

WATER LINE

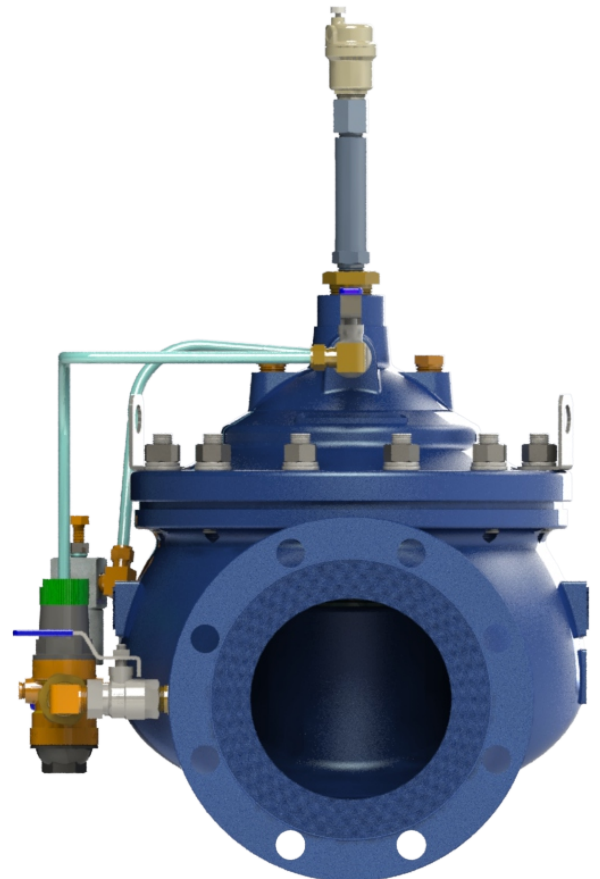
HYDRAULIC CONTROL VALVE





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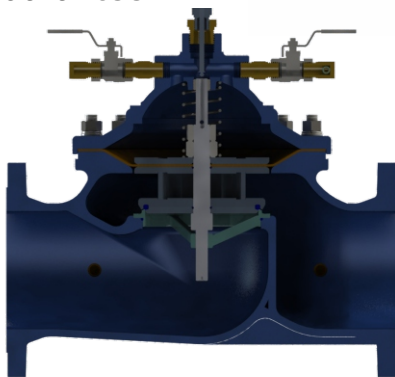


WATER LINE – APPLICATION

The TECVAL hydraulic control line covers applications for the management of drinking water, such as pressure, flow and level control in the public and private infrastructure sectors and agricultural projects.

BENEFICIOS

- ☒ Saving water.
- ☒ Protection of hydraulic installations and equipment.
- ☒ Protection of pumping systems.
- ☒ 2-Year guarantee.



Durability

- ☒ Stainless steel seat and internal parts, nitrile seal and internal food grade epoxy paint guarantee long useful life and fluid asepsis.
- ☒ Estimated useful life of 15 years under normal installation, operation and maintenance conditions.

Quality

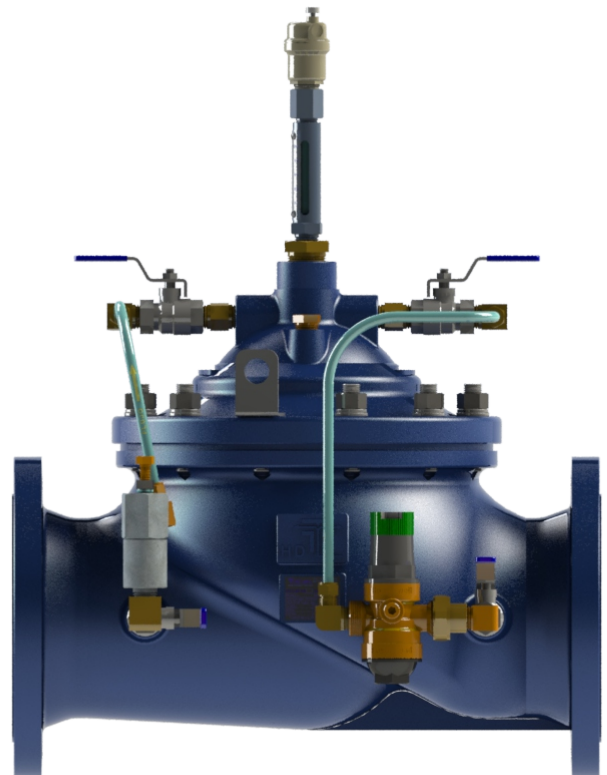
Hydraulic control valves comply with the maximum admissible values for water quality conservation as established in Resolution 0501:2017 (for concentration of the following chemical elements: aluminum, antimony, arsenic, barium, cadmium, copper, chromium, mercury, nickel, silver, lead and selenium), and comply with AWWA-C550 and NTC-811 international standards.



