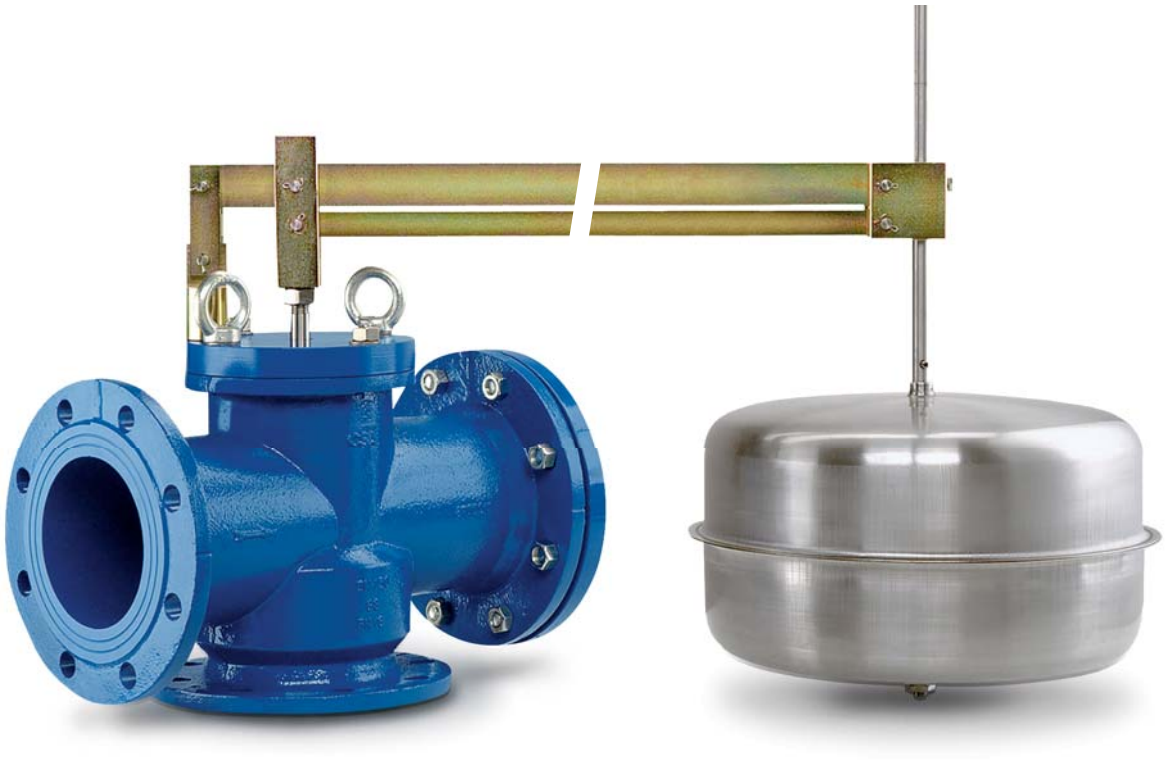
DN40 to DN300 Flanged

Float valve with balanced single seat



Technical features and benefits

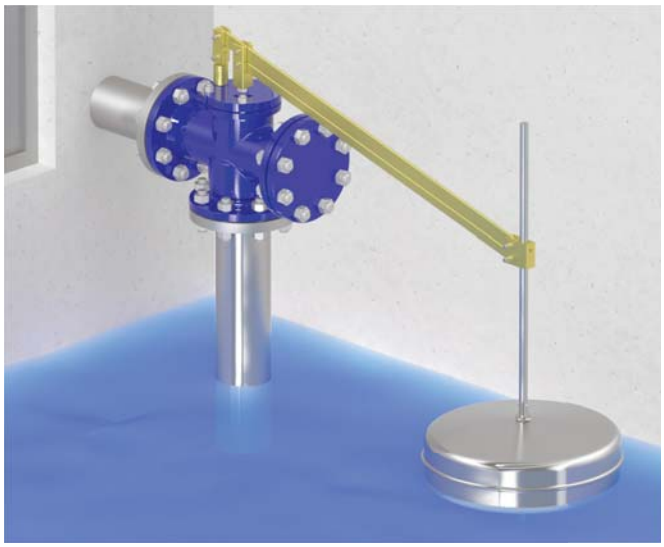
- Body in GJS 500-7 with three ways, allowing the installation both with an angle or a globe pattern, containing an interchangeable sealing seat and piston in stainless steel and a sliding bush in bronze.
- Mobile block composed of the main shaft, obturator, gasket retainer and piston featuring a unique self-cleaning technology (pat. pending) to reduced the accumulation of dirt and maintenance operations.
- The lever mechanism is obtained from a double rod in rolled steel (single rod for DN 40/50/65) which, by means of stainless steel pivots, puts the shaft in communication with the float which imparts the movement allowing the opening or closing of the valve.
- A large float in stainless steel AISI 304 is connected to the above mentioned rods by means of a stainless steel pipe, onto which it exerts a vertical force.
- Thanks to the balanced single seat the valve will perform with high sensitivity, perfect water tightness even with low pressure values.
- The movements of the obturator during opening and closing are not affected by the incoming water pressure, meaning that transient effects are avoided.

