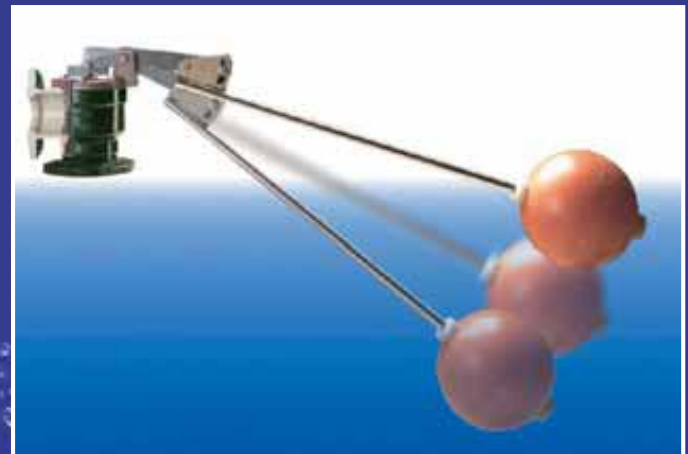




AVFI Float Valves (A805)

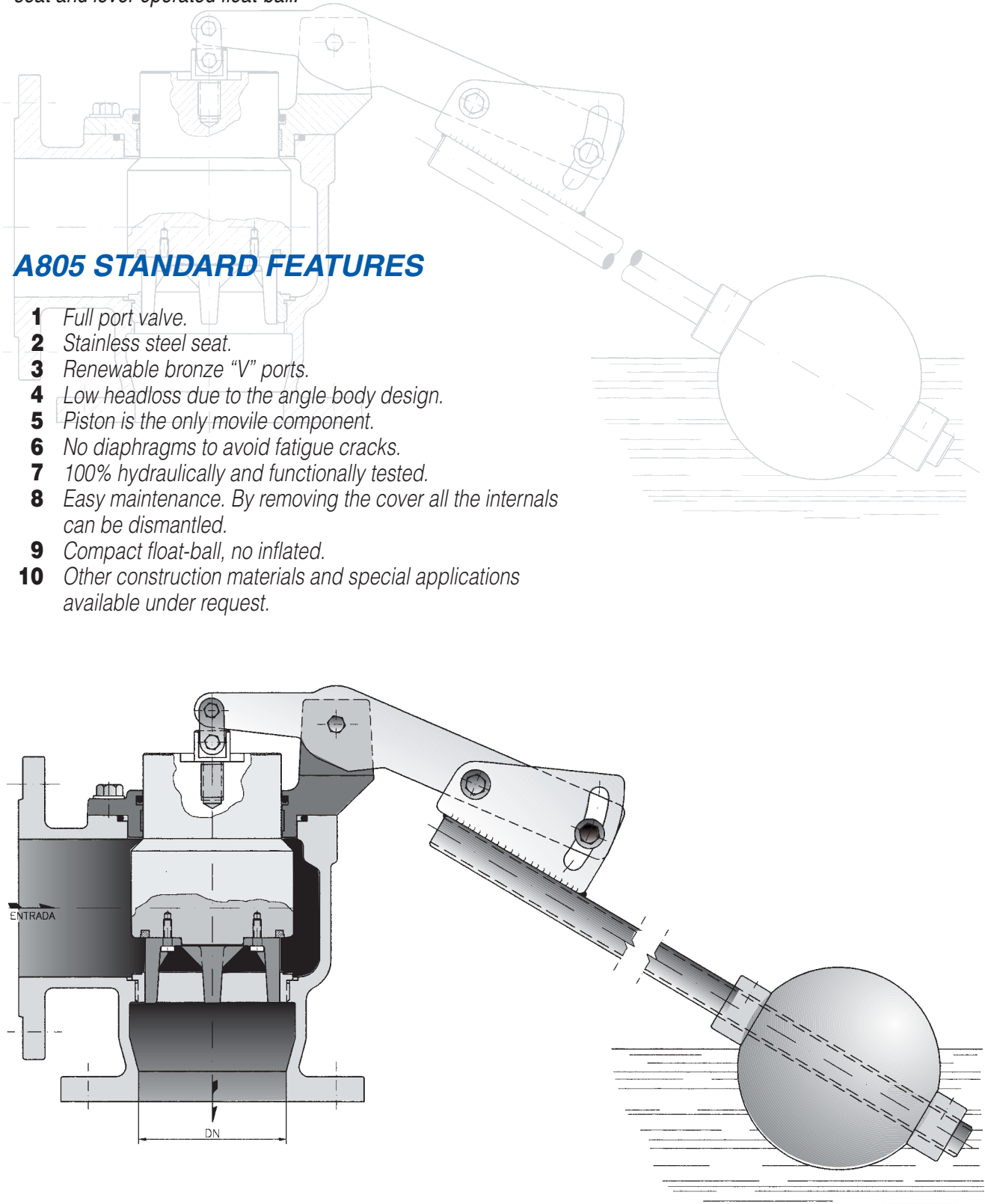


AVFI includes into its range of manufacture the new balanced float valve (A805) for tank level control service.

A805 valve is the idoneous direct acting valve to prevent overflow on pre-set maximum water level in watermains, irrigation systems and industrial applications due to the equilibrated piston design, "V" ports sealing, stainless steel seat and lever operated float-ball.

A805 STANDARD FEATURES

- 1 Full port valve.
- 2 Stainless steel seat.
- 3 Renewable bronze "V" ports.
- 4 Low headloss due to the angle body design.
- 5 Piston is the only movile component.
- 6 No diaphragms to avoid fatigue cracks.
- 7 100% hydraulically and functionally tested.
- 8 Easy maintenance. By removing the cover all the internals can be dismantled.
