

Filling valves AL, ALM Series Automatic filling units ALOMDIW, ALOMDNW Series



Main features

Designed for automatic filling of sealed heating systems and for protection of the water mains from risk of contamination.

- Available with threaded connections DN 1/2".

- The filling valves combine 5 functions, namely :

- Pressure control
- Automatic non-return
- Filtration
- Shut-off
- Pressure measurement via pressure gauge

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Description

Valves of the **AL, ALM Series** called **ALIMAT** are devices for automatic filling of sealed heating systems. Filling units of the **ALOMDIW, ALOMDNW Series** are devices consisting of an ALIMAT filling valve for automatic filling of sealed heating units, complete with backflow preventer for protecting the water main against risk of contamination.



AL

ALIMAT.

Automatic filling valve complete with check valve, manual shut-off, stainless steel filter, vent screw. Body made of brass CW617N. High impact plastic cap.

Pressure gauge connection 1/4" F. Max. upstream pressure 10 bar.

Adjustable downstream pressure 0.3 - 4 bar.

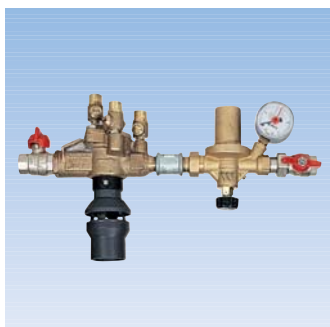
Type	Part number	Dn	Weight (g.)
AL	0240100	1/2" MF	550



ALM

Like AL, but with pressure gauge (dial 50 mm, bottom entry connection, 0 – 4 bar).

Type	Part number	Dn	Weight (g.)
ALM	0240200	1/2" MF	600



ALOMDIW

Filling and back flow preventing unit, complete with discharge tundish, assembled for air conditioning and heating systems with capacity > 70 Kw.

Back flow preventer DIW.

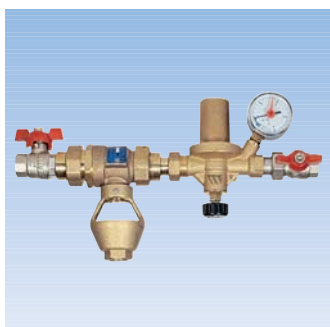
Automatic filling valve complete with pressure gauge (0-4 bar).

Two ball valves. External connections 1/2" FF.

UNI 9157 certification only for DIW.

Conforms with NF/SVGW/KIWA/UPC only for DIW.

Type	Part number	Dn	Weight (g.)
ALOMDIW	1505199	1/2"	2200



ALOMDNW

Filling and back flow preventing unit assembled for air conditioning and heating systems with capacity > 70 kW.

Back flow preventer DIW complete with discharge tundish.

Automatic filling valve complete with pressure gauge (0-4 bar).

Two ball valves. External connections 1/2" FF.

Conforms with KIWA/ANSEAU only for DNW.

Type	Part number	Dn	Weight (g.)
ALOMDNW	1505299	1/2"	1900

Application

The **ALIMAT** filling valves connect a sealed heating system to the water main thus ensuring rapid automatic make-up of any water lost by the heating system. This is done by very accurate and reliable adjustment of the pressure of the heating system until reaching the required operating pressure and also with protection against reverse flow which could cause contamination of the water main.

In fact, the valves of the **AL e ALM Series** combine the following functions:

- pressure control
- automatic non-return
- shut-off
- filtration
- pressure monitoring

Filling units of the **ALOMDIW, ALOMDNW Series**, have, in addition to the function of automatic filling of the system, also the function of protection against contamination of the water main, thanks to the presence of a back flow preventer, as specified by UNI 9157 standard which lists the circuits and/or appliances whose direct connection to the public water main is recognized as possible source of pollution; hence the use of a back flow preventer is prescribed:

- independent and central heating systems
- air conditioning and air handling systems.

