

# Sanitary Diaphragm Valve

Pneumatically Actuated

## Description

The type 615 is an extremely compact pneumatically actuated valve with many features which make them ideal for pharmaceutical and bio-processing applications.

## Standard Features

- Extremely compact design
- Sanitary internals
- Visual position indicator
- Maintenance-free piston actuator
- FDA compliant diaphragms
- Body material 316L stainless steel
- Triclamp®, O.D. Tubing, ISO, and DIN end connections
- Sizes 3/8" - 3/4"

## Available Options

- Electrical limit and proximity switches
- Stroke limiter

### Special connections

Hose barb, tube extensions, Swagelok®, Cajon VCR®, Ingold®, and others available upon request.

### Fabrications

Cluster valve assemblies for horizontal and vertical orientations, Bottle Sampling, and custom fabrications upon request.

### Materials

AL-6XN®, Hastelloy®, Titanium, and others available upon request.

## Typical Applications

- Pharmaceutical manufacturing
- Bioprocessing
- Cosmetic
- Brewery Service
- Food and Beverage
- Semiconductor
- High Purity Chemicals



# Type 615

# Type 615 Technical Data

Size (In.)	Nominal diameter (mm)	Body configuration D = straight through	Working pressure (psi)	Control pressure (psi) Control function		C <sub>v</sub> -value (gpm)		Weight (lbs)
				1	2 + 3	ISO Connection	O.D. Tubing	
3/8"	10	D	0 - 90	max. 105	max. 75		2.6	.99
-	12	D	0 - 90	max. 105	max. 75			1.1
1/2"	15	D	0 - 90	max. 105	max. 75		2.6	1.5
3/4"	20	D	0 - 90	max. 105	max. 75		4.4	1.5

**Flow Medium**  
Max. Permissible temperature of working medium: 176° F (80°C)  
(Depending on diaphragm material)

**Control medium**  
Max. Perm. Temperature of the pilot medium: 104°F  
Filling volume: 1.8 cubic inches

All pressures values are specified in psi above atmospheric. C<sub>v</sub> values may be different according to body, diaphragm and connection variants. Please see out data sheet "Technical Information"  
\* Consult Factory

## Required Control Pressure

	Normally Closed (1)	Normally open + air to air (2+3)
Min.	60 psi	60 psi
Max.	105 psi	75 psi

Body Configuration	Ref.no.
2-way valve body	D
2-way angled valve body	E

Connection	Ref.no.
DIN	0
DIN 11850/Series 1	16
DIN 11850/Series 2	17
DIN 11850/Series 3	18
Butt weld OD tubing	59
Sizes 1/4-3/8" 20 gauge .035" wall	
Sizes 1/2-3" 16 gauge .065" wall	
Sizes 4" 14 gauge .083" wall	
ISO	60
Schedule 10 pipe	63
Tri-clamp®	80
O.D. Tubing by Triclamp®	93
Extended O.D. Tubing	94
Extended O.D. Tubing by Triclamp®	95

Diaphragm material	Ref.no.
Ethylene-propylene Rubber for saturated steam max 302° F	EPDM 13
Ethylene-propylene Rubber for saturated steam max 302° F	EPDM 16
2nd generation, modified Teflon® with Ethylene-propylene backing (two-piece)	TFM/EPDM 50
2nd generation, modified Teflon® with Ethylene-propylene backing	TFM/EPDM 52

All diaphragms listed conform to the FDA code of Federal Regulations paragraph 177.2600 of section 21.

Body material	Ref.no.
<b>Investment cast body</b>	
Stainless steel 316 L $\pm$ 1.4435 (BN2) Fe < 0.5%	32
Stainless steel 1.4539 (UNS N 08904)	33
<b>Forged Body</b>	
Stainless steel 316 L $\pm$ 1.4435 (ASTM A 182)	40
Stainless steel 316 L $\pm$ 1.4435 (BN2) Fe < 0.5%	42
<b>Machined block</b>	
Stainless steel 316 L $\pm$ 1.4435 (ASTMA 479)	41
<b>Special versions</b> (Consult factory for special material reference numbers)	91

