

SINGLE ORIFICE ARV

FAF 7310

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Features

- Ductile iron body, flanged connection according to EN 1092-2. Float part made of polyethylene which can be replaced easily.
- If the air is not discharged in water transmission and water network when on duty, air is collected in certain areas and may cause the danger of stopping the waterflow. This danger is increased with the congestion, and causing the pipeline to explode and major damages.
- Single Orifice ARV is installed on the pipe with a flange, releases the air received from its flange connection through the orifice located above the float part. When the air release is completed, the float travels upside with the water force and closes the orifice outlet, thus preventing the leakage of water.
- The biggest problem of Single Orifice ARV' is the ARV blockage. For this reason, ARV's on the line must be checked at certain intervals.
- While the pipeline is taken into service, it enables the air accumulation and discharges out of the system.
- With the discharge of air inside the system, the fluid will reach the release level; so the float ball valve inside the body elevates on the water and places on the sealing seat and turns to closed position.
- When it is needed to discharge the filled pipelines, it is required to fill air in place of the fluid leaves the system.
- Body and cover of ductile iron with blue epoxy coating
- Release valves can be manufactured with flanged or screwed ends.
- Working pressure range: 0.2 – 16 bar

Temperature

- +130 °C

PRODUCTION STANDARDS

DN50 → DN200
PN 10-16

Design	EN 1074-4
End Connection	EN 1092-2 / ISO 7005-2
Marking	EN 19
Tests	EN 12266
Corrosion Protection	Industrial Epoxy

Product Description

FAF7310 Single Orifice ARV; to be used for the purpose of releasing the existing air in the potable water transmission lines and water networks after installation or during emptying and refilling the pipeline due to maintenance works. This type has no air vacuuming function.

Accessories

- Gate valve, FAF6000
- Butterfly valve, FAF3500-3600
- Flange adaptor, FAF3960

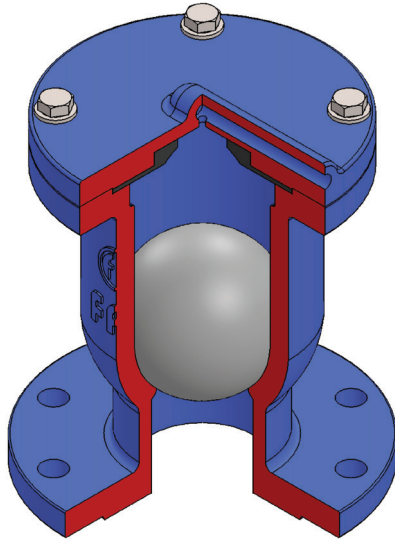
Scope of Application

- Pump suction lines
- Water lines
- Water supply network
- Line valves
- Venturimeters
- Plunger & turbine pumps

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PRODUCTS MODEL CODES	
FAF7310	SINGLE ORIFICE ARV
FAF7320	DOUBLE ORIFICE ARV
FAF7330	NON-SLAM DYNAMIC ARV
FAF7340	DOUBLE ORIFICE NON-SLAM (Kinetic) ARV
FAF7350	COMBINATION (Underground -Street) ARV

VALVE TEST PRESSURE (Bar)		
MAX. OPERATING PRESSURE	BODY / SHELL TEST	SEAT TEST
10	15	11
16	24	17,6

100% of the valves are subjected to hydrostatic tests at FAF facilities.

Note

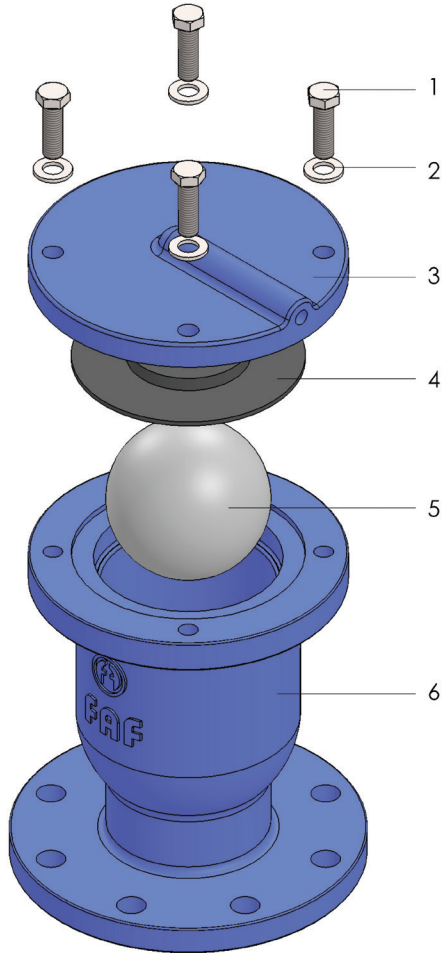
- For proper use and safety precautions please follow the installation and operating instructions.