- 9 Compact float-ball, no inflated.
- 10 Other construction materials and special applications available under request.



FUNCTIONING

The direct float operated valve shall open or close in direct ratio to the rise and fall of the water level. When the pre-set maximum water level is reached the valve will close to prevent overflow.

The piston is totally equilibrated. Therefore, the inlet pressure will never provoke the ascent/descent of the piston. This means that the valve will operate under very low forces acting over the float-ball.

The piston is bottom-guided by means of a vee-port crown which slides down the seat ring inserted in the body.

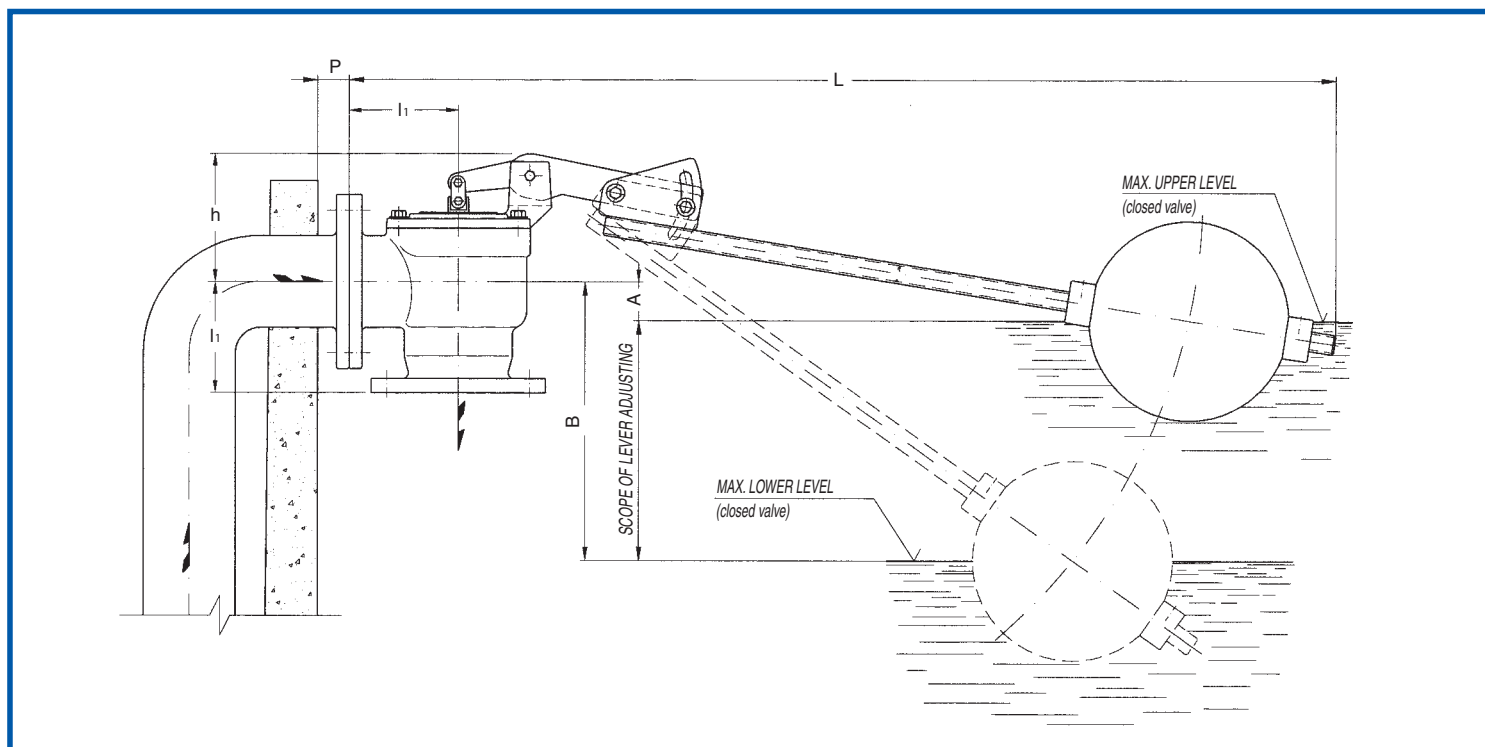
A renewable resilient disc between the piston and the "Vee-port" crown provides a drop-tight closure when maximum water level is reached.

