

AIR RELEASE VALVE

KARX – Combination Kinetic Air Release Valve

REF **EFC-338** ISSUED 15 Jun 2026

SPECIFICATIONS

Size	DN25–DN300
Pressure	PN10–PN25
End connection	threaded (BSP/NPT) / flanged (EN 1092-2) / flanged (EN 1092-2) / flanged (EN 1092-2)

STANDARDS

Design	BS EN 1074-4, AWWA C512
--------	--------------------------------

APPROVALS & CERTIFICATIONS

- ISO 9001

APPLICATIONS

- Large diameter transmission mains
- Raw water mains
- Rising mains
- Bulk water supply



MATERIALS

body	Ductile Iron EN GJS 500-7	float	AISI 304 Stainless Steel
seals	NBR / EPDM		

FEATURES

- The KARX is a high-capacity combination air release valve designed for large diameter transmission mains where rapid venting of large air volumes is critical
- The oversized kinetic orifice minimises back pressure during filling, reducing pipe stress and fill times
- Continuous air release under pressure prevents air locking in rising mains and hilly pipeline profiles

PRESSURE-TEMPERATURE RATING

CLASS	TEMPERATURE	MAX PRESSURE
PN16 (threaded/screw type)	-10°C	16 bar
PN16 (threaded/screw type)	80°C	16 bar
PN25 (flange type DN50-DN200)	-10°C	25 bar
PN25 (flange type DN50-DN200)	80°C	25 bar

AIR RELEASE VALVE

KARX – Combination Kinetic Air Release Valve

SECTION Technical drawing 1 of 6 REF EFC-338

KARX- Combination kinetic air release valve provide 3 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.

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 an option 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 BS EN 558 and ANSI flange.
- . If there is water hammer issue, please consult factory



Service Fields:

For water system, fire fighting, irrigation system.

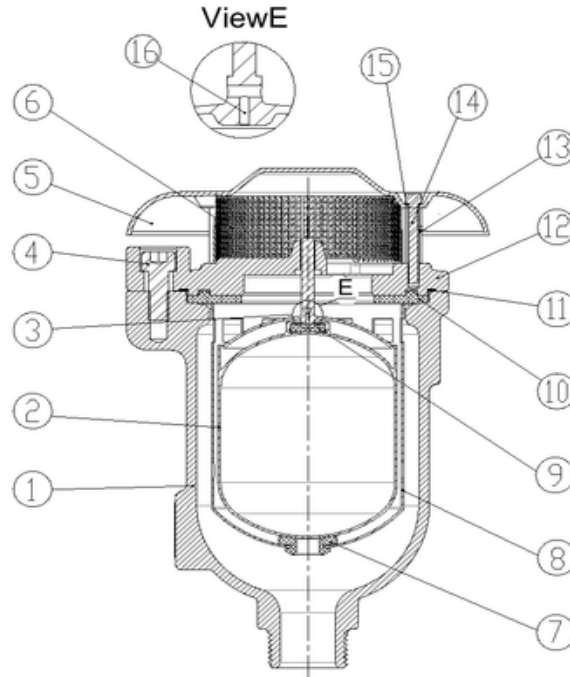
Technical Data:

Size range:DN 25-300MM
 Pressure ratings:1.0Mpa, 1.6Mpa(Thread)
 1.0Mpa,1.6Mp,2.5 Mpa(Flange)
 Working temperature: -10°-80°C.
 Flow media: clean water

