



## Fast acting anti-water hammer valve in stainless steel - Mod. Gemina FF

The CSA fast acting, surge prevention, pressure relief valve Mod. Gemina FF has been designed to prevent pressure from rising above a pre-set value, thanks to its capability of discharging the excessive volume of water directly through its conveying threaded outlet.



### Technical features and benefits

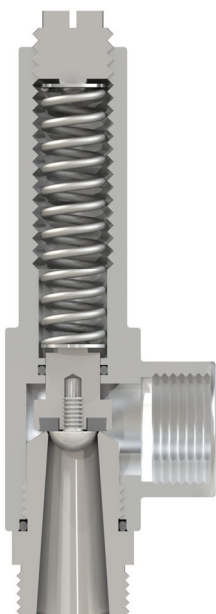
- Solid and compact design.
- Negligible inertia of the internal mobile parts ensuring the absence of friction and long lasting performances.
- Perfect water tightness and excellent resistance to cavitation and harsh working conditions.
- Fast and accurate response without any hysteresis effect thanks to high frequency annealed springs.
- The threaded outlet allows the connection to external pipes to convey spurts generating by operation cycles.

### Applications

- Water distribution systems.
- Fire fighting systems.
- Irrigation systems.
- Buildings and civil installations whenever stainless steel is required or advised for project requirements.
- Demineralized water and bottling plants.
- Industry and cooling systems.

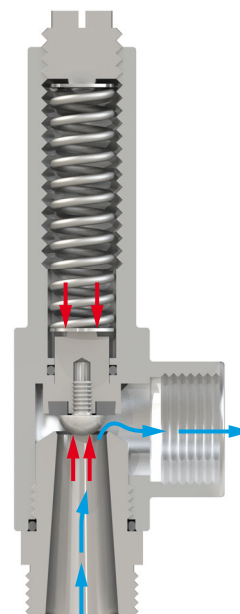
## Operating principle

The operating principle of Gemina FF is based on a piston sliding into the body through a drip tight O-ring gasket.



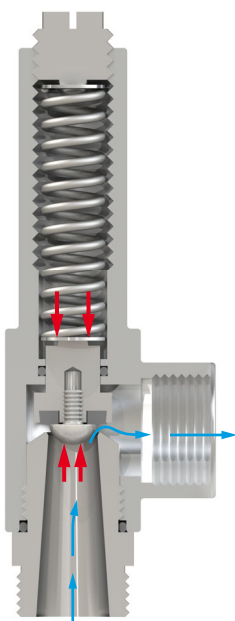
### Valve normally closed

Without any incoming pressure the Gemina FF is a normally closed valve, as shown in the picture, where the obturator is kept pushed down to the seat by the force of the spring.



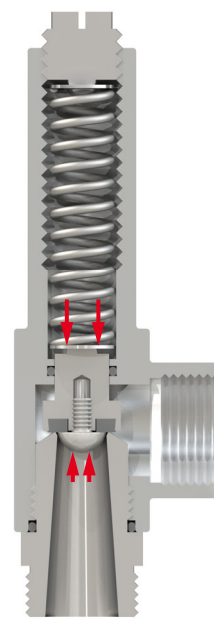
### Valve fully open

Should the upstream pressure rise above the set point of the valve, obtained by the compression of the spring, the Gemina FF will open completely allowing the full passage through the seat.



### Valve modulating

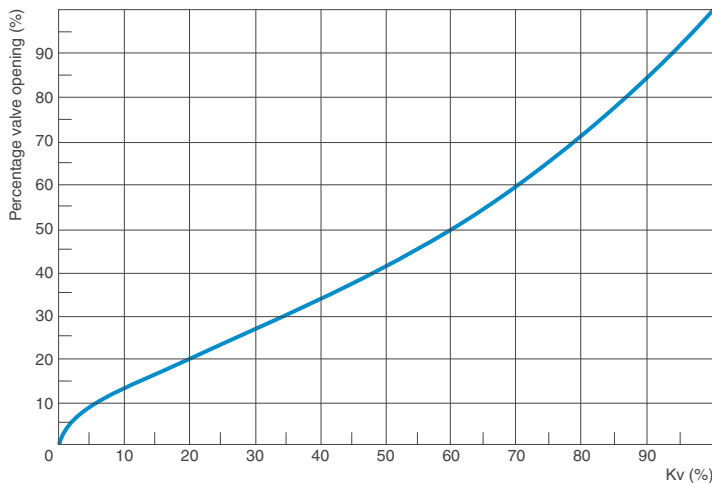
Should the upstream pressure fluctuate around the valve's set point the obturator, thanks to the difference in force between the spring pushing downwards and the incoming pressure underneath pushing upwards, will move throttling the flow through the seat in order to maintain the minimum required value.



