

# Combination Air Release Valve

## Functions:

- Large air release during filling of the pipeline.
- Small air release under pressurized pipeline.
- Large air intake during draining of the pipeline.

## Features:

- ✦ Advanced design with simple mechanism, strong float to prevent cracking during sudden water hammer & quick closure.
- ✦ Aerokinetic mechanism to resist blow shut under higher air velocity even up to sonic velocity of air.
- ✦ No arms or levers to prevent vibrating, bending, direct closure of the float.
- ✦ Smooth cage outside of the float, movement restricted to specified guide rail.
- ✦ Bottom rubber buffer for collision prevention and easy to drain with proper holes around the cage during vacuum.
- ✦ All iron parts are coated inside & outside with fusion bonded epoxy for corrosion resistance as per AWWA C550.
- ✦ Suitable for distribution pipeline. For pipeline with high risk of water hammer, anti-shock device is advised.
- ✦ Combination Air Release Valve fully complies with manufacturing standard AWWA C512 and BS EN 1074-4.
- ✦ 1" to 2" available in threaded connection. 2" to 12" available with ANSI Class 125 and Class 150 flanges.
- ✦ Valves are certified NSF61 for Drinking Water and NSF372 for Lead Content.



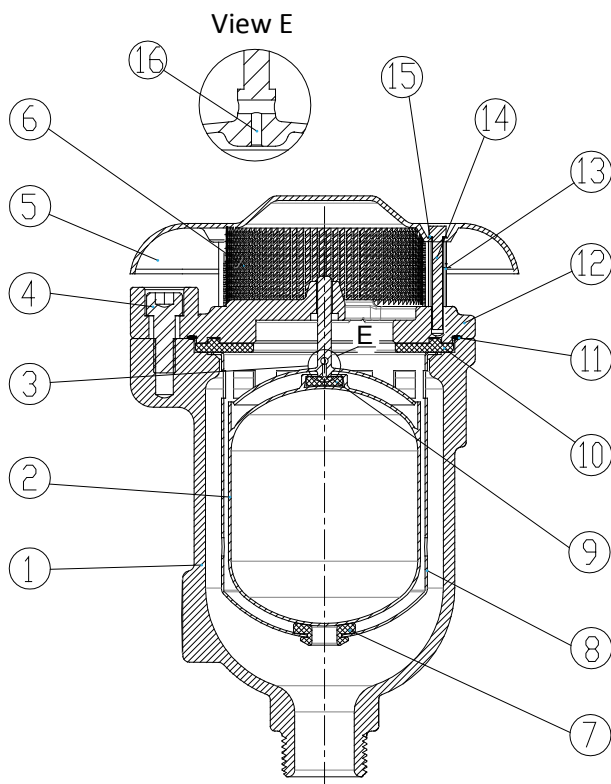
## Service Field:

Water System, Fire Fighting, Irrigation

## Technical Data:

Design Standard:	AWWA C512 / BS EN 1074-4
Size Range:	1" - 12"
Pressure Rating:	200 psi / 300 psi
Working Temperature:	-10°C – 80°C
End Connection:	ANSI B16.1 / B16.5 NPT Male
Test & Inspection:	AWWA C512

