Combination air valve for sewage with rapid filling preventer mechanism Mod. SCF - RFP

The SCF-RFP guarantees the proper operation and safety of pressurized sewage systems allowing the release of air pockets in working conditions and the entrance of large quantities of air, in case of pipe bursting or draining phases. The discharge velocity is maintained within a safety level by means of a rapid filling preventer mechanism to prevent water hammer.

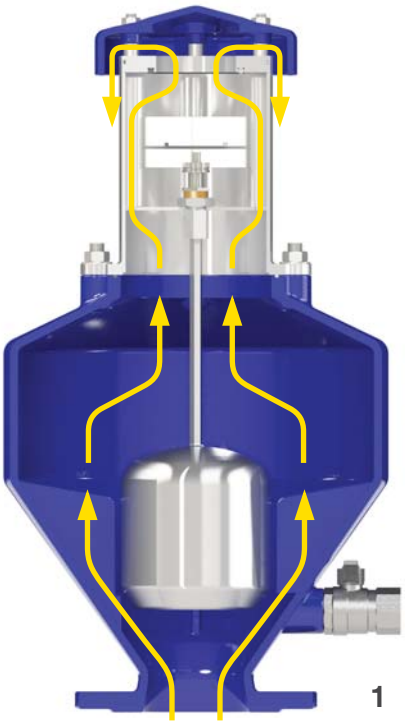
Technical features and benefits

- Large lower body designed with strongly sloped high walls to avoid deposit of grease and/or other material, and containing four ribs obtained by casting to guide the stainless steel float.
- Mobile block including a large AISI 316 stainless steel float, placed on the lower body and connected through a stainless steel rod to the air release system.
- Drainage valve for chamber control and draining.
- RFP automatism composed of two obturators in solid polypropylene, whose the upper one will automatically be activated in case of excessive air outflow.
- Nozzle and gasket holder (pat. pending) wear resistant thanks to gasket compression control.
- Maintenance can be easily performed from the top without removing the air valve from the pipe.
- Upper body in stainless steel.

Applications

- Sewage main transmission lines.
- Treatment plants.
- Irrigation systems in presence of solids/debris in suspension.
- Whenever the technology of air valves for treated water can't be used, for the risk of clogging and damages to the internal components, and the proper protection of the system has to be provided.

Operating principle

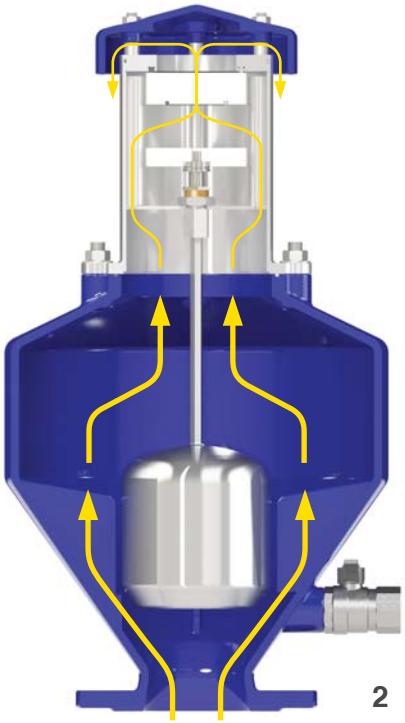


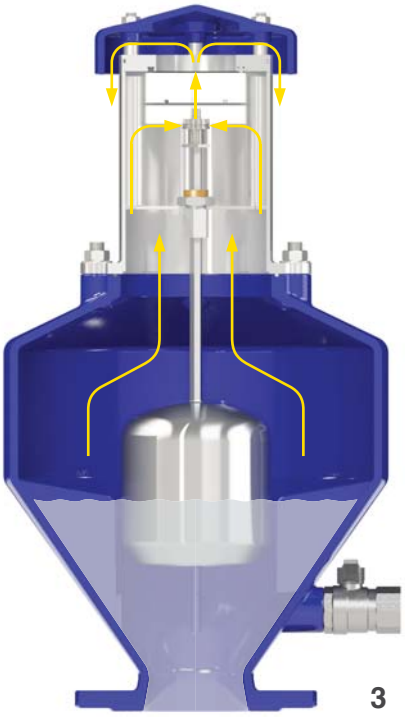
1. Discharge of large volumes of air

During the pipe filling it is necessary to discharge air as water flows in. The SCF RFP, thanks to a large upper body and an aerodynamic deflector, will make sure to avoid premature closures of the mobile block during this phase.

