CORVALVE

AIR VALVES

Single Chamber/Triple Function Non-Slam

Description: The Single Chamber Triple Function Non-Slam Air Valve from Corvalve is a masterpiece of engineering, expertly designed to prevent premature closure through its aerodynamic float. This valve's full bore design ensures high air capacity, accommodating swift air discharge and intake.



Application:

Non-Slam Air Valves are designed to perform three functions:

- 1. Venting of air on the start-up of the system, while pipelines are filled.
- 2. Intake of air on shut-off of the system, while pipelines are drained.
- 3. Discharge of pressurized air pockets during the operation of the system.

Features:

- **Superior Float Design:** Leveraging an aerodynamic float design, the valve optimally prevents premature closure, thereby increasing efficiency and reducing potential system downtime.
- High Air Capacity: Full bore design facilitates higher air capacity.
- **Optional Isolation Valves:** For those seeking additional control and flexibility, isolation valves can be integrated into the system upon request. This feature allows for specific sections of the system to be isolated, facilitating system management and maintenance.
- **Parallel Installation:** To accommodate a broader range of installation scenarios, manifolds can be provided on request for parallel installation, enabling increased system flexibility and efficiency.
- **Inspection and Control:** Ensuring a smooth operational flow and system integrity is paramount. Therefore, testing cocks are readily available upon request to facilitate regular inspection and control, enhancing system longevity and reliability.
- **Customizable Threaded Versions:** In an effort to cater to diverse installation needs, threaded versions are available upon request for dimensions less than DN50, ensuring a more customized fit and optimized performance.

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Construction





Material Specification

Parts	Main Materials	Optional Materials				
Body	Ductile Iron	Carbon Steel Stainless Steel Nickle Aluminum Bronze				
Upper Cover	SS 304	SS 316				
Floats	Polyethylene (Full Material, Not Hollow Inside)					
Float Guide	SS 304	SS 316				
Cover	SS 304	Ductile Iron, SS 316, NAB				
Orifice	SS 304	SS 316				
Seals	EPDM	NBR				
Fasteners	8:8 (Galv.)	SS 304, SS 316				













PART

Body

Cover

Large Float

Top Float Int. Orifice

Filter

Washer

Screw

O-Ring

Stem

Nut

Washer

O-Ring

O-Ring

Bolt

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Benefits of Single Chamber Triple Function Non-Slam Air Valves

- Efficient Operation: Prevents premature closure, ensuring optimal system performance.
- **High Air Capacity:** Full bore design facilitates rapid air intake and discharge, boosting operational effectiveness.
- Enhanced Control: Optional isolation valves offer superior system control and ease of maintenance.
- Installation Flexibility: Optional manifolds allow for parallel installation, increasing system adaptability.
- **Reliability:** Provision of testing cocks ensures smooth inspection and control, enhancing system longevity.

Installation:

- 1. **Positioning the Valve:** Install the T-connected pipeline flange horizontally and the Air Valve vertically to the ground.
- 2. **Managing Load Forces:** Make sure load forces to the Valve from the pipeline don't exceed the EN 1074-2 standard.
- 3. Securing the Connection: Attach the Valve flange to the pipeline flange using bolts, nuts, and washers, ensuring equal fastening on opposing bolts.
- 4. Using Steel Reinforced Gaskets: Place these gaskets correctly between flanges and adhere to EN 1591 Standard for flange bolting.
- 5. Location of Air Valves: Install them close to the main pipeline and keep the T-connection length minimal.
- 6. Protecting the Valve: Shield the Valve from external factors such as construction work or coating.
- 7. Cleaning the Pipeline: Flush and clean the pipeline from all foreign particles before Valve installation.

Operating Principles:

1. Keeping the Medium Clean: Ensure cleanliness as small air discharge orifices can clog.

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- 2. **Maintaining Cathodic Protection:** For steel pipeline applications, cathodic protection is vital to prevent Galvanic Corrosion.
- 3. **Inspecting the Valve:** Check for foreign particles and the condition of the sealing surfaces before installation.
- 4. **Re-coating On-site:** If needed, protect the sealing surfaces (gaskets, o-rings, stainless steel surfaces, etc.) during the process.

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Non-Slam Feature:

Corvalve's Non-Slam Air Valves incorporate three distinct floats in a solitary chamber. The upper nonslam float is specifically designed to avert valve slamming during high-velocity air discharge. This feature reduces the air discharge cross-sectional area when the discharge exceeds a certain velocity, thereby slowing down the air expulsion and allowing a gentle water column progression towards the valve. The result is a no-slam operation that enhances system longevity.

Float Durability & Lightness:

The floats in Corvalve's Air Valves close when water arrives, necessitating a robust design capable of withstanding such forces. These full-material floats are light enough to float on water and are non-hollow to prevent deformation or cracking, ensuring they maintain their integrity even after years of operation.

Superior Sealing Performance:

Corvalve's Air Valves are characterized by their advanced float design that offers superior sealing. These valves can deliver drip-tight sealing even under low pressures of 2mwc, making them a reliable choice for low pressure networks.

Pipeline Protection:

The Non-Slam Air Valves from Corvalve play a pivotal role in preventing pipeline bursts due to air intake/discharge failure during system start-up, shut-off, and operation. Their three-float system is guided by studs and reacts to changes in water elevation. Their aerodynamic design ensures stability during air intake/discharge, preventing premature closure. The system's large float regulates the small air discharge orifice, allowing for the discharge of air during system operation. The non-slam float serves as a cushioning device, reducing the air discharge cross-sectional area to manage high air discharge velocities, thus preventing valve slamming.

Notes:

- 1. Different flange drillings are available, including ISO, EN, ANSI, and others.
- 2. The standard operating temperature range is -10° C to $+80^{\circ}$ C.
- **3.** All RAL Colors are available.
- **4.** Potable water certified coating is available.
- 5. Both thermoset and thermoplastic coatings are available.

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DIMENSIONS (mm)

DN	25	50	80	100	150	200	250	300	350	400	500
Height	205	280	330	380	490	580	700	812	1065	1065	1455
Width (PN 10/16)	115	165	200	220	285	340	395/405	445/460	615	700	880
Width (PN 25/40)	115	165	200	235	300	360/375	425/450	485/515	615	700	880
Length	105	155	200	230	310	420	530	580	625	625	860
Weight (PN 10/16)	8	11	19	25	40	90	185	200	417	835	1035
Weight (PN 25/40)	8	11	37	40	43	96	190	210	430	-	-



Ventilation of large quantities of air: During filling, the line will be ventilated via the large cross-section



Ventilation at high air velocity through small opening: Prevention of pressure shocks or premature closure



Closure: After ventilation the valve closes automatically



Ventilation of small quantities of air: During operation of a line, ventilation is carried out via the small cross-section



Ventilation: During drainage of a line, ventilation is carried out via the large cross-section.





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