

# DT-040 LP PN 6



## Micro "BARAK" for Low Pressure Combination Air Valve With Orifice Shut-off Valve

### Description

The DT-040 LP Combination Air Valve is designed to prevent disturbances caused by presence or absence of air in small water supply systems.

The combination air valve combines an air & vacuum large orifice and an automatic small orifice in one single body. It is the outcome of development, based on many years of experience, resulting in the production of this revolutionary valve.

The combination air valve discharges air during the filling of the system and admits air while draining and at water column separation.

It also releases accumulated air from the system while the system is operating under pressure.

### Applications

Low pressure systems.

### Operation

The air & vacuum component, with the large orifice, discharges air at high flow rates during the filling of the system and admits air into the system at high flow rates during its drainage and at water column separation.

High velocity air will not blow the float shut. Water will lift the float, which seals the valve.

At any time during system operation, should internal pressure of the system fall below atmospheric pressure, air will enter the system.

The smooth discharge of air reduces pressure surges and other destructive phenomena.

The intake of air in response to negative pressure protects the system from destructive vacuum conditions and prevents damage caused by water column separation. Air entry is essential to efficiently drain the system.

The air release component releases entrapped air in pressurized systems.

**Without air valves, pockets of accumulated air may cause the following hydraulic disturbances:**

- Restriction of effective flow due to a throttling effect as would a partially closed valve. In extreme cases this will cause complete flow stoppage.
- Obstruction of efficient hydraulic transmission due to air flow disturbances.
- Accelerate cavitation damages.
- Pressure transients and surges.
- Corrosion in pipes, fittings and accessories.
- Danger of a high-energy burst of compressed air.
- Inaccuracies in flow metering.

**As the system starts to fill, the valve functions according to the following stages:**

1. Entrapped air in the pipeline is discharged by the valve.
2. Liquid enters the valve, lifting the float which pushes the sealing mechanism to its sealing position.
3. Entrapped air, which accumulates at peaks and along the system, rises to the top of the valve, which in turn displaces the liquid in the valve's body.
4. The float descends, unsealing the rolling seal. The air release orifice opens and the accumulated air is released.
5. Liquid enters into the valve and the float rises, pushing the rolling seal back to its sealing position.

**When internal pressure falls below atmospheric pressure (negative pressure):**

1. The float will immediately drop down, opening the air & vacuum and air release orifices.
2. Air will enter the system.

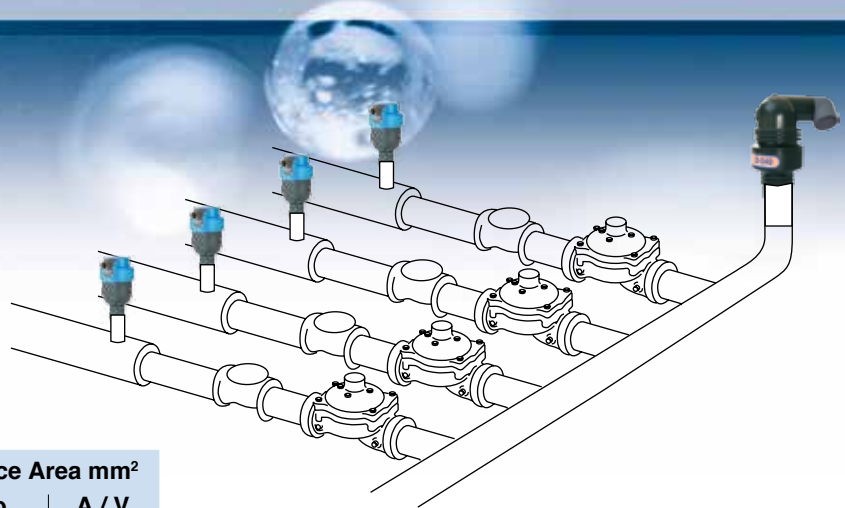
### Main Features

- Working pressure range: 0.05 - 6 bar.
- Testing pressure: 10 bar.
- Working Temperature: 60° C.
- Materials: The air valve is made of corrosive-resistant composite materials.
- 2 IN 1 - two sets of orifices.
- Integral orifice shut-off valve: an innovative built- in shut off valve enables the closure of the air valve orifices with no interference to water flow in the pipe.
- The large orifice with its self-cleaning mechanism dramatically reduces obstruction due to debris.
- Discharge outlet: enables for the connection of a 10mm polyethylene discharge tube..
- Dynamic design allows high velocity air discharge and preventing premature closure.
- Lightweight and small - 144 gr.
- The most compact air valve in the market.
- No maintenance.
- Seals at very low pressure.