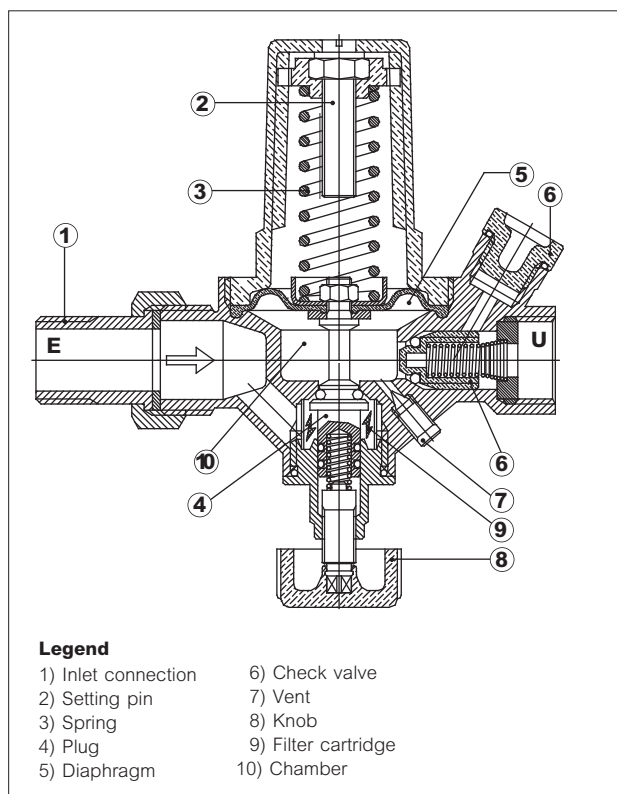
Operation

When the pressure exerted by the fluid inside the system drops below the pressure exerted by spring (3) of the **ALIMAT** sfilling valve on diaphragm (5), the spring pushes plug (4) downwards.

The mains water flows via inlet (E), through filter cartridge (9), then rises into chamber (10) and opens check valve (6) whereupon it flows into the system (U).

When filling of the system is complete, the pressure in it increases, and therefore in chamber (10). After exceeding the value balanced by the force exerted by the opposing spring, the pressure pushes diaphragm (5) upwards while plug (4) closes.

Check valve (6) prevents back flow. Hence the pressure settles according to the set pressure given by the spring.



Design features	
Body	Shot-blast, stamped brass
Diaphragm (AL-ALM)	NBR rubber reinforced with nylon fabric
Inlet connection	1/2" M tailpiece (UNI-ISO228/1), NTP
Outlet connection	1/2" F (UNI-ISO228/1), NTP
Pressure gauge connection	1/4" F (UNI-ISO228/1), NTP
O-ring	NBR rubber
Cap (AL-ALM)	High impact plastic

Technical characteristics	
Max. inlet pressure	10 bar
Set pressure	0,3 ÷ 4 bar
Max. flow rate	1,8 m³/h
Operating sensitivity	0,2 bar
Max. fluid temperature	40 °C

Setting

The ALIMAT automatic filling valve is set by turning screw (2) :

- Towards + (clockwise) = to increase the pressure;
- Towards - (counter-clockwise) = to decrease the pressure.

Pressure of the system can be checked on the pressure gauge.

In order to avoid uncontrolled flows of water into the system, which would prevent detection of any leaks, after filling it is advisable to close the shut-off valve. The pressure gauge will indicate any leaks which, if continuous in nature, should be promptly identified and eliminated.

Control of check valve for pressure tightness

The ALIMAT automatic filling valve is able to control the pressure tightness of the check valve. To do so, after closing the shut-off valve (gate valve), slightly loosen (2 or 3 turns) vent screw (7) :
if there is insufficient pressure tightness on the check valve, there would be a continuous loss of water.
After this step, fully retighten the vent screw and open the shut-off valve again.

