AUTOMATIC AIR VENT

R99

GIACOMINI

Technology in Comfort

SUMMARY

R99 AUTOMATIC AIR VENT

Use

During the operation of heating systems, some gases consisting of air, hydrogen, oxygen are produced, which must be vented in order to avoid malfunction. The most troublesome are, noise in the system, water circulation involving imbalance in the room heating, corrosion and a premature ageing of pipes and components. The new R99 automatic air vent has been developed according to operational and reliable criteria and by taking into consideration many years of experience gained through selling millions of previous automatic air vent models.

The parts which go to make the R99 have been developed by taking into account all possible known causes, such as the presence of impurities transported by the water into the system, oils or additives emulsions, turbulences to which the fluids are submitted and which could change the performance, vibrations of equipment or pipes to which the valves are installed and which could generate noises or cracks due to stress phenomenons. The new R99 automatic air vent has high performance both during the initial phases of system loading, and when modest water quantity has to be drained in a progressive way.

Features

Components of the draining device have been developed by using PK-EP which when comparing all the available synthetic materials has the highest performance and reliability. Particular attention has been given to the maintenance of its mechanical features during the working life of the air vent. One of the features of the PK-EP it's resistance to high temperatures (higher than the working temperature of the air vent) which is obtained by combining glassfibre materials. The O-rings are made of EPDM an optimal material for guaranteeing elasticity and maintenance during the high temperature working conditions to which the air vent is submitted. The internal spring of the shutter is produced by a special automatic machine and is made of nickel chromed stainless steel to avoid the formation of oxides which could affect the movement.

Particular attention has been given to the design of the separator plate, which because of a special "duct" system installed on the upper part, avoids the possibility of sprays, transported by the water in the vent.

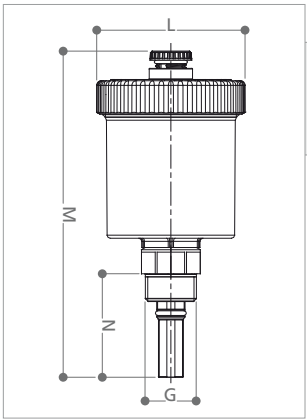
Single components are produced by using high precision moulds thus obtaining a perfect assembly.

Technical data

- Nominal working pressure 0,7 MPa (7 bar)
- Max. test pressure* 1,4 MPa (14 bar)
- Max. working temperature* 120 °C
- Suitable for use with cold and hot water on heating and sanitary systems
- Available in sizes 1/4" 3/8" 1/2"

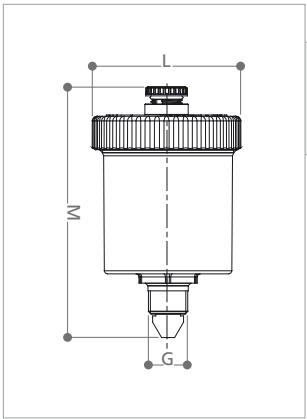
*** During test conditions, only the physical integrity of the component is guaranteed.**

Sizes



CODE	A	B	C	D	E
R99Y001	1/4"	48	14	51	74
R99Y002	3/8"	48	15	51	75
R99Y003	1/2"	48	15	51	75

R99



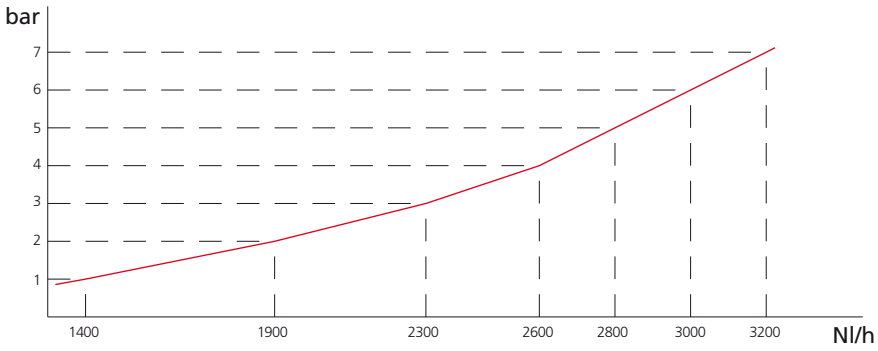
CODE	A	B	C	D	E	F
R99IY002	3/8"	48	21	51	106	25
R99IY003	1/2"	48	21	51	106	25

R99I

R99 Automatic air vent

Performance

The following table and graph show the air flows through the vent expressed in litres per hour under standard conditions with relative pressure variation in the system expressed in bar. As you can see the air vent capacity of the R99 increases progressively as the pressure increases thus demonstrating the efficiency of the mechanism.



bar	Nl/h
1	1400
2	1900
3	2300
4	2600
5	2800
6	3000
7	3200

Installation

The R99 has high venting flows but maintains small overall dimensions, which allows the R99 to be used also in small spaces. Its new air vent mechanism is very reliable and before being launched into the market each valve is submitted to a series of tests in order to check the air vent and pressure seals.

