

AIR RELEASE VALVE

KAR5 – Adjustable Anti-Shock Combination Kinetic Air Release Valve

REF **EFC-336** ISSUED 15 Jun 2026

SPECIFICATIONS

Size	DN25–DN200
Pressure	PN16–PN25
End connection	flanged (EN 1092-2)

STANDARDS

Design	EN 1074-4
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APPROVALS & CERTIFICATIONS

- WRAS
- ISO 9001

APPLICATIONS

- Potable water mains
- Treated water transmission
- Pump stations
- Irrigation networks

FEATURES

- The KAR5 is a combination kinetic air release valve with an integral adjustable anti-shock mechanism
- During pipeline filling, the large kinetic orifice vents bulk air at high flow rates
- Once the pipeline is pressurised, the small orifice continuously releases accumulated air pockets
- On rapid pump shutdown or column separation, the anti-shock needle valve limits the rate of water re-entry to protect against surge-induced pressure transients
- The closing rate is field-adjustable without special tools



PRESSURE-TEMPERATURE RATING

CLASS	TEMPERATURE	MAX PRESSURE
PN10 (Thread/Flange)	-10°C	10 bar
PN10 (Thread/Flange)	80°C	10 bar
PN16 (Thread/Flange)	-10°C	16 bar
PN16 (Thread/Flange)	80°C	16 bar
PN25 (Flange only)	-10°C	25 bar
PN25 (Flange only)	80°C	25 bar

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KAR5- Adjustable Combination kinetic air release valve provide 5 functions:

- 1.Large air release during filling of the pipeline.
- 2.Small air release under pressurized pipeline.
- 3.Large air intake during draining of the pipeline.
- 4.Restrict Air Exhausting Volume to prevent Water Hammer when air delta P reached setting pressure.
- 5.Adjust the anti-shock working pressure from 0.1- 0.3 bar based on field working condition

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, keep float moving in specified guide rail.
- . Bottom rubber buffer for collision prevention, and drain easy with proper holes around the cage during vacuum.
- . Outside screen will be for safety and prevent insects or birds in.
- . Fully fusion epoxy coated inside and outside of valve body for long term services.
- . Manufacturing standard meets BS EN 1074-4, AWWA C512
- . Flange drilling and dimension meets BS EN 1092 and ANSI flange.



Service Fields:

For water system, fire fighting, irrigation system.

Technical Data:

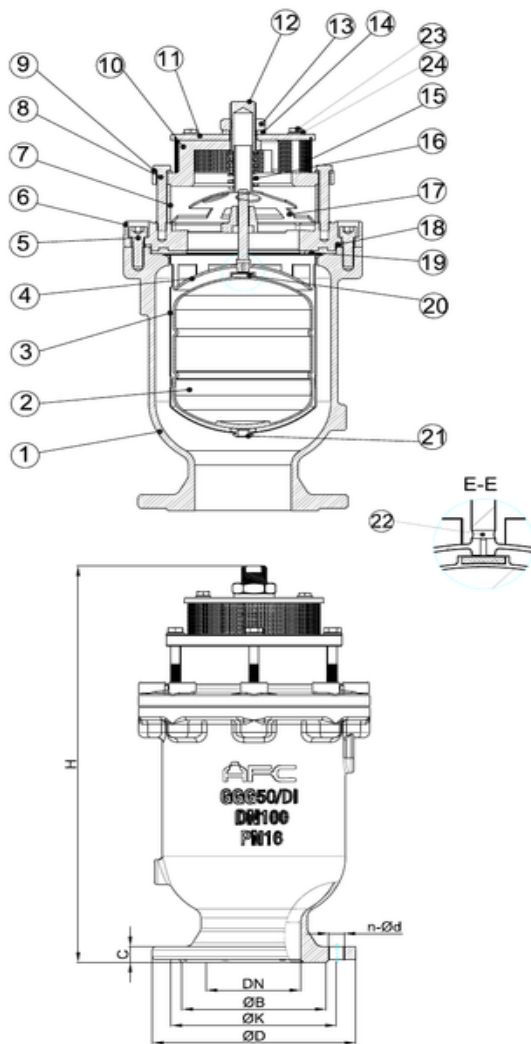
Size range:DN 50-300MM
 Pressure ratings:1.0Mpa, 1.6Mpa(Thread)
 1.0Mpa,1.6Mp,2.5 Mpa(Flange)
 Working temperature: -10°-80°C.
 Flow media: clean water