Control function	Ref.no.
Normally closed	1
Normally open	2
Double acting	3

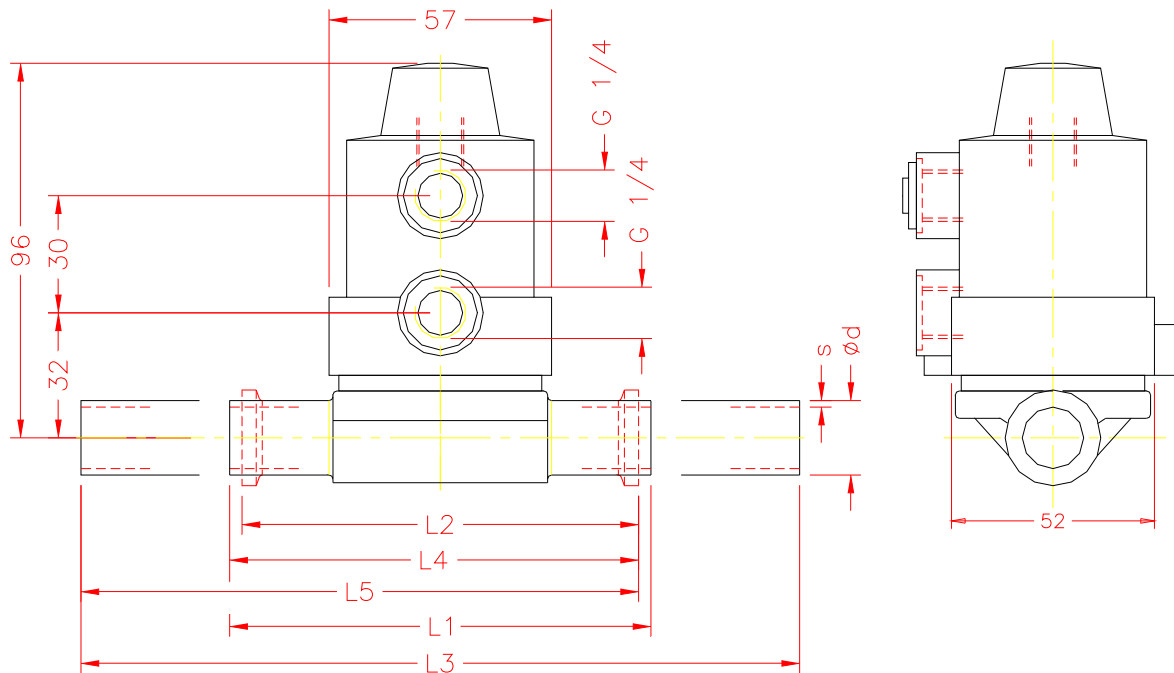
Surface finish						Ref.no.
$\mu$ -in.	BPE Surface Designation	Ra Average [Note (1)]		Ra Max		
		$\mu$ -in.	$\mu$ m	$\mu$ -in.	$\mu$ m	
32	Mechanical					3
25	Mechanical	SFV3	25	0.625	30	1502
20	E-pol	SFV6	20	0.500	25	1508
20	Mechanical	SFV2	20	0.500	25	1507
15	E-pol	SFV5	15	0.375	20	1537
11	Mechanical	SFV1	15	0.375	20	1536
10	E-pol	SFV4	10	0.250	15	1516

GENERAL NOTE: All Ra readings are taken across the grain.  
NOTE: (1) The average Ra is derived from two readings taken at different locations.

Special Versions	Ref.no.
Special versions	UXXXX

Order Example	-615	015	D	80	40	13	1						1537	
Type of valve	-615													
Size DN		015												
Body configuration			D											
Connection (valve body)				80										
Body material					40									
Diaphragm material						13								
Control function							1							
Actuator size														
Locking device														
Pipe main size														
Pipe main connection														
Surface finish													1537	
Special versions (XXXX)														

# Type 615 Dimensional Data



### Take Out Dimension For Standard Connections

Size	DN	Units	Con. Ref. No.		(59)	(80)	(94)	(93)	(95)
			Ød	s	L1	L2	L3	L4	L5
3/8	10	mm	9.53	1.25	108.00	88.90	184.20	98.45	136.55
		in	0.375	0.049	4.252	3.500	7.252	3.876	5.376
1/2	15	mm	12.70	1.65	108.00	88.90	184.20	98.45	136.55
		in	0.500	0.065	4.252	3.500	7.252	3.876	5.376
3/4	20	mm	19.05	1.65	108.00	101.60	184.20	104.80	142.90
		in	0.750	0.065	4.252	4.000	7.252	4.126	5.626

- L1 = Connection Code 59 = Standard butt-weld
- L2 = Connection Code 80 = Standard clamp
- L3 = Connection Code 94 = Standard butt-weld extension (AWF)
- L4 = Connection Code 93 = Standard clamp X butt-weld
- L5 = Connection Code 95 = Standard clamp X butt-weld extension (AWF)

