

1898 / 1898G34 / 1899 / 1900 / 1900G / 1900N34 / 1900G34

AUTOMATIC AIR VENT VALVES



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DESCRIPTION

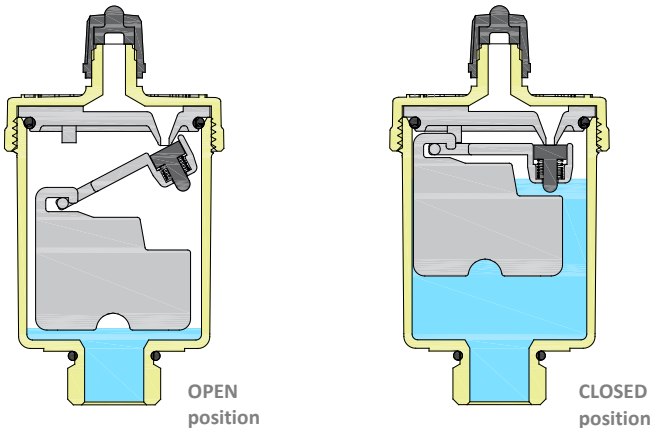
Automatic air vent valves are used in heating and cooling systems to eliminate air that has been trapped in the circuits during filling or has formed during normal operation.

This series of valves is characterised by its **compact size** and **locking cap on the air venting device**.

Operating principle: The presence of air in the system reduces the level of water contained in the relief valve, resulting in the float lowering and the gas discharge device opening. Otherwise, if there is no air in the circuit, the water inside the relief valve keeps the float in such a position that the gas discharge device remains closed.


ADVANTAGES / STRENGTHS


- Automatic air release operation.
- Maximum discharge pressure **4 bar**.
- Guarantees better performance of the system with a consequent reduction in management costs.
- Avoids issues with noise in the system and component wear.
- Compact size
- Equipped with locking cap on the air venting device.
- Wide range available, to meet all installation needs:
 - Bottom fitting / side fitting
 - Vertical venting / side venting
 - Reduced diameter versions





Eliminating the air in the circuits avoids problems such as noise in the system and wear of its components, to ensure better performance of the radiant terminals, resulting in a consequent reduction in operating costs (to learn more, see the "INFORMATION FROM TIEMME" section of this technical data sheet).


PRODUCT RANGE


	Art.	Description	Code	Fitting
	1898	Automatic air vent valve with locking cap. - Bottom fitting - Side venting - Nickel-plated finish	198 0005	G 3/8" M (ISO 228)
			198 0004	G 1/2" M (ISO 228)


	Art.	Description	Code	Fitting
	1898G34	Automatic air vent valve with locking cap. - Bottom fitting - Side venting - Small diameter	198 0114	G 3/8" M (ISO 228)
			198 0092	G 1/2" M (ISO 228)

	Art.	Description	Code	Fitting
	1899	Automatic air vent valve with locking cap. - Side fitting - Vertical venting - Nickel-plated finish	198 0011	G 3/8" M (ISO 228)
			198 0003	G 1/2" M (ISO 228)

	Art.	Description	Code	Fitting
	1900	Automatic air vent valve with locking cap. - Bottom fitting - Vertical venting - Nickel-plated finish	198 0002	G 3/8" M (ISO 228)
			198 0001	G 1/2" M (ISO 228)
			198 0013	G 3/4" M (ISO 228)
			198 0022	G 1" M (ISO 228)

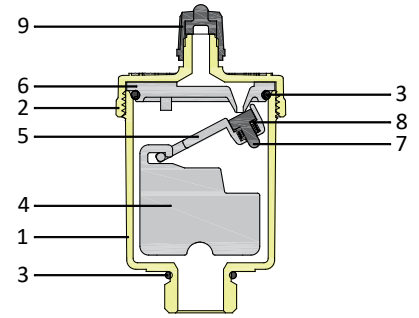
	Art.	Description	Code	Fitting
	1900G	Automatic air vent valve with locking cap. - Bottom fitting - Vertical venting	198 0014	G 3/8" M (ISO 228)
			198 0007	G 1/2" M (ISO 228)

	Art.	Description	Code	Fitting
	1900N34	Automatic air vent valve with locking cap. - Bottom fitting - Vertical venting - Small diameter - Nickel-plated finish	198 0024	G 3/8" M (ISO 228)
			198 0029	G 1/2" M (ISO 228)

	Art.	Description	Code	Fitting
	1900G34	Automatic air vent valve with locking cap. - Bottom fitting - Vertical venting - Small diameter	198 0017	G 3/8" M (ISO 228)
			198 0019	G 1/2" M (ISO 228)