AIR RELEASE VALVE

KARX – Combination Kinetic Air Release Valve

SECTION Technical drawing 2 of 6 REF EFC-338



Parts List

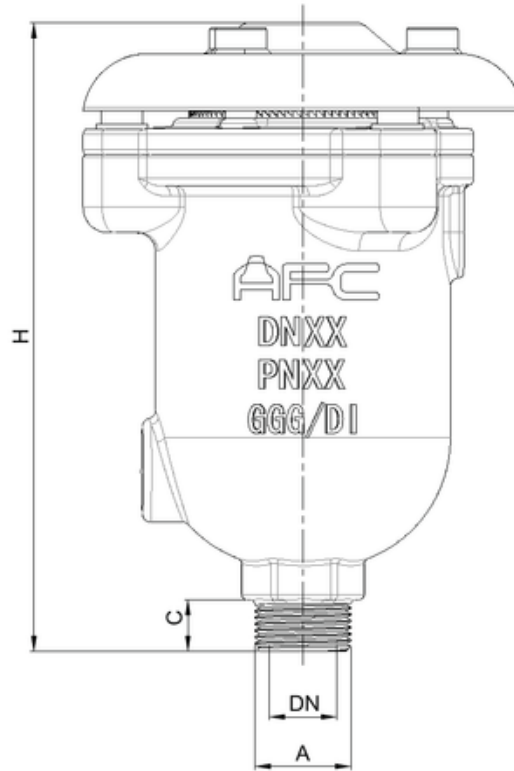
No.	Part Name	Material	Standard
1	Body	Ductile Iron	EN GJS 500-7
2	Float	Stainless Steel	AISI 304
3	Sealing Arc	Stainless Steel	AISI 304
4	Hex Bolt	Carbon Steel/ Stainless Steel	Zinc Coated/AISI 304
5	Cover	Carbon Steel	Epoxy Coated
6	Screen	Stainless Steel	AISI 304
7	Buffer	Rubber	NBR/EPDM
8	Guide Barrel	Stainless Steel	AISI 304
9	Nozzle Seat	Rubber	NBR/EPDM
10	Seat	Rubber	NBR/EPDM
11	O-ring	Rubber	NBR/EPDM
12	Bonnet	Ductile Iron	EN GJS 500-7
13	Pillar	Aluminium	Commercial
14	Hex Bolt	Carbon Steel/ Stainless Steel	Zinc Coated/AISI 304
15	Washer	Stainless Steel	AISI 304
16	Small Nozzle	Stainless Steel	AISI 304

AIR RELEASE VALVE

KARX – Combination Kinetic Air Release Valve

SECTION Technical drawing 3 of 6 REF EFC-338

Dimension



Unit: MM

DN	Model No.	ØA	C	H
25	KARS-0025-BP	G1"	20	243
32	KARS-0032-BP	G1 1/4"	20	243
40	KARS-0040-BP	G1 1/2"	20	243
50	KARS-0050-BP	G2"	20	243

Remarks: BP-- British Pipe Thread.

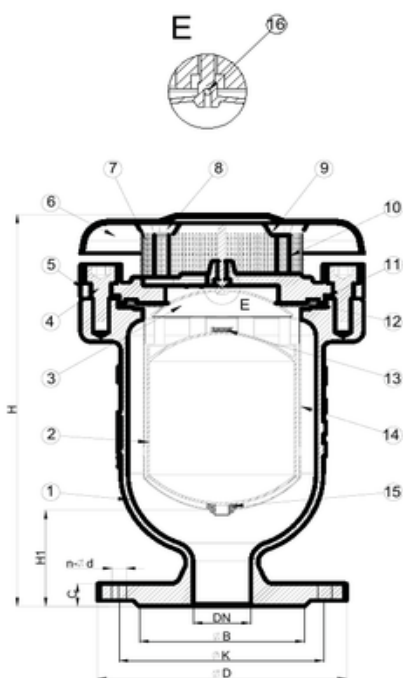
Max. WP PN16

AIR RELEASE VALVE

KARX – Combination Kinetic Air Release Valve

SECTION Technical drawing 4 of 6 REF EFC-338

Main Valve-DN50-DN300



Parts List

No.	Part Name	Material	Standard
1	Body	Ductile Iron	EN GJS 500-7
2	Float	Stainless Steel	AISI 304
3	Sealing Arc	Stainless Steel	AISI 304
4	In Hex Bolt	Carbon Steen/ Stainless Steel	G. I/ AISI 304
5	Bonnet	Ductile Iron	EN GJS 500-7
6	Cover	Carbon Steel	AISI 304
7	Screen	Stainless Steel	AISI 304
8	Hex Bolt	Carbon Steen/ Stainless Steel	G. I/ AISI 304
9	Washer	Stainless Steel	AISI 304
*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	AISI 304
15	Buffer	Rubber	NBR/EPDM
16	Small Nozzle	Stainless Steel	AISI 304

*: For Size ≤DN150.

