

Almeva® cascade system with flue gas valves for condensing boilers



With the increased use of condensing technology, Almeva® is constantly expanding the product range of its individual systems with ever newer and more innovative components. The product range offers chimney and heating construction companies, as well as boiler manufacturers, increasingly better technical solutions, which accelerate and facilitate the implementation of exhaust systems and guarantee a perfect flow of flue gases.

These components also include pipe sections with 87° branches with integrated backflow valve. This component is one of about 200 elements of the modern integrated Almeva® exhaust system and was specially developed for internal installations of battery boilers (cascade) and for appliances in apartment houses with multiple connections to a common chimney.

The condition for the development of the backflow valve had to meet two basic requirements:

- To prevent the reflux of in not operational or defective boilers, to prevent damage to these devices (especially the sensitive electronic component) caused by moist combustion gases.
- To prevent possible leak of flue gas the boiler into the living area and protect the health and life of humans and pets.

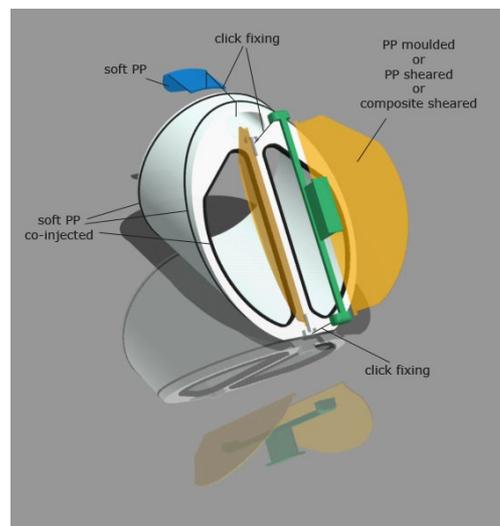
The problems with the backflow valves are well known. That is why we refer to the variety of applications and highlight the excellent technical parameters that make the Almeva® backflow valve so unique and irreplaceable.

Construction of the backflow valve:

- Valve body (white)
- Deflectors (yellow)
- Fixing clip (green)
- Siphon or plug (blue)

Other advantages:

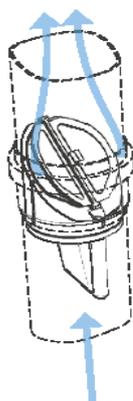
- Low opening resistance
- Minimal deformation due to thermal expansion
- Low pressure losses
- No flue gas emissions
- Compactness



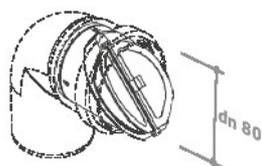
The unique design of the Almeva® backflow valve is patent protected!

Practical placement of the backflow valve:

Compared to competitors backflow valves, Almeva® backflow valves offers two installation positions, horizontal and vertical, which guarantee 100% performance:



In the cascade type AXIAL connected boilers, the exhaust deflectors are in a vertical position. Here it is necessary to use a siphon, through which the condensate flows directly into the boiler during normal operation. When the boiler is out of service, the deflectors automatically close and the height of the water column in the siphon provides a pressure cap. The boiler is therefore protected against backflow of flue gases.



Horizontal backflow valves are mainly used in the branches of common chimney draft, for example in residential buildings or in cascade type OFFSET. In this case it is necessary to use a plug instead of the siphon, which secures a pressure cap when the valve is closed.



A unique feature of the Almeva® backflow valve is the possibility that it can be completely integrated in all the elements of the STARR system with Ø80, Ø125. This provides installers with a wide range of possible applications with backflow valves at almost every point of the Almeva® exhaust system.

