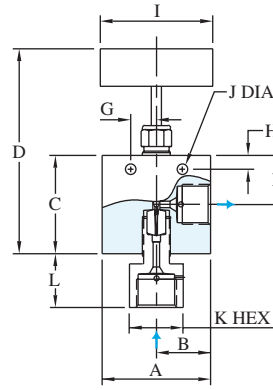


Figure 7

Micro-Metering

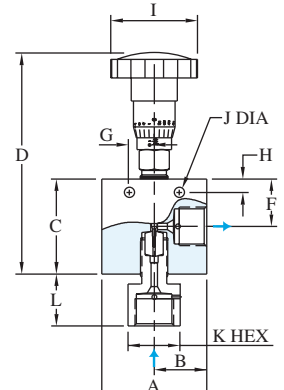


Figure 8

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



NEEDLE VALVES FOR 30,000 PSI (2070 BAR)

9/16" H/P TUBE, CONED AND THREADED

2-way Straight

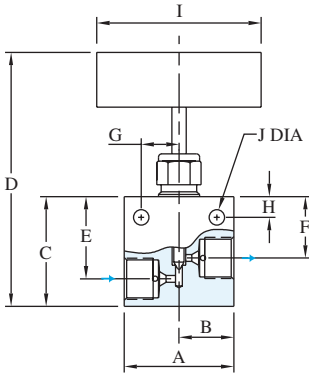


Figure 1

2-way Angle

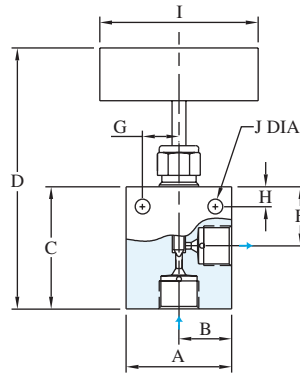


Figure 2

3-way Two on Pressure

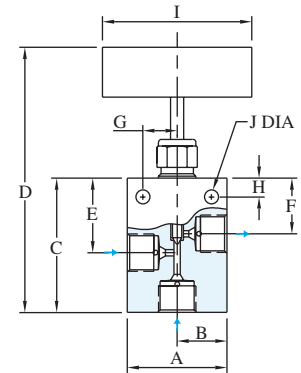


Figure 3

Catalog Number	Stem Style	Connection	A	B	C	D	E	F	G	H	I	J	K	L	Thk.	Fig
30UV91V	Vee	9/16" H/P	2.62"	1.31"	2.44"	5.19"	1.56"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	1
30UV91R	Reg	Tube	(66.5)	(33.3)	(62.0)	(131.8)	(39.6)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
30UV92V	Vee	9/16" H/P	2.62"	1.31"	2.44"	5.75"	---	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	2
30UV92R	Reg	Tube	(66.5)	(33.3)	(62.0)	(146.1)	---	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
30UV93V	Vee	9/16" H/P	2.62"	1.31"	2.88"	5.63"	1.56"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	3
30UV93R	Reg	Tube	(66.5)	(33.3)	(73.2)	(143.0)	(39.6)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
30UV94V	Vee	9/16" H/P	2.62"	1.31"	2.44"	5.19"	1.12"	1.12"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	4
30UV94R	Reg	Tube	(66.5)	(33.3)	(62.0)	(131.8)	(28.4)	(28.4)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
30UV95V	Vee	9/16" H/P	2.62"	1.31"	4.75"	10.25"	2.38"	1.62"	0.69"	0.50"	3.00"	0.28"	---	---	1.50"	5
30UV95R	Reg	Tube	(66.5)	(33.3)	(120.7)	(260.4)	(60.5)	(41.1)	(17.5)	(12.7)	(76.2)	(7.1)	---	---	(38.1)	
30UV96V	Vee	9/16" H/P	2.62"	1.31"	2.44"	5.19"	---	1.19"	0.69"	0.38"	3.00"	0.28"	1.38"	1.65"	1.50"	6
30UV96R	Reg	Tube	(66.5)	(33.3)	(62.0)	(131.8)	---	(30.2)	(17.5)	(9.7)	(76.2)	(7.1)	(35.1)	(41.9)	(38.1)	