ADVANTAGES

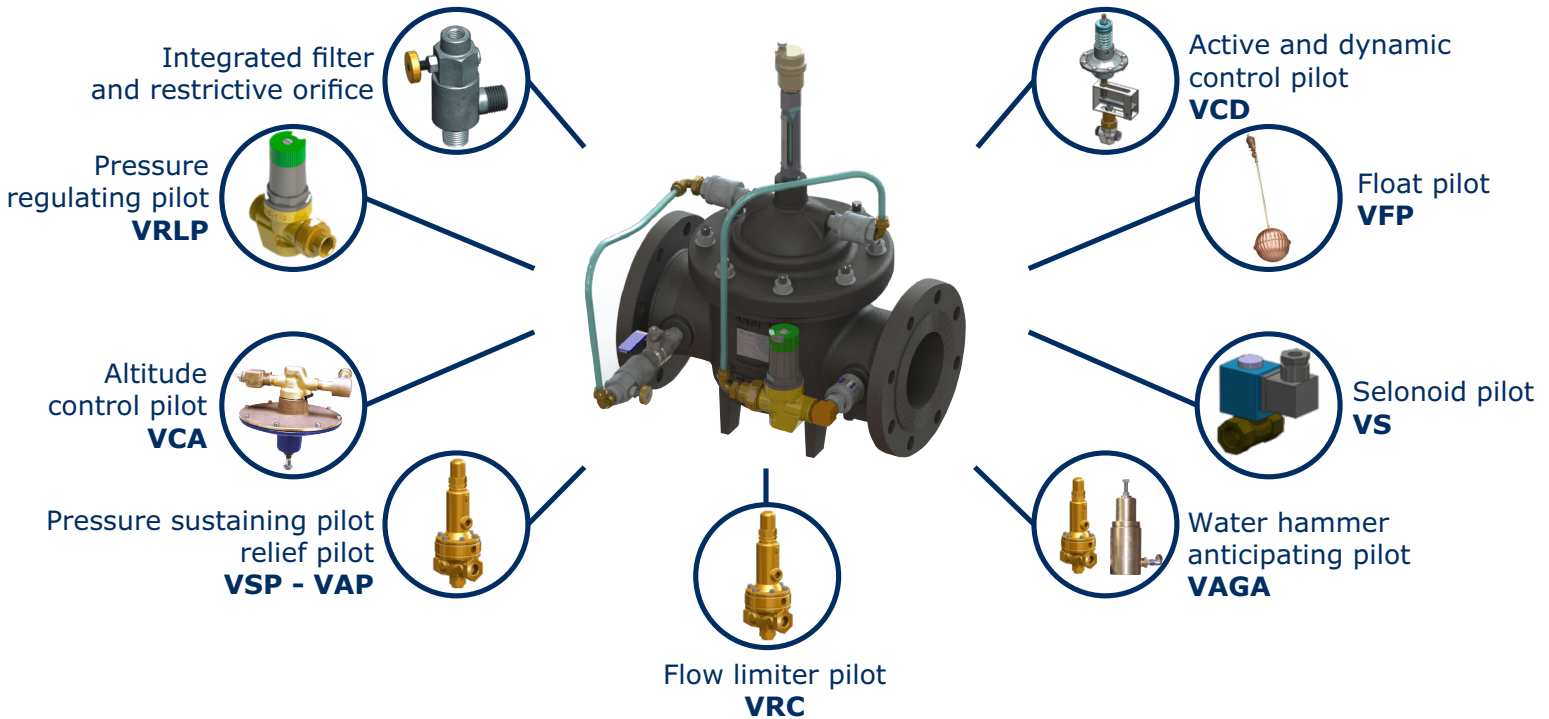
Maintenance

TECVAL's hydraulic control valves allow full access to internal parts without having to remove the valve from the main line, reducing maintenance related costs.



