



# FPCV

## PISTON CHECK VALVE

### GENERAL FEATURES

Ayvaz FPCV Piston type check valves are manufactured according to API 602 design standards and have a wide range of use in industrial applications due to their high pressure and temperature resistant structure. Ayvaz FPCV piston type check valves can be designed in different body materials, trim materials, pressure classes and connection types in accordance with API standards according to fluid conditions.

#### Advantages

- Compact and robust design for high temperature and pressure fluids
- Design variety suitable for fluid conditions
- Spring and disc design that is easy to disassemble and repair

#### Design

- Bolt-on cover (BB) or Welded cover (WB)
- Piston, Swing or Ball type
- Standard Bore or Full Bore

#### Fluids

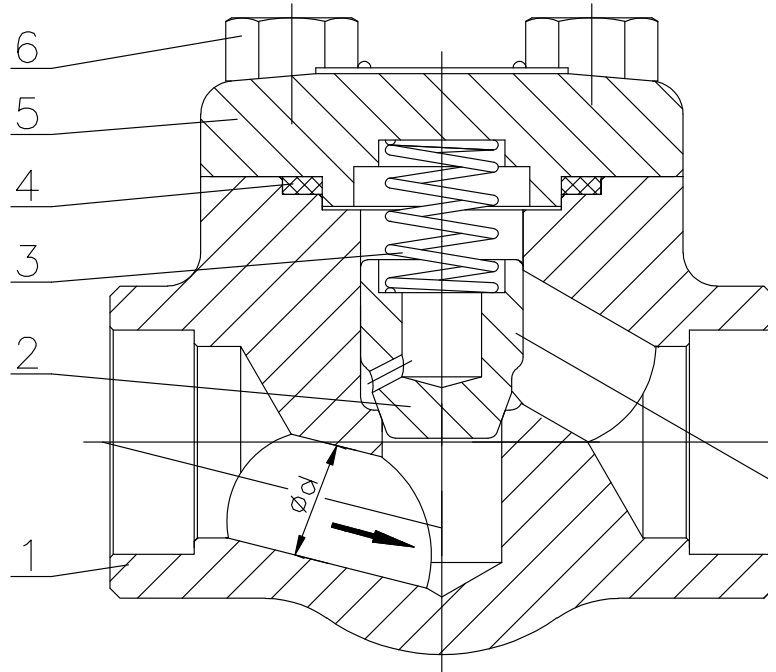
- Saturated Steam
- Superheated Steam
- Gas
- Petroleum and Derivatives
- Water
- Air
- Various Chemical Fluids
- Acid

#### Applications

- Petrochemical plants
- Refineries
- Power Plants
- Iron and Steel Factories
- Sugar Factories
- Chemical Plants
- Food Factories
- Paper Factories
- Boiler Manufacturers
- Mining Facilities
- Cement Factories
- Fertilizer Facilities

# FPCV PISTON CHECK VALVE

STANDARD BODY MATERIALS		
CODE	MATERIAL	MAX. OPERATING TEMPERATURE
A105	ASTM A105	-29 °C/+425 °C
LF2	ASTM A350 LF2	-46 °C/+425 °C
F316	ASTM A182 F316	-196 °C/+538 °C
316H	ASTM A183 F316H	-196 °C/+593 °C
F5	ASTM A182 F5	-29 °C/+600 °C
F9	ASTM A182 F9	-29 °C/+600 °C
F91	ASTM A182 F91	-29 °C/+600 °C
F11	ASTM A182 F11	-29 °C/+595 °C
F22	ASTM A182 F22	-29 °C/+595 °C



STANDARD MODELS PARTS LIST							
NO	PART	FPCV-10	FPCV-20	FPCV-30	FPCV-40	FPCV-50	FPCV-60
1	Body	A105+STL	A182 F22+STL	A350 LF2	A182 F11+STL	A182 F304	A182 F316
2	Disc	A182 F6A	A182 F6A + STL	A182 F304	A182 F6A + STL	A182 F304	A182 F316
3	Spring	A276 410	A276 410	A276 304	A276 410	A276 F304	A276 F316
4	Cover Gasket	SS304+Graphite	SS304+Graphite	SS304+Graphite	SS304+Graphite	SS304+Graphite	SS316+Graphite
5	Cover	A105	A182 F22	A350 LF2	A182 F11	A182 F304	A182 F316
6	Cover Bolt	A193 B7	A193 B16	A320 L7	A193 B16	A193 B8	A193 B8

# FPCV PISTON CHECK VALVE

## Design Standards

### Design Standard:

- API602,BS5352,ANSI B16.34

### Connection Standards:

- Socket Weld:ANSI B16.11(SW)
- Thread:ANSI B1.20.1(NPT)
- Butt Weld:ANSI B16.25 (BW)
- Flanged:ANSI B16.5 (RF)