See page HP-1 for orifice and Cv

3-way One on Pressure

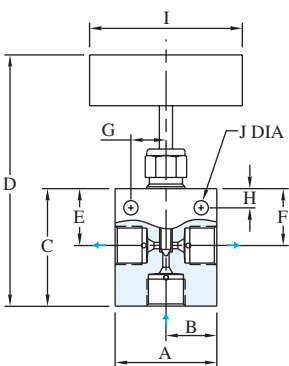


Figure 4

2-stem Manifold

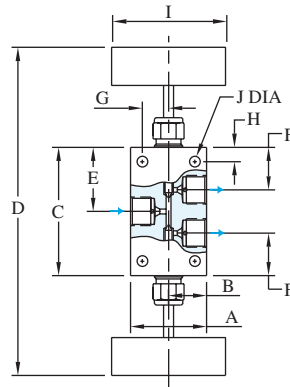


Figure 5

Replaceable Seat

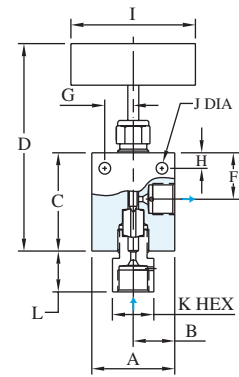


Figure 6

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

NEEDLE VALVES FOR 30,000 PSI (2070 BAR)

1" H/P TUBE, CONED AND THREADED

2-way Straight

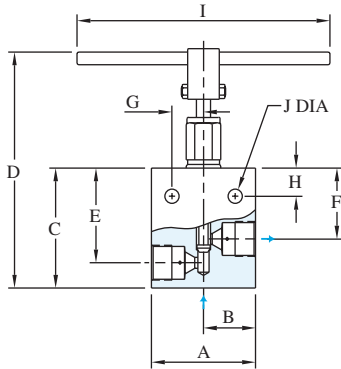


Figure 1

2-way Angle

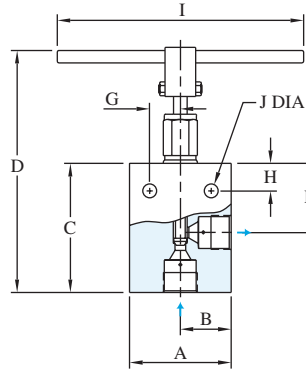


Figure 2

3-way Two on Pressure

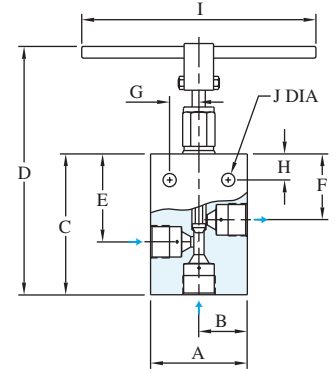


Figure 3

Catalog Number	Stem Style	Connection	A	B	C	D	E	F	G	H	I	J	K	L	Thk.	Fig
30V161V	Vee	1" H/P	4.12"	2.06"	4.75"	10.04"	3.75"	2.81"	1.25"	1.12"	10.00"	0.56"	---	---	1.75"	1
30V161R	Reg	Tube	(104.6)	(52.3)	(120.7)	(255.0)	(95.3)	(71.4)	(31.8)	(28.4)	(254.0)	(14.2)	---	---	(44.5)	
30V162V	Vee	1" H/P	4.12"	2.06"	5.25"	10.54"	---	2.81"	1.25"	1.12"	10.00"	0.56"	---	---	1.75"	2
30V162R	Reg	Tube	(104.6)	(52.3)	(133.4)	(267.7)	---	(71.4)	(31.8)	(28.4)	(254.0)	(14.2)	---	---	(44.5)	
30V163V	Vee	1" H/P	4.12"	2.06"	6.00"	11.25"	3.75"	2.81"	1.25"	1.12"	10.00"	0.56"	---	---	1.75"	3
30V163R	Reg	Tube	(104.6)	(52.3)	(152.4)	(285.8)	(95.3)	(71.4)	(31.8)	(28.4)	(254.0)	(14.2)	---	---	(44.5)	
30V164V	Vee	1" H/P	4.12"	2.06"	5.25"	10.54"	2.81"	2.81"	1.25"	1.12"	10.00"	0.56"	---	---	1.75"	4
30V164R	Reg	Tube	(104.6)	(52.3)	(133.4)	(267.7)	(71.4)	(71.4)	(31.8)	(28.4)	(254.0)	(14.2)	---	---	(44.5)	
30V165V	Vee	1" H/P	4.12"	2.06"	8.00"	18.58"	4.00"	2.81"	1.25"	1.12"	10.00"	0.56"	---	---	1.75"	5
30V165R	Reg	Tube	(104.6)	(52.3)	(203.2)	(471.9)	(101.6)	(71.4)	(31.8)	(28.4)	(254.0)	(14.2)	---	---	(44.5)	
30V166V	Vee	1" H/P	4.12"	2.06"	4.87"	10.16"	---	2.81"	1.25"	1.12"	10.00"	0.56"	1.75"	2.06"	1.75"	6
30V166R	Reg	Tube	(104.6)	(52.3)	(123.7)	(258.1)	---	(71.4)	(31.8)	(28.4)	(254.0)	(14.2)	(44.5)	(52.3)	(44.5)	