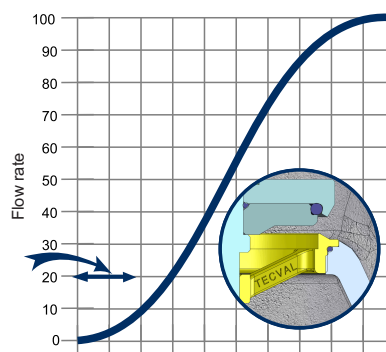
MAIN VALVE

The main body of hydraulic control valves adapts to different types of pilot depending on the condition and application required.



CHARACTERISTICS

- ☒ Preformed diaphragm increases sensitivity and duration.
- ☒ Nitrile o-ring type main seal, standard manufacture, facilitates replacement since it is easy to acquire.
- ☒ Anti-cavitation internal parts in case of large pressure differentials across the valve.
- ☒ Stainless steel guided stem guarantees tightness and stable operation.
- ☒ The seat has a restricted flow zone that allows stable operation at low flows and without any vibration.



WATER LINE HYDRAULIC CONTROL VALVE

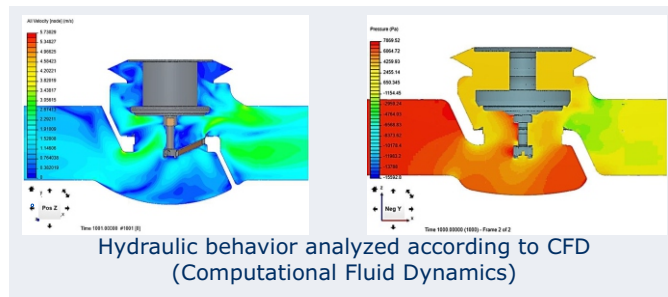
DIMENSIONS



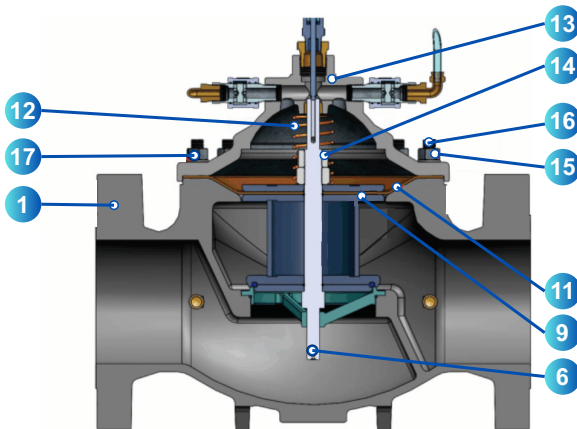
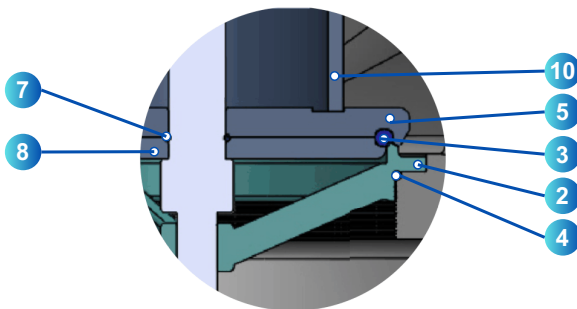
Size		2"	3"	4"	6"	8"	10"
ANSI 125# ANSI 150#	L (mm)	224	322	382	511	638	758
	weight (kg)	11	24	34	67	172	193
ANSI 250# ANSI 300#	L (mm)	254	340	400	540	670	--
	weight (kg)	13	30	43	90	195	--

Presiones máximas de operación En PSI (hasta 180° F)	ANSI 125	ANSI 150	ANSI 250	ANSI 300
	200	250	300	500

