

PCC Technova

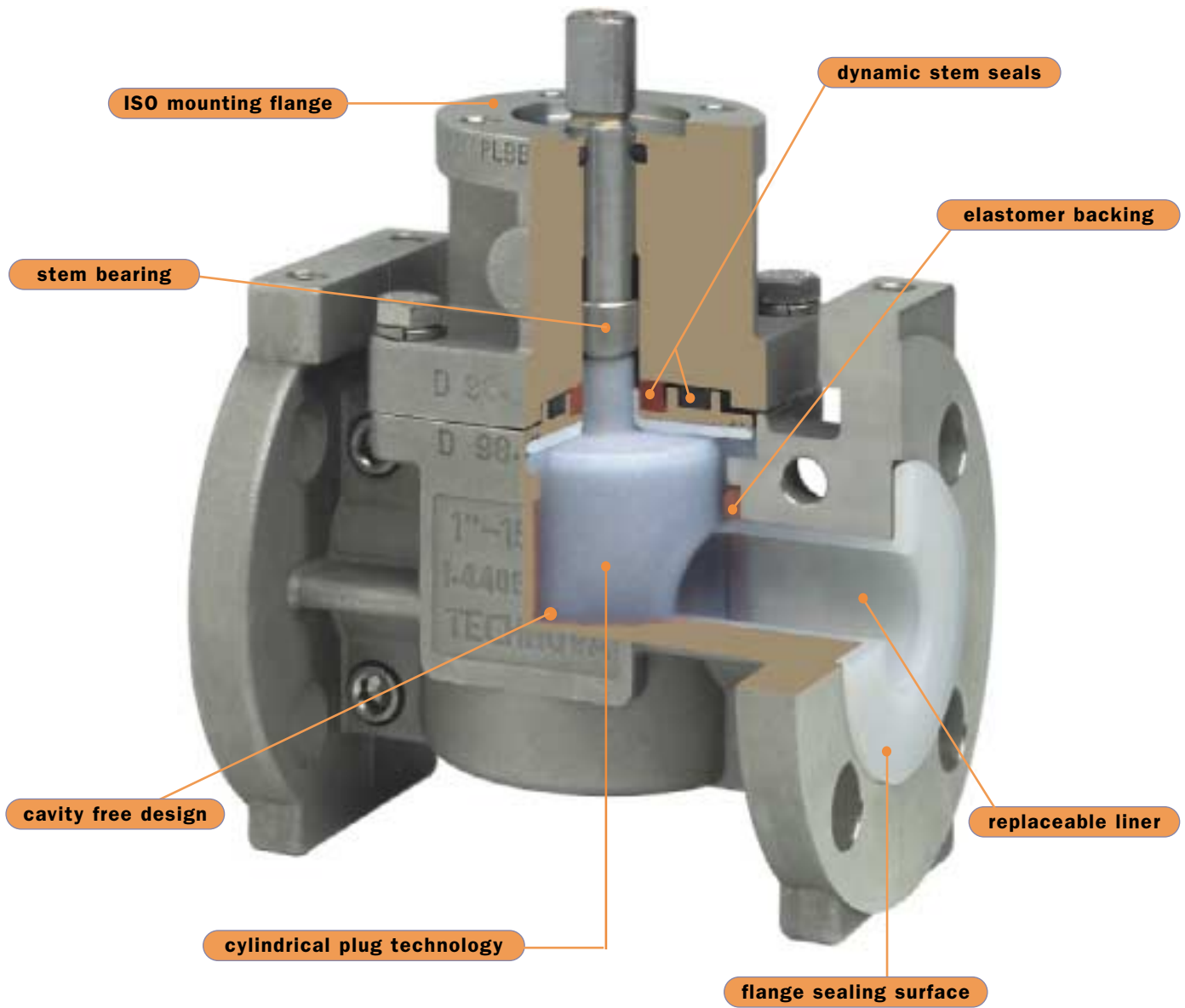
A PCC Flow Technologies Company

Series "CPL" Cylindrical Valves



***Full & Regular Port
1/2" - 6"***

FEATURES



PCC Technova
Series "CPL" Cylindrical Valves

cylindrical plug technology

The PCC Technova CPL uses a one-piece, top entry cylindrical plug to provide bubble tight shutoff while requiring 40% less torque than the conventional taper plug design. Unlike the taper plug, the CPL cylindrical plug does not torque into the seat to achieve shutoff. The CPL seal is created by the resiliency imparted to the liner by the elastomer backing pads. Therefore, the seating and unseating torques can be controlled to achieve bubble tight shutoff at the rated pressure. A uniform 2.5mm plug coating provides maximum permeation resistance and structural integrity for shutoff up to 225 psi and full vacuum. Encapsulations of PFA, PVDF, ETFE, and others allow the CPL to meet the requirements of a wide variety of applications. Solid metal plugs are also available in materials such as 316SS, Titanium, and other high alloys. Full port plugs, available in 1/2" to 4", offer flow capacity equal to full port ball valves. V-Port plug configurations are available for control applications.

replaceable liner

The unique split body design allows easy and economical replacement of the body liner. In lieu of molded body liners or polymer sleeve inserts, the Technova CPL utilizes a one-piece liner that covers the entire internals of the valve. This 3.0mm thick, PFA liner ensures total isolation of the valve body from the process media. The combination of the one-piece liner and one-piece plug/stem make the CPL easily field repairable.

cavity free design