See page HP-1 for orifice and Cv

3-way One on Pressure

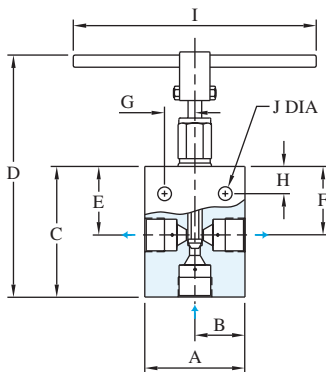


Figure 4

2-stem Manifold

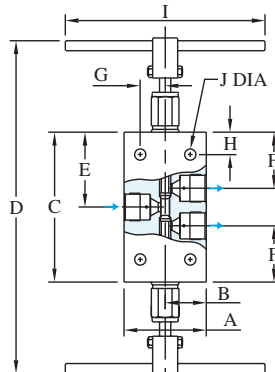


Figure 5

Replaceable Seat

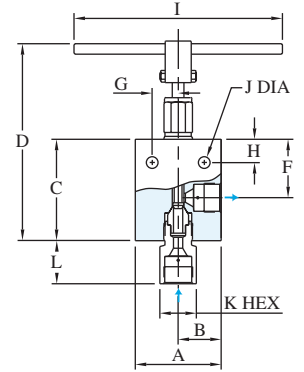


Figure 6

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



NEEDLE VALVES FOR 40,000 PSI (2760 BAR)

