

Description:

Corvalve's Triple Function Underground Air Valve is a robust, versatile solution, expertly engineered for optimum pipeline operation. It effectively vents air during start-up, intakes air at shut-off, and discharges pressurized air pockets during operation. With options for flexible installation, an integral check mechanism, and a water drain plug, it provides a compact, efficient solution for demanding subsurface applications.



Application:

Underground 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:

- Length Flexibility: The valve is available in three different length options, providing adaptability to various pipeline configurations.
- Check Mechanism: The valve's integral check mechanism eliminates the need for an additional isolation valve, simplifying installation and maintenance.
- Water Drain Plug: The valve includes an integral water drain plug, enhancing its utility and efficiency.
- **Surface Box Option:** A surface box for the valve can be provided upon request, adding an extra layer of protection and ease of access.

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Construction

PART NO.	PART								
1	Body								
2	Air Valve								
3	Flanged Pipe								
4	Seat O-Ring								
5	Pressure Part								
6	Air Valve Case								
7	Powder Cover								
8	T-Nut								
9	1" Pipe								
10	Screw Pressure Part								
11	Checkvalve Case								
12	Spring Shaft								
13	Screw								
14	Spring								
15	Sealing Ring								
16	Drainage Collector								
17	Fixing Pin								
18	O-Ring								
19	O-Ring								
20	Screw								
21	Washer								
22	Screw								
23	Screw								
24	Screw								
25	Nut								
26	Washer								





Material Specification

Parts	Main Materials	Optional Materials
Body	Ductile Iron	
Air Valve Body Air Valve Float	РОМ	
Air Valve Sleeve	Aluminum	
Protection Sleeve	SS 304	SS 316, PE
Cover	Ductile Iron	
Shaft	X20Cr13	SS 304, SS 316
Pipe	Galvanized Pipe	SS 304, SS 316
Sealings	EPDM	NBR
Fasteners	SS 304	SS 316













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Benefits of Triple Function - Underground Air Valves

- **Operational Efficiency:** Streamlines three crucial tasks air venting, intake, and pressurized air pocket release optimizing system operation and efficiency.
- Flexibility: Offers various lengths for adaptable installation and an integral check mechanism, reducing the need for an additional isolation valve.
- **Durability:** Engineered for subsurface applications, ensuring durability and longevity in demanding environments.
- Low Maintenance: Inherent water drain plug and optional surface box minimize maintenance and facilitate easy access.
- **Cost-effective:** Eliminates the need for additional isolation valves and chambers, reducing installation costs.

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.
- 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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Space-Efficient Underground Design:

Corvalve's Underground Air Valves have been meticulously designed to be situated directly underground, circumventing the need for space-consuming concrete valve chambers found in typical city networks. The Protection Sleeve ensures the air valve is guarded from the soil while maintaining an adequate space for the discharge and intake of air. Moreover, a drain plug on the body enables the discharge of any potential water build-up within the sleeve.

Self-Sufficient Maintenance System:

Our Underground Air Valves incorporate an integral check-isolation mechanism at their base. This userfriendly feature allows the operator to perform maintenance or cleaning tasks by simply removing the cover and extracting the air valve assembly from the Sleeve. This action automatically activates the checkisolation mechanism, preventing water from leaking out of the pipeline. Upon reinstallation of the air valve, the check-isolation mechanism is deactivated, negating the necessity for an external isolation valve installation.

Pipeline Protection and Stability:

Designed to guard against pipeline bursts, Corvalve's Underground Air Valves adeptly manage air intake and discharge during both the start-up and shut-off phases of the system, as well as during operation. These valves feature a POM body housing a float, which is positioned at a predefined height and guided by the ribbed body to adapt to water level changes. Owing to the aerodynamic design, the float remains stable during air intake and discharge, averting premature closure. It's only when the water level changes that the float moves to close or open the valve, ensuring a large volume of air intake. Moreover, the float sealing design is capable of functioning under dynamic conditions, releasing small pressurized air pockets.

Chamber-Free Design:

The protective sleeve enveloping the valve body forms a contained space for the air valve itself, thereby eliminating the requirement for a separate valve chamber. The check-isolation mechanism also functions as a preventive measure against water outflow in the event the valve mechanism is removed from the sleeve.

Notes:

- 1. Different flange drillings are available, including ISO, EN, ANSI, and others.
- 2. The standard operating temperature range is 10°C to +80°C.
- 3. All RAL Colors are available.

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- 4. Potable water certified coating is available.
- 5. Both thermoset and thermoplastic coatings are available.

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DIMENSIONS (mm)

DN	50	50	50	50	65	65	65	65	80	80	80	80	100	100	100	100
Height (PN 10/16)	755	1055	1355	1555	735	1065	1355	1555	755	1055	1355	1555	755	1055	1355	1555
Width (PN 10/16)	210	210	210	210	210	210	210	210	210	210	210	210	220	2202	220	220
Weight (PN 10/16)	21	25	27	29	21	25	27	29	22	26	28	30	23	27	29	31







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