The Technova CPL cylindrical sealing design eliminates the cavities common in taper plug and ball valve designs. Without cavities, corrosive process media cannot gather and stagnate, which is a major factor in liner permeation over extended periods of time. The CPL is also an excellent choice for non-abrasive slurry applications because particles are not trapped between the sealing surfaces as in traditional designs. The cavity free design of the CPL provides long term - low maintenance performance.

flange sealing surface

The wide flange sealing surface eliminates the need for additional flange gaskets. The CPL body flange is machined to confine the liner in the flange face to eliminate cold flow of the liner under flange bolting forces.

elastomer backing

Elastomer backing pads of viton or silicone completely enclose the liner cylinder to provide a uniform dynamic load on the liner sealing surfaces. This gives the liner added resiliency to seal against the

encapsulated plug, creating a bubble tight shutoff, with consistent opening and closing torque. Unlike ball valves, the Technova CPL design utilizes a 360 degree sealing surface that seals independent of line pressure, and is ideal for both low and high pressure applications. This unique sealing technology, in combination with the cylindrical design, provides uniform torque that does not increase significantly over extended periods of time.

dynamic stem seals

PCC Technova's dynamic stem sealing system ensures the highest integrity of isolation of the media from the body and stem areas. An outer elastomer insert is energized when the top adapter is bolted to the body exerting downward pressure to energize the seal between the PTFE diaphragm and the top of the plug. The inner elastomer insert energizes the seal between the extended plug coating and the stem seal of the diaphragm. This two part dynamic seal also ensures no process media is allowed leak to the atmosphere.

stem bearing

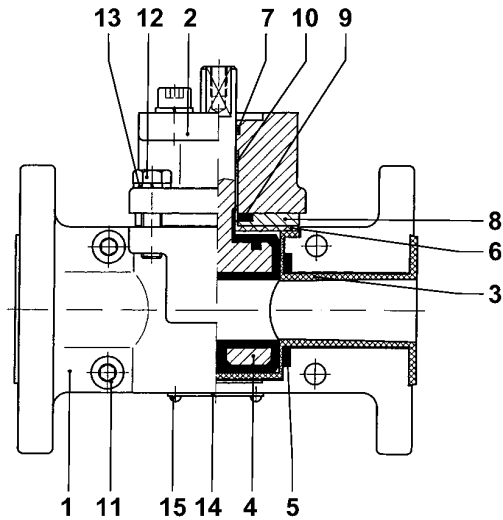
The PTFE filled radial stem bearing eliminates plug/stem deflection under pressure. Eliminating deflection contributes to lower torques and longer seal life.

