TECHNICAL CATALOGUE

SET POINT REGULATING UNIT

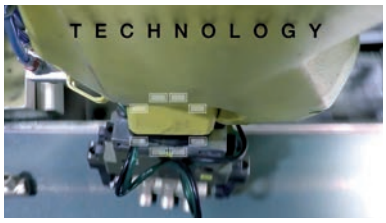
ITAP AT A GLANCE

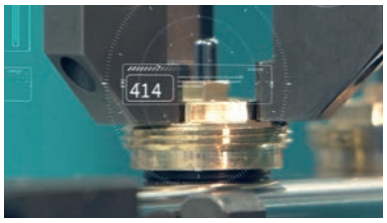
THE COMPANY

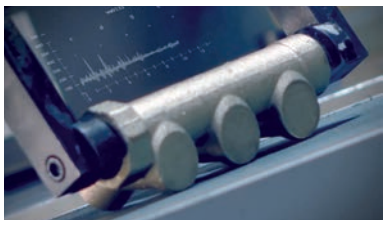
ITAP SpA, founded in Lumezzane (Brescia) in 1972, is currently one of the leading production companies in Italy of **valves, fittings and distribution manifolds** for plumbing and heating systems.

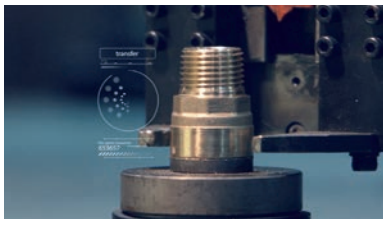
Thanks to a fully automated production process, with 85 transfer machines and 55 assembly lines, it is capable of producing 400,000 pieces per day.

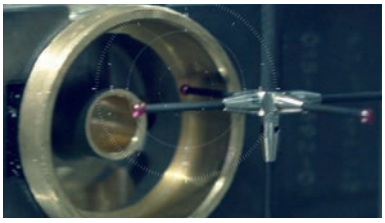
Our innate pursuit for innovation and observance of technical regulations is supported by the company certification ISO 9001. The company has always considered its focus on quality as the main tool to obtain significant business results: today ITAP SpA is proud to offer products bearing the approval of numerous international certifying bodies.











ITAP products have obtained approvals by more than 30 certification bodies from all over the world.

SET POINT REGULATING UNIT

949 Set point regulating unit

The set point regulating unit is used for underfloor heating systems and installed directly on the manifold in the box, thanks to its small overall dimensions.
The minimum depth of the metal box required for the installation of the regulation unit is 90 mm.
The regulation consists of lowering and keeping constant the temperature of the medium fluid using a 3-way mixing valve equipped with an adjustable thermostatic head with a built-in sensor.
A circulation pump (available on request) allows fluid to circulate in the pipes, while a safety thermostat limits the maximum temperature.
SET POINT REGULATING UNIT

949CPF

With low energy consumption pump.

MEASURE	PRESSURE	CODE	PACKING
1"	6bar/87psi	9490100200CPF	1/2

949SPF

Without low energy consumption pump.

MEASURE	PRESSURE	CODE	PACKING
1"	6bar/87psi	9490100200SPF	1/4

CERTIFICATIONS

TECHNICAL SPECIFICATIONS

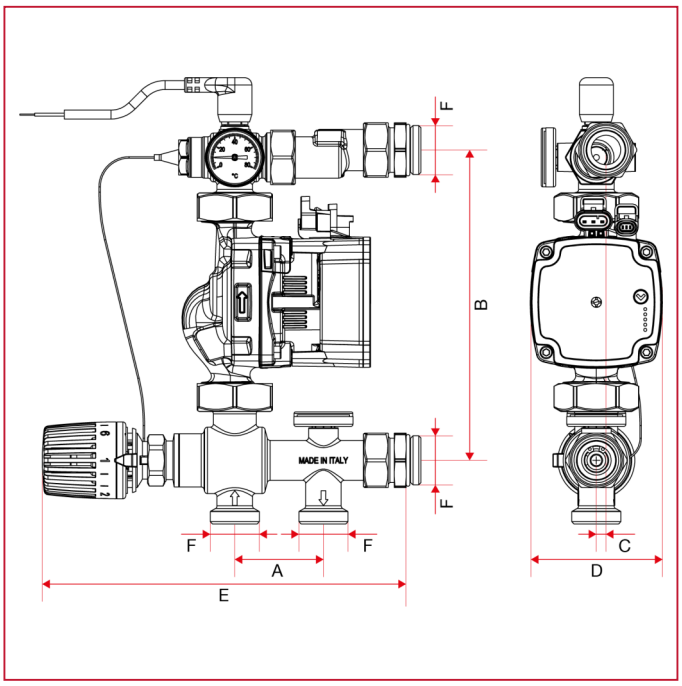
Consisting of:
- 3-way mixing valve
- Thermostatic head with built-in sensor
- Safety cutoff (factory set at 55°C)
- Thermometer (scale 0°-80°C) fitted to the flow and return pipes
- Low energy consumption pump (on demand)