Maintenance

A) Maintenance of the ALIMAT automatic filling valve is limited to the periodic cleaning of the filter, above all after filling the system for the first time.

To extract the filter, proceed as follows :

1. Close the gate valve upstream of the ALIMAT valve (if there is no gate valve, shut-off the supply pipe from the water main);
2. Unscrew the bottom nut and remove the knob assembly (8) where filter (9) is seated;
3. Flush the filter with water (do not use aggressive chemicals);
4. Grease the O-rings mounted on plug (4);
5. Refit the filter and spring in the seat of the bottom nut, then full retighten the nut to the body;
6. Re-open the gate valve upstream of the ALIMAT valve or the one before the system.

B) For maintenance of filling unit ALOMDIW or ALOMDNW, proceed as according to point A beside the periodic inspection of the check valves incorporated in the back flow preventer.

Installation

Install the valve following the direction of the embossed arrow stamped on the valve body.

For a more rapid filling, make sure that the control valve is fully open, even if it is advisable to introduce the water at a sufficiently low speed such as to prevent formation of air pockets which would be difficult to eliminate.

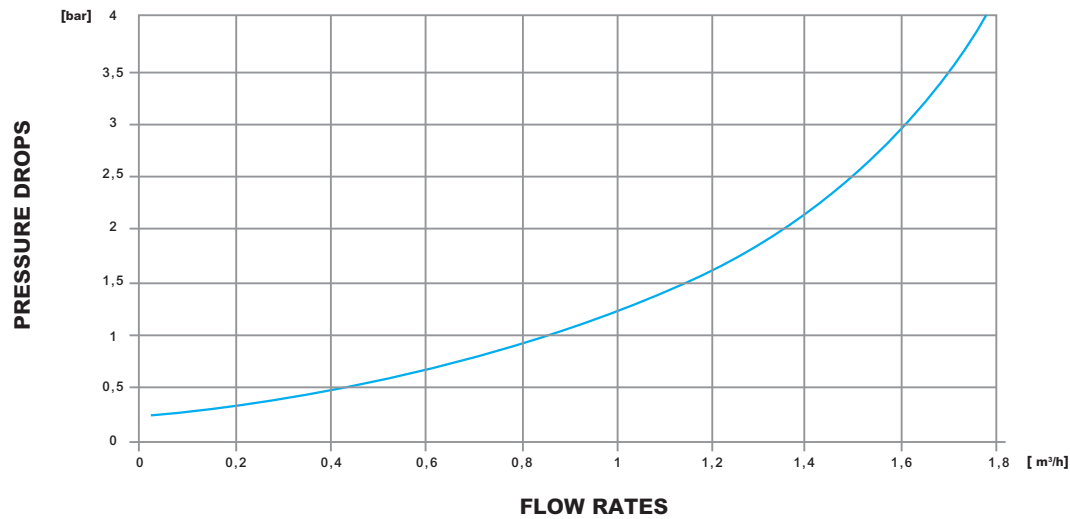
During filling, adequate filtration of all the water coming from the water main is guaranteed. The valve can be installed either in vertical or horizontal position but avoid positioning the valve upside down as there is risk of foreign matter being deposited on the diaphragm which would make the latter insensitive to small variations in pressure.

It is recommended to install a by-pass on the filling valve in order to shorten filling times and also for maintenance purposes.

