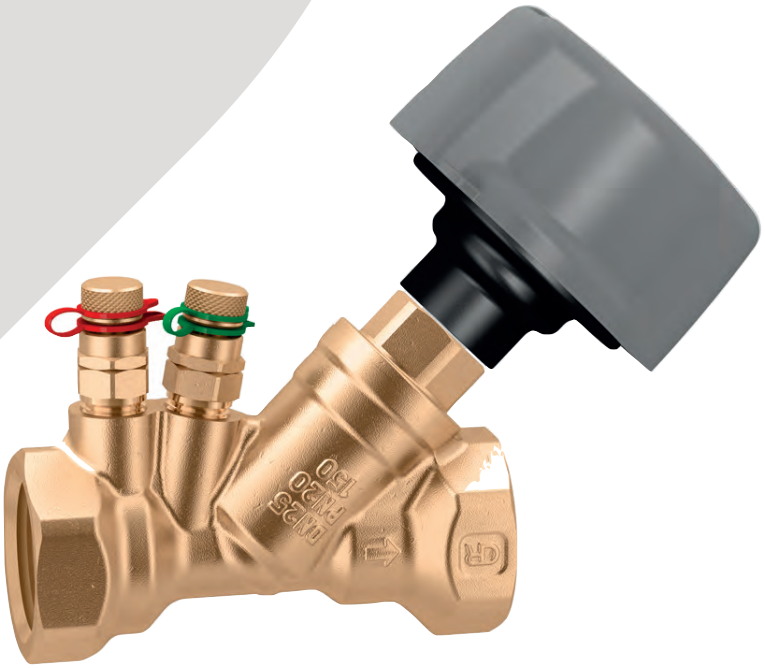
130

venturi balancing valve



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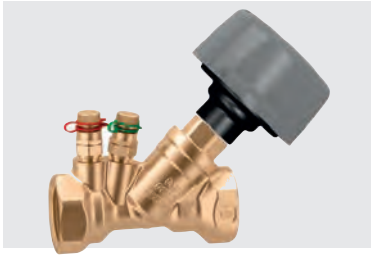
130 venturi balancing valve



Application

Balancing valves are used to regulate the flow of heating or chilled water to a heating or cooling emitter, such as a fancoil or air handling unit.

Hydraulic circuits must be correctly balanced to ensure that the system performs within the design parameters and provides a high level of comfort for the occupants, with the lowest possible energy consumption.

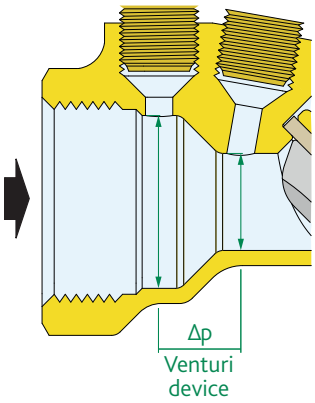
Venturi Device

The Altecnic 130 is a fixed orifice double regulating valve (FODRV) which uses a venturi to measure the flow of liquid passing through the valve.

A venturi is a fixed orifice device consisting of two different diameters with a tapered section between them.

The smaller diameter is referred to as the throat.

The venturi is able to accelerate the fluid velocity generating a measureable pressure loss or signal from which a flow co-efficient factor K_{VS} can be calculated.

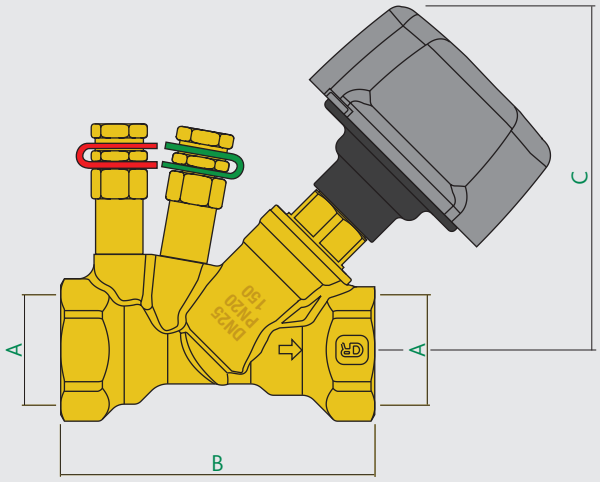


From this co-efficient the flow rate passing the valve can be calculated or using the signal the flow rate can be read off the appropriate flow chart, available from Altecnic.

The venturi is located upstream of the double regulating valve which provides stable flow measurement during flow regulation.

This also makes the valve quieter as the flow passes through the valve.

Dimensions



Product Code	A	B	C	kg
130400	G½	77	104	0.57
130500	G¾	82	104	0.61
130600	G1	97	107	0.75
130700	G1¼	115	114	1.05
130800	G1½	129	120	1.27
130900	G2	152	132	1.85

Construction Details

Component	Material	Grade
Body	DZR alloy	BS EN 12165 CW602N
Cover	DZR alloy	BS EN 12165 CW511L
Stem	DZR alloy	BS EN 12164 CW724R
Regulating disc	Stainless steel	AISI 303
Seal seat	DZR alloy	BS EN 12165 CW602N
Disc seal	PTFE	
Seals	EPDM rubber	
Handwheel	PA6G30	
Pressure tappings	Brass/ EPDM seals	

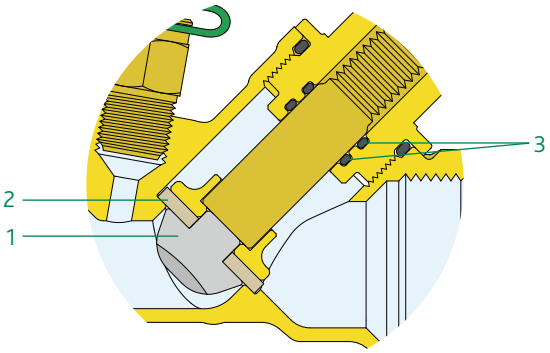
Technical Data

Max. percentage of glycol:	50%
Maximum working pressure:	16 bar
Working temperature range:	-20 to 120°C
Accuracy:	±10%
Number of adjustment turns:	6
Female connecting threads:	BS EN 288-1
Preformed insulation shell available	

Stainless Steel Disc

The valve disc is manufactured from stainless steel (1) which offers higher resistance to corrosion and erosion caused by the continuous water flow.