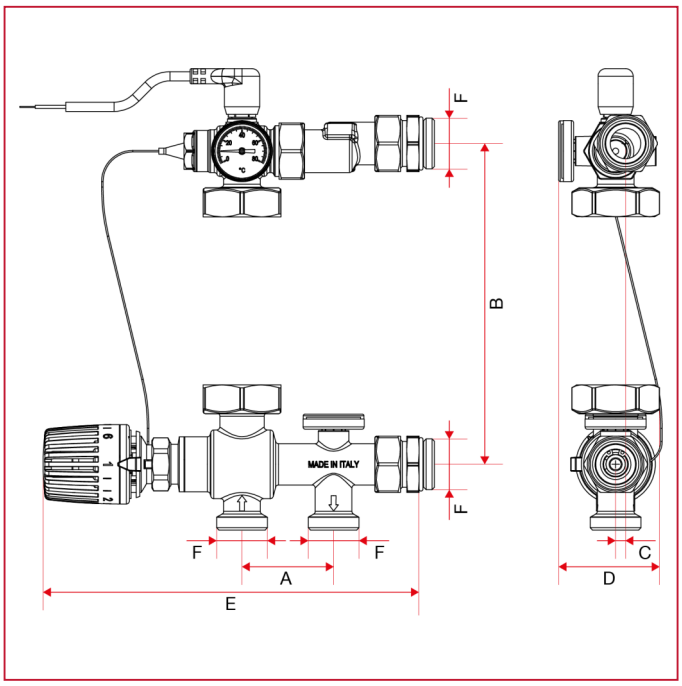
Technical specifications:
- Medium fluid: water, glycolate solutions max. 30%
- Temperature setting: 20°C – 55°C
- Maximum working pressure: 6 bar
- Body and fittings: nickel-plated brass
- Available size: 1”
- ISO 228 threads (equivalent to DIN EN ISO 228 and BS EN ISO 228)

For a right installation of the set point regulating unit we suggest to use one of the following mounting brackets:
- Art. 498STK with centres distance mm 200 and offset mm 12.
- Art. 949ST.

SET POINT REGULATING UNIT

OVERALL DIMENSIONS





949CPF

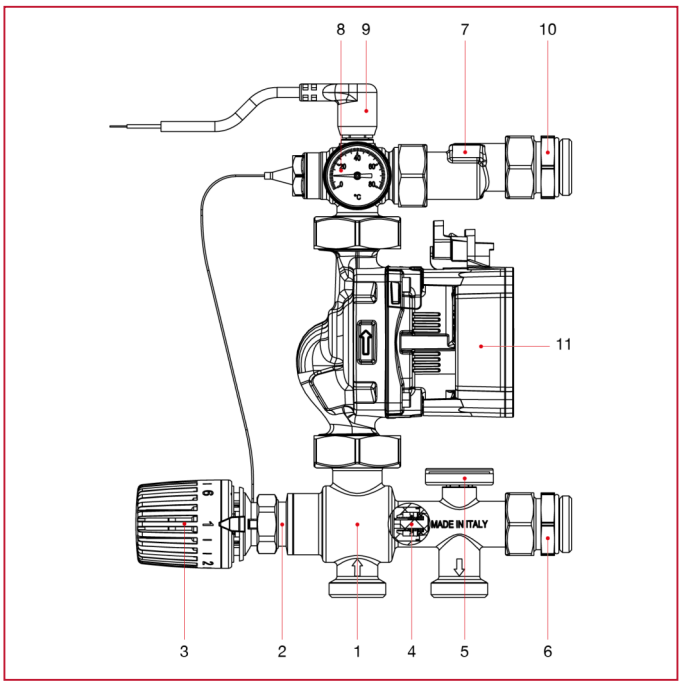
	1"
A	60
B	200 - 210
C	6,5
D	90
E	250
F	1" M ISO228
Kg/cm2 bar	6
LBS - psi	87

949SPF

	1"
A	60
B	200-210
C	6,5
D	66
E	250
F	1" M ISO228
Kg/cm2 bar	6
LBS - psi	87

SET POINT REGULATING UNIT

MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Mixing valve	1	Nickel-plated brass
2	Bonnet M30 x 1,5	1	Brass
3	Thermostatic control	1	ABS
4	Check Valve	1	POM
5	Return circuit temperature gauge	1	ABS
6	Return circuit connection	1	Brass
7	Offset supply manifold	1	Nickel-plated brass
8	Supply circuit temperature gauge	1	ABS
9	Safety thermostat	1	Aluminium
10	Supply circuit connection	1	Brass
11	High efficiency circulator	1	Cast iron

SET POINT REGULATING UNIT

INSTRUCTIONS

WARNINGS
The following instructions must be read and understood before installation, commissioning and maintenance of the manifold.

