

## Primary Isolation Valves

Integrally forged, one piece double block or double block and bleed Keyblok assemblies for primary isolation of pressure take-offs, where the valve is mounted directly to the vessel or process pipe

### General Application

Suitable for double block or double block and bleed applications including pressure, level and flow measurement, sampling, chemical seal isolation and injection services. Instruments may be mounted directly to the valve outlet or remotely with gauge lines/impulse pipe work.

### TECHNICAL DATA

#### Materials

CS, 316 SS, Duplex and other exotic materials

#### Seats:

Metal and soft

#### Connections

##### Inlet:

ANSI flanged 1/2" to 2"  
API flanged to 2<sup>1/16</sup>"

##### Outlet:

ANSI flanged 1/2" to 2"  
API flanged to 2<sup>1/16</sup>"

#### Pressure (max):

10000 psig (690 barg)

#### Temperature (max):

##### F66:

400°F (204°C)

##### F73:

1000°F (538°C)



### Features

- One-piece forged body combines a compact design with strength and reduced potential leak paths compared to conventional designs.
- Flanged inlet and outlet connections available in a choice of sizes and ratings to suit each application.
- Primary isolation ball valves are precision machined and super finished for high performance pressure and temperature ratings. Designed to be fire safe and anti-static.
- Heavy duty needle type globe valve, ensuring bubble-tight shut-off on venting and isolation service.
- Outside screw and yoke (OS&Y) needle type globe valve with investment cast yoke and bolted bonnet provides high mechanical strength and reliability on primary isolation and venting services.
- Firesafe design to meet API 607, BS6755 Part 2 (optional).

# F66/F73/F73K SERIES

## Primary Isolation Valves

### Product Overview

#### Keyblok F66

The F66 features two independently operable 3/8" (10 mm) bore ball valves for isolation service.

#### Keyblok F73/F73K

The F73 features two independently operable 0.2" (5 mm) bore 'HD' style needle valves for isolation service with an intermediate 'HD' globe style needle valve for venting service. Metal seating is standard on valves.

The F73K offers the same functionality as the F73 with the exception that all valves feature outside screw and yoke bolted bonnet (OS&Y) 0.2" (5 mm) bore valves. Metal seating is standard on valves.

#### General notes

- Standard pressure testing to BS EN 12266-1.
- Standard material traceability to EN 10204 3.1 (body only).
- Material thickness to ANSI B16.34.

#### Valve Body - Material Codes

Description	C	L	S	D
Valve body	A105N	A350 LF2	A182 F316	A182 F51

#### NOTE:

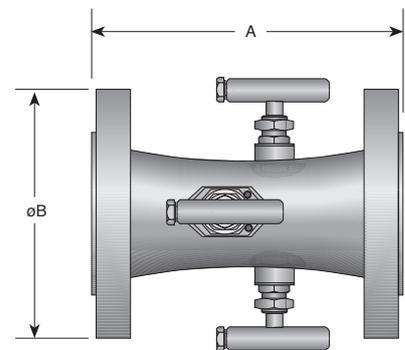
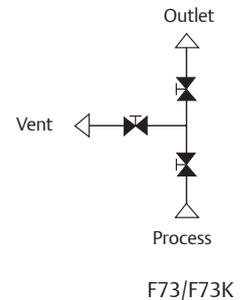
- Carbon steel valve bodies are zinc plated and passivated as standard.