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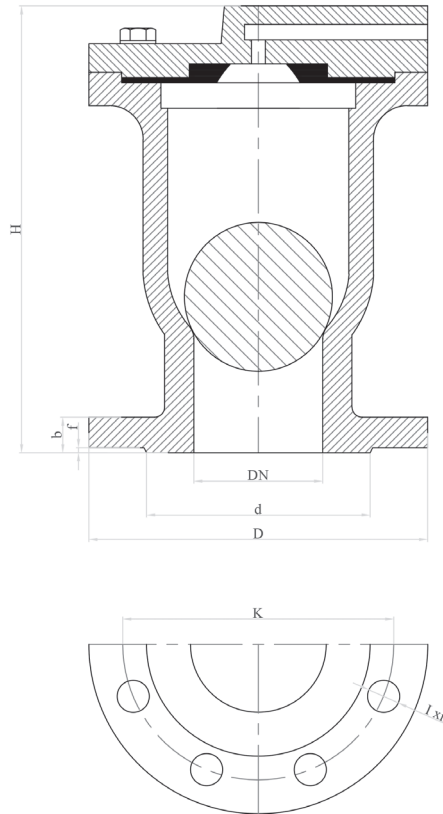
Material List



NO	ITEM	MATERIALS
1	BOLT	DIN 93
2	WASHER	DIN 125
3	BONNET	EN GJS 400 DUCTILE IRON
4	BONNET SEALING	EPDM
5	FLOAT	POLYETHYLENE
6	BODY	EN GJS 400 DUCTILE IRON

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Technical Details & Drawing, Dimensions



DIMENSIONS									
DN (mm)	PN	D	K	d	l x n	f	b	H	Weight (kg)
50	PN10	165	125	99	Ø19x4	3	19	227	8
65		185	145	118	Ø19x4	3	19	229	9
80		200	160	132	Ø19x8	3	19	236	13
100	PN16	220	180	156	Ø19x8	3	19	236	15
125		250	210	184	Ø19x8	3	19	372	26
150		285	240	211	Ø23x8	3	19	372	27
200	PN 10	340	295	266	Ø23x8	4	20	372	30
200	PN 16	340	295	266	Ø23x12	4	20	372	30

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General Information About Arv's

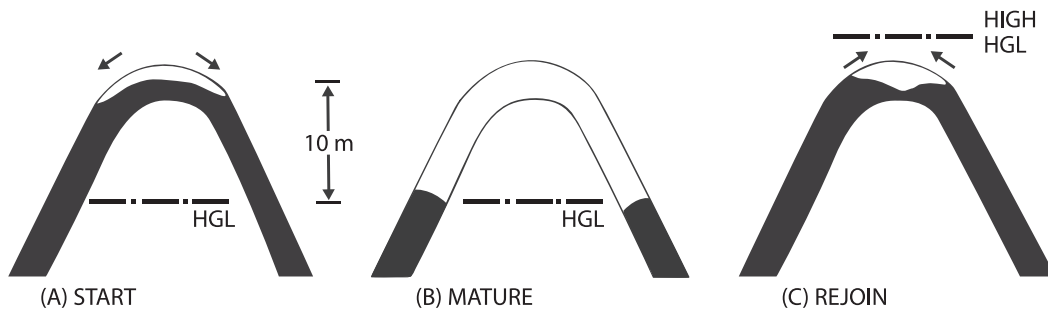
Air vacuum and release is vital for the pipeline operation and safety. Many problems faced with the pipelines are actually related with the air left inside the pipe that cannot be released.

Where does the air in the pipeline come from?

- Pipeline is already filled with air before filling with water.
- There exists 2% dissolved air in the water, which can vaporise by temperature change or pressure drop.
- Each pump absorbs a certain amount of air.
- Incorrect installations.

