

High-performance automatic air vent DISCALAIR SOLAR

251 series

**CALEFFI
SOLAR**



Function

DISCALAIR solar devices are used in hydronic systems or in the filling and start-up phase of solar heating systems to discharge even large quantities of air that have formed in the circuits. This function is performed even when there is considerable pressure thanks, to the special geometry of the discharge mechanism, which is identical to the mechanism on DISCAL Solar 251 series air separators.

This particular series of automatic air vent valves has been specifically designed to work at high temperatures with a glycol medium, typical of solar heating systems.

Product range

Code 251004A High-performance automatic air vent valve for solar heating systems size 1/2" F NPT

Technical specifications

Materials:

- body: brass, chrome plated
- cover: brass, chrome plated
- float: high-resistance polymer
- float guide: brass
- valve stem: dezincification-resistant alloy
- float lever: stainless steel
- spring: stainless steel
- hydraulic seals: high resistance elastomer

Medium: water, glycol solutions

Max. percentage of glycol: 50%

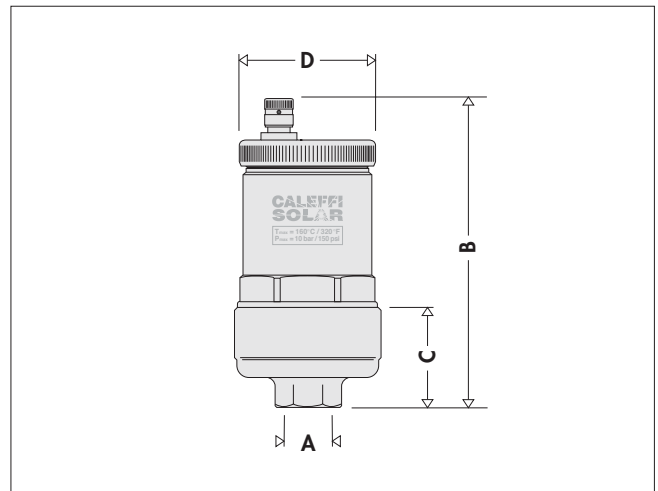
Working temperature range: -20 to 320°F (-30 to 160°C)

Max. working pressure: 150 psi (10 bar)

Max. discharge pressure: 150 psi (10 bar)

Connections: 1/2" F NPT

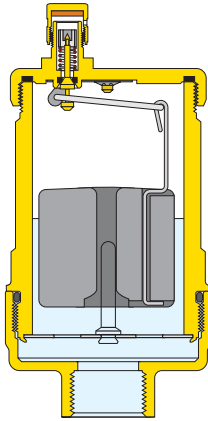
Dimensions



Code	A	B	C	D	Weight (lb)
251004A	1/2"	4 1/2"	1 3/8"	2 1/8"	1.3

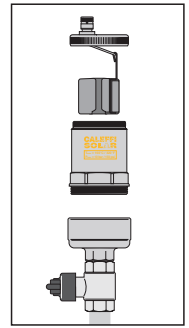
Operating principle

The accumulation of air bubbles in the valve body causes the float to drop so that the valve opens. This action, and correct air valve operation, is ensured as long as the water pressure remains under the maximum discharge pressure.



Maintenance

The DISCALAIR automatic air vent valve is built to permit inspection of the internal mechanism. Access to the moving parts that govern the air vent is attained by simply removing the top cover. In addition, the body can be separated from the bottom portion connected to the pipe. A shut-off valve must be installed before the DISCALAIR device to allow for shut off after the filling phase and to simplify any maintenance work.