#### F66, F73 and F73K Series Flanged x Flanged

Size in	Rating lb	Dimensions, inches [mm]			Weight	
		A - RF	A - RTJ	B	lb	[kg]
1/2	150	7.8 (197)	- (-)	3.5 (89)	9.5	(4.3)
1/2	300	7.8 (197)	8.1 (206)	3.8 (96)	11.0	(5.0)
1/2	600	8.1 (206)	8.1 (206)	3.8 (96)	11.5	(5.2)
1/2	900/1500	9.6 (243)	9.6 (243)	4.8 (121)	17.4	(7.9)
1/2	2500	9.6 (243)	9.6 (243)	5.3 (134)	23.8	(10.8)
3/4	150	7.8 (197)	- (-)	3.9 (99)	10.8	(4.9)
3/4	300	7.8 (197)	8.1 (206)	4.6 (118)	13.9	(6.3)
3/4	600	8.1 (206)	8.1 (206)	4.6 (118)	14.4	(6.5)
3/4	900/1500	9.6 (243)	9.6 (243)	5.1 (130)	20.9	(9.5)
3/4	2500	9.6 (243)	9.6 (243)	5.5 (140)	26.5	(12.0)
1	150	7.1 (180)	7.4 (189)	4.3 (108)	10.9	(5.0)
1	300	7.3 (186)	7.7 (196)	4.9 (124)	13.8	(6.3)
1	600	7.8 (199)	7.8 (199)	4.9 (124)	14.4	(6.5)
1	900/1500	8.7 (221)	8.7 (221)	5.9 (150)	24.7	(11.2)
1	2500	9.2 (234)	9.2 (234)	6.3 (159)	31.6	(14.3)
1 1/2	150	7.3 (186)	7.7 (196)	5.0 (127)	14.2	(6.4)
1 1/2	300	7.6 (192)	8.0 (202)	6.1 (156)	20.1	(9.1)
1 1/2	600	8.2 (208)	8.2 (208)	6.1 (156)	22.3	(10.1)
1 1/2	900/1500	8.9 (227)	8.9 (227)	7.0 (178)	35.2	(16.0)
1 1/2	2500	10.0 (253)	10.0 (256)	8.0 (203)	61.3	(27.8)
2	150	7.4 (189)	7.8 (199)	6.0 (153)	21.8	(9.9)
2	300	7.7 (196)	8.2 (208)	6.5 (165)	26.2	(11.9)
2	600	8.5 (215)	8.6 (218)	6.5 (165)	29.6	(13.4)
2	900/1500	9.4 (240)	9.6 (243)	8.5 (216)	60.0	(27.2)
2	2500	10.4 (265)	10.6 (268)	9.3 (235)	88.2	(40.0)