The valve is normally installed on each type of manifold, on high points of the circuits where an air-pocket can be formed, on wall or floor boilers, close to air heaters or heat exchangers.

It is also possible to fit a R160 Isolating valve for the sizes 1/4" x 3/8" and 1/4" x 1/2" to the 1/2" R99 Automatic air vent. The R160 Isolating valve allows the R99 to be removed for possible maintenance without draining the system. This article combination (R99 air vent valve with R160 isolating valve) can be also purchased and its Part number is R99/1 available for the 3/8" and 1/2" sizes.

Assembly instructions for R99 and R160

In order to fit the 1/4" R99 automatic air vent with the Isolating valve, the following has to be carried out:

Before fitting the R160 Isolating valve, check that the plastic blade does not interfere with the parts inside the seat, it is suggested to have a free space of at least 35 mm. In case of interference, cut the remaining part of the plastic blade using a cutter as indicated in the following figure.

After having fitted the Isolating valve, remove the plastic blade of the R99 and proceed with the assembly.

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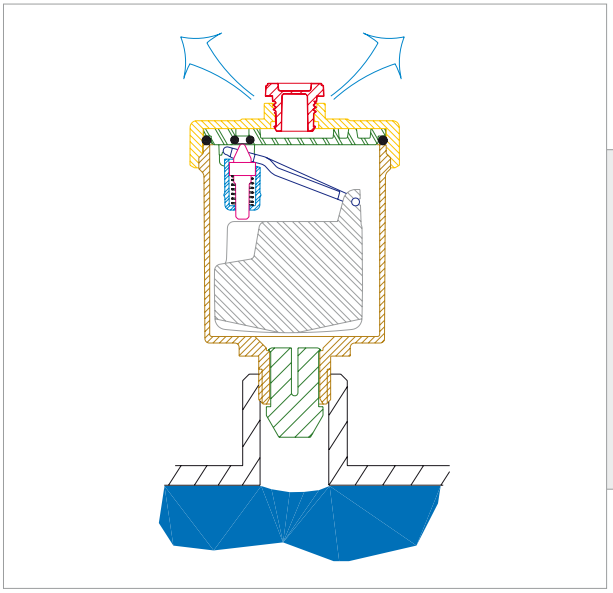
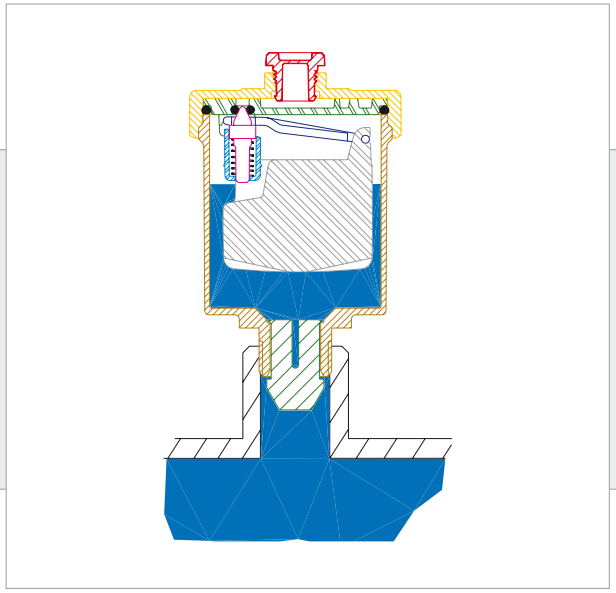
Function

Function of the automatic air vent valve is very easy and is based on the principle of the "floating body " plunged into a fluid. When in the valve case there is no air accumulation, the float is in a raised position and the mechanism keeps the pin-shutter closed. Reduction of the floating level caused by the air accumulation in the case allows the shutter to open and venting takes place until initial conditions return.

By tightening the top cap of the R99, air venting is avoided. Under normal operating conditions the cap has to be left unscrewed.





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