



TM

# AUTOMATIC AIR VALVE (WITH COMBINATION OF AIR RELEASE VALVE) PN10/PN16



## APPLICATION

The primary application for air valves on water transmission lines and sewage force mains, thus:

- A. Allowing the air that is being pushed ahead of the incoming liquid to escape from the system and ensure a complete filling of the pipeline.
- B. Allowing air to refill the system to replace the out flowing liquid to prevent vacuum formation during draining operation.
- C. Often, Air valves are installed along with air release valve or as combination valves to not only function during filling/draining but also vent air pockets during operation.

## MAIN FEATURES & BENEFITS

- \* During the exhausting sequence, the air flowing around the float ball produces a resultant downward force which maintains the ball in the open position. See [Figure 1](#)
- \* The kinetic design of TKV air valve prevents premature valve closure/blow shut while exhausting air up to sonic speed, therefore can be operated at higher differential pressure or exhausting a greater volume of air than those conventional air valve.
- \* The buoyant force of the float ball will seal the exhaust orifice when water reaches the ball. See [Figure 2](#)
- \* Full length guide bush ensure proper seating even valve is not perfect vertically installed. See [Figure 2](#)
- \* Built-in protection grid on air valve prevents anything that longer than 5mm in diameter from entering the system during draining or when the system is empty. See [Figure 2](#)
- \* Rubber cushion protect float ball from damage during sudden vacuum.

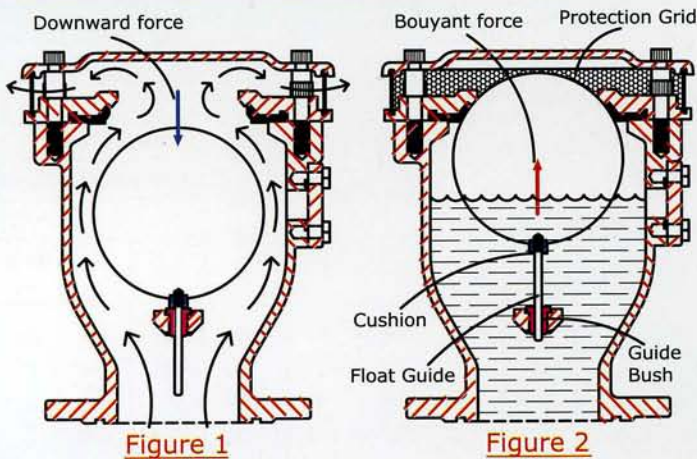


Figure 1

Figure 2

- \* During operation, air release valve capable of venting out air pockets that trapped in the water, thus increasing the system efficiency. See [Figure 3](#)
- \* Specially design pivot arm link for air release valve able to amplify the buoyant force till 15 times, thus enable orifice button to seal orifice more tightly. See [Figure 3](#)
- \* Spherical, stainless steel float ball for strongest possible shape, tested to 70 bar.
- \* Fusion bonded epoxy powder (FBE) coating body, able to withstand mostly all harsh condition and suitable for drinking water.

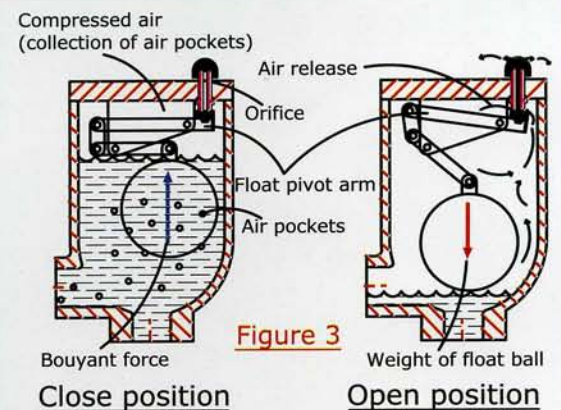


Figure 3

Close position

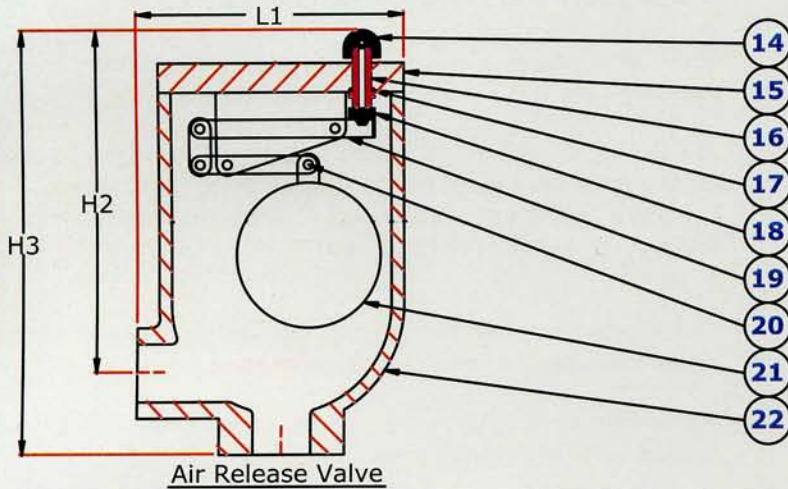
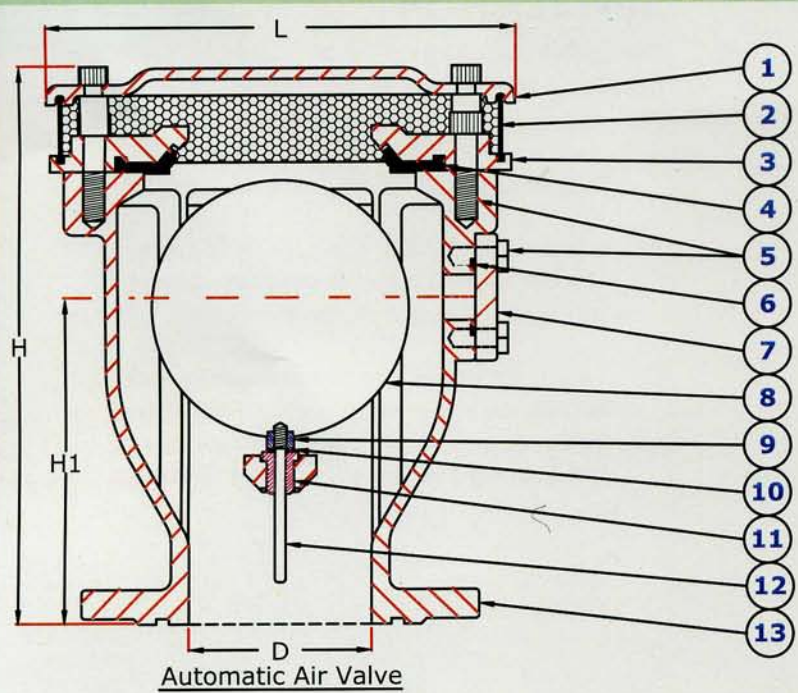
Open position