Applications

- Water distribution systems.
- Fire protection storage tanks.
- Irrigation systems.
- Whenever the constant level regulation and control function is required.

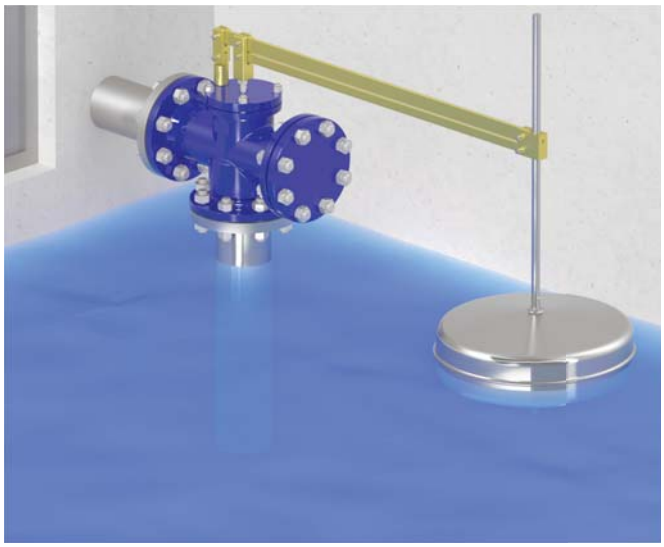
Operating principle

Flanged to the incoming pipe, and driven by a large float in stainless steel, the valve automatically controls the water level inside the tank by cutting off the supply whenever it reaches the maximum level and reopens again as soon as it drops.



Open valve

As soon as the water level drops inside the tank the lever, to which the float is connected, will push down the mobile block to the open position allowing the water flow through the valve.



Closed valve

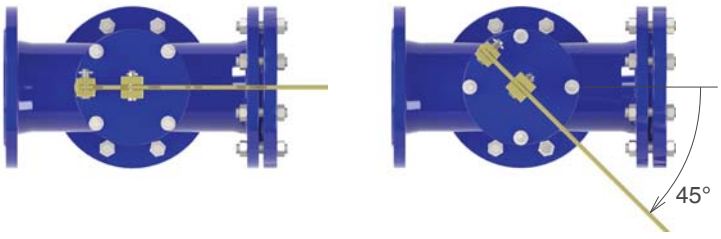
When the water level inside the tanks has reached the maximum level the float, thanks to the lever, will move up the obturator closing the passage through the valve.

Optional

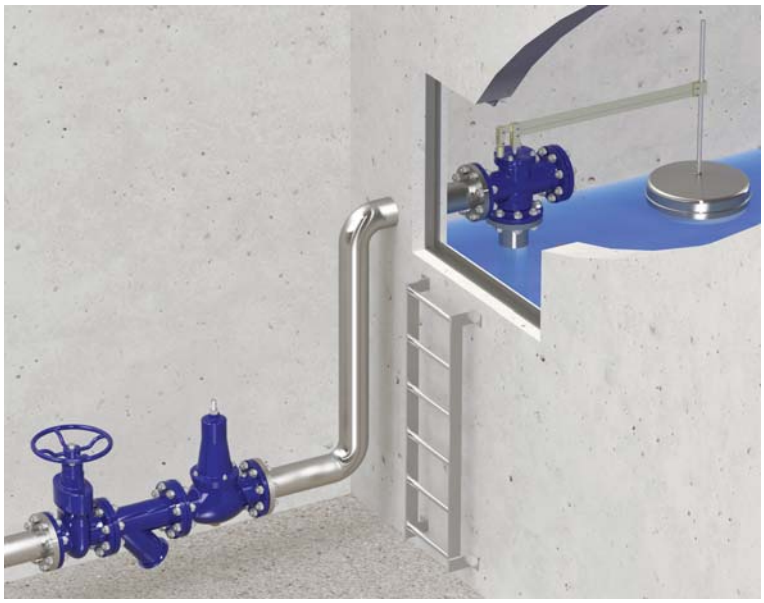
■ **Installation.** Athena has been designed with a three ways body, to allow both the installation as an angle and globe pattern level control valve, simply by placing the blind flange to the desired outlet.