Cv flow coefficient		2"	3"	4"	6"	8"	10"	Speed MAX. Pie/seg
Maximo flow GPM	Continuous	200	460	800	1800	3100	4900	
	Intermittent	250	570	1000	2300	3900	6100	25
Minimum flow GPM		2	4,6	8	18	31	49	



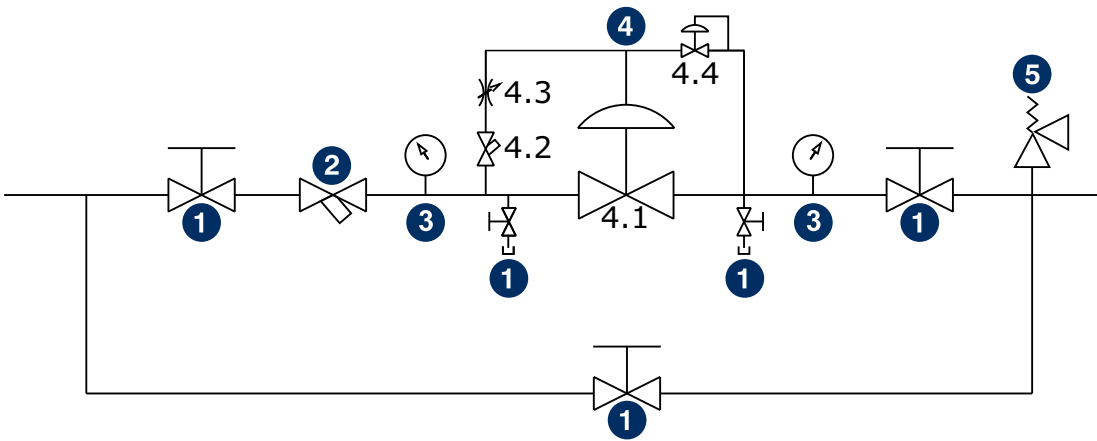
CONSTRUCTION MATERIALS



Item	Description	Material
1	Body	Ductile Iron ASTM A536
2	Nozzle	AISI 316 stainless steel
3	Main seal	Nitrile
4	Nozzle gasket	Nitrile
5	Seal adjustment plate	AISI 304 stainless steel
6	Stem	AISI 304 stainless steel
7	Stem seal	Nitrile
8	Stamp holder plate	AISI 304 stainless steel
9	Diaphragm adjustment plate	AISI 304 stainless steel
10	Separator tube	AISI 304 stainless steel
11	Diaphragm	Nitrile
12	Spring	AISI 302 stainless steel
13	Cover	Ductile Iron
14	Stem nut	Stainless steel
15	Cover adjustment nut	Stainless steel
16	Rod	Stainless steel
17	Washer	Stainless steel

