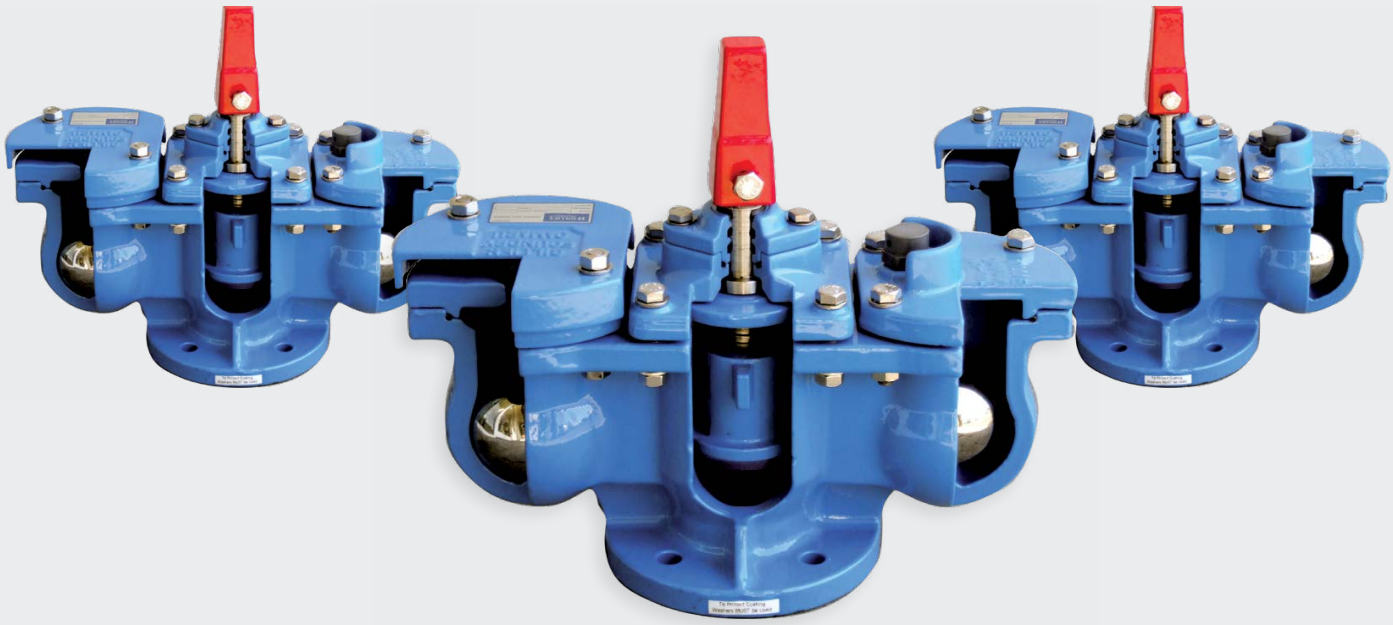
GILLIES metaltech

Air Valves

Technical Guide W4.6

Gillies Metaltech manufacture a selection of high quality air valves to suit a range of water main applications.



Applications

- Water trunk mains
- Potable water lines

Product Attributes

- New Zealand made
- Field replaceable orifices
- 316 Stainless Steel float
- All floats invidually tested
- Single orifice and combination

Approvals/Standards

Manufactured under an ISO 9001 certified quality management system

Quality

ISO 9001:2008 Quality Management Standard

We are the supply partner of choice for New Zealand's civil construction industry, specialising in water and infrastructure based solutions.

HYNDSwater

Gillies Metaltech manufacture a collection of high quality air valves to suit a range of water main applications.

Gillies Air Valves are used in water mains for the following purposes:

1. To release air when the main is being filled, and to close and remain closed when the pipe line is full to prevent loss of water. To open and admit air when the main is being emptied.
2. To release air accumulated under pressure during normal working of the main, again without escape of water.

Operation is effected automatically by means of a ball float, working in conjunction with an orifice of appropriate type for the duty.

Single air valves serve one purpose only, and are furnished with an orifice for one of the above requirements. Double air valves serve both purposes, and incorporate the two types of orifice in one unit, with a common connection to the main.

Large Orifice

- When the main is empty, the ball float is at the bottom of its travel and the orifice open.
- As filling proceeds, air is discharged until the rising water level floats the ball to its seating, where it is subsequently held by line pressure, sealing the outlet.
- On emptying the main, when the pressure falls to near-atmospheric the ball drops and allows admission of air.