9/16" H/P TUBE, CONED AND THREADED

2-way Straight

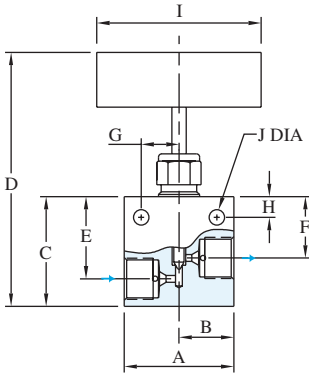


Figure 1

2-way Angle

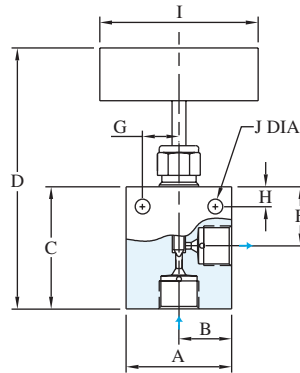


Figure 2

3-way Two on Pressure

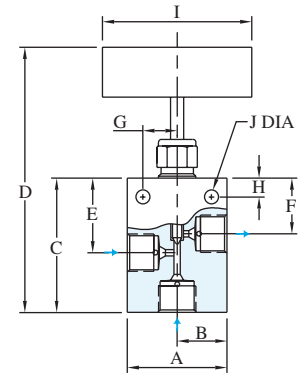


Figure 3

Catalog Number	Stem Style	Connection	A	B	C	D	E	F	G	H	I	J	K	L	Thk.	Fig
40UV91V	Vee	9/16" H/P	2.62"	1.31"	2.50"	5.25"	1.69"	1.31"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	1
40UV91R	Reg	Tube	(66.5)	(33.3)	(63.5)	(133.4)	(42.9)	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
40UV92V	Vee	9/16" H/P	2.62"	1.31"	2.81"	5.56"	---	1.31"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	2
40UV92R	Reg	Tube	(66.5)	(33.3)	(71.4)	(141.2)	---	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
40UV93V	Vee	9/16" H/P	2.62"	1.31"	3.03"	5.78"	1.75"	1.31"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	3
40UV93R	Reg	Tube	(66.5)	(33.3)	(77.0)	(146.8)	(44.5)	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
40UV94V	Vee	9/16" H/P	2.62"	1.31"	2.81"	5.56"	1.31"	1.31"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	4
40UV94R	Reg	Tube	(66.5)	(33.3)	(71.4)	(141.2)	(33.3)	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
40UV95V	Vee	9/16" H/P	2.62"	1.31"	4.12"	9.62"	2.06"	1.31"	0.69"	0.50"	3.00"	0.28"	---	---	1.50"	5
40UV95R	Reg	Tube	(66.5)	(33.3)	(104.6)	(244.3)	(52.3)	(33.3)	(17.5)	(12.7)	(76.2)	(7.1)	---	---	(38.1)	
40UV96V	Vee	9/16" H/P	2.62"	1.31"	2.62"	5.37"	---	1.31"	0.69"	0.38"	3.00"	0.28"	1.37"	1.39"	1.50"	6
40UV96R	Reg	Tube	(66.5)	(33.3)	(66.5)	(136.4)	---	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	(34.8)	(35.3)	(38.1)	

See page HP-1 for orifice and Cv

3-way One on Pressure

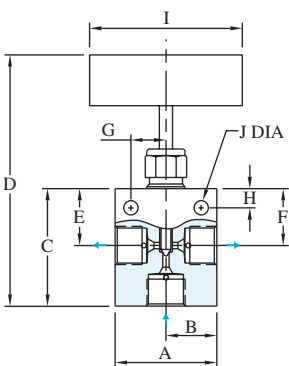


Figure 4

2-stem Manifold

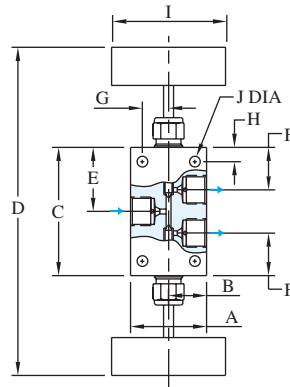


Figure 5

Replaceable Seat

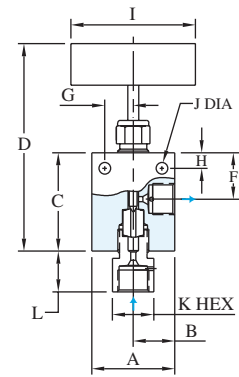


Figure 6

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

NEEDLE VALVES FOR 60,000 PSI (4140 BAR)