2. Controlled outflow

If the differential pressure of air, during pipe filling, increases above a certain value without control there is the risk of water hammer and damages to the system. Should that happen the SCF RFP upper float will rise automatically, reducing the outflow and consequently the velocity of the approaching water column.



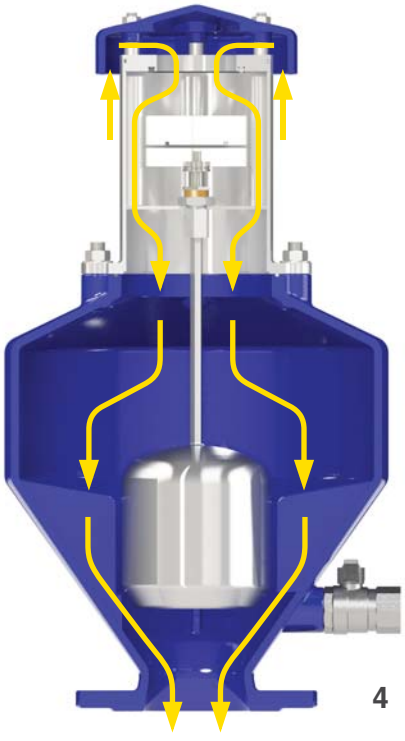


3. Air release during working conditions

During operation the air produced by the pipeline is accumulated in the upper part. Little by little it is compressed and the pressure arrives to liquid pressure, allowing the air release through the nozzle.

4. Entrance of large volumes of air

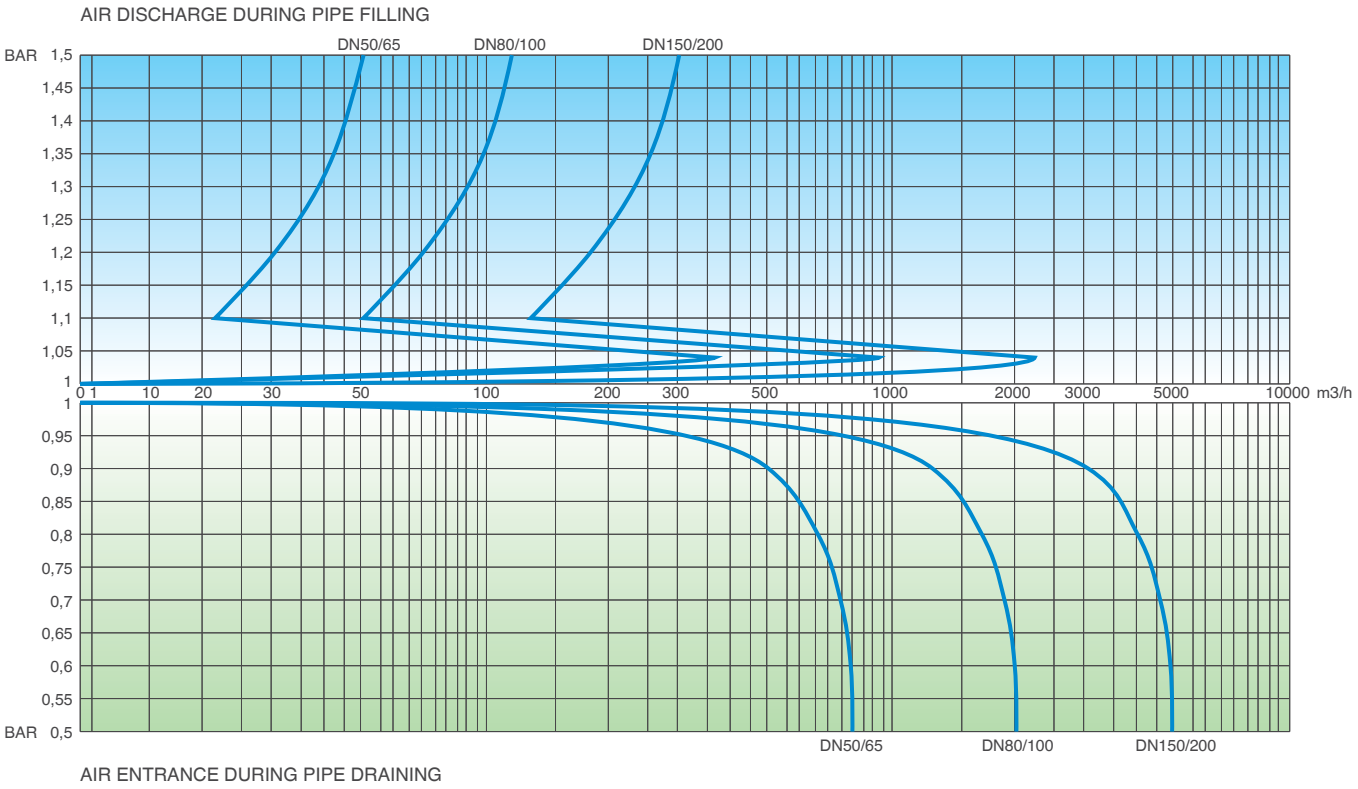
During pipeline draining, or pipe bursts, it is necessary to bring in as much air as the quantity of outflowing water to avoid negative pressure and serious damages of the pipeline, and to the entire system.