CONSTRUCTION SPECIFICATIONS

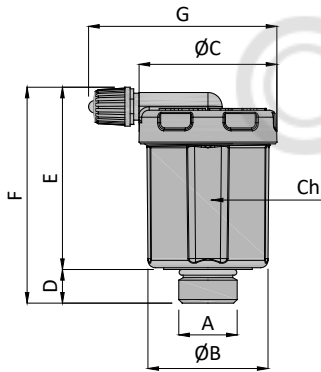
- (1) Body: Yellow/nickel-plated CW617N Brass (two versions)
- (2) Cover: Yellow/nickel-plated CW617N Brass (two versions)
- (3) O-ring seals: EPDM
- (4) Float: PP
- (5) Linkage: POM
- (6) Flange: POM
- (7) Obturator: EPDM
- (8) Spring: AISI 302 stainless steel
- (9) Cap: PA
- Threads: ISO 228



TECHNICAL SPECIFICATIONS

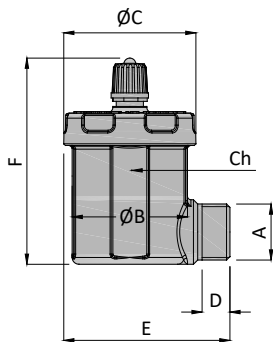
- Maximum working temperature: +110 °C
- Maximum working pressure: 10 bar
- Maximum discharge pressure: 4 bar
- Fluid compatibility: Water and glycol solutions (maximum percentage of glycol 30%)

DIMENSIONAL SPECIFICATIONS



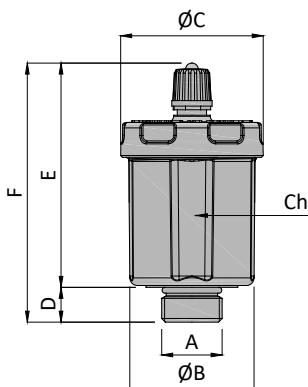
Art.	Code	A	ØB	ØC	D	E	F	G	Ch
1898	198 0005	G 3/8" M	34	39	9.5	52	61.5	53	34
	198 0004	G 1/2" M	34	39	10	52	62	53	34
1898G34	198 0114	G 3/8" M	29	34	9.5	49	58.5	48	29
	198 0092	G 1/2" M	29	34	10	49	59	48	29

Dimensions in mm



Art.	Code	A	ØB	ØC	D	E	F	Ch
1899	198 0011	G 3/8" M	34	39	9.5	46.5	61	34
	198 0003	G 1/2" M	34	39	11	48	61	34

Dimensions in mm



Art.	Code	A	ØB	ØC	D	E	F	Ch
1900	198 0002	G 3/8" M	34	39	9.5	61.5	71	34
	198 0001	G 1/2" M	34	39	10	61.5	71.5	34
	198 0013	G 3/4" M	39	45.5	10	72.5	82.5	39
	198 0022	G 1" M	39	45.5	12	72.5	84.5	39
1900G	198 0014	G 3/8" M	34	39	9.5	61.5	71	34
	198 0007	G 1/2" M	34	39	10	61.5	71.5	34
1900N34	198 0024	G 3/8" M	29	34	9.5	59.5	69	29
	198 0029	G 1/2" M	29	34	10	59.5	69.5	29
1900G34	198 0017	G 3/8" M	29	34	9.5	59.5	69	29
	198 0019	G 1/2" M	29	34	10	59.5	69.5	29

Dimensions in mm

DESCRIPTION OF COMPONENTS

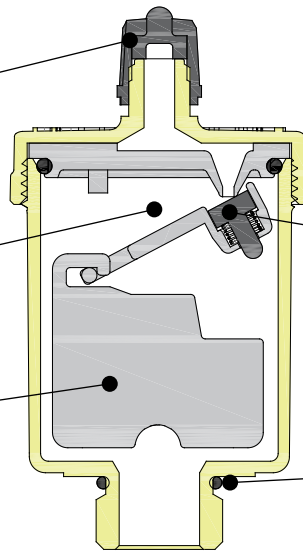
Locking cap: fully tightening this, interrupts the automatic air venting function.

Air accumulation chamber: prevents contact between any impurities in suspension in the fluid and the sealing device.

Float.