1/4" H/P TUBE, CONED AND THREADED

2-way Straight

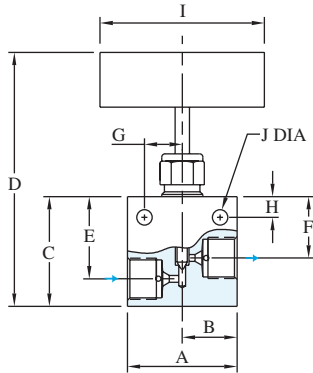


Figure 1

2-way Angle

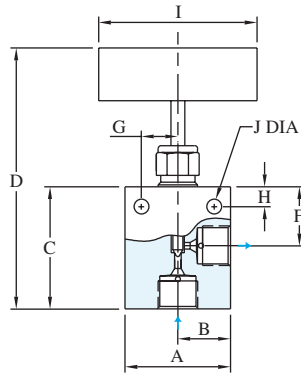


Figure 2

3-way Two on Pressure

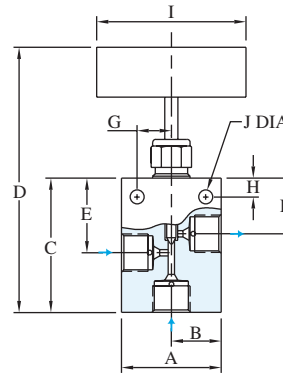


Figure 3

3-way One on Pressure

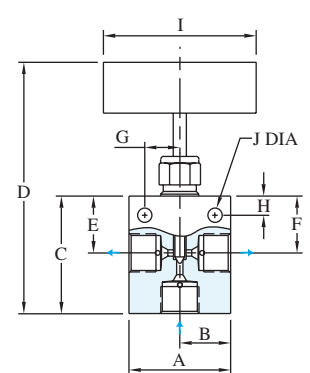


Figure 4

Catalog Number	Stem Style	Connection	A	B	C	D	E	F	G	H	I	J	K	L	Thk.	Fig
60UV41V 60UV41R	Vee Reg	1/4" H/P Tube	2.00" (50.8)	1.00" (25.4)	2.12" (53.8)	4.87" (123.7)	1.69" (42.9)	1.31" (33.3)	0.69" (17.5)	0.38" (9.7)	3.00" (76.2)	0.25" (6.4)	---	---	1.00" (25.4)	1
60UV42V 60UV42R	Vee Reg	1/4" H/P Tube	2.00" (50.8)	1.00" (25.4)	2.38" (60.5)	5.13" (130.3)	---	1.31" (33.3)	0.69" (17.5)	0.38" (9.7)	3.00" (76.2)	0.25" (6.4)	---	---	1.00" (25.4)	2
60UV43V 60UV43R	Vee Reg	1/4" H/P Tube	2.00" (50.8)	1.00" (25.4)	2.38" (60.5)	5.13" (130.3)	1.69" (42.9)	1.31" (33.3)	0.69" (17.5)	0.38" (9.7)	3.00" (76.2)	0.25" (6.4)	---	---	1.00" (25.4)	3
60UV44V 60UV44R	Vee Reg	1/4" H/P Tube	2.00" (50.8)	1.00" (25.4)	2.38" (60.5)	5.13" (130.3)	1.31" (33.3)	1.31" (33.3)	0.69" (17.5)	0.38" (9.7)	3.00" (76.2)	0.25" (6.4)	---	---	1.00" (25.4)	4
60UV45V 60UV45R	Vee Reg	1/4" H/P Tube	2.00" (50.8)	1.00" (25.4)	3.44" (87.4)	8.94" (227.1)	1.72" (43.7)	1.31" (33.3)	0.69" (17.5)	0.38" (9.7)	3.00" (76.2)	0.25" (6.4)	---	---	1.00" (25.4)	5
60UV46V 60UV46R	Vee Reg	1/4" H/P Tube	2.00" (50.8)	1.00" (25.4)	2.62" (66.5)	5.37" (136.4)	---	1.31" (33.3)	0.69" (17.5)	0.38" (9.7)	3.00" (76.2)	0.25" (6.4)	0.75" (19.1)	1.29" (32.8)	1.00" (25.4)	6
60MV46V	Meter	1/4" H/P Tube	2.00" (50.8)	1.00" (25.4)	2.62" (66.5)	6.95" (176.5)	---	1.31" (33.3)	0.69" (17.5)	0.38" (9.7)	3.00" (76.2)	0.25" (6.4)	0.75" (19.1)	1.29" (32.8)	1.00" (25.4)	7
60MMV46V	Micro-Meter	1/4" H/P Tube	2.00" (50.8)	1.00" (25.4)	2.62" (66.5)	7.63" (193.8)	---	1.31" (33.3)	0.69" (17.5)	0.38" (9.7)	3.00" (76.2)	0.25" (6.4)	0.75" (19.1)	1.29" (32.8)	1.00" (25.4)	8