## Combination Air Release Valves (1" - 2")

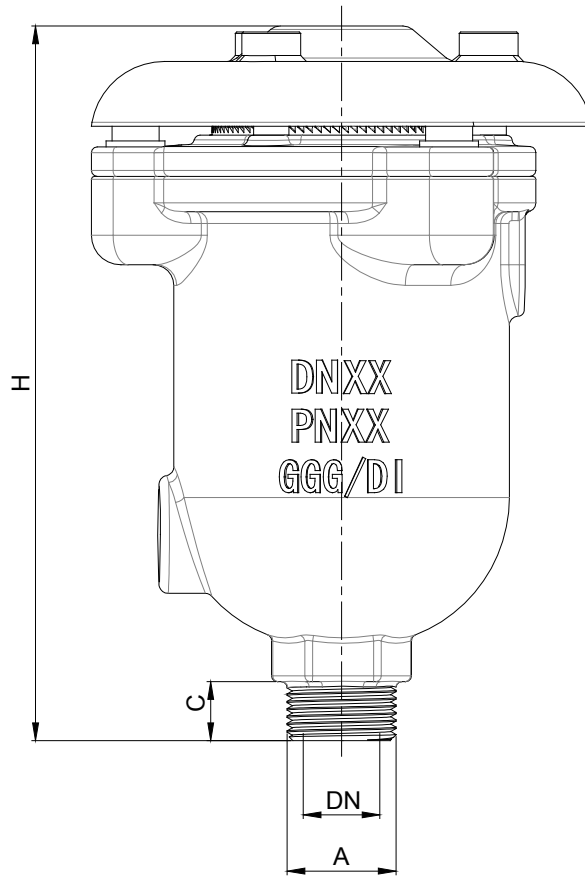


### Parts List & Materials

No.	Parts Name	Materials	Standards
1	Body	Ductile Iron	ASTM A536
2	Float	Stainless Steel	SS304 / SS316
3	Sealing Arc	Stainless Steel	SS304 / SS316
4	Hexagon Bolt	Carbon Steel / Stainless Steel	Zinc Coated / SS304 / SS316
5	Cover	Carbon Steel	Epoxy Coated
6	Screen	Stainless Steel	SS304 / SS316
7	Buffer	Rubber	NBR / EPDM
8	Guide Barrel	Stainless Steel	SS304 / SS316
9	Nozzle Seat	Rubber	NBR / EPDM
10	Seat	Rubber	NBR / EPDM
11	O-Ring	Rubber	NBR / EPDM
12	Bonnet	Ductile Iron	ASTM A536
13	Pillar	Aluminum	Commercial
14	Hexagon Bolt	Carbon Steel / Stainless Steel	Zinc Coated / SS304 / SS316
15	Washer	Stainless Steel	SS304 / SS316
16	Small Nozzle	Stainless Steel	SS304 / SS316

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## Combination Air Release Valves (1" - 2")



### Main Dimensions

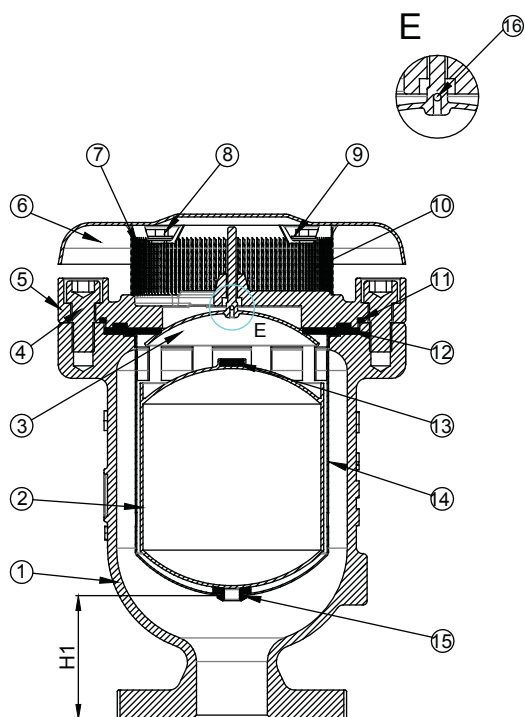
Unit: inch

NPS	A	C	H
1"	G 1"	¾"	10"
1 ¼"	G 1 ¼"	¾"	10"
1 ½"	G 1 ½"	¾"	10"
2"	G 2"	7/8"	10"

Unit: mm

DN	A	C	H
25	G 1"	19	250
32	G 1 ¼"	21	250
40	G 1 ½"	21	250
50	G 2"	22	250

## Combination Air Release Valves (2" - 12")

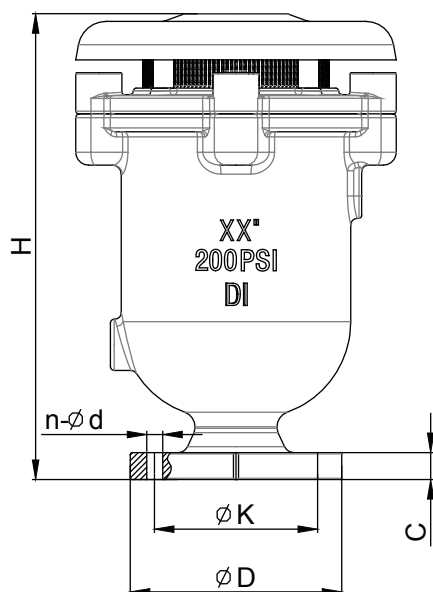


### Parts List & Materials

No.	Parts Name	Materials	Standards
1	Body	Ductile Iron	ASTM A536
2	Float	Stainless Steel	SS304 / SS316
3	Sealing Arc	Stainless Steel	SS304 / SS316
4	Hexagon Bolt	Carbon Steel / Stainless Steel	G.1 / SS304 / SS316
5	Bonnet	Ductile Iron	ASTM A536
6	Cover	Carbon Steel	SS304 / SS316
7	Screen	Stainless Steel	SS304 / SS316
8	Hexagon Bolt	Carbon Steel / Stainless Steel	G.1 / SS304 / SS316
9	Washer	Stainless Steel	SS304 / SS316
* 10	Pillar	Aluminum	Commercial
11	O-Ring	Rubber	NBR / EPDM
12	Seat	Rubber	NBR / EPDM
13	Nozzle Seat	Rubber	NBR / EPDM
14	Guide Barrel	Stainless Steel	SS304 / SS316
15	Buffer	Rubber	NBR / EPDM
16	Small Nozzle	Stainless Steel	SS304 / SS316