#### NOTE

- Metric calculations:  
mm = in x 25.4  
kg = lb x 0.4536

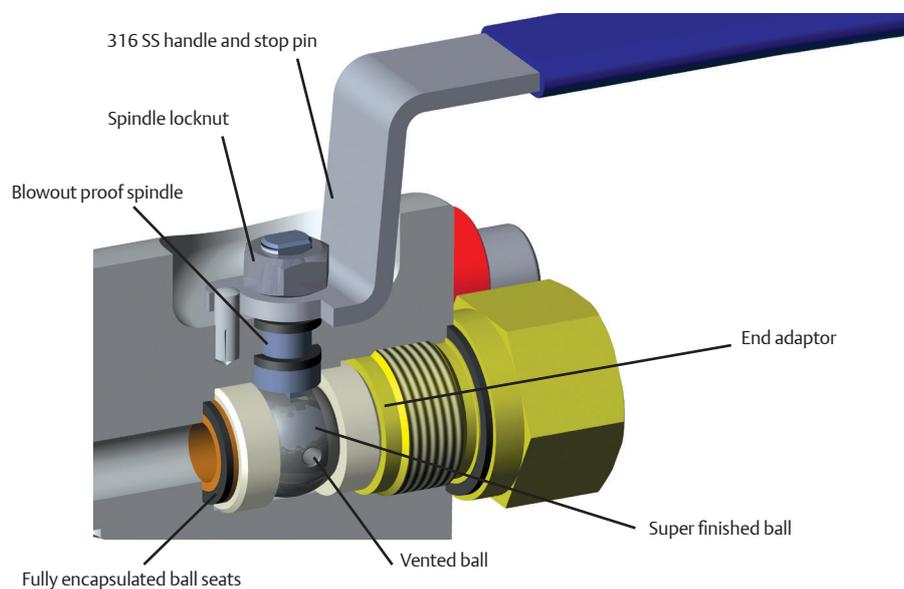


## Primary Isolation Valves

### Quarter Turn Ball Valves

Unidirectional quarter-turn ball valves have a straight through, roddable 3/8" (10 mm) bore. Their super-finished ball provides low operating torque and long life and is vented to provide upstream cavity relief. They offer a choice of filled PTFE, Devlon V® or PEEK ball seats which are fully-supported to minimize seal extrusion and allow high working pressures, with end adaptor threads being fully isolated from the process by primary and secondary static seals. Each valve features a blowout-proof one piece stem with a vibration-resistant locking nut and a strong, corrosion-resistant stainless steel handle and stop pin as standard.

- Pressure rating: up to 10000 psig (680 barg).
- Temperature rating: -70.6°F to 400°F (-57°C to 204°C).



#### NOTE

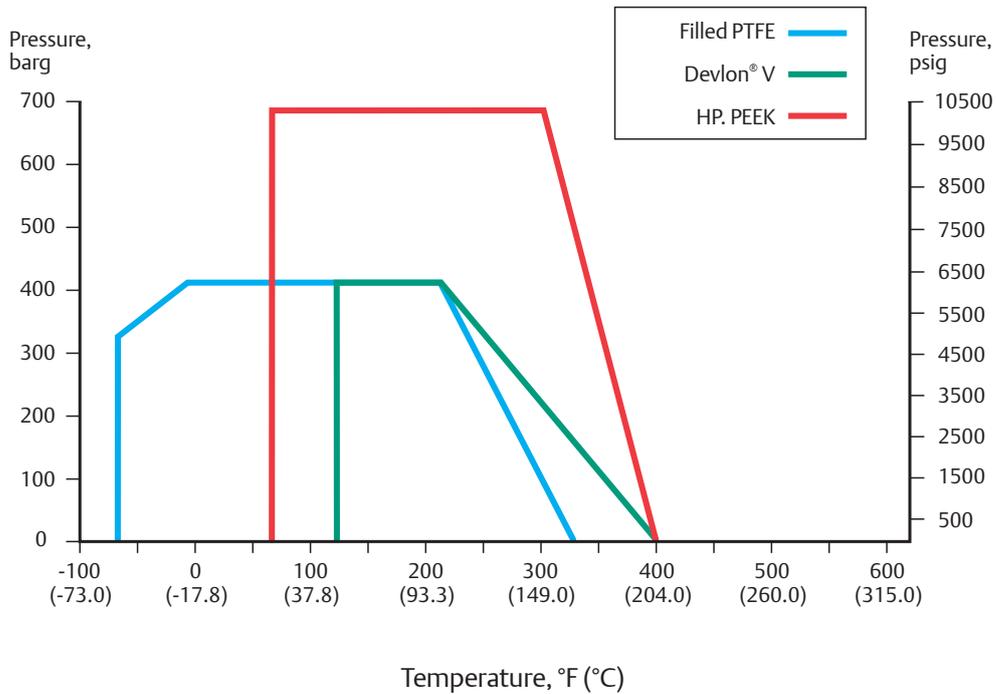
1. Devlon V® is a registered trademark of Devol Engineering Ltd.

# F66/F73/F73K SERIES

## Primary Isolation Valves

### Pressure and Temperature Ratings

Keyblok



#### NOTE

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#### Ball Valve Components - Trim Codes

Item	Description	S	D
1	Handle/stop pin	316 SS	316 SS
2	Stem seal (2 off)	Graphite	Graphite
3	Ball seat	PTFE, Devlon® or PEEK	PTFE, Devlon® or PEEK
4	Housing static seal	Graphite	Graphite
5	Seat housing	A276-316	A276-31803
6	Ball	A479-316	A479-31803
7	Primary static seal	Graphite	Graphite
8	Secondary static seal	Graphite	Graphite
9	Locknut	316 SS	316 SS
10	Spindle	A479-316	A479-31803