See page HP-1 for orifice and Cv

2-stem Manifold

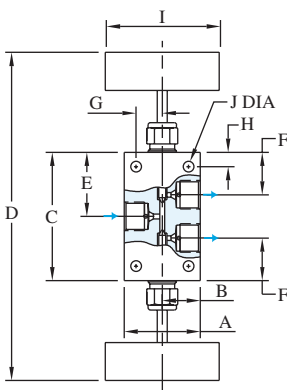


Figure 5

Replaceable Seat

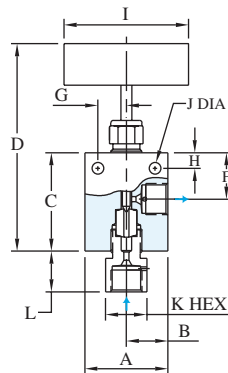


Figure 6

Metering

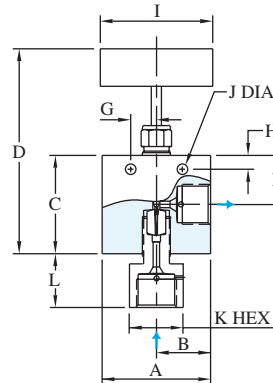


Figure 7

Micro-Metering

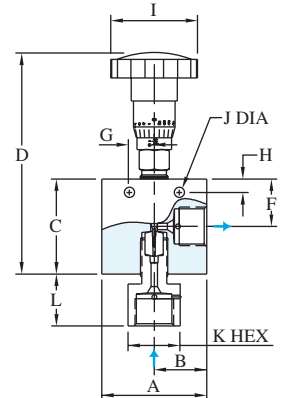


Figure 8

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



NEEDLE VALVES FOR 60,000 PSI (4140 BAR)