INSTALLATION

The direct float operated valve will be installed into the tank over the maximum water level. In case this level must be over the feed water pipe, the valve can also work submerged (consult factory for details).

During installation of the valve try to reduce as much as possible "P" (see picture below) and fix properly the tank feed pipe to avoid vibrations when system is working.

GENERAL DIMENSIONS, STANDARD REGULATION MAX. LEVEL AND WEIGHTS



DN	50	65	80	100	125	150	200	250	300
L	1380	1380	1740	1820	1820	2215	2575	3150	3680
l ₁	100	100	140	147	147	190	267	362	394
h	100	100	147	170	170	215	323	375	420
A	0	0	0	0	0	0	160	160	200
B	395	395	626	594	594	740	740	740	850
Peso kg. Weight.	11	13	23	30	34	53	170	357	490

SELECTION AND SIZING

This type of valves are specially indicated for low line pressures (< 2,5 w.c.m) because its operation depends on the float-ball position and not on the working pressure (as other float valves do).

Due to the high quality materials used as well as its special design, this valve is suitable for line pressures up to 7 bar.

The size of the valve must be determined in accordance with the flow and not with the diameter of the pipe. If the inlet pressure is very low, the maximum flow to be provided by the valve totally opened can be determined by following equation:

$$Q = K_v \cdot \sqrt{P_e}$$

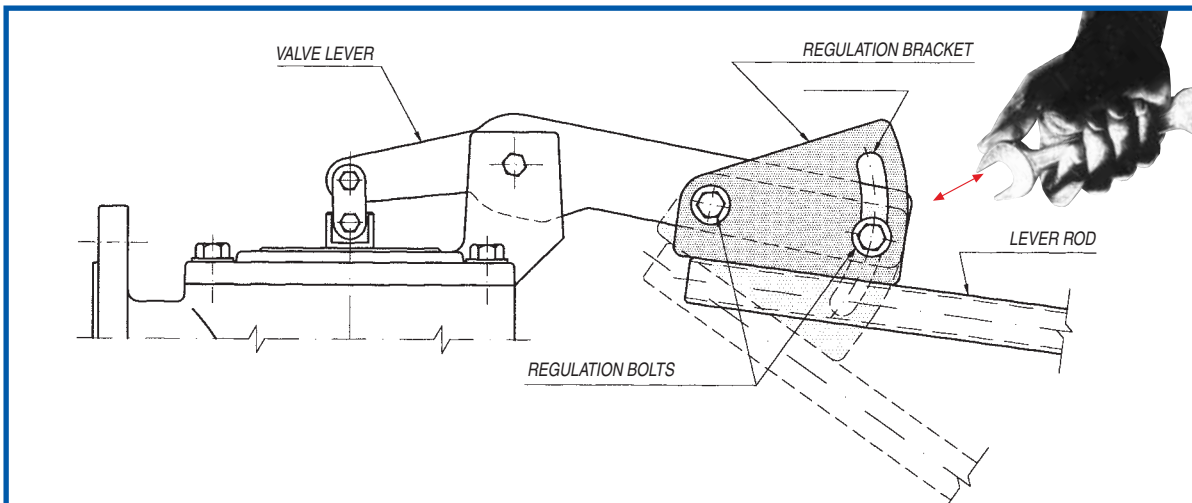
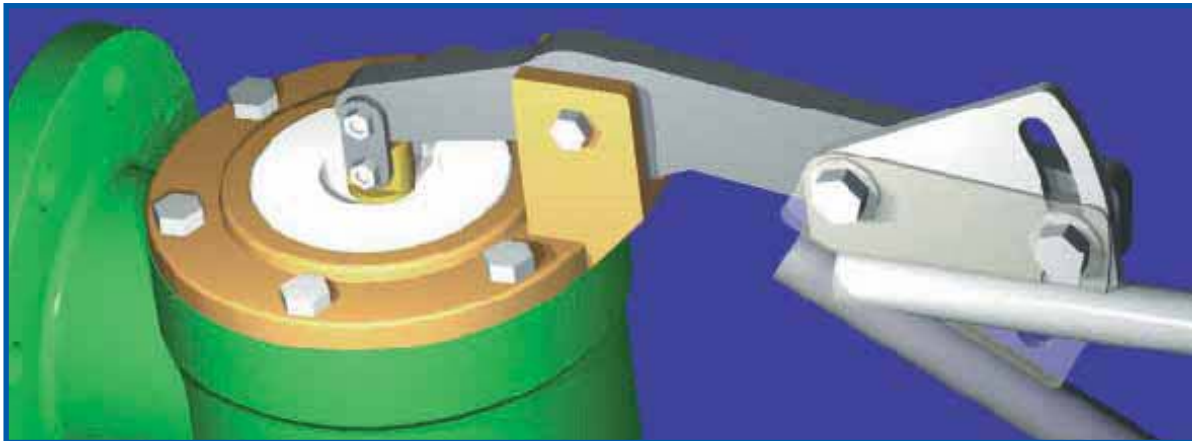
where: Q: maximum flow with valve fully opened (m³/h)
 P_e: dynamic inlet pressure with valve fully opened (kg/cm²)

DN	50	65	80	100	125	150	200	250	300
Q_{max} (L/seg.)	10	12	24	40	45	88	155	240	320
K_v	76	80	162	260	268	522	907	1.445	2.043
C_v	88	93	189	303	313	610	1.060	1.690	2.387

MAX. LEVEL ADJUSTING

To adjust the max. level in any point between "A" and "B" slacken both bolts of the bracket. Operate on the lever rod and when the desired level is achieved, tight the bolts.

This operation is extremely easy in comparison with other float valves because the regulation system of the A805 valve is very close to the main valve.



Vee-PORTS SEALING CONTROL

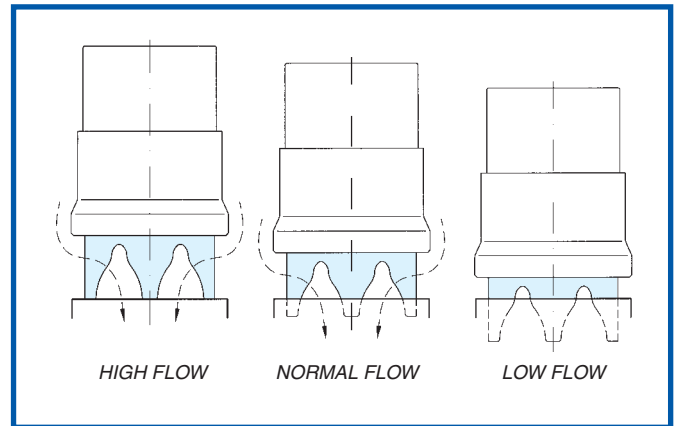
The pictures on the right show the long stroke of the piston to open the valve fully at high flow and the vee-ports design for a gradual flow reduction.

The “Vee-ports” provide precise low-flow control without chatter or instability as the valve throttles near its seat in response to low demand, yet provide full-port capacity under high flow requirements.

The “Vee-ports” permits more effective closing time (minimizes surge) reduces flow area to minimum on last increment of stroke. Protects against slam and bang.