#### Standard Trim Combinations

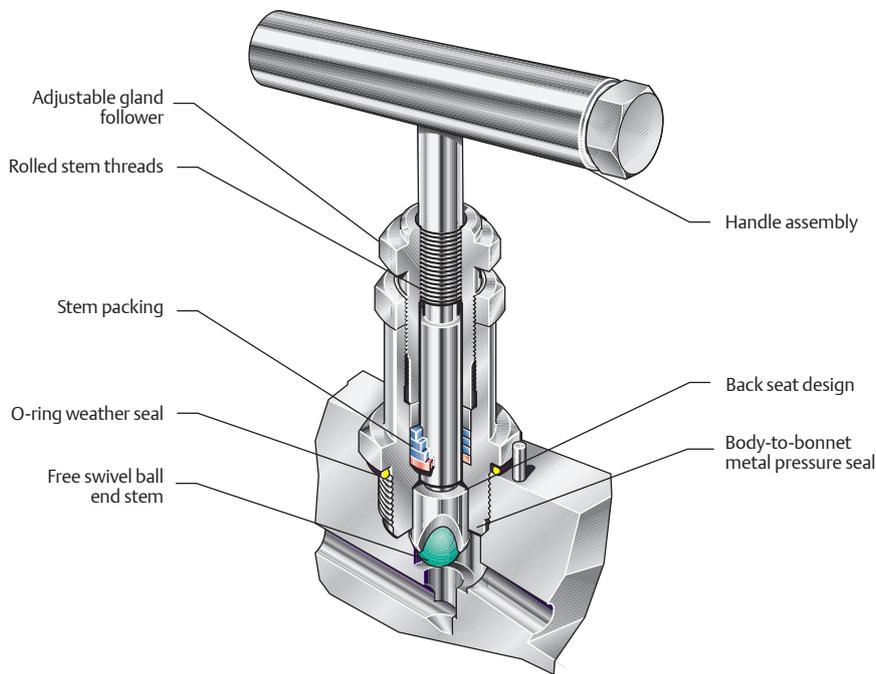
Body	Trim
C	S
L	S
S	S
D	D

Primary Isolation Valves

**‘HD’ Needle-Type Globe Valve**

The HD needle-type globe valve has a rotating stem with a free-swivel ball-end seat for repetitive bubble-tight shut-off and rolled threads for low operating torque, located above the spindle packing and isolated from the process. The stem seal is either graphite or PTFE rings and a backseat design provides secondary stem sealing and prevents stem blowout. A body-to-bonnet metal pressure seal below the threads prevents corrosion and ensures the bonnet threads are in loaded compression for additional strength and an O-ring weather seal protects bonnet retention threads from harsh environments. An adjustable gland follower allows easy access to adjust the packing gland and the valve features a T-bar handle with locking bolt to secure it firmly on the stem.

- Pressure rating: up to 10000 psig (680 barg).
- Temperature rating: -71°F to 1000°F (-57°C to 538°C).