3/8" H/P TUBE, CONED AND THREADED

2-way Straight

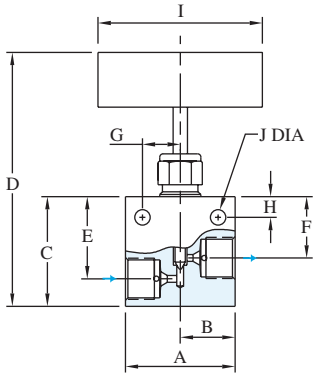


Figure 1

2-way Angle

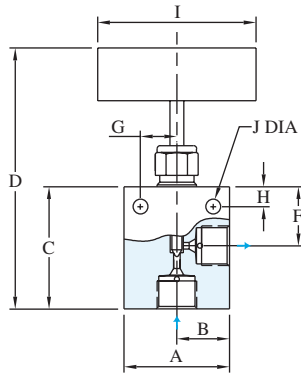


Figure 2

3-way Two on Pressure

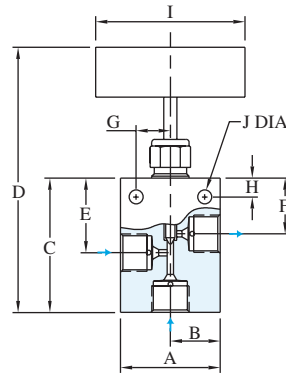


Figure 3

3-way One on Pressure

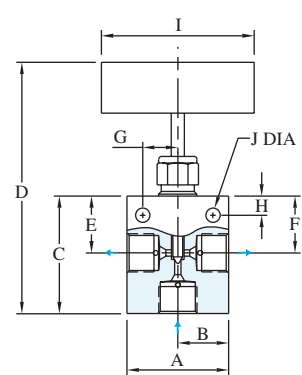


Figure 4

Catalog Number	Stem Style	Connection	A	B	C	D	E	F	G	H	I	J	K	L	Thk.	Fig
60UV61V	Vee	3/8" H/P	2.00"	1.00"	2.25"	5.00"	1.69"	1.31"	0.69"	0.38"	3.00"	0.25"	---	---	1.00"	1
60UV61R	Reg	Tube	(50.8)	(25.4)	(57.2)	(127.0)	(42.9)	(33.3)	(17.5)	(9.7)	(76.2)	(6.4)	---	---	(25.4)	
60UV62V	Vee	3/8" H/P	2.00"	1.00"	2.62"	5.37"	---	1.31"	0.69"	0.38"	3.00"	0.25"	---	---	1.00"	2
60UV62R	Reg	Tube	(50.8)	(25.4)	(66.5)	(136.4)	---	(33.3)	(17.5)	(9.7)	(76.2)	(6.4)	---	---	(25.4)	
60UV63V	Vee	3/8" H/P	2.00"	1.00"	2.75"	5.50"	1.69"	1.31"	0.69"	0.38"	3.00"	0.25"	---	---	1.00"	3
60UV63R	Reg	Tube	(50.8)	(25.4)	(69.9)	(139.7)	(42.9)	(33.3)	(17.5)	(9.7)	(76.2)	(6.4)	---	---	(25.4)	
60UV64V	Vee	3/8" H/P	2.00"	1.00"	2.62"	5.37"	1.31"	1.31"	0.69"	0.38"	3.00"	0.25"	---	---	1.00"	4
60UV64R	Reg	Tube	(50.8)	(25.4)	(66.5)	(136.4)	(33.3)	(33.3)	(17.5)	(9.7)	(76.2)	(6.4)	---	---	(25.4)	
60UV65V	Vee	3/8" H/P	2.00"	1.00"	3.75"	9.25"	1.88"	1.31"	0.69"	0.38"	3.00"	0.25"	---	---	1.00"	5
60UV65R	Reg	Tube	(50.8)	(25.4)	(95.3)	(235.0)	(47.8)	(33.3)	(17.5)	(9.7)	(76.2)	(6.4)	---	---	(25.4)	
60UV66V	Vee	3/8" H/P	2.00"	1.00"	2.62"	5.37"	---	1.31"	0.69"	0.38"	3.00"	0.25"	1.00"	1.21"	1.00"	6
60UV66R	Reg	Tube	(50.8)	(25.4)	(66.5)	(136.4)	---	(33.3)	(17.5)	(9.7)	(76.2)	(6.4)	(25.4)	(30.7)	(25.4)	
60MV66V	Meter	3/8" H/P	2.50"	1.25"	2.62"	6.95"	---	1.31"	0.69"	0.38"	3.00"	0.25"	1.00"	1.21"	1.00"	7
		Tube	(63.5)	(31.8)	(66.5)	(176.5)	---	(33.3)	(17.5)	(9.7)	(76.2)	(6.4)	(25.4)	(30.7)	(25.4)	
60MMV66V	Micro-Meter	3/8" H/P	2.00"	1.00"	2.62"	7.63"	---	1.31"	0.69"	0.38"	3.00"	0.25"	1.00"	1.21"	1.00"	8
		Tube	(50.8)	(25.4)	(66.5)	(193.8)	---	(33.3)	(17.5)	(9.7)	(76.2)	(6.4)	(25.4)	(30.7)	(25.4)	

See page HP-1 for orifice and Cv

2-stem Manifold

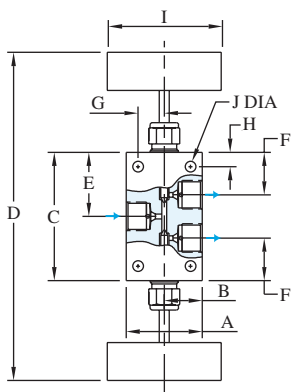


Figure 5

Replaceable Seat

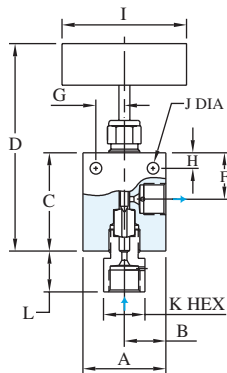


Figure 6

Metering

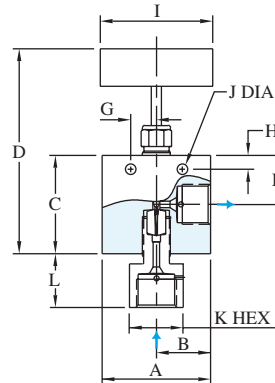


Figure 7

Micro-Metering

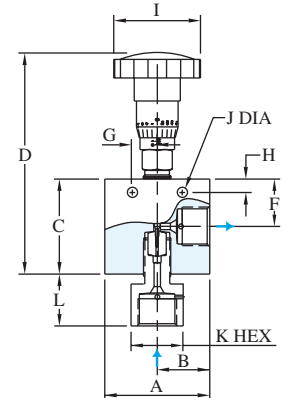


Figure 8

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

NEEDLE VALVES FOR 60,000 PSI (4140 BAR)