The disc has a PTFE facing (2) which reduces the torque to achieve isolation



Double Stem Seal

The double 'O' ring stem seal (3) prevents water coming into contact with the actuating thread of the stem and causing leakage.

Double Regulating Valve

The other part of the Altecnic 130 is a double regulating valve which is used to regulate the flow and a memory stop device then restricts the position the valve can be re-opened to if isolated

The valve position is indicated by 2 digits on the upper side of the handwheel, one digit indicates the number of full turns from closed (6) and the second indicating the partial turn (10).

A characterised disc gives good regulation and a resilient seal allows isolation even at high pressures.

Operating Knob

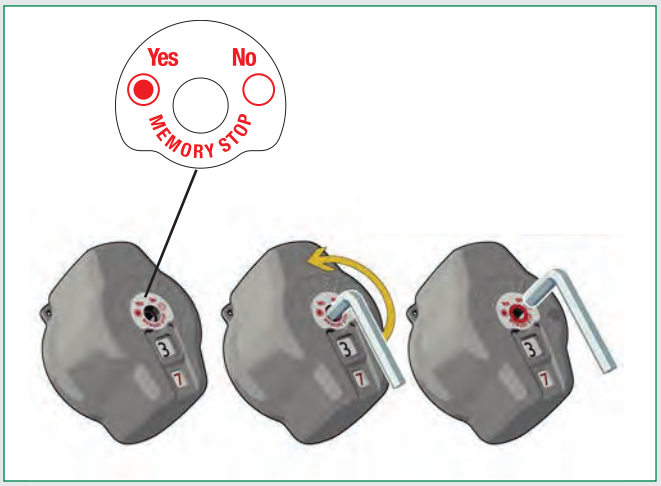
The shape of the adjustment knob is the outcome of research into ergonomics to ensure the greatest operator comfort and accurate adjustment.

- The range of adjustment with 6 complete turns permits great accuracy when balancing hydraulic circuits.
- The micrometric scale graduations are large and clear and make it easy to refine the flow rate adjustment.
- The knob is made of high-strength, corrosion-proof, reinforced polymer.

Each 360° clockwise turn of the knob moves the red indicator by one step, from position 0 (valve closed) to position 5 (valve fully open). In addition, the decimal graduations of the black micrometric scale (10 divisions) enable further refining of the adjustment.

Memory Stop

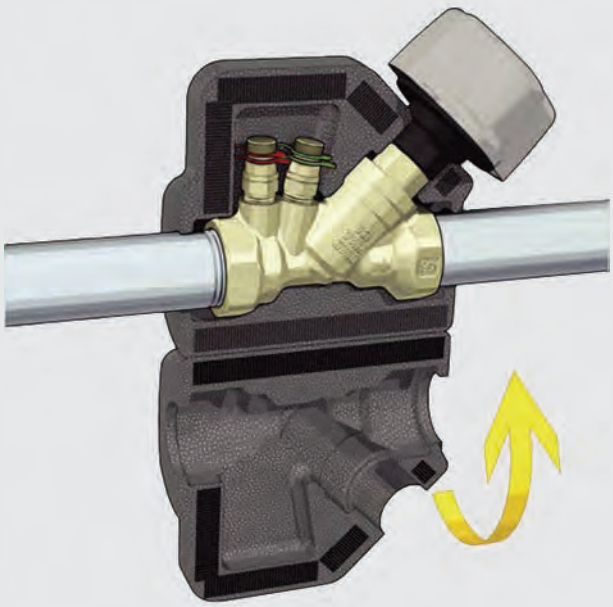
The valves are equipped with an adjustable memory stop that, after full closure allows easy re-opening to the set position.
Once the valve has been regulated to the required position the maximum position can be restricted to this position by insert a 2.5 mm A/F hexagon key into the centre hole and turning counter-clockwise until a resistance is felt, do not force it beyond this point.



Insulation

Available as an accessory is a hot pre-formed shell insulation, with Velcro closing.

It ensures perfect thermal insulation and tightness against water vapour forming inside when used with chilled water.



Technical Specification of Insulation

Material:		closed cell expanded PE-X
Thickness:		15 mm
Density:	inner part	30 kg/m^3
	outer part	80 kg/m^3
Thermal conductivity:		at 0°C: 0.038 W/(m-k)
		at 40°C: 0.045 W/(m-K)
Co-efficient of resistance to the diffusion of water vapour		>1300
Working temperature range:		0 to 100°C
Reaction to fire (DIN 4120):		class B2

Accessories

Test Point Probes - Code No: 100010

Pair test point probes with isolation valves
Female ¼" threaded connection.
Max. working pressure: 10 bar.
Max. working temperature: 110°C.

Electronic Manometer

Code 130006 Electronic flow rate and differential pressure measuring station complete with remote control unit

Code 130005 Electronic flow rate and differential pressure measuring station without remote control unit, with Android® app

E & O.E
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