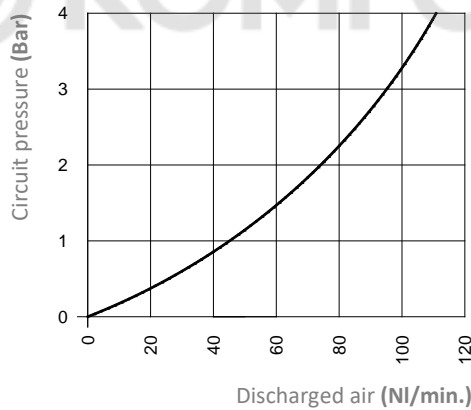
Air discharge device: operated by rotating the linkage the float is connected to. Automatic operation guaranteed up to a maximum circuit pressure of **4 bar**.

O-ring seal.



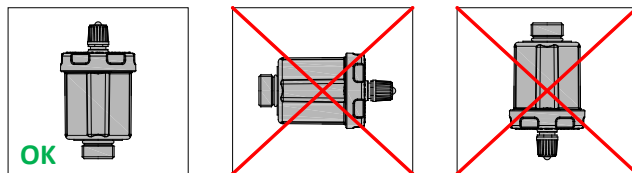
HYDRAULIC SPECIFICATIONS

Diagram 1: Air venting capacity



INSTALLATION / WARNINGS

- Install the air vent valve in a **vertical position** only



- Install the air vent valve preferably on the delivery side of the heating system, as this is the hottest area of the system where there is greater formation of bubbles. In the case of cooling systems, it should be installed on the system return, at the entrance to the chiller.
- Installation in locations that cannot be inspected and are at risk of freezing, is not recommended.
- In order to facilitate any maintenance and inspection of the air vent valve, we recommended shutting off the device with the lock and shut-off valve **Art. 1901**, or, alternatively, with a ball valve.
- Automatic air venting can be interrupted by simply fully tightening the locking cap. Vice versa, to guarantee correct functionality, it is enough to unscrew the cap at least one turn from the completely closed position.

N.B. To guarantee the correct functionality of the air vent valve, in its automatic deaerator function, make sure that the water pressure remains below 4 bar (maximum discharge pressure value).

TIEMME RACCORDERIE S.p.A. will not be held responsible for any failures and/or accidents resulting from failure to comply with these instructions and/or from improper use of the system. The information given does not exempt the user from scrupulously following the regulations and good technical standards that are currently in force.

EXAMPLES OF SPECIAL INSTALLATION

Air vent valves in the reduced diameter version **Art. 1900N34 and 1900G34** are for use on riser columns with a limited centre-to-centre distance (**distance between pipes min. 34 mm**), where other valves would not find application due to the greater overall dimensions.



MAINTENANCE

Any accidental pressures of the sealing device can cause leakage of dirty fluid from the valve, which may result in soiling of the sealing seats. In this case the component must be disassembled and cleaned.

INFORMATION FROM TIEMME

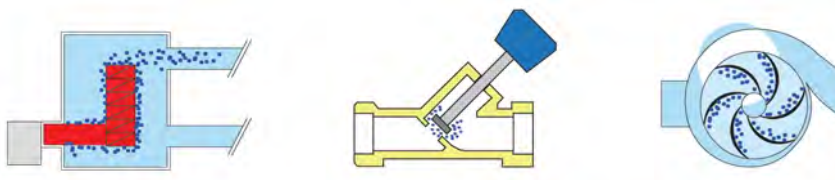
AIR IN SYSTEMS: COMMON PROBLEMS

The presence of air in circuits is a common phenomenon and calls for some specific precautions to guarantee that the system will function correctly. In fact, if the air is not eliminated properly, it can cause several different problems:

- Noise in the pipes, terminals and valves:

Noise in the pipes can occur, above all, when the system is started-up, when the air introduced during filling has not yet reached the deaerators. Noise in the valves, on the other hand, is closely linked to the presence of air microbubbles which, when passing through the regulating organs, undergo a sudden pressure decrease, causing cavitation.

These air microbubbles are spheres of between 0.02 and 0.10 mm, they can be formed on the separation surfaces between the water and the combustion chamber of the generator (generator microbubbles), or where the fluid threads reach very high speeds, for example near bottlenecks in the system or circulation pump impellers (cavitation microbubbles).



- Carrier fluid circulation is blocked or flow to the emission terminals is insufficient:

The air that accumulates inside the system can cause the circulation pumps to malfunction, as they cannot transfer energy to an incompressible fluid like water, but to a water-air mixture that loses its properties.

The air also occupies volume, to the detriment of the vector fluid, in the pipes and the emission terminals, causing bottlenecks and overpressure, resulting in a decrease in the yield of the system.