INSTALLATION

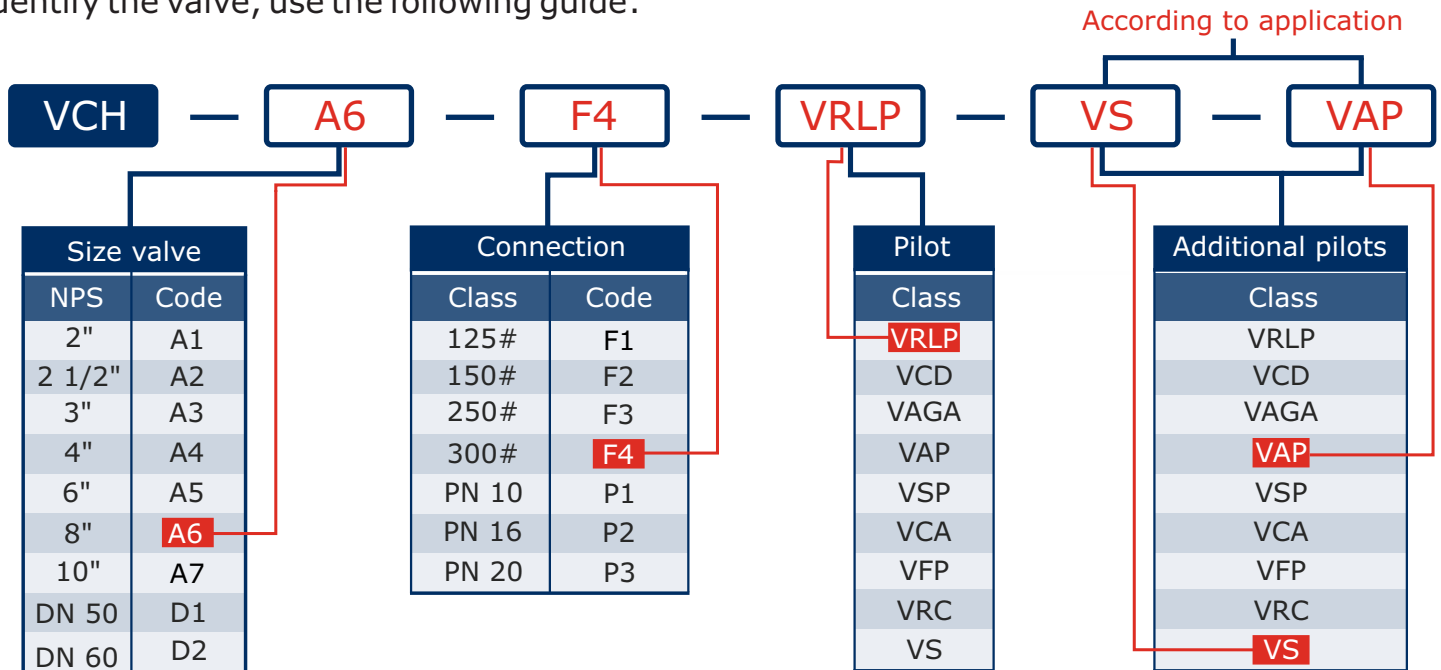
Installation of a TECVAL hydraulic control valve.



Item	Description
1	Cut-off valve
2	Filter
3	Pressure gauge
4	Check valve
4.1	Main valve body
4.2	Filter
4.3	Needle valve
4.4	Pilot
5	Safety relief valve

ORDER CODE

To identify the valve, use the following guide:



COMPATIBILITY PILOTS									
SERIE	VRLP	VSP	VAP	VFP	VCA	VAGA	VCD	VS	VRC
VRLP									
VSP									
VAP									
VFP									
VCA									
VAGA									
VCD									
VS									
VRC									

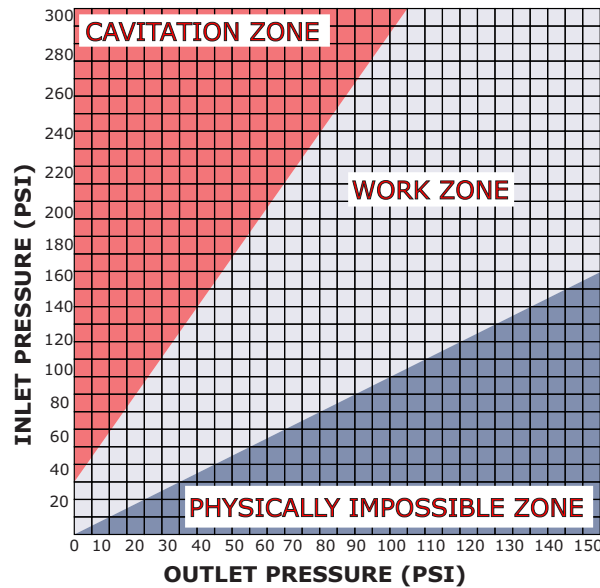
Compatible
 No compatible
 N/A

SELECTION

DATA FOR SELECTION	
Inlet pressure (P1).....	PSI
Outlet pressure (P2).....	PSI
Maximum flow= (Q max.)	GPM
Caudal nominal= (Q nom.).....	GPM
Minimum flow= (Q min.).....	GPM
Maximum allowed pressure loss, static pressure	<input type="checkbox"/> PSI
	<input type="checkbox"/> PSI
The information required may vary depending on the application	

SELECTION STEPS
1. Calculate the max Cv required (P1)
$Cv \text{ máx} = \frac{Q \text{ máx}}{\sqrt{P_{1 \text{ min}} - P_{2 \text{ máx}}}}$
Q= Caudal GPM P1= PSI inlet pressure P2= PSI outlet pressure
2. Choose the size that covers the max Cv without exceeding it more than 50%..
3. Verify that the chosen size allows this flow.
4. Verify that the pressure drop does not cause cavitation (see graph 1).