ISO mounting flange

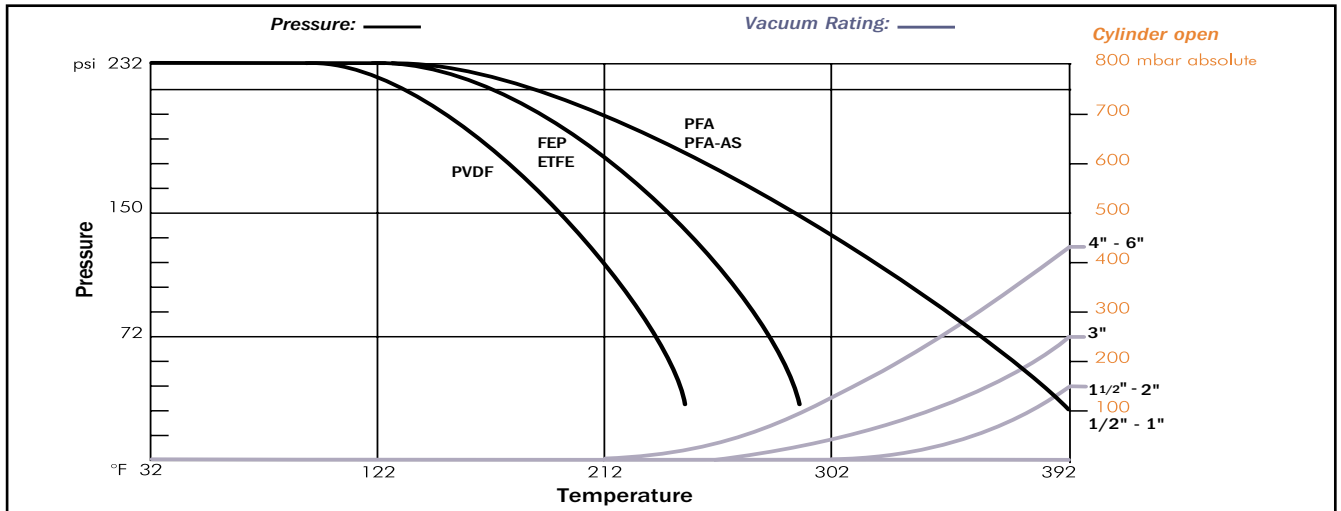
The top adapter is drilled to ISO 5211 to allow direct mounting of gears and actuators. PCC TechTorq corrosion resistant actuators can be supplied for corrosive or hygienic applications.

typical service applications

- › **Chemical CPI**
- › **Chlor Alkali Service**
- › **Pharmaceutical Industry**
- › **Petrochemical**
- › **Food Processing**
- › **Mining and Steel**
- › **Fertilizers**
- › **Pulp and Paper**
- › **Paint and Pigments**
- › **Detergents, Oils, Fatty Acids**
- › **Desalination**



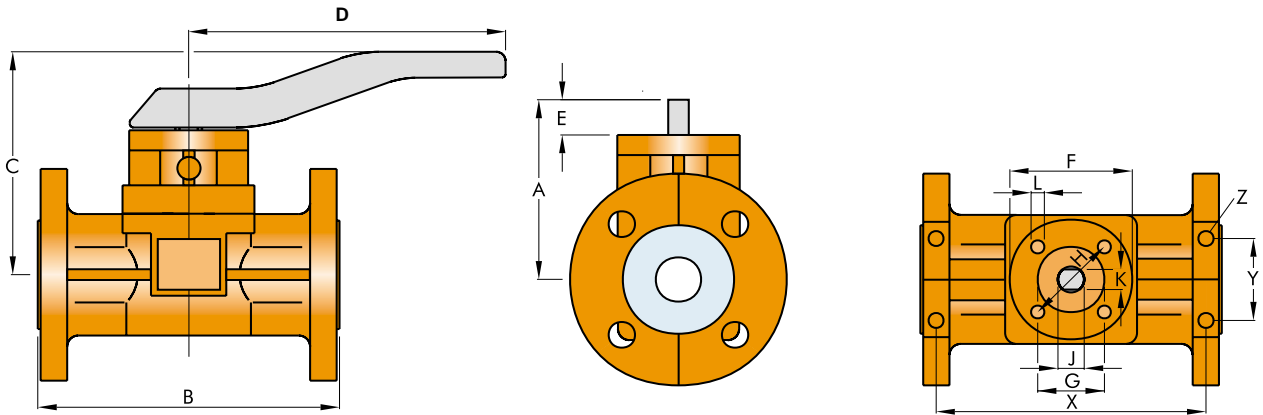
Item	Qty.	Description
1	1	Body, two-piece
2	1	Bonnet
3	1	Liner
4	1	Cylinder/Stem
5	1	Elastomer Set
6	1	Diaphragm
7	1	O-Ring
8	1	Pressure Plate
9	1	Sealing Ring
10	1	Bearing
11	4	Socket Head Cap Screw
12	4	Hex Head Cap Screw
13	4	Lock Washer
14	1	Name Plate
15	2	Hammer Screw



