

MINICAL®

Automatic Air Vent

series 5020 - 5021



Replaces 01054/10 NA



Function

Automatic air vents are designed to remove trapped air that accumulates in heating and air conditioning systems automatically. Air removal enhances performance and life of a system by reducing the affects of:

- corrosion due to the oxygen;
- pockets of air trapped in the heating emitters;
- cavitation in the circulation pumps.

The check valve on the 5021 series allows for easy replacement of the air vent without purging the system.

Product range

Code 502015A MINICAL Automatic Air Vent _____ 1/8" NPT
 Code 502115A MINICAL Automatic Air Vent _____ 1/8" NPT with Check Valve

Technical specification

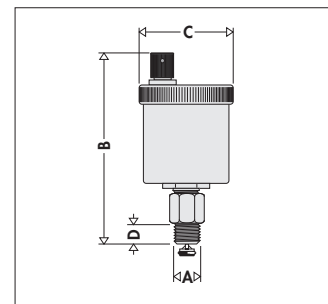
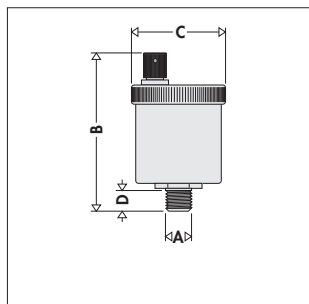
Materials:

Body and cover: brass
 Float: Polypropylene
 Valve stem: brass
 Vent wire lever: stainless steel
 Spring: stainless steel
 Seals: peroxide-cured EPDM

Performance:

Medium: water and glycol solution
 Max. working pressure: 150 psi (10 bar)
 Max. venting pressure: 40 psi (2.5 bar)
 Max. working temperature: - 502105A: 250°F (120°C)
 - 502115A: 230°F (110°C)
 Max. percentage glycol: 30%

Dimensions



| Code | A | B | C | D | Weight (lb) |
|---------|----------|--------|--------|------|-------------|
| 502015A | 1/8" NPT | 3 1/8" | 1 7/8" | 3/8" | 0.4 |

| Code | A | B | C | D | Weight (lb) |
|---------|----------|----------|--------|------|-------------|
| 502115A | 1/8" NPT | 3 11/16" | 1 7/8" | 3/8" | 0.4 |

Operation

The accumulation of air bubbles in the valve body causes the float to drop so that the air vent valve opens when the water pressure is below the maximum venting pressure rating.

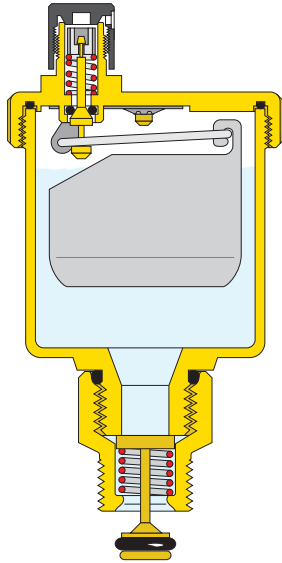
Construction details

Models with check valve

The check valve, part number 59474A, seals off the vent body with an EPDM O-ring, allowing easy maintenance by shutting off the water flow when the vent is removed. This feature also allows for easy inspection of the air vent.

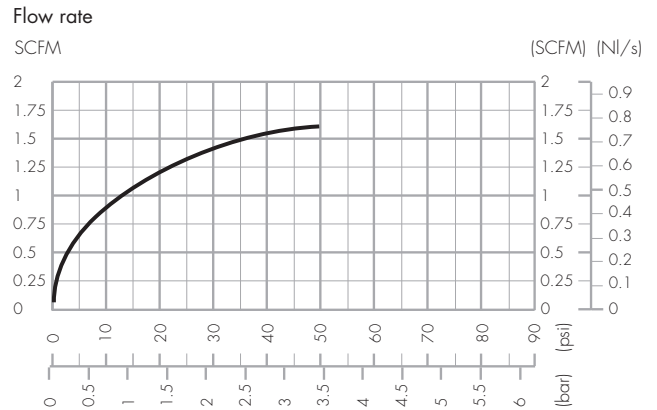
Hygroscopic cap (optional)

All MINICAL models can be equipped with the optional hygroscopic safety cap, part number R59681. This special cap contains cellulose fiber discs that form a seal by increasing their volume 50% when they become wet. This prevents potential damage in case of leakage.



Flow curves

Air flow (when filling the system)



| SYSTEM PRESSURE | | AIR VENTING FLOW RATE | |
|-----------------|------|-----------------------|------|
| PSI | BAR | SCFM | NI/s |
| 5 | 0.34 | 0.64 | 0.30 |
| 10 | 0.69 | 0.85 | 0.40 |
| 15 | 1.03 | 1.06 | 0.50 |
| 20 | 1.38 | 1.25 | 0.59 |
| 25 | 1.72 | 1.29 | 0.61 |
| 30 | 2.07 | 1.44 | 0.68 |
| 35 | 2.41 | 1.48 | 0.70 |
| 40 | 2.76 | 1.55 | 0.73 |
| 50 | 3.45 | 1.60 | 0.76 |

Installation

- The air vent is installed in the vertical position, on the air separator, on manifolds, on riser pipes and generally in parts of the system where a concentration of air pockets is expected.
- During operation the upper cap in the standard version must be loosened. If, however, the hygroscopic safety cap, pn R59681, is used, completely hand tighten it.
- It is recommended that the standard vent cap be replaced **with a Caleffi R59681 hygroscopic safety cap in locations that cannot be inspected.**

Accessories

- Check valve, part number 59474A, for automatic air vents 1/8" connection, brass.



- Hygroscopic safety cap, part number R59681.



- Small anti-suction air vent cap, part number 562100, for automatic air vents.



SPECIFICATION SUMMARIES

Series 5020

Automatic air vent for hydronic systems using water and glycol solutions, 30% max. 1/8" NPT Male threaded connection. Brass body and cover, Polypropylene float, brass valve stem, stainless steel vent wire lever and spring, and peroxide-cured EPDM O-Rings. Maximum working pressure 150 psi (10 bar), maximum venting discharge pressure 40 psi (2.5 bar). Maximum working temperature 250°F (120°C).

Series 5021

Automatic air vent with the check valve for hydronic systems using water and glycol solutions, 30% max. 1/8" NPT Male threaded connection. Brass body and cover, Polypropylene float, brass valve stem, stainless steel vent wire lever and spring, and peroxide-cured EPDM O-Rings. Maximum working pressure 150 psi (10 bar), maximum venting discharge pressure 40 psi (2.5 bar). Maximum working temperature 230°F (110°C).

We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice.



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