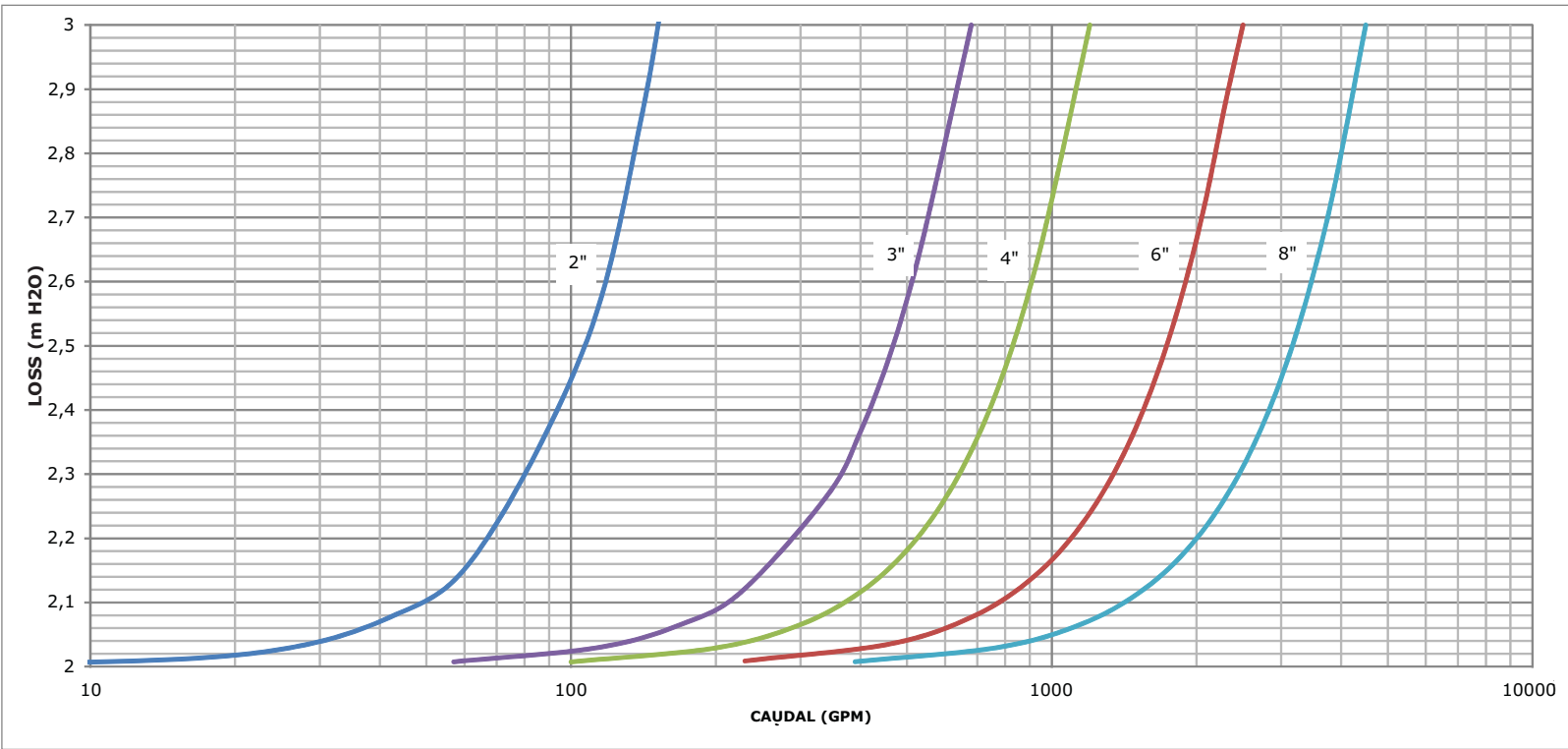
TF CAVITATION CHART: Check that the inlet pressure and outlet pressure are not within the cavitation zone