TECHNOVA MODEL NUMBERING SYSTEM

	CPL	2F	B7	L1	E2	C1	01	
Model No _____							Actuation	
Size _____							00 = Bare Stem	
F = Full Port							01 = Handle	
R = Regular Port							02 = Manual Gearbox	
V = V Port							03 = Actuator Mounted (specified separately)	
Body Material _____							Cylinder	
B3 = Stainless Steel							C1 = PFA	
B7 = Cast Steel							C2 = PFA-AS	
BX = others							C3 = PVDF	
Liner _____							C4 = PolyPro	
L1 = PFA							C5 = SS316	
L2 = PFA-AS							C7 = Titanium Gr.2	
LX = others							C8 = Monel	
							C9 = Hastelloy	
							C10 = ETFE-Tefzel	
							CX = others	
							Elastomer	
							E1 = Viton	
							E2 = Silicone	
							EX = others	

TECHNICAL DATA



DIMENSIONS (inches) Valves with Full Port

SIZE	A	B	C	D	E	F	G	H	J	K	ISO	L	X	Y	Z
1/2"	4.13	5.12	5.08	9.06	0.75	2.56	1.38	1.97	0.55	0.43	F05	0.28	—	—	—
3/4"	4.25	5.91	5.20	9.06	0.75	2.56	1.38	1.97	0.55	0.43	F05	0.28	—	—	—
1"	4.37	5.00	5.31	9.06	0.75	2.56	1.38	1.97	0.55	0.43	F05	0.28	4.18	1.75	5/16"
1 1/2"	4.76	6.50	5.91	10.63	0.75	2.56	1.38	1.97	0.71	0.55	F05	0.28	5.62	1.75	5/16"
2"	4.96	7.01	6.10	10.63	0.75	2.56	1.38	1.97	0.71	0.55	F05	0.28	6.18	2.25	5/16"
3"	6.34	9.49	7.48	—	0.94	3.54	2.17	2.76	0.94	0.67	F05	0.35	8.43	3.50	3/8"
4"	6.73	11.50	7.87	—	0.94	3.54	2.17	2.76	0.94	0.67	F07	0.35	10.45	4.00	7/16"

DIMENSIONS (inches) Valves with Regular Port

SIZE	A	B	C	D	E	F	G	H	J	K	ISO	L	X	Y	Z
3"	4.96	7.99	6.10	10.63	0.75	2.56	1.38	1.97	0.71	0.55	F05	0.27	7.12	3.50	3/8"
4"	6.34	9.05	7.48	—	0.94	3.54	2.17	2.76	0.94	0.67	F07	0.35	8.00	4.00	7/16"
6"	6.73	10.51	7.87	—	0.94	3.54	2.17	2.76	0.94	0.67	F07	0.35	9.43	4.00	7/16"

WEIGHTS (Lbs.)

SIZE	Cylindrical Valves with Full Port							With Regular Port		
	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	3"	4"	6"
Weights	8.2	9.5	10.8	17.9	23.2	52.5	72.4	30.4	52.7	79.3

FLOW COEFFICIENT (Cv)

SIZE	Cylindrical Valves with Full Port							With Regular Port		
	1/2"	3/4"	1"	1 1/2"	2"	3"	4"	3"	4"	6"
90°	14	26	58	145	230	620	980	230	620	980