### Optional Spigot Dimensions

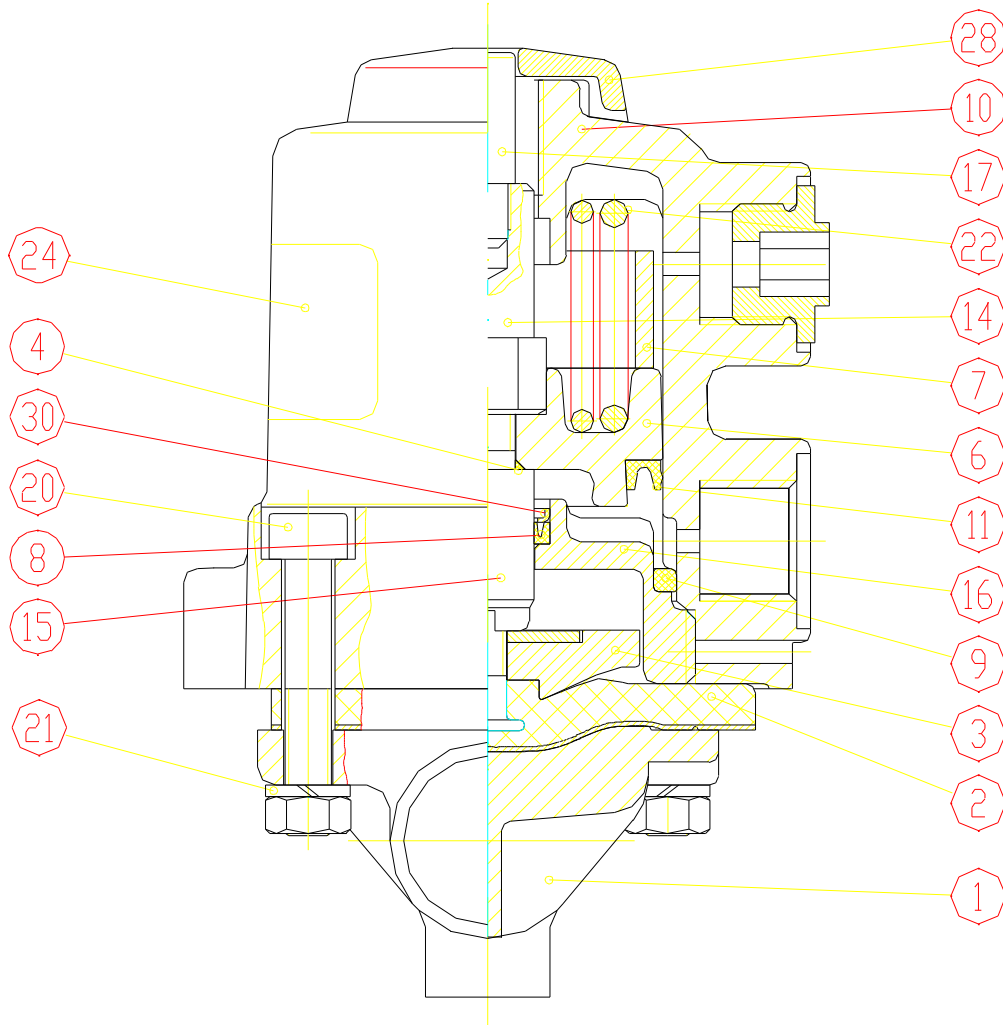
Connection Reference No.		DIN 0	DIN 11850 Series 1		DIN 11850 Series 2		DIN 11850 Series 3		ISO 60			
Size	DN	L <sub>1</sub>	s	ø d	s	ø d	s	ø d	s	ø d		
3/8"	10	108	-	-	1	12	1.5	13	2	14	1.6	17.2
1/2"	15	108	1.5	18	1	18	1.5	19	2	20	1.6	21.3

### Drain Angles

Size	DN	Degrees
3/8"	10	60°
1/2"	15	65°
3/4"	20	70°

Drain angles are for BS O.D. Tubing only.

# Type 615 Spare Parts



ITEM	PART
1	Valve Body
2	Diaphragm
3	Compressor
4	O-Ring
6	Piston Assembly
6.2	<b>Indicator Spindle</b>
7	Distance Sleeve
8	Lip Ring
9	O-Ring
10	<b>Actuator Housing</b>
11	Lip Ring
14	<b>Operating Spindle</b>
15	Valve Spindle
16	Guide Piece
17	<b>Indicator Spindle</b>
20	Hexagon Socket Bolt
21	Washer
22, 26	Spring
28	Cap
29	Stroke Limiter (accessory)
30	Washer