### Valve fully closed (static conditions)

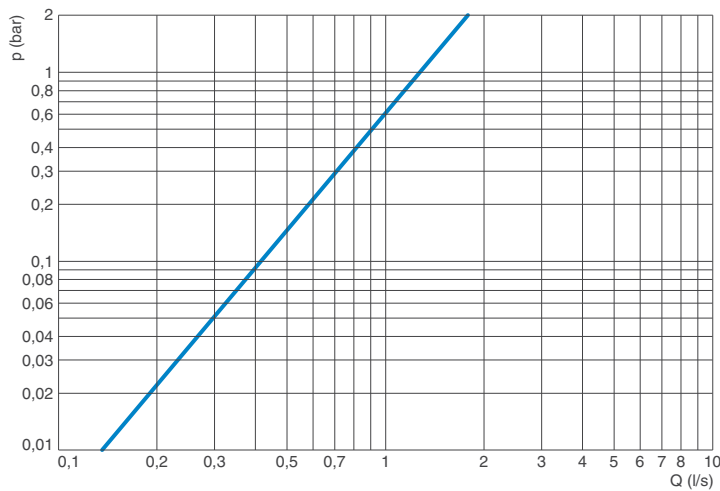
Should the water supply and upstream pressure begin to drop, the Gemina FF will react immediately to maintain and stabilize the required value even in static conditions, thanks to the pressure balanced technology and compensation chamber.

## Technical data



### Kv to valve opening chart

The chart aside shows the opening percentage of the valve versus the Kv.



### Head loss chart

The chart indicates the head loss of the valve fully open versus flow rate in l/s.

## Working conditions

Treated water with a maximum temperature of 70°C.

Higher temperatures on request.

Upstream pressure (inlet): maximum 25 bar.

## Technical data

Kv equal to 6,3 m<sup>3</sup>/h.

Recommended flow rate: 5 m<sup>3</sup>/h.

Spring setting ranges: 1-8 bar, 2-16 bar, 4-24 bar.

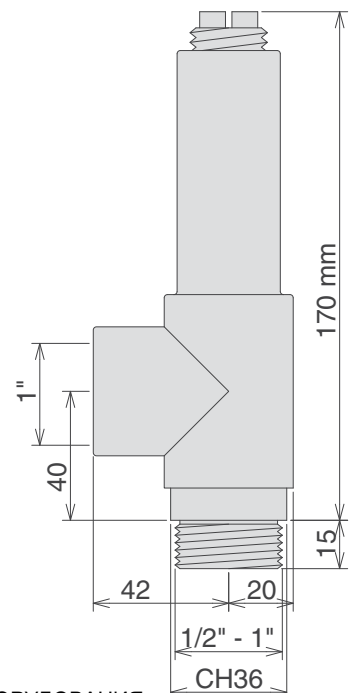
Weight Kg 2,3.