■ **Anti freezing device.** On request the valve is provided with a 3/8”G threaded outlet, which can be used as an anti-freezing device, simply by replacing the tap with a drainage ball valve discharging directly into the tank.
During the winter season, when the temperature drops consistently, the partial opening of the drainage port will create a flow rate inside the valve avoiding frost and possible damages.

■ **Rod rotation.** The rod is normally aligned with the valve axis. It is possible to rotate it on site, with an angle of 45°/90°, to fit the installation requirements.



Technical data



Installation

- Make sure that the supply pipe has the flanges drilled according to the requested PN and that is installed in a horizontal position, properly fixed and sustained.
- Gate valves and filters have to be installed to allow for maintenance operations, and to prevent dirt from reaching the internal components of the valve.
- Position the valve in a place which is easy to reach and wide enough for maintenance and control purposes.
- Observe the overflow level and make sure that the outlet flange is always above it, this is to avoid backflow.
- In case of excessive Dp, to avoid cavitation and possible damages to the valve, a direct acting pressure reducing valve CSA VRCD series should be installed.

Working conditions

Max temperature 70°C.
Max pressure PN 16 (please contact us for higher values).
To avoid cavitation the Max Dp across the valve should be limited to 8,5 bar for angle pattern, and 6,5 bar for globe pattern installations.

Standard

Designed in compliance with EN-1074/4.
Flanges according to EN 1092/2.
Epoxy painting applied through fluidized bed technology blue RAL 5005.
Changes and variations on the flanges and painting details available on request.

DN mm	40	50	65	80	100	125	150	200	250	300
Kv (m^3/h)/bar	21,6	21,6	46,8	68,4	108	155	245	360	648	1008

Head loss coefficient for angle pattern

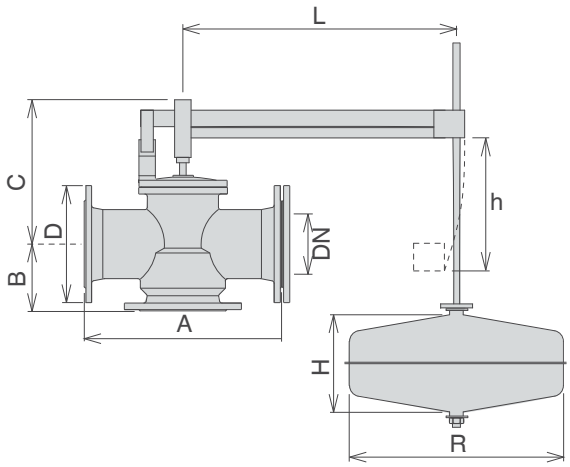
Kv coefficient representing the flow rate flowing through the valve fully open, and producing a head loss of 1 bar.

DN mm	40	50	65	80	100	125	150	200	250	300
Kv (m^3/h)/bar	18,4	18,4	39,6	59,4	90	133	209	313	576	864