\* For size ≤ 6"

### Main Dimensions



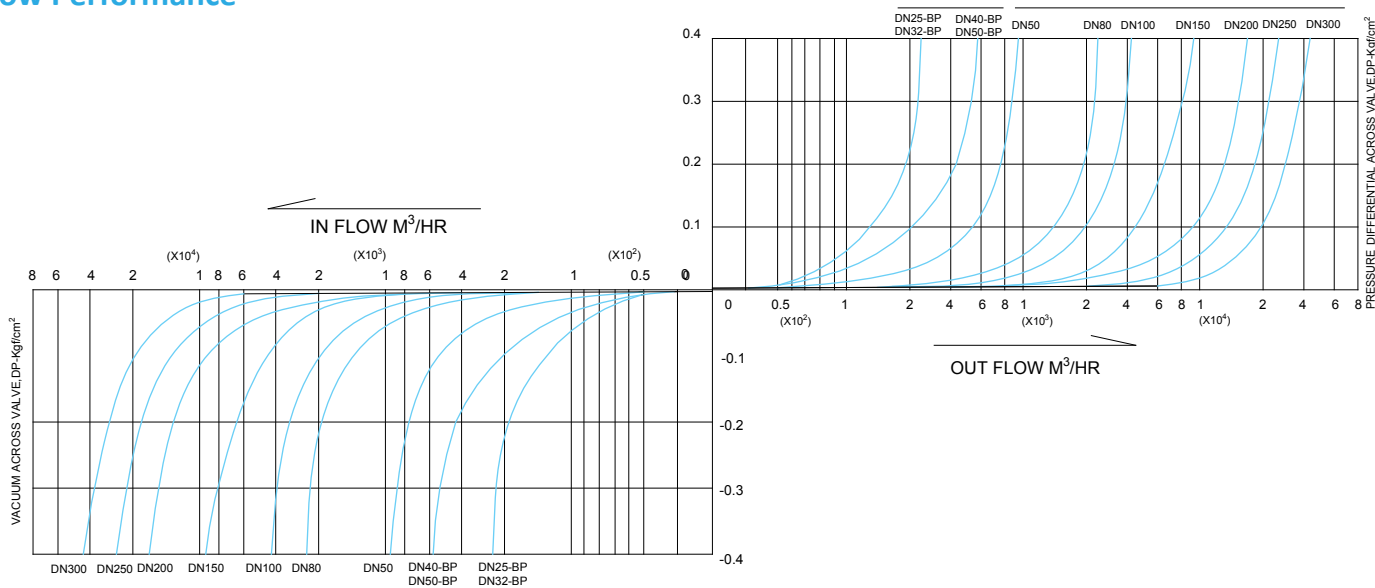
unit: inch

NPS	H	H1	øD	øK	N	ød	C
2"	11	2 7/8	6	4 3/4	4	3/4	3/4
3"	14 1/4	3 1/2	7 1/2	6	4	3/4	3/4
4"	15 1/2	3 1/2	9	7 1/2	8	3/4	1
6"	19	4	11	9 1/2	8	7/8	1
8"	23	5 1/4	13 1/2	11 3/4	8	7/8	1 1/8
12"	29 1/2	5 1/2	19	17	12	1	1 1/4

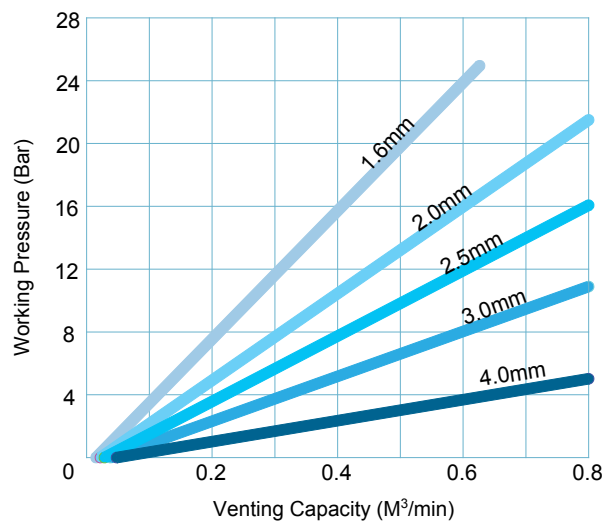
unit: mm

DN	H	H1	øD	øK	N	ød	C
50	279	54	152	120.7	4	19	19
80	362	89	191	152.4	4	19	19
100	394	89	229	190.5	8	19	25
150	483	102	279	241.3	8	22	25
200	584	133	343	298.5	8	22	29
300	749	140	483	431.8	12	25	32