## Standard

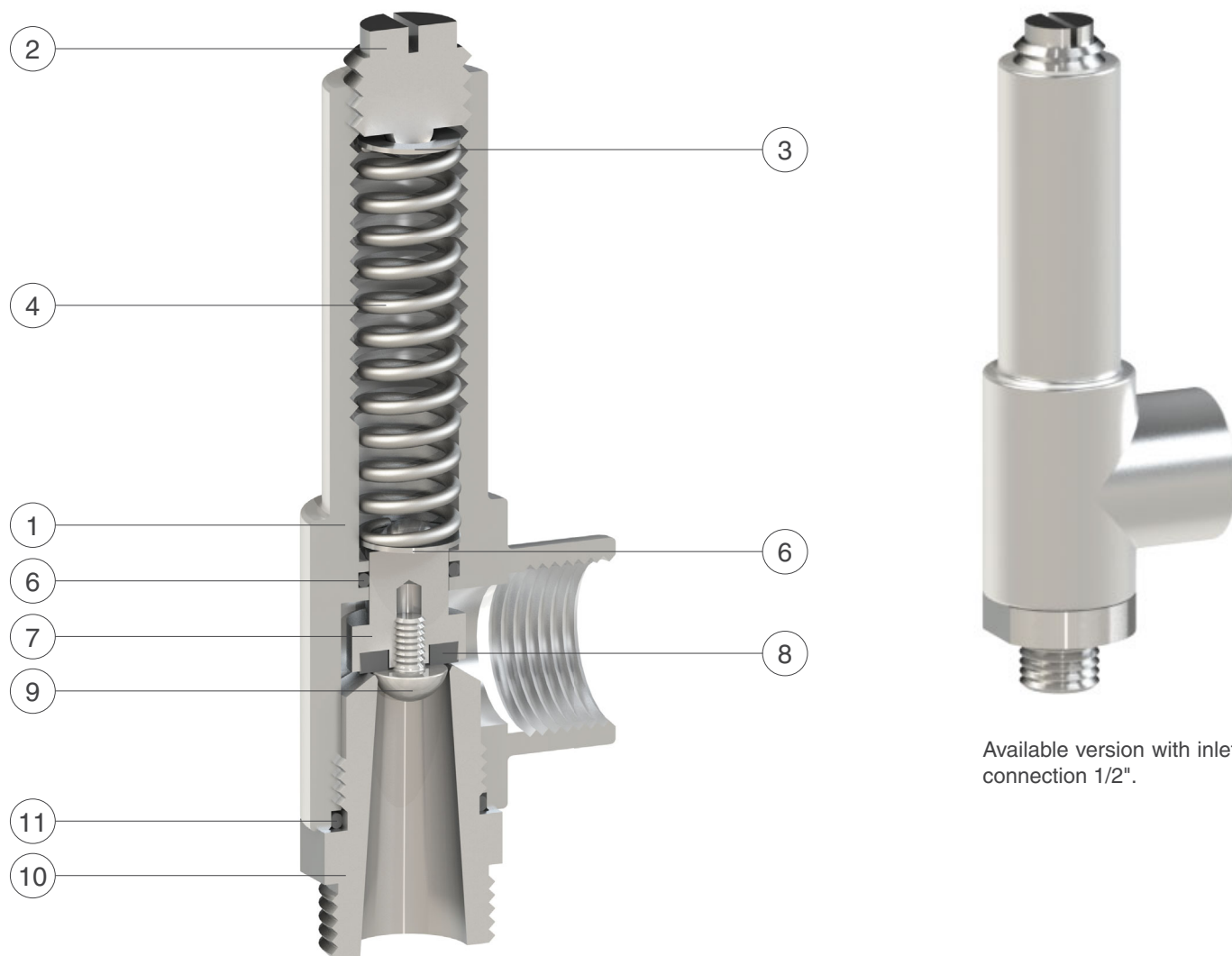
Certified and tested in compliance with EN 1074/5.

Threaded BSP connections.

Variations on the inlet thread available on request.



## Technical details



Available version with inlet connection 1/2".

N.	Component	Standard material	Optional
1	Body	stainless steel AISI 316	
2	Driving screw	stainless steel AISI 304	stainless steel AISI 316
3	Spring upper support	stainless steel AISI 304	
4	Spring	stainless steel AISI 302	
5	O-ring	NBR	EPDM/Viton
6	Spring lower support	stainless steel AISI 304	
7	Obturator	stainless steel AISI 304	stainless steel AISI 316
8	Plane gasket	polyurethane	
9	Screw	stainless steel AISI 304	
10	Sealing seat	stainless steel AISI 304	stainless steel AISI 316
11	O-ring	NBR	EPDM/Viton