- Corrosive phenomena of metal components:

The oxygen present in the air can trigger corrosion of ferrous materials, according to the following chemical formula: $2Fe + 3H_2O \rightarrow Fe_2O_3 + 3H_2$



ACCESSORIES



Art. 1901

Lock and shut-off valve with sealing gasket and brass obturator.

See the product catalogue for ordering codes / further details.

ITEM SPECIFICATIONS

Art. 1898

Automatic air vent valve with locking cap, bottom fitting and side venting.

Made of: body in nickel-plated CW617N brass, cover in nickel-plated CW617N brass, O-rings in EPDM, float in PP, linkage in POM, flange in POM, obturator in EPDM, spring in AISI 302 stainless steel, cap in PA, ISO 228 threads.

Maximum working temperature +110 °C. Maximum working pressure 10 bar. Maximum discharge pressure 4 bar. Fluid compatibility water and glycol solutions (maximum percentage of glycol 30%). Available in 3/8" and 1/2" sizes.

Art. 1898G34

Automatic air vent valve with locking cap, bottom fitting and side venting. Reduced diameter.

Made of: body in CW617N brass, cover in CW617N brass, O-rings in EPDM, float in PP, linkage in POM, flange in POM, obturator in EPDM, spring in AISI 302 stainless steel, cap in PA, ISO 228 threads.

Maximum working temperature +110 °C. Maximum working pressure 10 bar. Maximum discharge pressure 4 bar. Fluid compatibility water and glycol solutions (maximum percentage of glycol 30%). Available in 3/8" and 1/2" sizes.

Art. 1899

Automatic air vent valve with locking cap, side fitting and vertical venting.

Made of: body in nickel-plated CW617N brass, cover in nickel-plated CW617N brass, O-rings in EPDM, float in PP, linkage in POM, flange in POM, obturator in EPDM, spring in AISI 302 stainless steel, cap in PA, ISO 228 threads.

Maximum working temperature +110 °C. Maximum working pressure 10 bar. Maximum discharge pressure 4 bar. Fluid compatibility water and glycol solutions (maximum percentage of glycol 30%). Available in 3/8" and 1/2" sizes.

Art. 1900

Automatic air vent valve with locking cap, bottom fitting and vertical venting.

Made of: body in nickel-plated CW617N brass, cover in nickel-plated CW617N brass, O-rings in EPDM, float in PP, linkage in POM, flange in POM, obturator in EPDM, spring in AISI 302 stainless steel, cap in PA, ISO 228 threads.

Maximum working temperature +110 °C. Maximum working pressure 10 bar. Maximum discharge pressure 4 bar. Fluid compatibility water and glycol solutions (maximum percentage of glycol 30%). Available in 3/8" ÷ 1" sizes.

Art. 1900G

Automatic air vent valve with locking cap, bottom fitting and vertical venting.

Made of: body in CW617N brass, cover in CW617N brass, O-rings in EPDM, float in PP, linkage in POM, flange in POM, obturator in EPDM, spring in AISI 302 stainless steel, cap in PA, ISO 228 threads.

Maximum working temperature +110 °C. Maximum working pressure 10 bar. Maximum discharge pressure 4 bar. Fluid compatibility water and glycol solutions (maximum percentage of glycol 30%). Available in 3/8" and 1/2" sizes.

Art. 1900N34

Automatic air vent valve with locking cap, bottom fitting and vertical venting. Reduced diameter.

Made of: body in nickel-plated CW617N brass, cover in nickel-plated CW617N brass, O-rings in EPDM, float in PP, linkage in POM, flange in POM, obturator in EPDM, spring in AISI 302 stainless steel, cap in PA, ISO 228 threads.

Maximum working temperature +110 °C. Maximum working pressure 10 bar. Maximum discharge pressure 4 bar. Fluid compatibility water and glycol solutions (maximum percentage of glycol 30%). Available in 3/8" and 1/2" sizes.

Art. 1900G34

Automatic air vent valve with locking cap, bottom fitting and vertical venting. Reduced diameter.

Made of: body in CW617N brass, cover in CW617N brass, O-rings in EPDM, float in PP, linkage in POM, flange in POM, obturator in EPDM, spring in AISI 302 stainless steel, cap in PA, ISO 228 threads.

Maximum working temperature +110 °C. Maximum working pressure 10 bar. Maximum discharge pressure 4 bar. Fluid compatibility water and glycol solutions (maximum percentage of glycol 30%). Available in 3/8" and 1/2" sizes.

CERTIFICATIONS