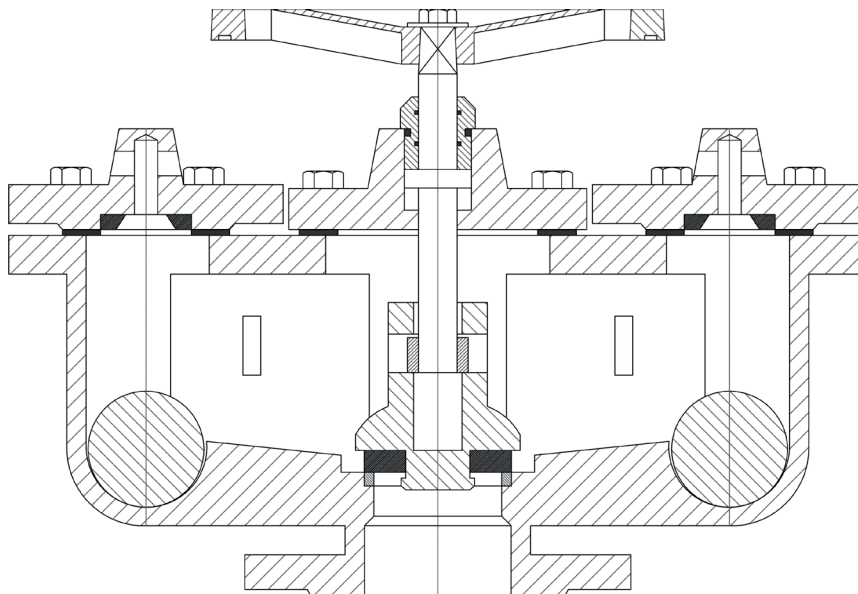
Effects of Air

- Air in the pipeline, narrows the filled water section and increases operating costs.
- Sometimes trapped air can stop the entire flow, depending on the nature of the pump
- At the peaks, the air that is trapped moves suddenly. This creates turbulence and vibration on the pipeline.
- Corrosion rate accelerates.
- Causes faulty flow meter readings.
- Affects the operation of control valves.
- At some cases, the jammed air arrives at such a moment that it causes the pipe to explode.





General Information about ARV's



Problems, Usage

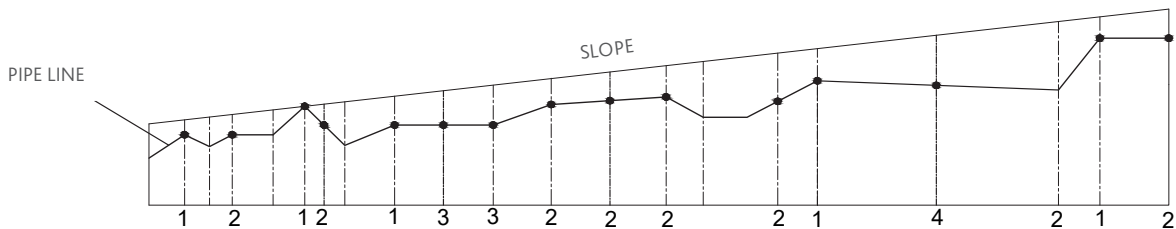
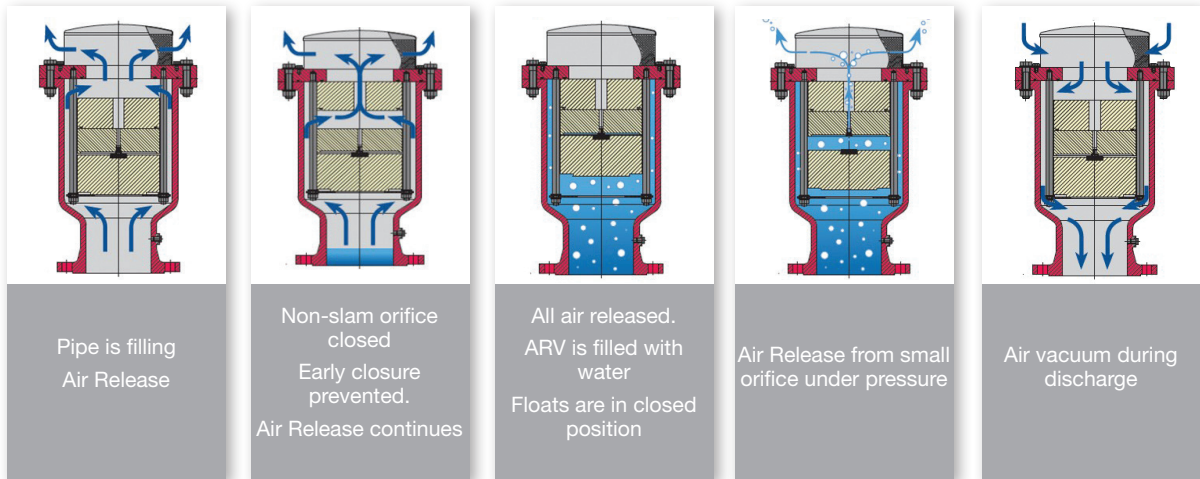
- Leakage due to float deformation and rubber damage are the most common complaints in rubber coated sphere float designs.
- In some designs, the air release valve is deactivated due to float part is jammed to the large orifice during the closure.
- The biggest problems are the closure problems in the literature, called dynamic (premature) closure, before the entire pipeline air mass is released.
- During air release, it is not possible to hold the float at its place after a certain air flow, subject to aerodynamic laws, and is absorbed, closing the large orifice.