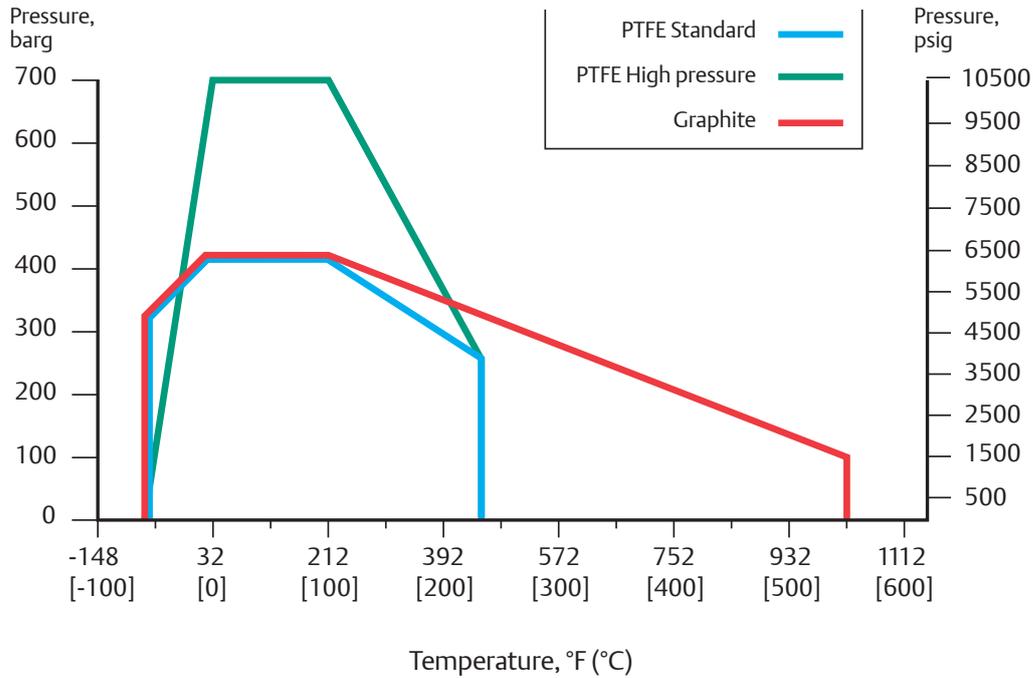


# F66/F73/F73K SERIES

## Primary Isolation Valves

### Pressure and Temperature Ratings

'HD' Needle Type Globe Valve



### 'HD' Needle Type Globe Valve Components - Trim Codes

Item	Description	S	D
1	Gland follower	Austenitic SS	A276-31803
2	Stem	A479-316	A479-31803
3	Locknut	Austenitic SS	Austenitic SS
4	Stem packing	PTFE or Graphite	PTFE or Graphite
5	O-ring weather seal	Buna-N Nitrile	Buna-N Nitrile
6	Ball (stem tip)	316 SS	Ceramic
7	Bonnet locking pin	Austenitic SS	Austenitic SS
8	Handle assembly	Austenitic SS	Austenitic SS