9/16" H/P TUBE, CONED AND THREADED

2-way Straight

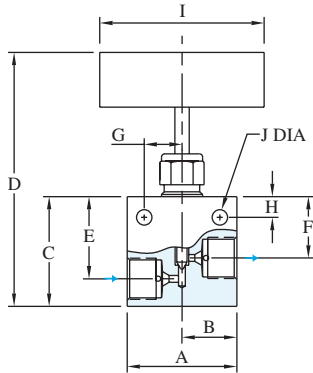


Figure 1

2-way Angle

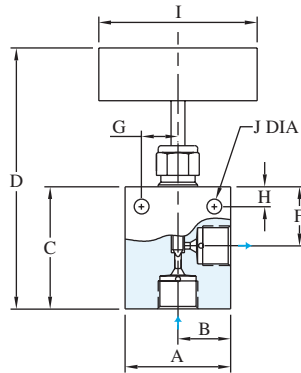


Figure 2

3-way Two on Pressure

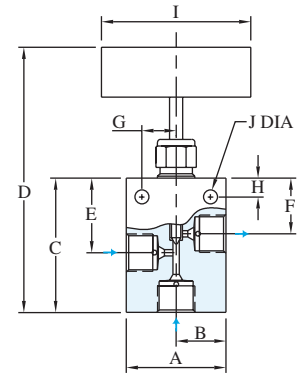


Figure 3

Catalog Number	Stem Style	Connection	A	B	C	D	E	F	G	H	I	J	K	L	Thk.	Fig
60UV91V	Vee	9/16" H/P	2.62"	1.31"	2.50"	5.25"	1.69"	1.31"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	1
60UV91R	Reg	Tube	(66.5)	(33.3)	(63.5)	(133.4)	(42.9)	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
60UV92V	Vee	9/16" H/P	2.62"	1.31"	2.81"	5.56"	---	1.31"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	2
60UV92R	Reg	Tube	(66.5)	(33.3)	(71.4)	(141.2)	---	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
60UV93V	Vee	9/16" H/P	2.62"	1.31"	3.03"	5.78"	1.75"	1.31"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	3
60UV93R	Reg	Tube	(66.5)	(33.3)	(77.0)	(146.8)	(44.5)	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
60UV94V	Vee	9/16" H/P	2.62"	1.31"	2.81"	5.56"	1.31"	1.31"	0.69"	0.38"	3.00"	0.28"	---	---	1.50"	4
60UV94R	Reg	Tube	(66.5)	(33.3)	(71.4)	(141.2)	(33.3)	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	---	---	(38.1)	
60UV95V	Vee	9/16" H/P	2.62"	1.31"	4.12"	9.62"	2.06"	1.31"	0.69"	0.50"	3.00"	0.28"	---	---	1.50"	5
60UV95R	Reg	Tube	(66.5)	(33.3)	(104.6)	(244.3)	(52.3)	(33.3)	(17.5)	(12.7)	(76.2)	(7.1)	---	---	(38.1)	
60UV96V	Vee	9/16" H/P	2.62"	1.31"	2.62"	5.37"	---	1.31"	0.69"	0.38"	3.00"	0.28"	1.37"	1.39"	1.50"	6
60UV96R	Reg	Tube	(66.5)	(33.3)	(66.5)	(136.4)	---	(33.3)	(17.5)	(9.7)	(76.2)	(7.1)	(34.8)	(35.3)	(38.1)	

See page HP-1 for orifice and Cv

3-way One on Pressure

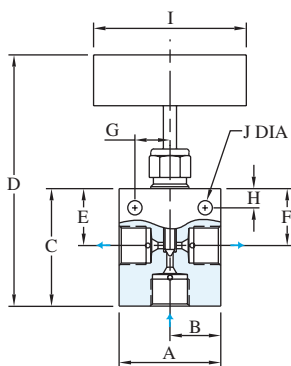


Figure 4

2-stem Manifold

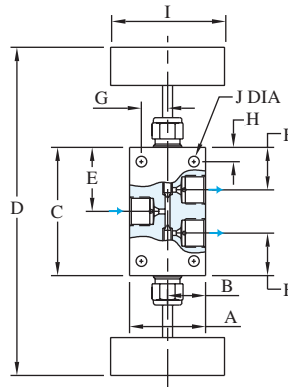


Figure 5

Replaceable Seat

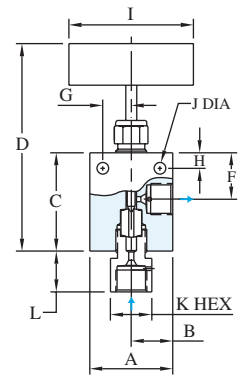


Figure 6

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