### Test Standard:

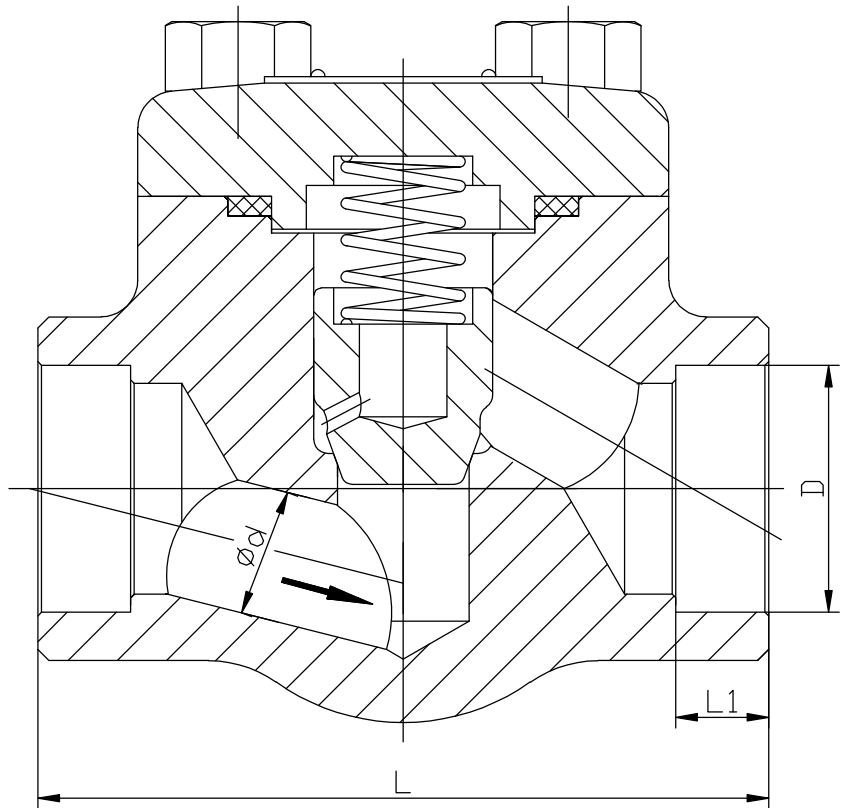
- API598

### Production Diameter:

- DN15(1/2") - DN50(2")

### Pressure Class:

- Class 150 - Class 1500



FPCV CLASS 800 (SW,BW,NPT)					
DIA	DN	D	L1	L	d
1/2"	15	21.7	9.6	79	10.5
3/4"	20	27.1	12.7	92	12.5
1"	25	33.8	12.7	111	17.5
1 1/4"	32	42.5	12.7	120	23
1 1/2"	40	48.6	12.7	152	28
2"	50	61.1	15.7	172	35

FPCV CLASS 1500 (SW,BW,NPT)					
DIA	DN	D	L1	L	d
1/2"	15	21.7	9.6	111	10.5
3/4"	20	27.1	12.7	111	12.5
1"	25	33.8	12.7	120	17.5
1 1/4"	32	42.5	12.7	152	23
1 1/2"	40	48.6	12.7	172	28
2"	50	61.1	15.7	220	35