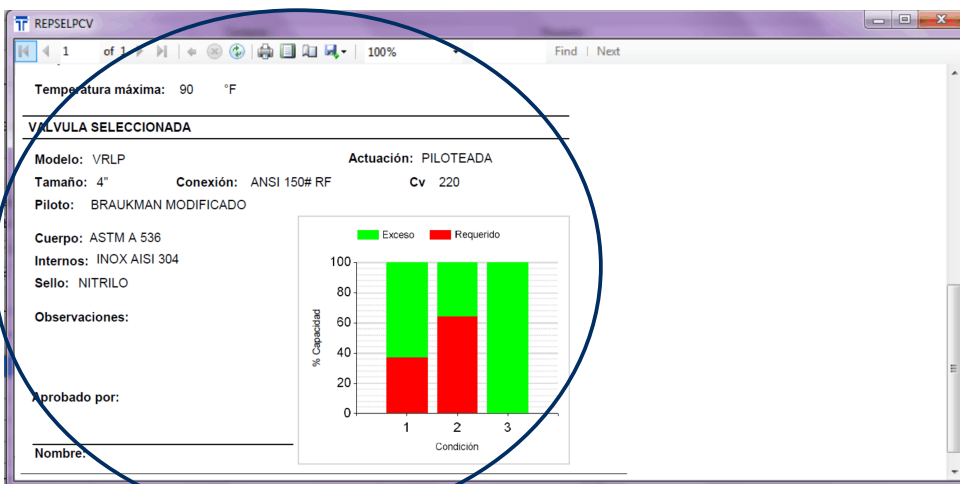
PRESSURE RANGES

Pilot	Minimum range psi	Maximum range psi
1	7	70
2	10	85
3	15	150

PRESSURE LOSS

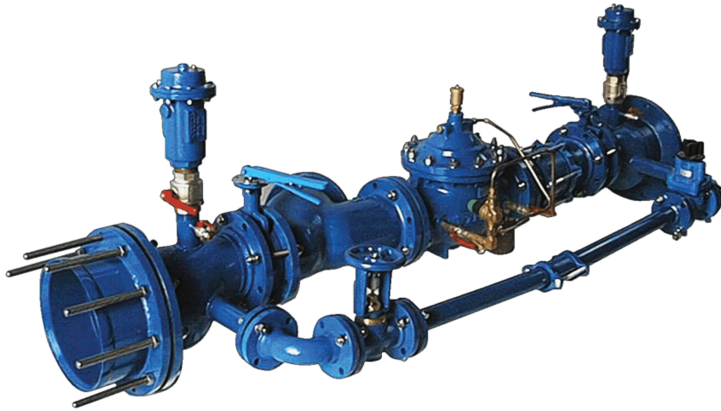


SIZING SOFTWARE



TECVAL's sizing software ensures adequate selection according to operating conditions.

SPECIAL APPLICATIONS



REGULATION STATIONS

Avoid supply outages by operating a bypass during maintenance.

Eliminate premature deterioration of internal components through proper size selection.

Extend the valve's useful life and therefore its return on investment by over 20 years.

Eliminate failures due to air inlets (including air pockets before, after and in the diaphragm chamber).

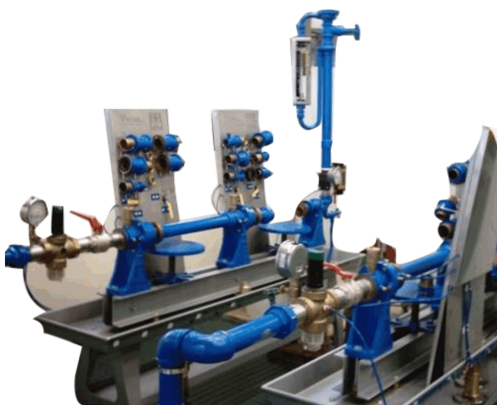


TEST BANKS

Personalized tests to check measurement and volume error calculation in household water meters.

Systematized bench for water meter calibration.

Adaptation of benches for micrometers and macrometers or gravimetric systems.





We are Operational Reliability

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