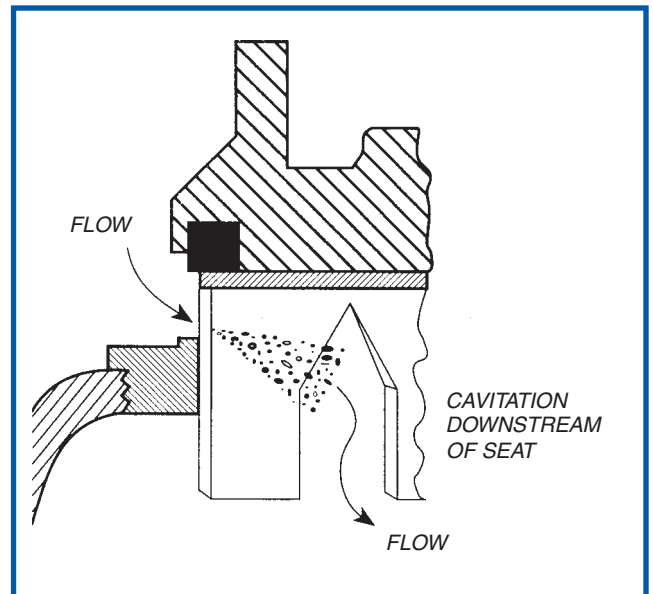
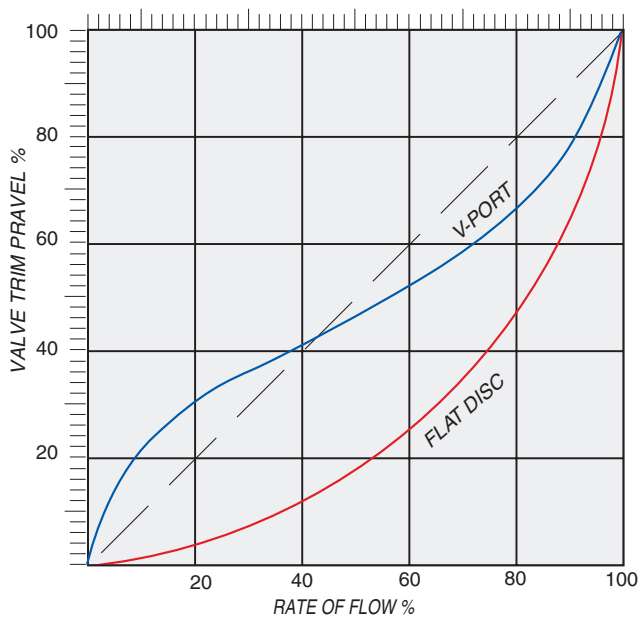
The A805 valve shall control flow from a tank by modulating progressively in direct ratio to a minimum rise or fall in water level, even during last closing stage.

Even under waves phenomenon on water level, this will not affect to the correct functioning of the valve; no open/close sequence will occur.



ANTICAVITATION DESIGN

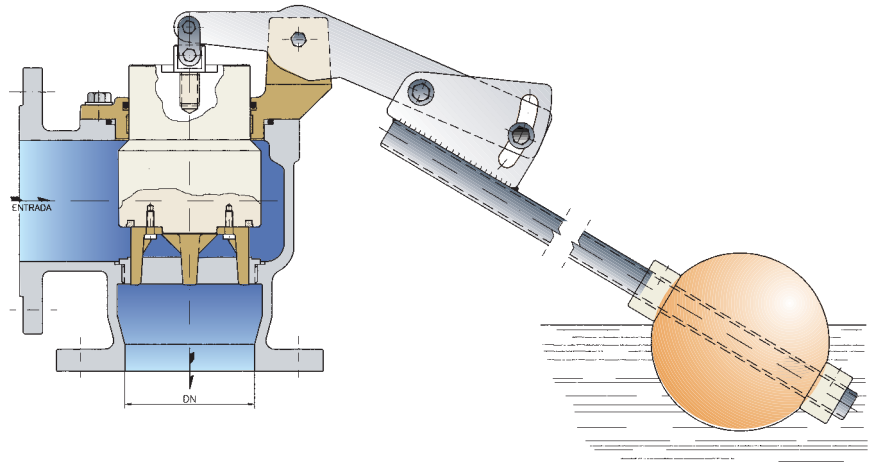
Cavitation damages can appear when inlet working pressure is over 2.2 bar. To avoid this situation Vee-ports are downstream of the seat so the seat ring (stainless steel) and the renewable seat (elastomer) are protected from the high velocity and wear.