# TKV

# AUTOMATIC AIR VALVE (WITH COMBINATION)

## DN50 to DN200 , PN10 & PN16 Pressure Ratings

FUSION BONDED EPOXY (FBE) COATED



### Automatic Air Valve

NO	Component	Material
1	Cowl	Ductile Iron ,BS EN1563 Grade 420/12
2	Protection Grid	S.S.,BS 970:Part 1 304
3	Cover	Ductile Iron ,BS EN1563 Grade 420/12
4	Ball Seal	EPDM BS EN1563 WA,NBR ASTMD 2000 70°IRHD
5	Bolt	S.S.,BS 970:Part 1 304
6	O-Ring Seal	NBR ASTMD 2000 70°IRHD
7	Plate	Ductile Iron ,BS EN1563 Grade 420/12
8	Float Ball	S.S.,BS 970:Part 1 304
9	Guide Screw	S.S.,BS 970:Part 1 304
10	Seal	EPDM BS EN1563 WA
11	Guide Bush	Nylon
12	Float Guide	S.S.,BS 970:Part 1 304
13	Air Valve Body	Ductile Iron ,BS EN1563 Grade 420/12 Corro-Coat EP-R,AWWA C213-96/NZ4158.1 Part 1

### Air Release Valve

14	Bonnet	S.S.,BS 970:Part 1 304
15	Cap	Ductile Iron ,BS EN1563 Grade 420/12
16	Nozzle	S.S.,BS 970:Part 1 304
17	O-Ring Seal	NBR ASTMD 2000 70°IRHD
18	Orifice Button	EPDM BS EN1563 WA
19	Float Pivot Arm	S.S.,BS 970:Part 1 304
20	Spring Pin	S.S.,BS 970:Part 1 304
21	Float Ball	S.S.,BS 970:Part 1 304
22	Body	Ductile Iron ,BS EN1563 Grade 420/12 Corro-Coat EP-R,AWWA C213-96/NZ4158.1 Part 1

Dimensions in millimetres (mm)

DN	H	H1	L	D	H2	H3	L1	Weight KG
50	260	50	180	50	190	235	148	23
80	300	170	260	80	190	235	148	32
100	310	180	260	100	190	235	148	33
150	540	355	384	150	190	235	148	71
200	940	755	785	200	190	235	148	198

Maximum filling rate in L/sec.  
Maximum venting capacity in M<sup>3</sup>/min.(70°F & 1 bar)

SIZE / MM	50	80	100	150	200	
FILLING PRESSURE bar	0,07	138,8	312,3	555	1249	2221
	0,12	8,88	20	35,66	80,1	142,35
	0,14	12,56	28,3	50,37	113,2	201,2
	0,28	213,3	480	852	1918	3414
	0,35	15,4	34,5	61,7	138,67	246,5
	0,42	232,8	524,4	934	2101	3729
	0,49	17,77	39,9	71	160,2	285,83
	0,56	247,4	556,5	950	2227	3956
	0,63	19,9	44,7	79,5	178,8	317
	0,7	258	580,5	1035	2322	4127
	0,7	21,8	49	87,16	196,1	348
	0,7	265,6	598,2	1060	2391	4253
	0,7	23,5	52,92	94	211,68	376,4
0,7	271,3	610,8	1085	2442	4347	
0,7	25,16	56,6	100,5	225,4	401,9	
0,7	275,7	621	1104	2486	4417	
0,7	26,68	60	106,7	240	427,3	
0,7	278,9	627,8	1117	2511	4467	
0,7	28,13	63,4	112,35	253	450	
0,7	284	637,3	1136	2555	4499	
0,7	34,44	77,54	137,8	311,3	551,9	

Maximum air inflow rate in M<sup>3</sup>/min.(70°F & 1 bar)

SIZE / MM	50	80	100	150	200	
PERMISSIBLE VACUUM PRESSURE (bar)	0,07	9,06	20,4	36,22	81,5	142,2
	0,14	12,82	28,86	51,2	115,5	205,2
	0,21	15,7	35,37	62,8	141,5	251,3
	0,28	18,14	40,75	72,5	163,3	291,5
	0,35	20,26	45,56	81,2	182	325,5

FEATURE	SPECIFICATION
Works Test Pressure	Body=24 bar, Ball=70 bar
Flange Drillings	BS EN 1092-2:1997/DIN 2501/ISO 7005 PN 16 other drillings available
Maximum Service Temperature	70°C

Distributed By:



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