Construction details

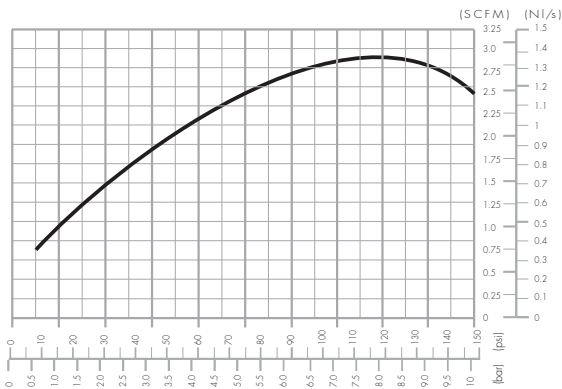
Resistance to heat and high discharge pressure

The high performance of this series of automatic air vent valves, required in solar heating systems, is ensured by the use of heat resistant materials.

The materials allow the vent function with glycol water temperatures up to 320°F. The internal geometry of the valve has been designed to discharge air up to a pressure of 150 psi.

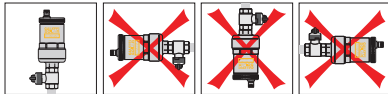
Hydraulic characteristics

Discharge capacity in the phase of filling the system

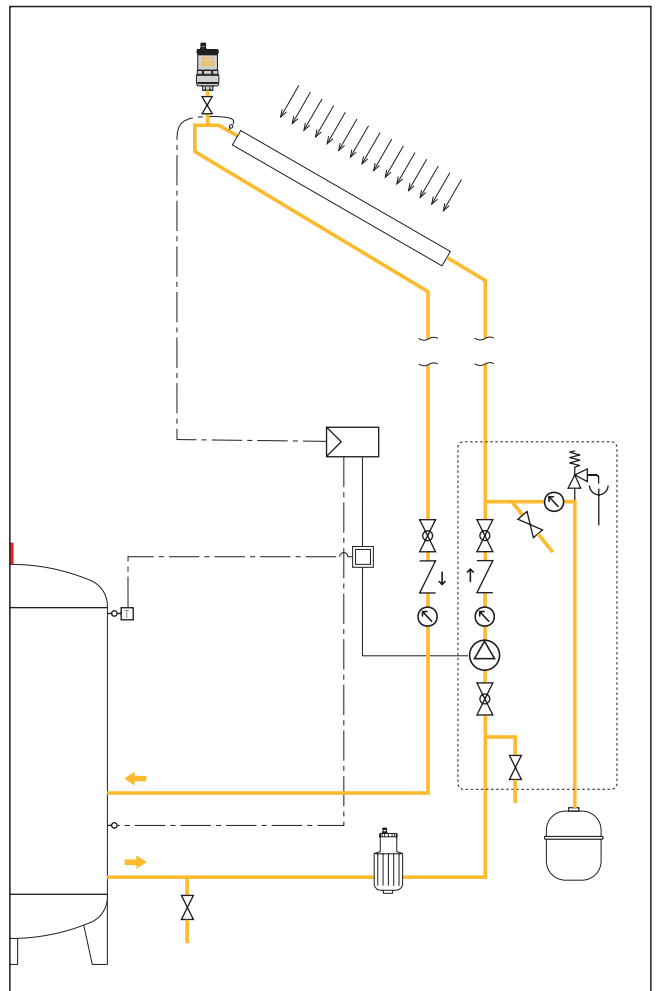


Installation

DISCALAIR series 251 automatic air vent valves must be installed vertically, typically on the top of solar heating system panels and at points in the circuit where bubbles of air gather that must be discharged. They must always be installed in combination with a shut-off valve. This is necessary since the vent valves must be shut off after use to remove the air as the system is filling and starting up.



Application diagram



SPECIFICATION SUMMARIES

DISCALAIR SOLAR 251 series

High-performance automatic air vent valve for solar heating systems. Connections 1/2" F. Brass body, chrome plated. High resistance polymer float. Stainless steel float lever and spring. Brass float guide. Dezincification-resistant alloy release stem. High resistance elastomer hydraulic seals. Medium water and glycol solutions; maximum percentage of glycol 50%. Temperature range -20 to 320°F. Maximum working pressure 150 psi. Maximum discharge pressure 150 psi.