Dimension

Unit: MM

DN	Model No.	ØB			ØD			ØK			H	N-Ød		
		PN10	PN16	PN25	PN10	PN16	PN25	PN10	PN16	PN25		PN10	PN16	PN25
50	KARX-0050	99	99	99	165	165	165	125	125	125	280	4-Ø19	4-Ø19	4-Ø19
* 65	KARR-0065	118	118		185	185		145	145		284	4-Ø19	4-Ø19	
80	KARX-0080	132	132	132	200	200	200	160	160	160	362	8-Ø19	8-Ø19	8-Ø19
100	KARX-0100	156	156	156	220	220	235	180	180	190	395	8-Ø19	8-Ø19	8-Ø23
150	KARX-0150	211	211	211	285	285	300	240	240	250	485	8-Ø23	8-Ø23	8-Ø28
200	KARX-0200	266	266	274	340	340	360	295	295	310	582	8-Ø23	12-Ø23	12-Ø28
* 250	KARR-0250	319	319	330	405	405	425	350	355	370	602	12-Ø23	12-Ø28	12-Ø31
300	KARX-0300	370	370		460	460		400	410		750	12-Ø23	12-Ø28	

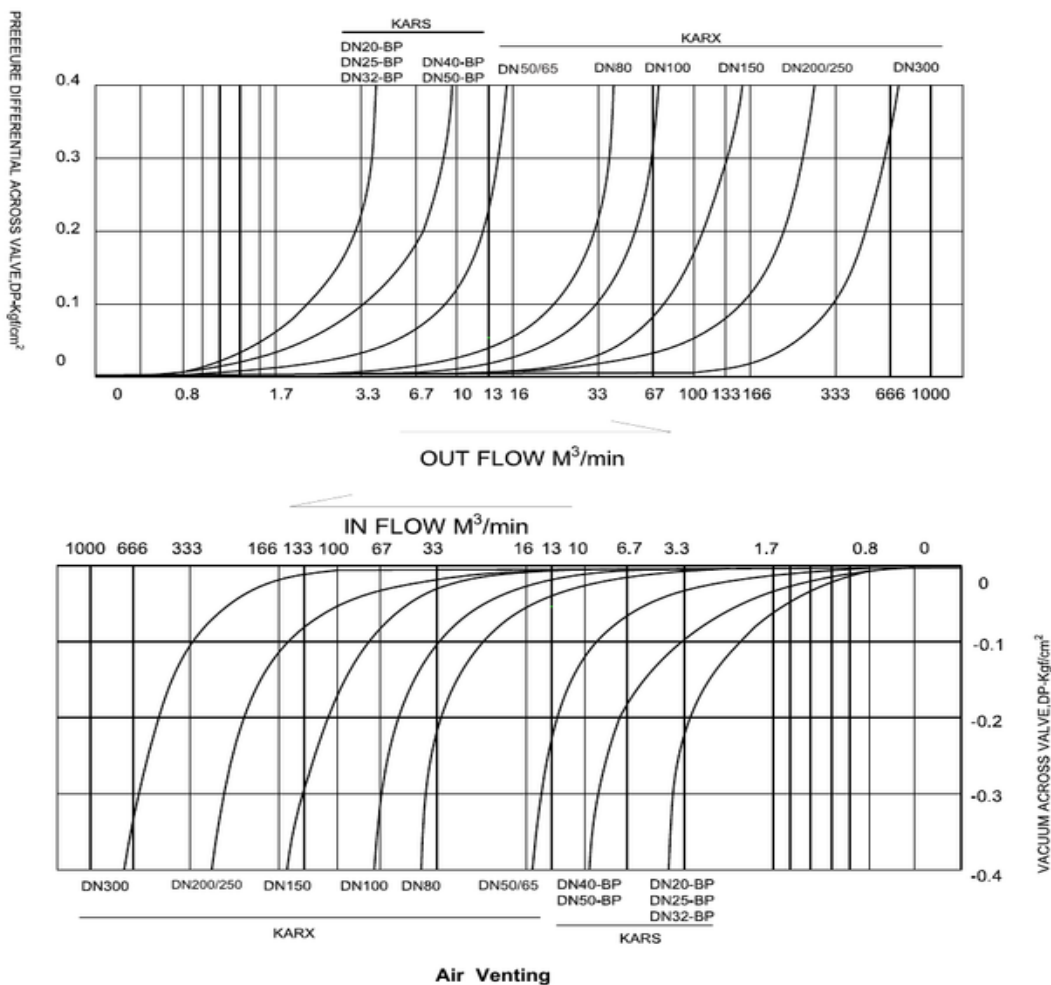
*** means reduced bore

AIR RELEASE VALVE

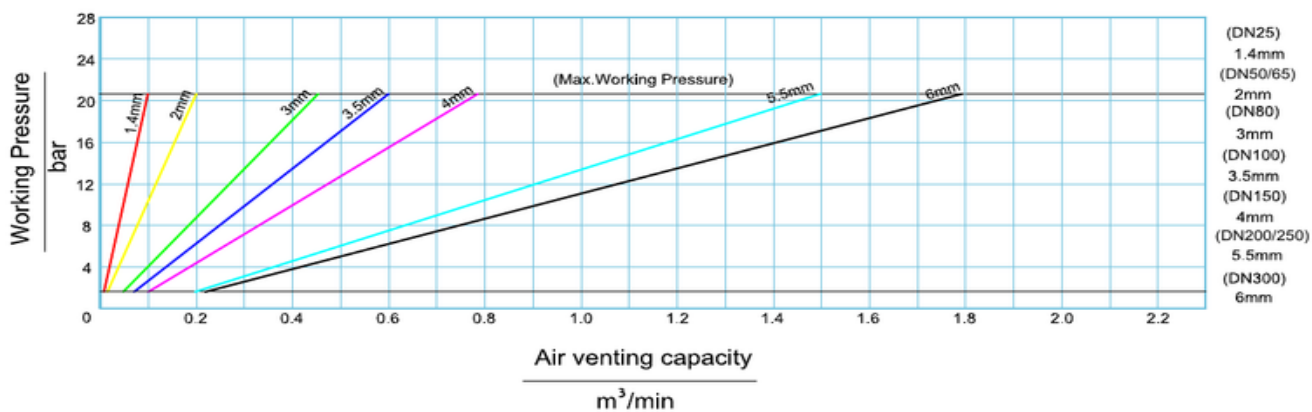
KARX – Combination Kinetic Air Release Valve

SECTION Technical drawing 5 of 6 REF EFC-338

Flow Performance



Air Venting



AIR RELEASE VALVE

KARX – Combination Kinetic Air Release Valve

SECTION Technical drawing 6 of 6 REF EFC-338

KARX-Quick Selection Table

Water flow rate range Max.CMH (M ³ /Hour)	760	1,360	4,160	8,500	19,100	33,400	76,300
Main pipe size MM	80-300	200-400	400-700	750-1000	1050-1500	1500-2000	2100-3000
Inlet size of KARX MM	25*/32*/ 40*/50*	50	80	100	150	200	300
bore of outlet MM	50	75	95	130	170	230	330
small orifice size MM	1.4	2	3	3.5	4	5.5	6

*These are pipe thread Combination Air Release Valve-KARS, which can be up to Max. WP PN16 .