## Flow Performance



## Air release during working conditions



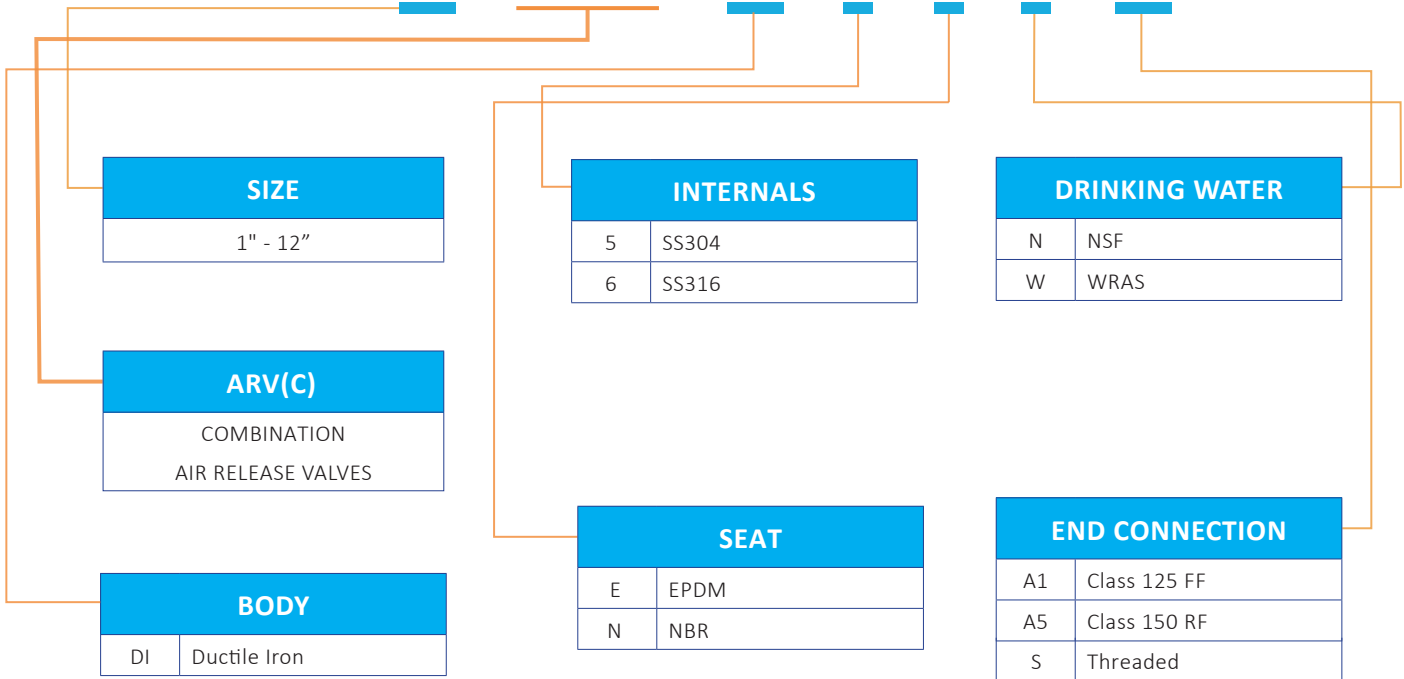
## Selection Criteria

<b>Water Flow Rate Range max. cmh (m<sup>3</sup>/hour)</b>	760	1360	4160	8500	19100	33400	76300
<b>Main Pipe Size (mm)</b>	80-300	200-400	400-700	750-1000	1050-1500	1500-200	2100-300
<b>Inlet Size (mm)</b>	25 / 32 / 40 / 50	50	80	100	150	200	300
<b>Outlet Bore (mm)</b>	50	75	95	130	170	230	330
<b>Small Orifice Size (mm)</b>	1.6	1.6	2	2.5	3	4	4

- ✦ Pipe thread Combination Air Release Valve (1" to 2") are designed for 200 psi max. operating pressure.
- ✦ Flange type (2" to 12") are designed for 350 psi max. operating pressure.

**PRODUCT SELECTION**

**VT - XX - ARV(C) - XX - X - X - X - XX**



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