Non-slam Dynamic ARV

Non-slam dynamic ARV's are kind of ARV's that do not block and do not require maintenance and observation by continuing to release the air through the orifice of the float even when the anti-shock float is closed, solving all the problems of double orifice ARV with its structure and functions. The middle float keeps the system fully safe by releasing the air bubbles occurring under pressure. They are installed inside the ARV chambers on the pipelines by placing isolation valves such as gate and wafer butterfly valves under the Dynamic ARV's and Double Orifice ARV's.

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ARV Placement Position Suggestions ARV Application



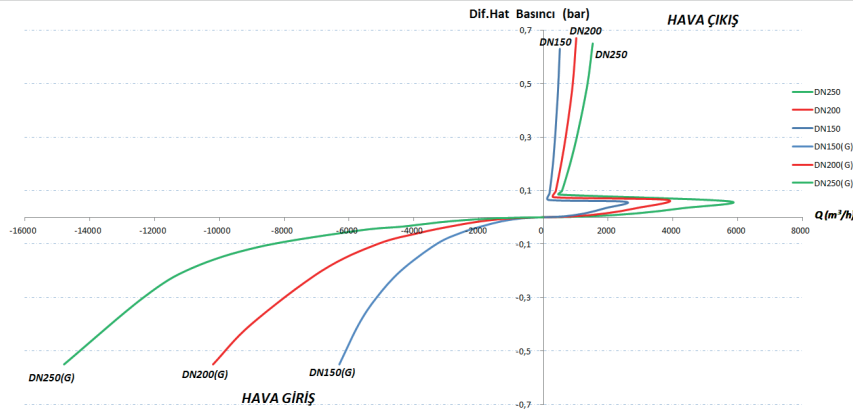
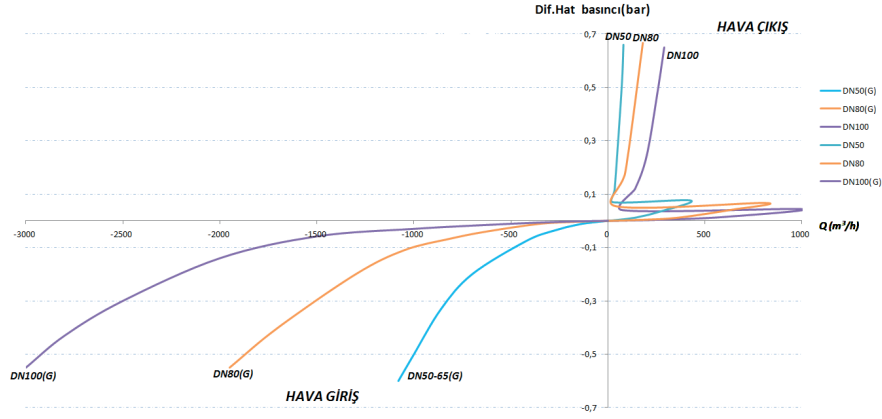
1. Full peak points
2. Incase of increase in downward slope or decrease in upward slope.
3. At every 600 to 1000 mt. at long linear pipelines
4. At long sloping lines, maximum at every 600 mt.
5. At every 400-500 mt in water networks.

ARV placement interval alternative to Item 3 and 4; can be taken as
PIPELINE DIAMETER DN (mm) X 1 (mt).

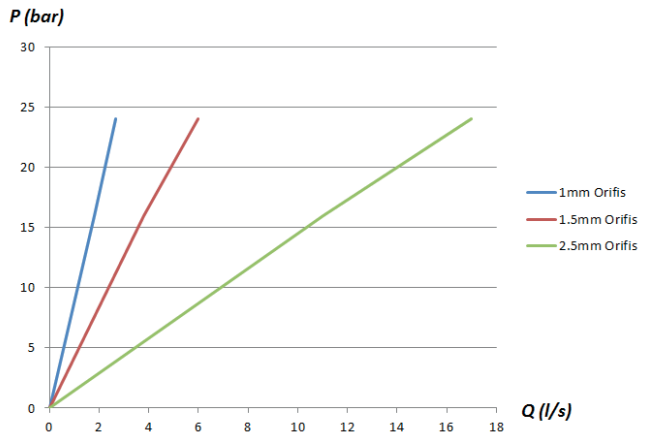
(DN1000 mm X 1mt. = 1000 mt)

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General Information about ARV's ARV Selection Criteria



ORIFICE SELECTION	
ARV Size	Orifice Size
DN50	1mm
DN65	1mm
DN80	1.5mm
DN100	1.5mm
DN150	1.5mm
DN200	2.5mm
DN250	2.5mm



ARV Factory Acceptance Test Requirements

1. Reistance Test
2. Hydrostatic Test
3. Low Pressure Sealing Test
4. Air Release
5. Air Release under pressure
6. Vaccum tests

