

# Automatic air vents MINICAL® - VALCAL®

## 5020 - 5021 - 5022 series



01054/19 GB

replaces dp 01054/05



### Function

Automatic air vents perform the function of eliminating the air which builds up inside climate control system circuits without any manual intervention. This prevents the appearance of negative phenomena that might prejudice the working life and performance of the heating system, such as:

- corrosion caused by oxygen;
- localised air pockets in the radiators;
- cavitation in the circulation pumps.



### Product range

5020 MINICAL® series	Automatic air vent	sizes 3/8" and 1/2" M
5020 MINICAL® series	Automatic air vent, chrome plated	sizes 3/8" and 1/2" M
5020 MINICAL® series	Automatic air vent, with hygroscopic safety cap	sizes 3/4" and 1" M
5020 MINICAL® series	Automatic air vent, with hygroscopic safety cap, chrome plated	sizes 3/4" and 1" M
5021 MINICAL® series	Automatic air vent, complete with automatic shut-off cock	sizes 3/8" and 1/2" M
5021 MINICAL® series	Automatic air vent, complete with automatic shut-off cock, chrome plated	sizes 3/8" and 1/2" M
5022 VALCAL® series	Automatic air vent, chrome plated	sizes 1/4", 3/8" and 1/2" M

### Technical specifications

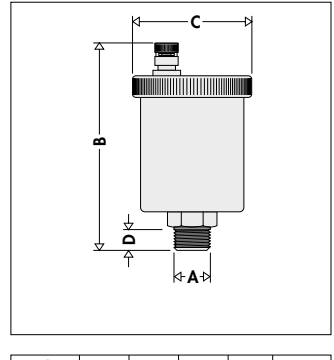
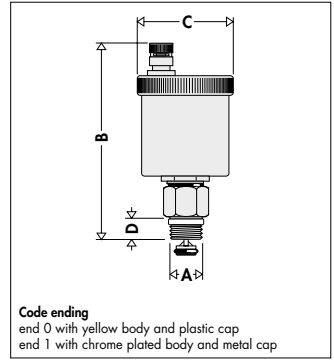
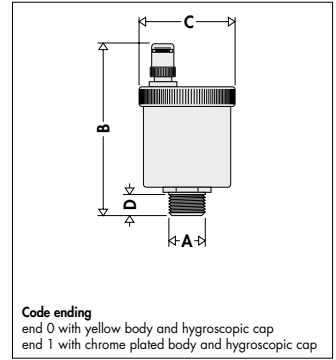
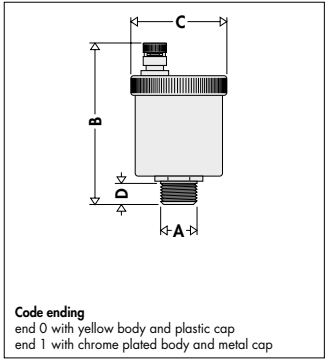
#### Materials:

Body and cover:	brass EN 12165 CW617N
Float:	PP
Obturator stem:	brass EN 12164 CW614N
Spring:	stainless steel
Seals:	EPDM
Shut-off cock seal:	PTFE

#### Performance:

Medium:	water and glycol solutions
Max. percentage of glycol:	30 %
Max. working pressure:	10 bar
Max. discharge pressure:	5020, 5021: 2,5 bar 5022: 4 bar
Max. working temperature:	5020, 5022: 120 °C 5021: 110 °C

### Dimensions



Code	A	B	C	D	Mass (kg)
50203.	3/8"	79	Ø 48	11	0,18
50204.	1/2"	79	Ø 48	11	0,18

Code	A	B	C	D	Mass (kg)
50205.	3/4"	86	Ø 48	11	0,18
50206.	1"	86	Ø 48	11	0,18

Code	A	B	C	D	Mass (kg)
50213.	3/8"	96	Ø 48	11	0,21
50214.	1/2"	96	Ø 48	11	0,23

Code	A	B	C	D	Mass (kg)
50221	1/4"	94	Ø 55	9	0,29
502231	3/8"	97	Ø 55	11	0,29
502241	1/2"	97	Ø 55	11	0,29

## Operating principle

The accumulation of air bubbles in the valve body causes the float to drop and, as a result, the obturator to open. This action, as well as correct valve operation, is ensured as long as the water pressure remains under the maximum discharge pressure.