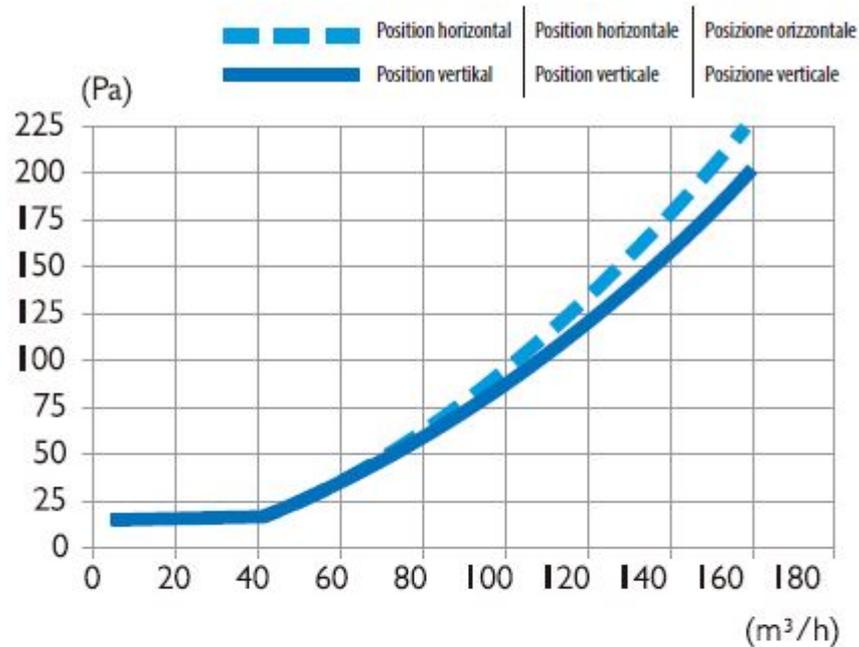
Technical parameters:

(or some of the advantages compared to conventional backflow valves Ø80)

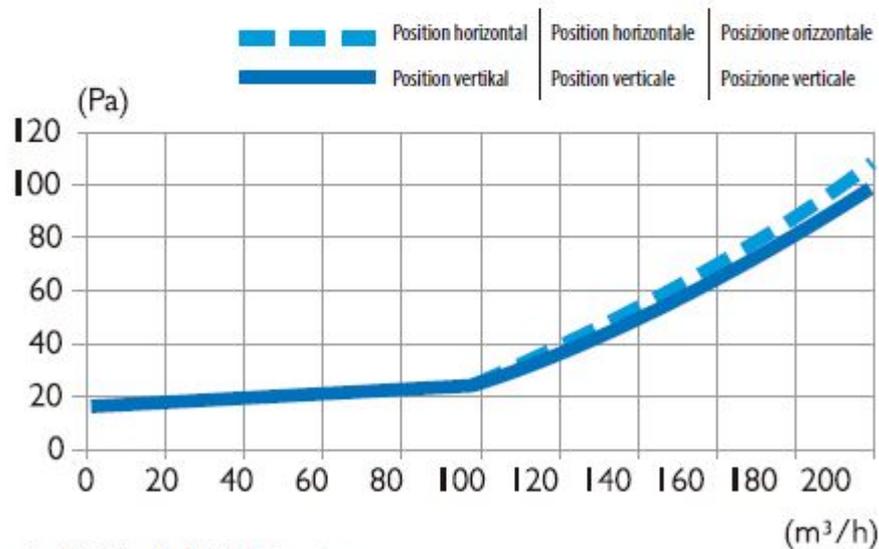
	Units	conventional backflow valves	Almeva® backflow valves
Opening pressure	Pa	25	7
Pressure loss at 50kW	Pa	70	15
Installation height	mm	200	completely integrated
Condensate drain	-	siphon external	siphon integrated
Operating temperature	°C	120	PVDF 160
Closing time	sec.	15	1
Installation position	-	vertically	horizontal and vertically

Pressure losses:

Ø80



Ø125



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Druckverlust von der jeweiligen Kesselleistung abhängig

Perte de charge en fonction de la performance de la chaudière

Perdita di pressione a seconda della performance delle caldaia

The patented backflow valve fits into any element of the Almeva® exhaust system (Ø80, Ø125). It is completely integrated in the 87° branch of the cascade pipe. This saves space, installation time and investment costs in the entire exhaust system.



Breiter Durchmesserbereich
Gamme de diamètre large
Ampia scelta di diametri

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