### Valve Selection

- Connections: Threaded 1/2", 3/4", 1" BSPT / NPT.
- Optional model DT-040 (max. working pressure 10 bar)
- One-way air flow option.

**Upon ordering, please specify: model, size, working pressure, threads standard and type of liquid.**

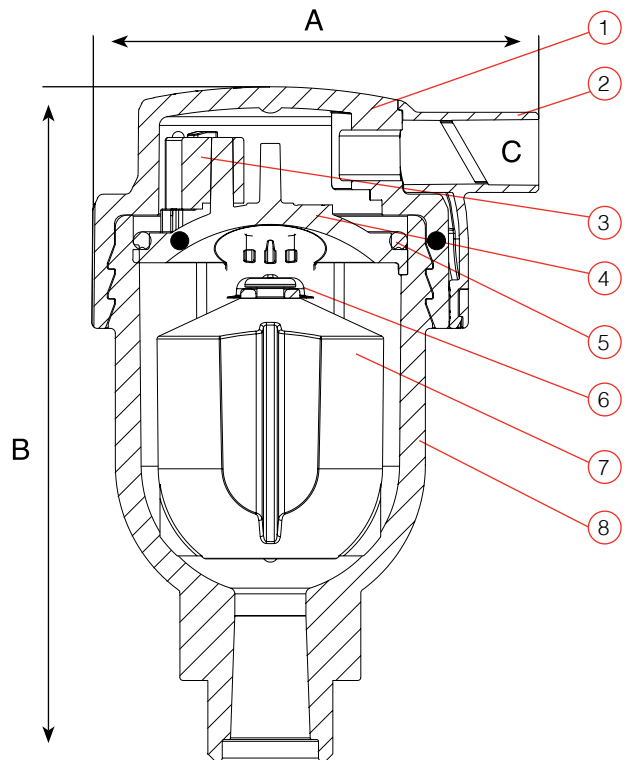


## DIMENSIONS AND WEIGHTS

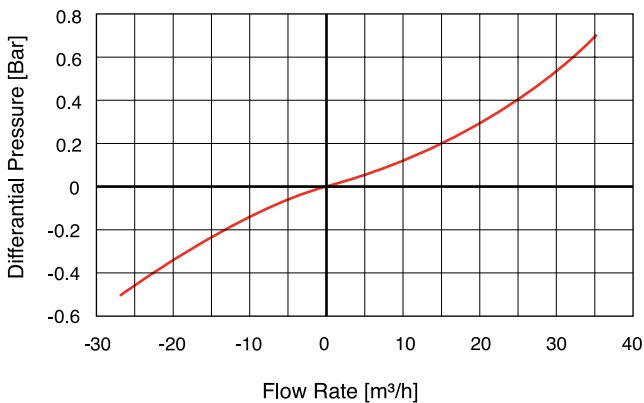
Dimensions mm			Weight Gr.	Orifice Area mm <sup>2</sup>	
A	B	C		Auto.	A / V
60	115	11	144	5.6	42

## PARTS LIST AND SPECIFICATION

No.	Part	Material
1.	Cover & Shut Off Valve	Acetal
2.	Discharge Outlet	Acetal
3.	Flat Plug	EPDM
4.	Seat	Polypropylene
5.	O-Ring	BUNA-N
6.	Seal	Silicon
7.	Float	Foamed Polypropylene
8.	Body	Polypropylene



## AIR & VACUUM FLOW RATE



## AUTOMATIC AIR RELEASE FLOW RATE