MATERIALS

Body: Ductile Iron EN-GJS-500-7
 Cover: Bronze Rg5 (*)
 Piston: Delrin (**)
 Seat: Stainless Steel A304
 Vee-Ports: Bronze Rg5
 Float: Poliestirene
 Lever Rod: Stainless Steel A304

(*) DN150 and above: ductile iron + Ni.
 (**) DN200 and above: ductile iron and bronze.
 Alternative materials available under request.



TESTING

* Hydraulic test: body at 15 bar; seat at 11 bar.
 * Functioning test: correct opening of the valve at 10 bar.

COATING

As a consequence of our experience, we have developed an exclusive painting process system that guarantees the high quality of the final coating.

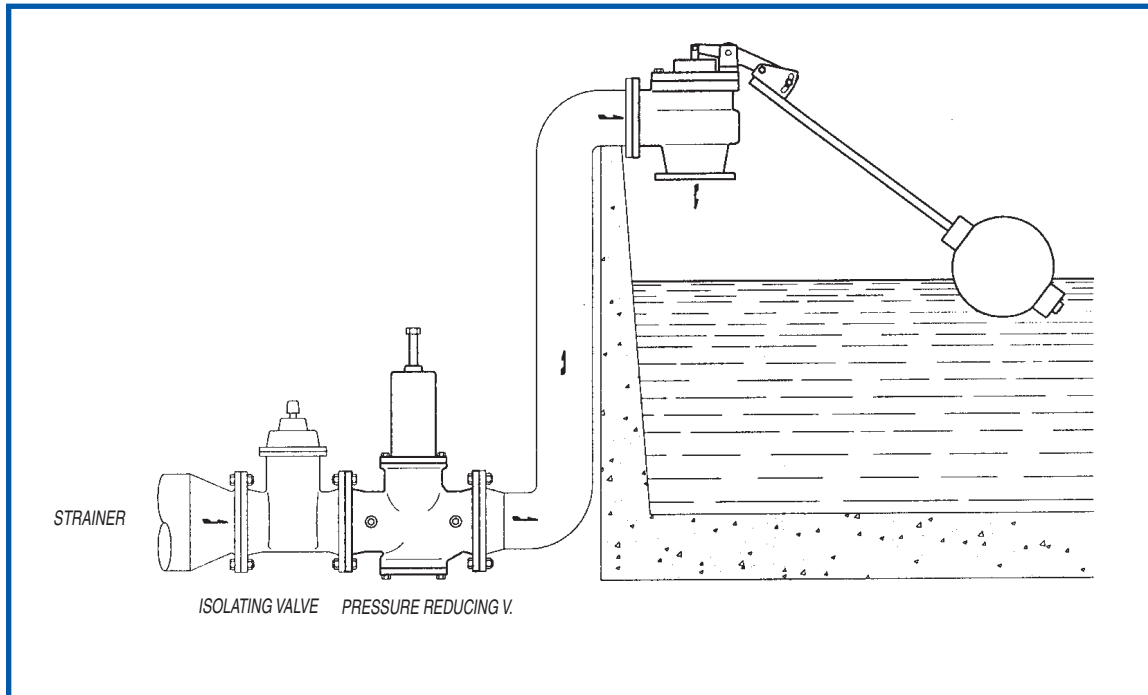
We carry out an automatic control of each batch as well as tests on the cured pieces. Irua's standard is atoxic fusion bonded epoxy powder to be applied on the internal and external surfaces of the body.

Standard sequence of operations for each piece: dirty removing (cleaning), shotblasting (Sa 2 1/2 to ISO 8501), preheating, powder application and curing.

ALTERNATIVES/RECOMMENDATIONS

1) Consult factory when the valve inlet pressure is high. We recommend the installation of one or more pressure reducing valves to minimize the wear and erosion of the float valve components.

2) If due to the reduced dimensions of the tank, the standard lever, float arm and float-ball cannot be installed properly, indicate when ordering: lever deviation degree, arm deviation right (a) or left (b) and available "R" for service.



3) On/off limit switches and other special devices available under request.