Optional

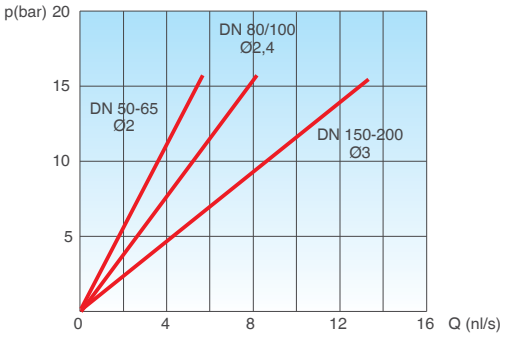
■ **Vacuum breaker version Mod. SCA RFP**, to allow the entrance of large volumes of air only with the controlled air outflow thanks to the RFP technology. This model is normally recommended in changes in slope ascending, long ascending segments, and wherever the air release won't be required.

Air flow performance charts



Working conditions

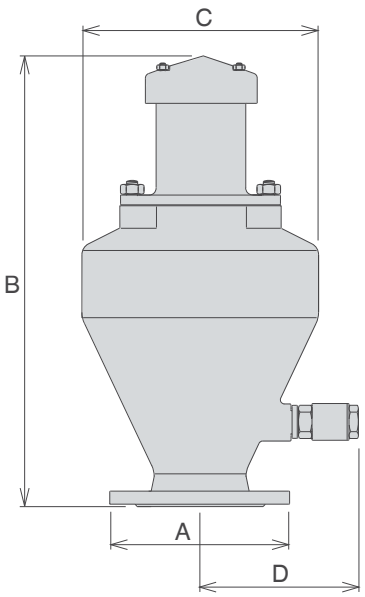
Waste water 70° C max.;
Maximum pressure 16 bar;
Minimum pressure 0,3 bar;
Lower pressure version on request.