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DN50-DN300



Parts List

No.	Part Name	Material	Standard
1	Body	Ductile Iron	EN GJS 500-7
2	Float	Stainless Steel	AISI 304
3	Guide Barrel	Stainless Steel	AISI 304
4	Sealing Arc	Stainless steel	AISI 304
5	In Hex Bolt	Stainless steel	A2
6	Bonnet	Ductile Iron	AISI 304
7	Mid-Body	Stainless Steel	AISI 304
8	Bolt	Stainless Steel	A2
9	Washer	Stainless Steel	A2
10	Top Bonnet	Ductile Iron	EN GJS 500-7
11	Cover	Stainless Steel	AISI 304
12	Nut	Stainless Steel	A2
13	Nut	Stainless Steel	A2
14	Washer	Stainless Steel	A2
15	Screen	Stainless Steel	AISI 304
16	Spring	Stainless Steel	AISI 304
17	Anti Shock Arc	Stainless Steel	AISI 304
18	O-Ring	Rubber	NBR
19	Seat	Rubber	EPDM
20	Gasket	Rubber	EPDM
21	Buffer	Rubber	EPDM
22	Nozzle	Stainless Steel	AISI 304
23	Bolt	Stainless Steel	A2
24	Washer	Stainless Steel	A2

Dimension

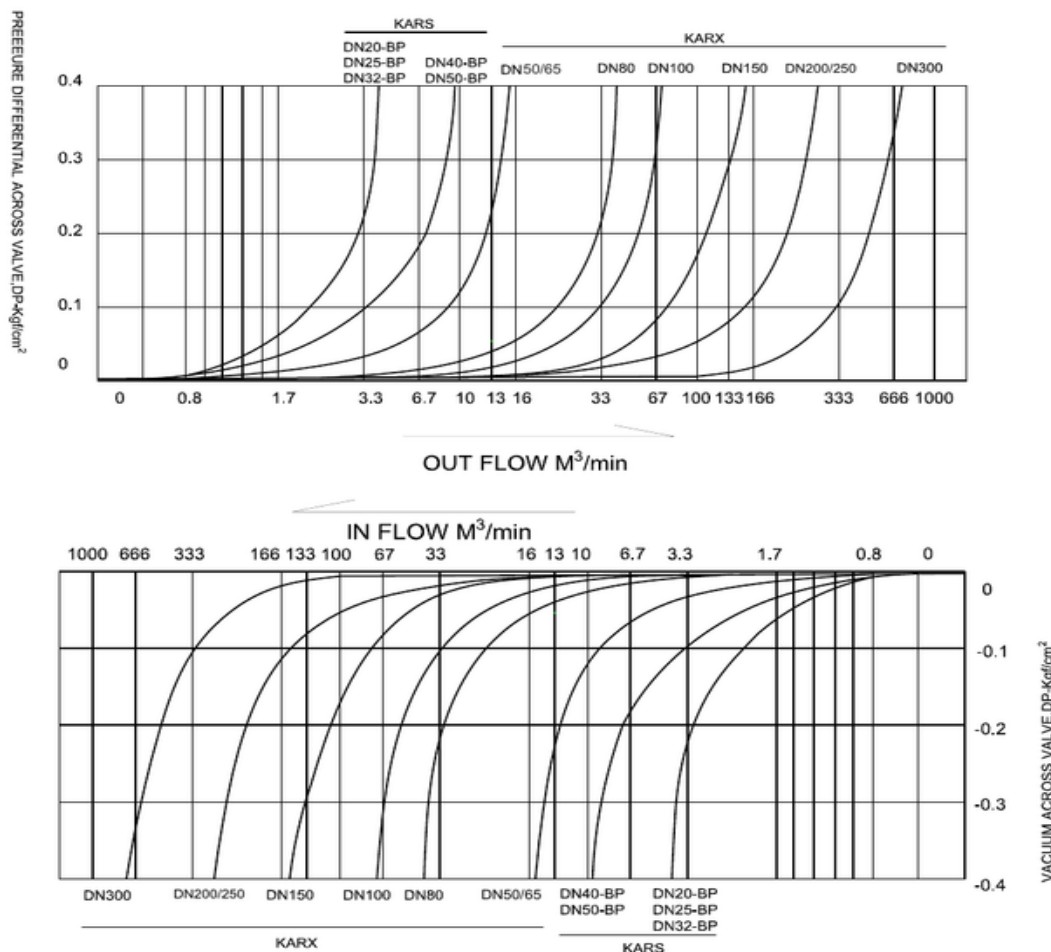
DN	Model No.	ØB			ØD			ØK			H	N-Ød			Unit: MM
		PN10	PN16	PN25	PN10	PN16	PN25	PN10	PN16	PN25		PN10	PN16	PN25	
50	KAR5-0050	99	99	99	165	165	165	125	125	125	363	4-Ø19	4-Ø19	4-Ø19	
80	KAR5-0080	132	132	132	200	200	200	160	160	160	445	8-Ø19	8-Ø19	8-Ø19	
100	KAR5-0100	156	156	156	220	220	235	180	180	190	478	8-Ø19	8-Ø19	8-Ø23	
150	KAR5-0150	211	211	211	285	285	300	240	240	250	575	8-Ø23	8-Ø23	8-Ø28	
200	KAR5-0200	266	266	274	340	340	360	295	295	310	672	8-Ø23	12-Ø23	12-Ø28	
300	KAR5-0300	370	370		460	460		400	410		840	12-Ø23	12-Ø28		