Small Orifice

- When the main is in operation, the ball is normally held up, activating lever arrangement and sealing off the orifice.
- As air accumulates in the valve chamber the water level is depressed until loss of buoyancy lowers the ball, opening the orifice.
- Air is then discharged, and the consequent rise in water level brings the ball up to re-seal again.
- For the ball to leave its seat on a drop-in water level, it must be of sufficient weight to overcome the lifting force, due to the mains pressure on an area equal to that of the orifice.
- With conventional valves, a practical compromise is necessary between size of ball, maximum operating pressure, and orifice diameter.

Combination Air Valve

- A built-in isolation valve for inspection and maintenance purposes eliminates the need to install a separate valve
- Orifice change is possible without replacing the valve
- DN80 and DN150 sizes available

Single Air Valve

- The small orifice air valves incorporate a lever-action type sealing arrangement, which enables a wider operating range and positive sealing.
- Seals at low pressures.
- Small and large orifice models available.
- DN25 and DN50 sizes available.

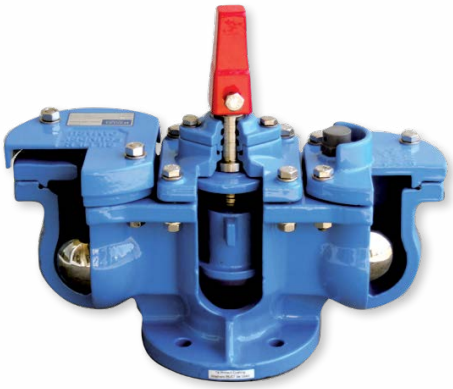


FIG. 1 Combination Air Valve

FIG. 2 Single Air Valve

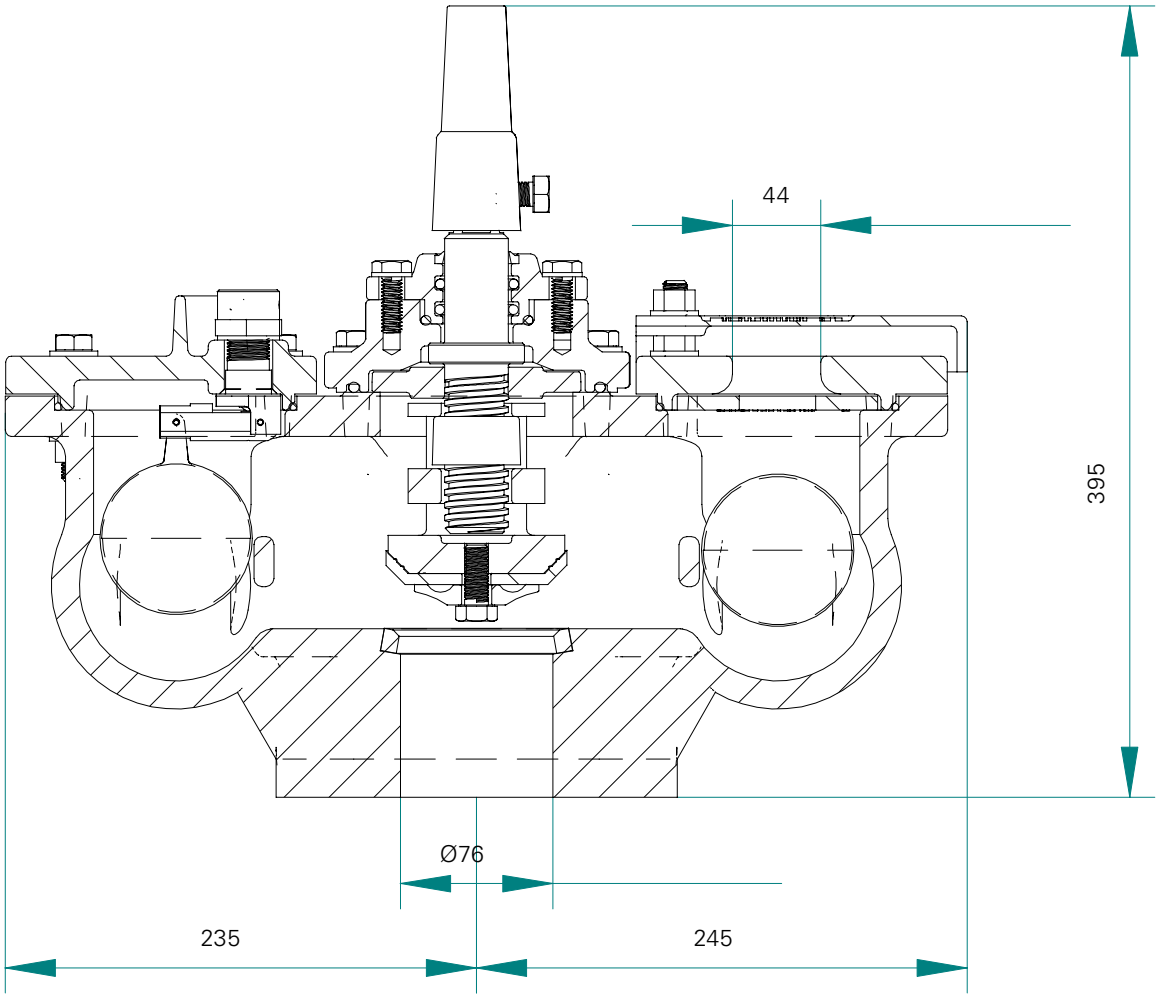


FIG. 3

- Maximum working pressure: 16 Bar
- Body test pressure: 24 Bar
- Seat test pressure:
  - High: 17.6 Bar
  - Low: 0.098 Bar
- Drilling to be specified at time of ordering
- AS4087 PN16 optional

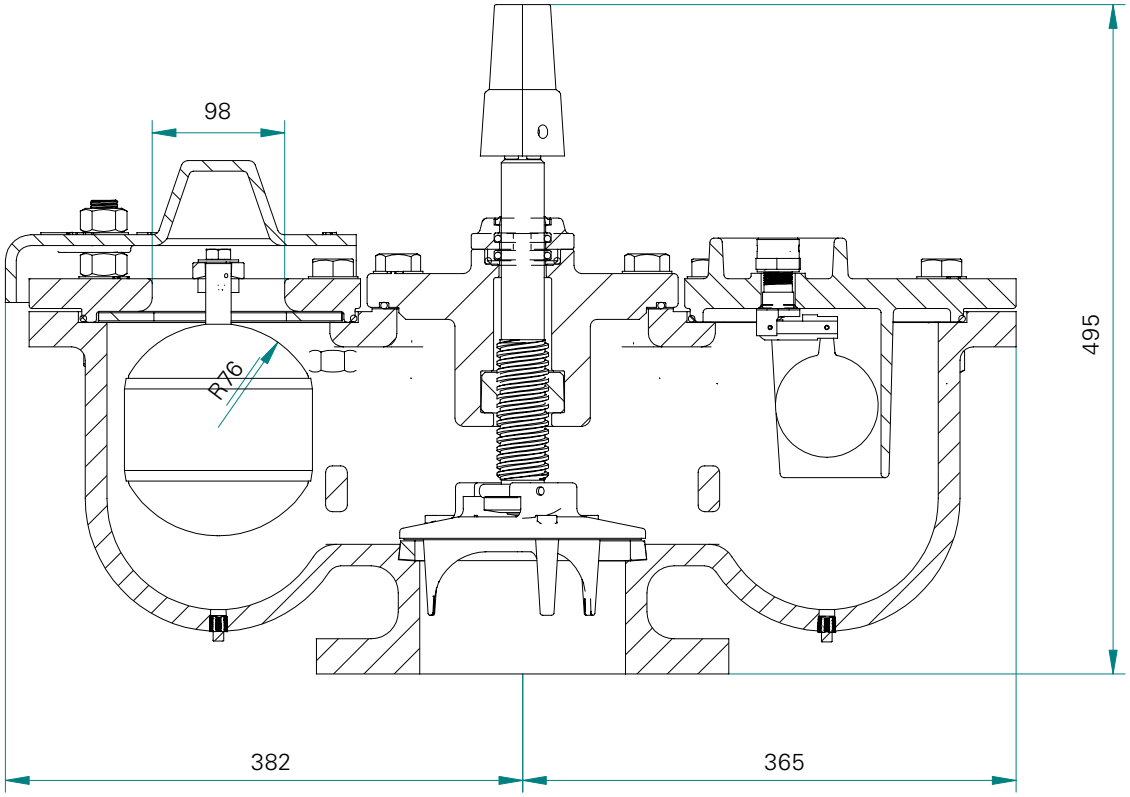


FIG. 4

- Maximum working pressure: 16 Bar
- Body test pressure: 24 Bar
- Seat test pressure:
  - High: 17.6 Bar
  - Low: 0.098 Bar
- Valves are supplied flanged and faced to BS 4504:1989 PN16
- Type B - Raised Face
- AS4087 PN16 optional