## Construction details

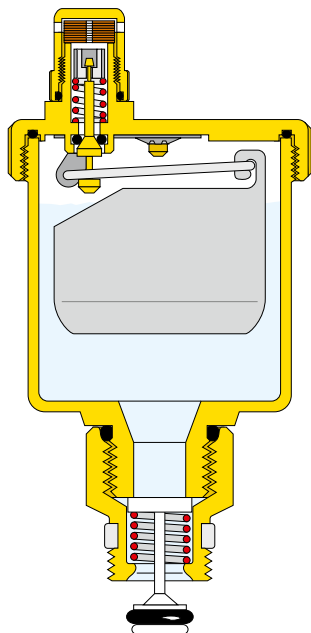
### Hygroscopic cap

The hygroscopic safety is available for all MINICAL® VALCAL® series.

The operating principle is based on the properties of the cellulose disks forming the retaining cartridge. These discs increase in volume 50% when they come into contact with water, thus closing the valve. This avoids any damage in the event of water leakage.

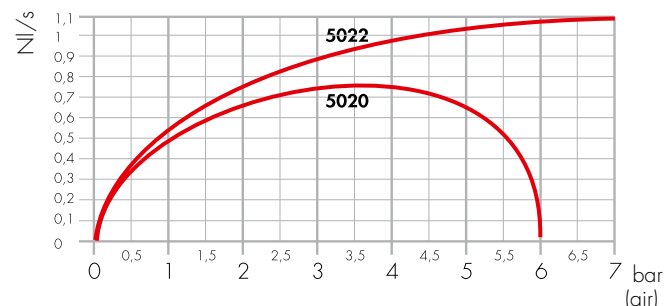
### Versions with cock

The automatic shut-off cock, seal of which with the valve body is ensured by an EPDM O-ring facilitates servicing operations by blocking the flow of water when the valve is deactivated, and the cock maintains the functionality of the device.



## Hydraulic characteristics

### Airflow (during system filling)



## Installation

- The valve should be installed vertically on the separator, on the manifolds, on the riser columns and, more generally, at the points in the system where air pockets are likely to form.
- During operation, the top cap should be loosened in the normal version, while it should be fully tightened in the hygroscopic version.
- We advise against installing the valve in places that cannot be inspected.
- Installing the valve in places which may be at risk of freezing is prohibited; in this case, the Caleffi 501 series MAXCAL® automatic deaerator must be used.
- The **valve cap must be replaced with the Caleffi 5620 AQUASTOP® hygroscopic safety cap when installed in places that cannot be inspected.**

## Accessories

- The 561 series shut-off cock is available for 5020 and 5022 series air vents. 3/8" and 1/2" connections. Yellow or chrome plated version. PTFE seal on thread.
- The 5620 series AQUASTOP hygroscopic safety cap is available for all MINICAL® and VALCAL® series in a chrome plated version and R59681 yellow version.
- The 5621 series anti-suction valve is available for the MINICAL® and VALCAL® series.



## SPECIFICATION SUMMARY

### 5020 series

Automatic air vent. Threaded connections 3/8" M (or 1/2" M). Yellow or chrome plated. Brass body and cover, PP float, brass obturator stem, EPDM O-Ring seals. Medium: water and glycol solutions. Max. percentage of glycol 30 %. Maximum working pressure 10 bar, maximum discharge pressure 2,5 bar. Maximum working temperature 120 °C.

### 5020 series

Automatic air vent. Threaded connections 1/2" M (or 3/4" M). Yellow or chrome plated. Brass body and cover, PP float, brass obturator stem, EPDM O-Ring seals. Medium: water and glycol solutions. Max. percentage of glycol 30 %. Maximum working pressure 10 bar, maximum discharge pressure 2,5 bar. Maximum working temperature 120 °C. Complete with hygroscopic safety cap.

### 5021 series

Automatic air vent complete with automatic shut-off cock. Threaded connections 3/8" M (or 1/2" M). Yellow or Chrome plated. Brass body and cover, PP float, brass obturator stem, EPDM O-Ring seals. Medium: water and glycol solutions. Max. percentage of glycol 30 %. Maximum working pressure 10 bar, maximum discharge pressure 2,5 bar. Maximum working temperature 110 °C.

### 5022 series

Automatic air vent. Threaded connections 1/4" M (3/8", 1/2" M). Chrome plated with metal cap. Brass body and cover, PP float, brass obturator stem, EPDM O-Ring seals. Medium: water and glycol solutions. Max. percentage of glycol 30 %. Maximum working pressure 10 bar, maximum discharge pressure 4 bar. Maximum working temperature 120 °C.

We reserve the right to make changes and improvements to the products and related data in this publication, at any time and without prior notice.