AIR RELEASE DURING WORKING CONDITIONS

Standard

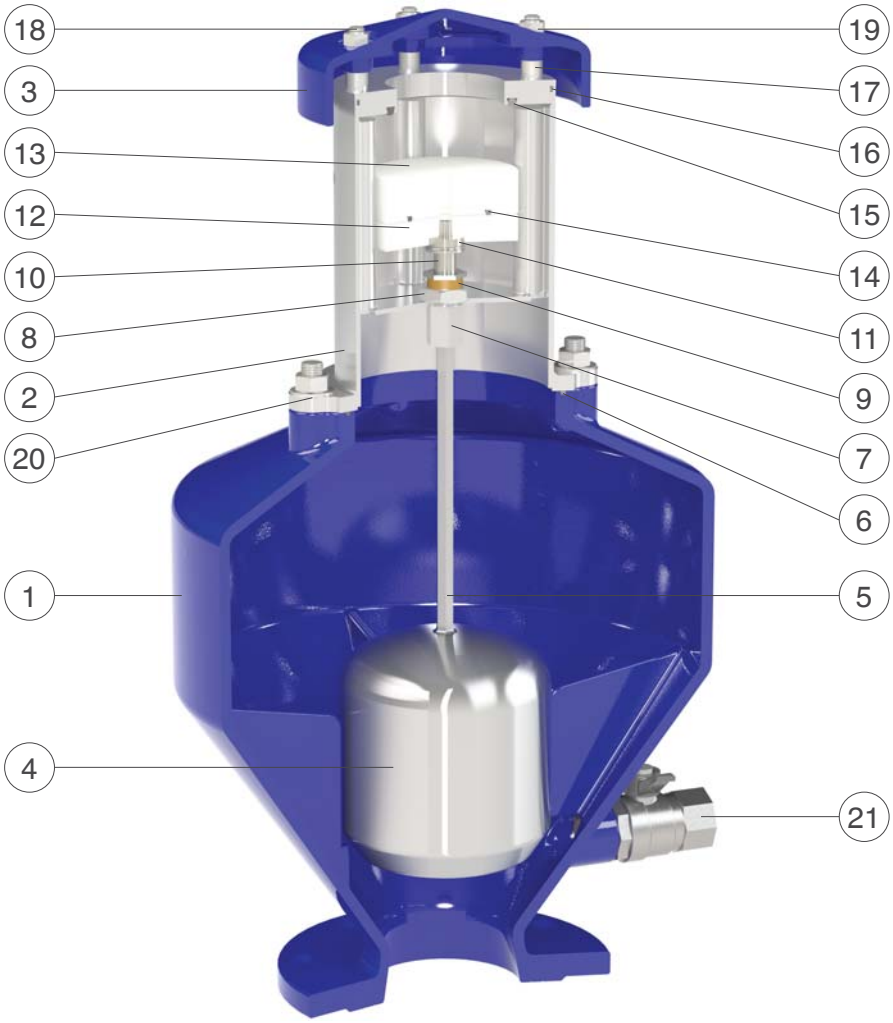
Designed in compliance with EN-1074/4 and AWWA C-512.
Flanges according to EN 1092/2.
Epoxy painting applied through fluidized bed technology blue RAL 5005.
Changes and variations on the flanges and painting details available on request.



DN mm	A mm	B mm	C mm	D mm	Weight Kg
50/65	185	580	300	202	29
80/100	220	645	350	190	40
150	285	870	488	243	78
200	340	870	488	243	82

The dimension B doesn't include the evacuation bend.

Technical details



N.	Component	Material	Standard
1	Lower body	ductile cast iron	GJS 500-7
2	RFP upper body	stainless steel	AISI 316
3	Cap	ductile cast iron	GJS 500-7
4	Float	stainless steel	AISI 316
5	Float shaft	stainless steel	AISI 316
6	O-ring	NBR	
7	Driving sleeve	stainless steel	AISI 316
8	Nut	stainless steel	A2/A4
9	Plane gasket	NBR/Polyurethane	
10	Gasket holder	stainless steel	AISI 316
11	Nozzle subset	stainless steel	AISI 316
12	RFP obturator flat	polypropylene	
13	Anti-shock flat	polypropylene	
14	Anti-shock flat gasket	NBR	
15	Seat gasket	NBR	
16	O-ring	NBR	
17	Spacers	stainless steel	AISI 316
18	Studs	stainless steel	A2/A4/AISI 316
19	Nuts	stainless steel	A2/A4/AISI 316
20	Washers	stainless steel	A2/A4/AISI 316
21	Ball valve 1”	stainless steel	AISI 316