Those flange type from DN 50-200 can be up to Max. WP PN 25.

Ordering Code

KAR X - 0200 - 16

Model:
KAR- kinetic air valve, with 3 functions
KAV-Kinetic air/vacuum valve, with 2 functions,
for large air exhaust and intake

Connection:
X: Flange Type.
S: Screw Type-Thread.

End Connection / ratings:
10: PN10
16: PN16
25: PN25
A1: ANSI 125 F/F
A5: ANSI 150 R/F
BP: British pipe thread
NP: national pipe thread

Valve Size:
0025: 25MM-1"
0080: 80MM-3"
0200: 200MM-8"
0300: 300MM-12"

AIR RELEASE VALVE

KARX – Combination Kinetic Air Release Valve

SECTION Dimensions per size REF EFC-338

SIZE	ØA	C	H	ØB_PN10	ØB_PN16	ØB_PN25	ØD_PN10	ØD_PN16	ØD_PN25	ØK_PN10	ØK_PN16	ØK_PN25
DN25	1 inch (G1")	20	243	—	—	—	—	—	—	—	—	—
DN32	1.25 inch (G1 1/4")	20	243	—	—	—	—	—	—	—	—	—
DN40	1.5 inch (G1 1/2")	20	243	—	—	—	—	—	—	—	—	—
DN50	2 inch (G2")	20	243	—	—	—	—	—	—	—	—	—
DN50 (flange)	—	—	280	99	99	99	165	165	165	125	125	125
DN65 (reduced bore)	—	—	284	118	118	—	185	185	—	145	145	—
DN80 (flange)	—	—	362	132	132	132	200	200	200	160	160	160
DN100 (flange)	—	—	395	156	156	156	220	220	235	180	180	190
DN150 (flange)	—	—	485	211	211	211	285	285	300	240	240	250
DN200 (flange)	—	—	582	266	266	274	340	340	360	295	295	310
DN250 (flange, reduced bore)	—	—	602	319	319	330	405	405	425	350	355	370
DN300 (flange)	—	—	750	370	370	—	460	460	—	400	410	—

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