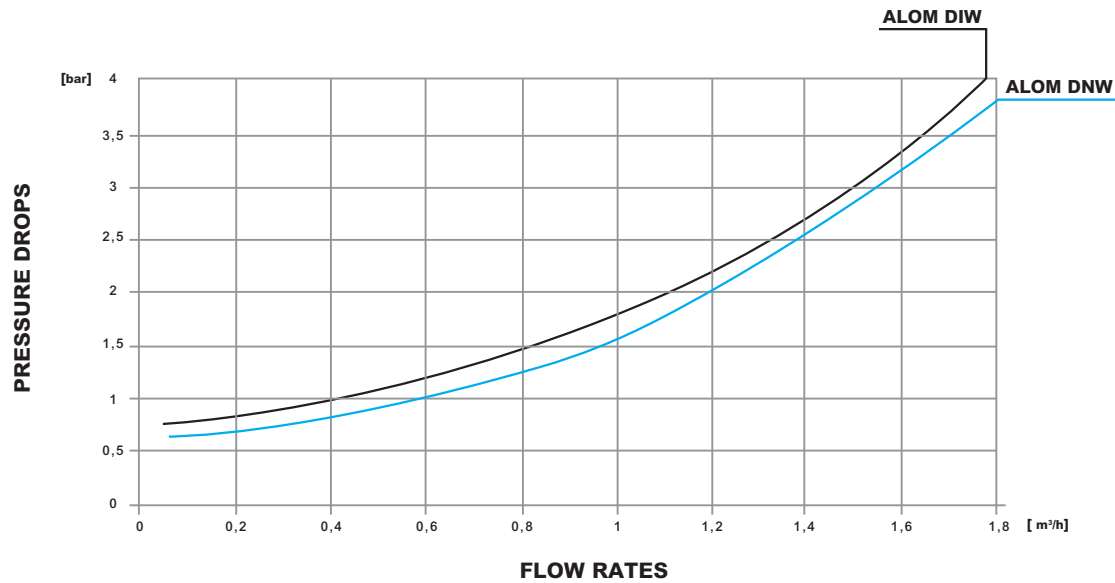
Flow rate-pressure drop chart

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AL - ALM

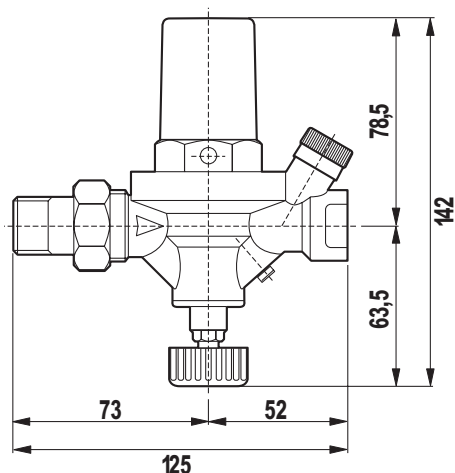


ALOMDIW - ALOMDNW

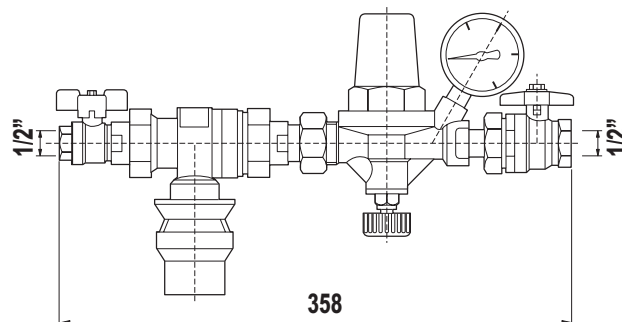


Overall dimensions (mm)

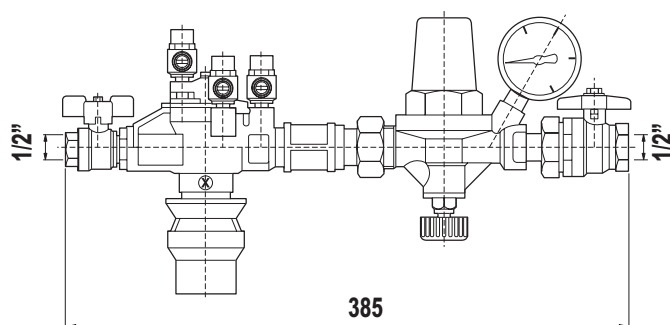
AL - ALM



ALOMDNW



ALOMDIW



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