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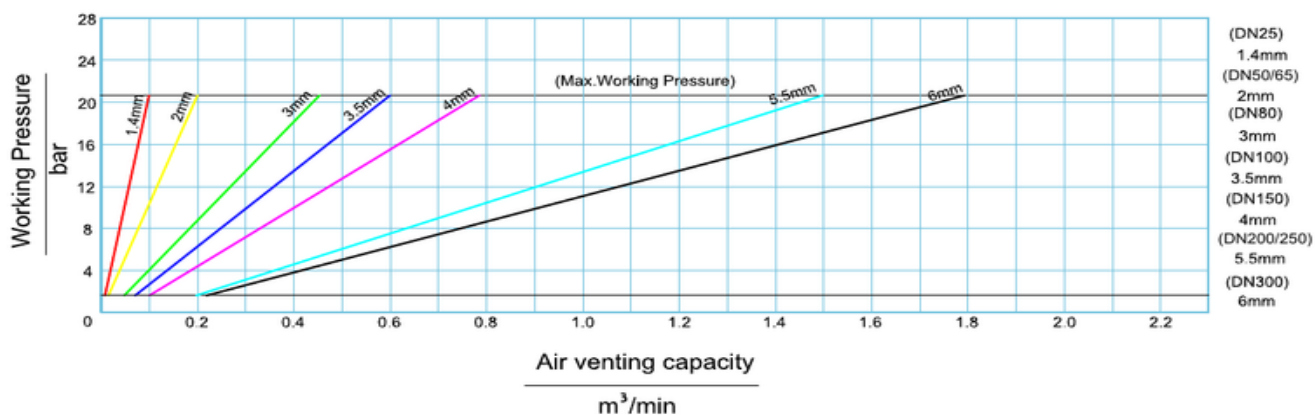
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Flow Performance