# FPCV PISTON CHECK VALVE

OPERATING TEMPERATURE	CLASS 150					CLASS 300					CLASS 600				
	A105	F316	F11	F22	LF2	A105	F316	F11	F22	LF2	A105	F316	F11	F22	LF2
-46 °C		19.0			19.6		49.6			51.1		99.3			102.1
-29 °C/38 °C	19.6	19.0	19.8	19.8	19.6	51.1	49.6	51.7	51.7	51.1	102.1	99.3	103.4	103.4	102.1
50 °C	19.2	18.4	19.5	19.5	19.2	50.1	48.1	51.7	51.7	50.1	100.2	96.2	103.4	103.4	100.2
100 °C	17.7	16.2	17.7	17.7	17.7	46.6	42.2	51.5	51.5	46.6	93.2	84.4	103.0	103.0	93.2
150 °C	15.8	14.8	15.8	15.8	15.8	45.1	38.5	49.7	50.3	45.1	90.2	77.0	99.5	100.3	90.2
200 °C	13.8	13.7	13.8	13.8	13.8	43.8	35.7	48.0	48.6	43.8	87.6	71.3	95.9	97.2	87.6
250 °C	12.1	12.1	12.1	12.1	12.1	41.9	33.4	46.3	46.3	41.9	83.9	66.8	92.7	92.7	83.9
300 °C	10.2	10.2	10.2	10.2	10.2	39.8	31.6	42.9	42.9	39.8	79.6	63.2	85.7	85.7	79.6
325 °C	9.3	9.3	9.3	9.3	9.3	38.7	30.9	41.4	41.4	38.7	77.4	61.8	82.6	82.6	77.4
350 °C	8.4	8.4	8.4	8.4	8.4	37.6	30.3	40.3	40.3	37.6	75.1	60.7	80.4	80.4	75.1
375 °C	7.4	7.4	7.4	7.4	7.4	36.4	29.9	38.9	38.9	36.4	72.7	59.7	77.6	77.6	72.7
400 °C	6.5	6.5	6.5	6.5	6.5	34.7	29.4	36.5	36.5	34.7	69.4	58.9	73.3	73.3	69.4
425 °C	5.5	5.5	5.5	5.5	5.5	28.8	29.1	35.2	35.2	28.8	57.5	58.3	70.0	70.0	57.5
450 °C	4.6*	4.6	4.6	4.6	4.6*	23.0*	28.8	33.7	33.7	23.0*	46*	57.7	67.7	67.7	46*
475 °C	3.7*	3.7	3.7	3.7	3.7*	17.4*	28.7	31.7	31.7	17.4*	34.9*	57.3	63.4	63.4	34.9*
500 °C	2.8*	2.8	2.8	2.8	2.8*	11.8*	28.2	25.7	28.2	11.8*	23.5*	56.5	51.5	56.5	23.5*
538 °C	1.4*	1.4	1.4	1.4	1.4*	5.9*	25.2	14.9	18.4	5.9*	11.8*	50.0	29.8	36.9	11.8*
550 °C								12.7	15.6				25.4	31.3	
575 °C								8.8	10.5				17.6	21.1	
600 °C								6.1	6.9				12.2	13.8	

OPERATING TEMPERATURE	CLASS 800					CLASS 1500						
	A105	F5	F316	F316H	LF2	F9	F11	F22	"A105 LF2"	F22	F316	
-46 °C			132.4		136.2					255.3		248.2
-29 °C/38 °C	136.2	137.9	132.4	132.4	136.2	137.9	137.9	137.9	255.3	258.6	248.2	
50 °C	133.7	137.3	128.3	128.3	133.7	137.9	137.9	137.9	250.6	258.6	240.6	
100 °C	124.3	134.5	112.5	112.5	124.3	137.4	137.3	137.4	233.0	257.6	211.0	
150 °C	120.2	128.5	102.7	102.7	120.2	133.8	132.6	133.8	225.4	250.9	192.5	
200 °C	116.8	123.4	95.1	95.1	116.8	129.6	127.9	129.6	219.0	243.4	178.3	
250 °C	111.8	119.5	89.0	89.0	111.8	123.6	123.6	123.6	209.7	231.8	166.9	
300 °C	106.2	114.3	84.3	84.3	106.2	114.3	114.3	114.3	199.1	214.4	158.1	
325 °C	103.2	110.2	82.4	82.4	103.2	110.2	110.2	110.2	193.6	206.6	154.4	
350 °C	100.2	107.3	80.9	80.9	100.2	107.3	107.3	107.3	187.8	201.1	151.6	
375 °C	97.0	103.5	79.7	79.7	97.0	103.5	103.5	103.5	181.8	194.1	149.4	
400 °C	92.6	97.6	78.5	78.5	92.6	97.6	97.6	97.6	173.6	183.1	147.2	
425 °C	76.7	93.4	77.7	77.7	76.7	93.4	93.4	93.4	143.8	175.1	145.7	
450 °C	61.3*	90.2	76.9	76.9	61.3*	90.2	90.2	90.2	115.0*	169.1	144.2	
475 °C	46.5*	74.3	76.4	76.4	46.5*	84.5	84.5	84.5	87.2*	158.2	143.4	
500 °C	31.4*	57.0	75.3	75.3	31.4*	75.3	68.6	75.3	58.8*	140.9	140.9	
538 °C	15.7*	36.5	66.8	66.8	15.7*	46.7	39.7	49.2	29.5*	92.2	125.5	
550 °C		32.1			66.5	40.0	33.9	41.7		78.2		
575 °C		23.5			63.8	27.9	23.5	28.1		52.6		
600 °C		16.2			53.1	19.1	16.3*	18.4*		34.4		

\* We kindly advise NOT TO USE in that temperatures.

## FPCV PISTON CHECK VALVE

---

3D



### HEAD OFFICE - FACTORY

Atatürk Sanayi Bölgesi Hadımköy Mahallesi Mustafa İnan Caddesi No: 44 Arnavutköy - İSTANBUL  
Tel: +90 212 771 01 45 (pbx) | Fax: +90 212 771 47 27  
info@ayvaz.com | www.ayvaz.com

---