### Standard Trim Combinations

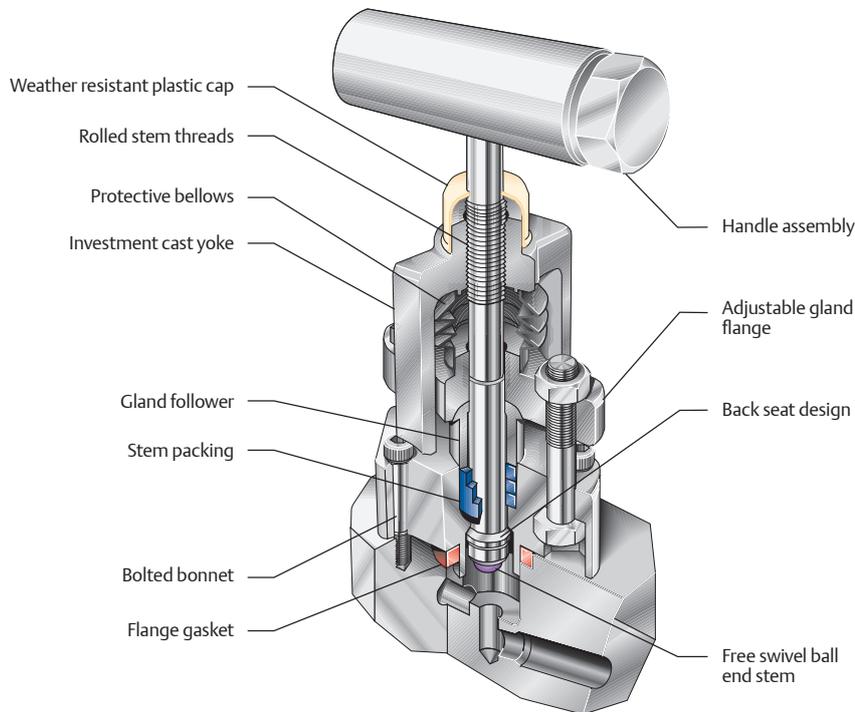
Body	Trim
C	S
L	S
S	S
D	D

Primary Isolation Valves

OS&Y Needle-Type Globe Valve

The OS&Y needle-type globe valve has a bolted bonnet for strength and reliability and a precision cast yoke which assures perfect stem alignment. The rotating stem has a free-swivel ball-end seat for repetitive bubble-tight shut-off and rolled threads to prevent galling that are completely isolated from the process with protective bellows that protect against atmospheric contamination. The stem seal is either graphite or PTFE rings and a backseat design provides secondary sealing and prevents blowout. A flange gasket ring ensures a bubble-tight body-to bonnet seal and an adjustable gland flange/follower allows easy access to the packing gland. A weather-resistant plastic bonnet cap prevents stem lubricant contamination and the valve features a T-bar handle.

- Pressure rating: up to 6000 psig (414 barg).
- Temperature rating: -71°F to 1000°F (-57°C to 538°C).

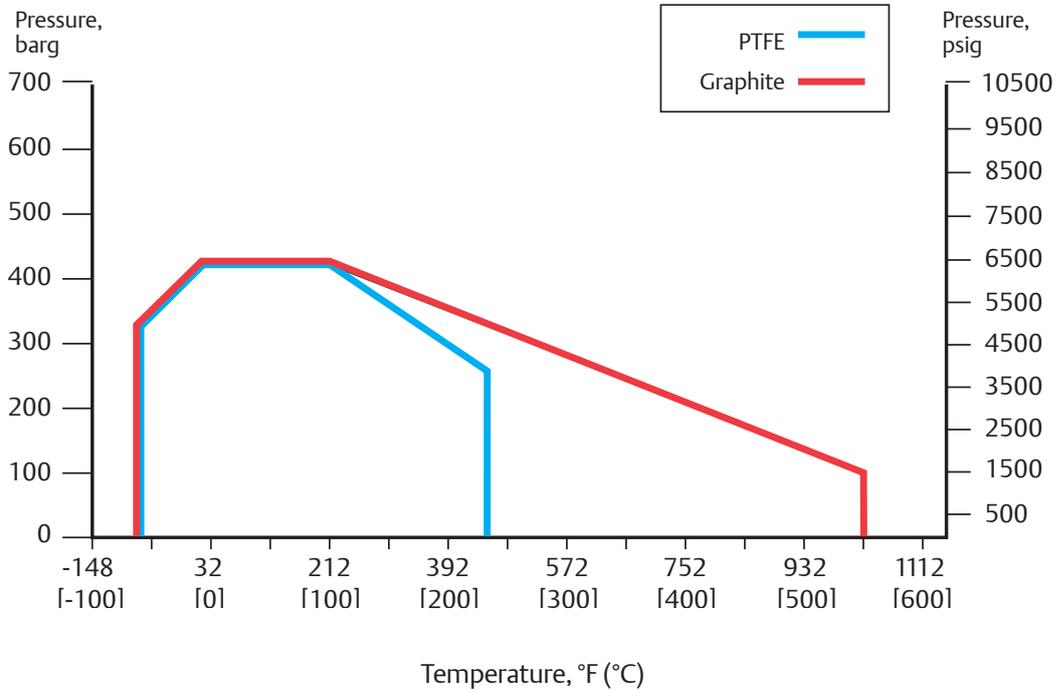


# F66/F73/F73K SERIES

## Primary Isolation Valves

### Pressure and Temperature Ratings

OS&Y Needle Type Globe Valve



### 'OS&Y' Needle Type Globe Valve Components - Trim Codes

Item	Description	S	D
1	Cap	Plastic	Plastic
2	Stem	A479-316	A479-31803
3	Protective bellows	Polyurethane	Polyurethane
4	Yoke	A351-CF8M	A890-4A
5	Gland follower	B783-SS-316-N2-33	A276-31803
6	Stem packing	PTFE or Graphite	PTFE or Graphite
7	Body/bonnet - bolts	ASTM A453	ASTM A453
8	Flange gasket	Graphite	Graphite
9	Ball (stem tip)	316 SS	Ceramic
10	Gland flange - bolts	Austenitic SS	Austenitic SS
11	Handle assembly	Austenitic SS	Austenitic SS
12	Gland flange	A351 CF8M	A351 CF8M