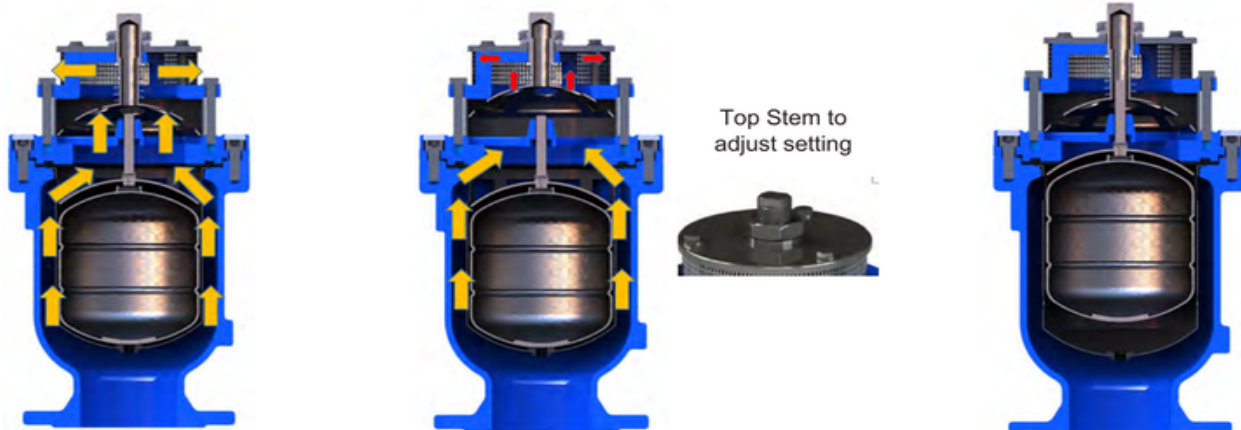
Air Venting



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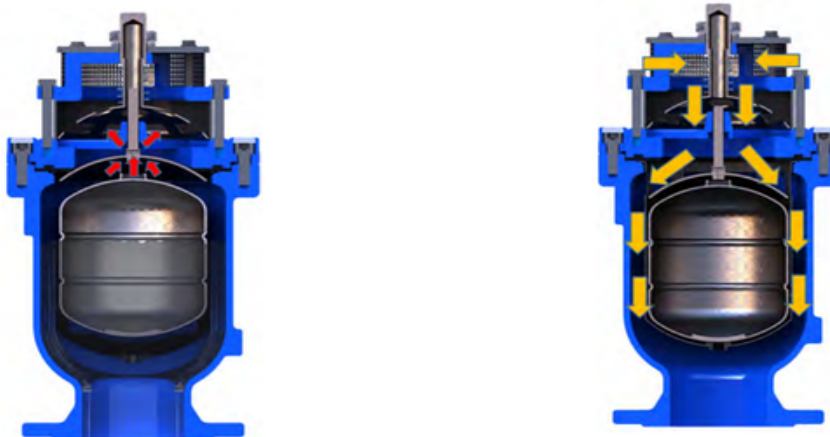
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Large Air Exhausting
Full Flow Area

When Air Delta P reached 0.1 - 0,3 bar, the anti-shock device will start working to decrease the air out volume and the air will be accumulated as a buffer to prevent water hammer. The delta P can be adjusted from top stem outside of the valve based on real working condition

When water gets into valve, the valve seals.



Small air venting for
bubble in water

Vacuum breaker
Full flow area

Ordering Code

Model:
KAR5- Adjustable anti-shock air release valve

KAR 5 - 0200 - 16

End Connection / ratings:

- 10: PN10
- 16: PN16
- 25: PN25
- A5: ANSI 150 R/F

Valve Size:
0080: 80MM-3"

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SECTION Dimensions per size REF EFC-336

SIZE	ØB_PN10	ØB_PN16	ØB_PN25	ØD_PN10	ØD_PN16	ØD_PN25	ØK_PN10	ØK_PN16	ØK_PN25	H
DN50	99	99	99	165	165	165	125	125	125	363
DN80	132	132	132	200	200	200	160	160	160	445
DN100	156	156	156	220	220	235	180	180	190	478
DN150	211	211	211	285	285	300	240	240	250	575
DN200	266	266	274	340	340	360	295	295	310	672
DN300	370	370	—	460	460	—	400	410	—	840

All dimensions in millimetres unless stated otherwise. Values are nominal; tolerances confirmed at quote.