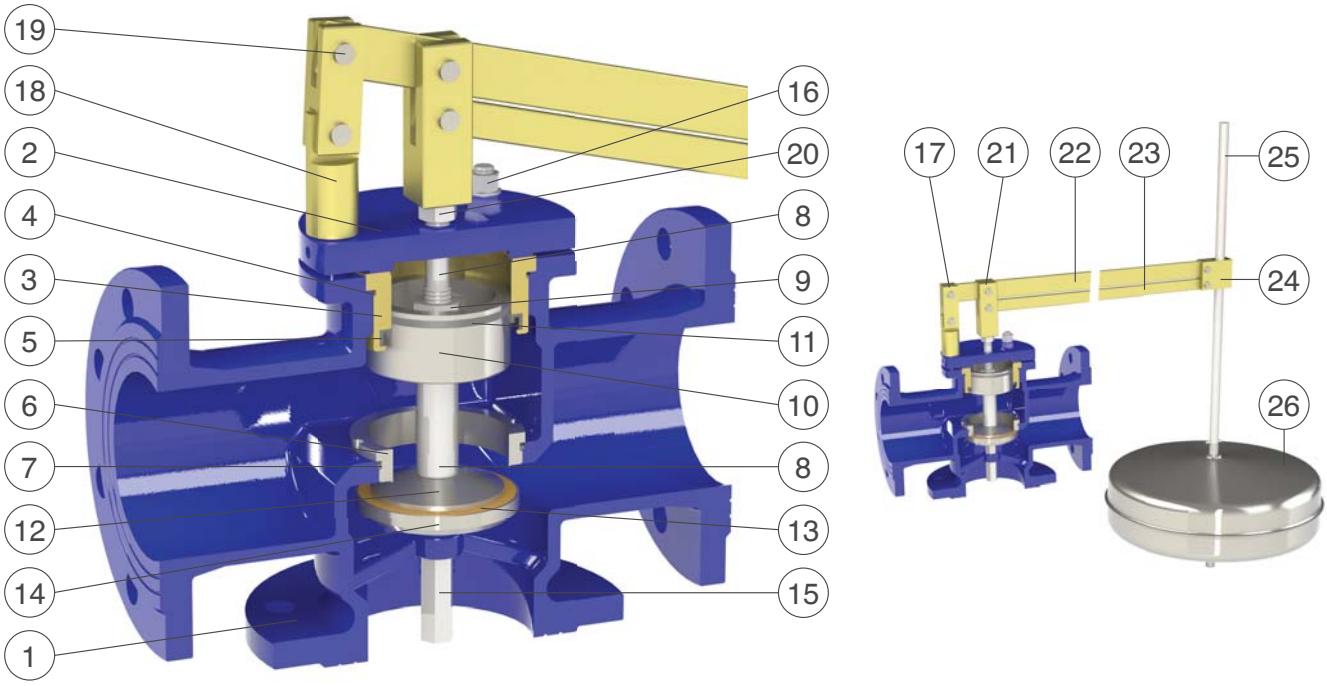
Head loss coefficient for globe pattern

Kv coefficient representing the flow rate flowing through the valve fully open, and producing a head loss of 1 bar.

DN mm	A mm	B mm	C mm	D mm	L mm	H mm	R mm	h mm	Weight Kg
40	230	82,5	173	165	600	Ø220		105	21,0
50	230	82,5	173	165	600	Ø220		105	21,0
65	290	92,5	193	185	600	Ø220		180	25,6
80	310	100	212	200	800	200	300	210	32,6
100	350	125	225	220	800	180	400	267	41,0
125	400	125	230	250	800	180	400	267	49,0
150	480	162	351	285	1000	250	400	400	78,5
200	600	183	380	340	1000	250	400	418	118,0
250	730	270	540	405	1220	300	500	510	162,0
300	850	300	610	460	1400	400	500	610	250,0



Technical details



N.	Component	Standard material	Optional
1	Body	ductile cast iron GJS 500-7	
2	Cap	painted steel Fe 37	
3	Guiding bushing	bronze CuSn5Zn5Pb5 (painted Fe 37 for DN 250-300)	stainless s. AISI 304/316
4	O-ring	NBR	EPDM/Viton
5	Lip gasket	NBR	EPDM/Viton
6	Seat	stainless steel AISI 304	stainless steel AISI 316
7	O-ring	NBR	EPDM/Viton
8	Guiding shaft	stainless steel AISI 303	stainless steel AISI 316
9	Blocking nut	stainless steel AISI 304	stainless steel AISI 316
10	Piston	stainless steel AISI 303	stainless steel AISI 316
11	Guiding ring	PTFE	
12	Counter-seat	stainless s. AISI 303 (painted Fe 37 for DN 250-300)	stainless s. AISI 304/316
13	Plane gasket	NBR	polyurethane
14	Obturator	stainless s. AISI 303 (AISI 304 for DN 200-250-300)	stainless steel AISI 316
15	Tightening nut	stainless steel AISI 303	stainless steel AISI 316
16	Studs, nuts and washers	stainless steel AISI 304	stainless steel AISI 316
17	Upper coupling	zinc-plated steel Fe 37	stainless s. AISI 304/316
18	Lower coupling	zinc-plated steel Fe 37	stainless s. AISI 304/316
19	Pivots	stainless steel AISI 303	
20	Blocking nut	stainless steel AISI 304	stainless steel AISI 316
21	Shaft pivot	zinc-plated steel Fe 37	stainless s. AISI 304/316
22	Upper lever	zinc-plated steel Fe 37	stainless s. AISI 304/316
23	Lower lever	zinc-plated steel Fe 37	stainless s. AISI 304/316
24	Float coupling	zinc-plated steel Fe 37	stainless s. AISI 304/316
25	Float rod	stainless steel AISI 304	stainless steel AISI 316
26	Float	stainless steel AISI 304	stainless steel AISI 316

The list of materials and components is subject to changes without notice.