Primary Isolation Valves

Selection Guide

F66		V		S		S		061L					
BASIC SERIES		BALL VALVE SEAT MATERIAL OR NEEDLE VALVE PACKING		BODY MATERIAL		TRIM MATERIAL		INLET CONNECTION					
Ball valve type		Ball valve type	Needle valve type										
<b>F66</b>	Flanged x flanged double block	V Filled PTFE	V PTFE	C	A105N	S	SS 316	<b>04</b>	1/2"	<b>1</b>	RF	<b>A</b>	150 lb (ANSI B16.5)
<b>Globe Needle Valve Type</b>													
<b>F73</b>	Flanged x flanged double block and bleed	N Devlon V®	H Graphite	L	A350 LF2	D	Duplex UNS S31803	<b>06</b>	3/4"	<b>3</b>	RTJ	<b>J</b>	300 lb (ANSI B16.5)
<b>F73K</b>	Flanged x flanged double block and bleed	E PEEK		S	A182 F316			<b>08</b>	1"	<b>4</b>	BX	<b>K</b>	600 lb (ANSI B16.5)
<b>F731</b>	Flanged x flanged double block and bleed - 10,000 psi (PTFE packing only)			D	A182 F51			<b>12</b>	1 1/2"	<b>5</b>	RX	<b>T</b>	900 lb (ANSI B16.5)
								<b>16</b>	2"	<b>6</b>	R	<b>L</b>	1500 lb (ANSI B16.5)
								<b>17</b>	1 13/16"	<b>8</b>	Hub	<b>M</b>	2500 lb (ANSI B16.5)
								<b>18</b>	2 1/16"			<b>N</b>	5000 lb (API 6A)
								<b>24</b>	3"			<b>P</b>	10000 lb (API 6A)
												<b>V</b>	3000 lb (API 6A)

Standard trim combinations  
C, L and S Body = S Trim,  
D body = D Trim

061L					QV				
OUTLET CONNECTION					OPTIONS				
<b>04</b>	1/2"	<b>1</b>	RF	<b>A</b> 150 lb (ANSI B16.5)	<b>ICV</b>	Integral check valve (injection)	<b>QV</b>	1/4" NPT (f) vent	
<b>06</b>	3/4"	<b>3</b>	RTJ	<b>J</b> 300 lb (ANSI B16.5)	<b>IQ(---)</b>	Integral quill (required length)	<b>SS</b>	Full 316 SS trim	
<b>08</b>	1"	<b>4</b>	BX	<b>K</b> 600 lb (ANSI B16.5)	<b>PV</b>	Plugged vent	<b>VO</b>	Vent option (please specify compression fittings, if required)	
<b>12</b>	1 1/2"	<b>5</b>	RX	<b>T</b> 900 lb (ANSI B16.5)	<b>BVL</b>	Lockable ball valve handles (specify number required)	<b>CB</b>	Ceramic ball tip (needle valve only)	
<b>16</b>	2"	<b>6</b>	R	<b>L</b> 1500 lb (ANSI B16.5)	<b>AT</b>	Anti-tamper vent (needle valve only)	<b>ST</b>	Stellite ball tip (needle valve only)	
<b>17</b>	1 13/16"	<b>8</b>	Hub	<b>M</b> 2500 lb (ANSI B16.5)	<b>SG</b>	NACE MR0175 latest revision			
<b>18</b>	2 1/16"			<b>N</b> 5000 lb (API 6A)	<b>LAT</b>	Lockable tamper-proof bonnet			
<b>24</b>	3"			<b>P</b> 10000 lb (API 6A)	<b>PD</b>	Padlock for - LAT			
				<b>V</b> 3000 lb (API 6A)					