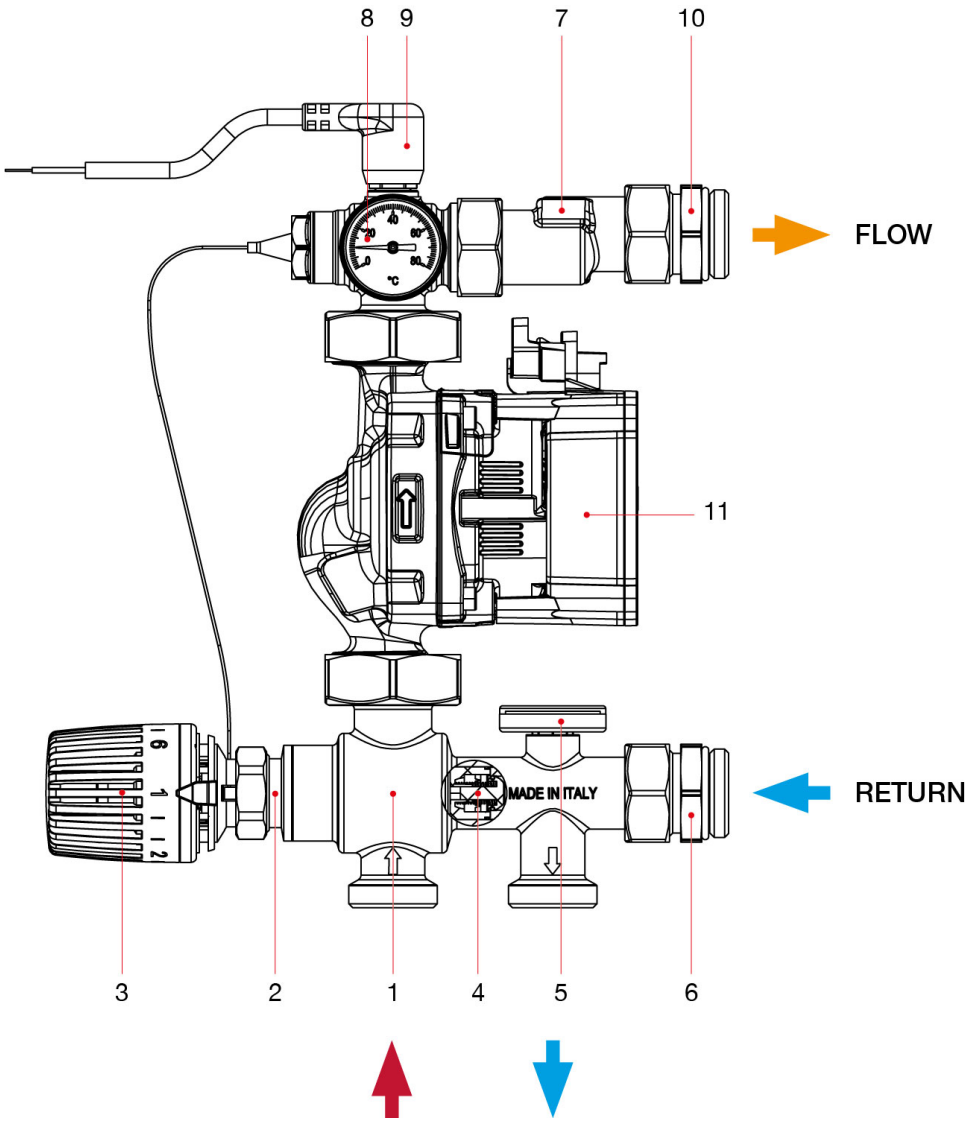
CAUTION
Failure to follow these instructions may result in a safety hazard.

FUNCTION
The regulation unit functions to lower and maintain the temperature of the heat transfer fluid through a 3-way mixing valve. The reduced footprint of only 90 mm in depth allows it to accommodate directly on board the manifold, in low-thickness walls.

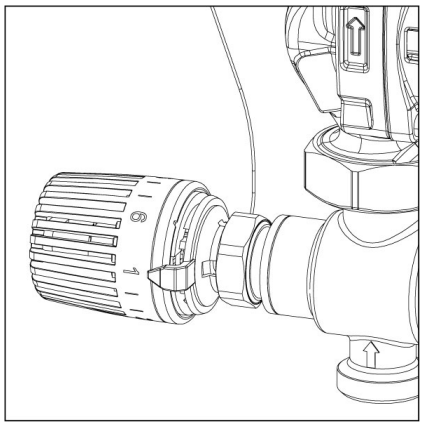
INSTALLATION
The regulation unit must be installed by a qualified installer in accordance with national regulations and/or local requirements. If the control units are not installed, put into service, and maintained properly according to the instructions in this manual, they may not work properly and may put the user at risk.
Make sure that all connection fittings are hydraulically sealed. When making hydraulic connections, be careful not to over-raise the threads mechanically. Over time, breaks may occur with hydraulic leaks to damage to things and/or people.
Water temperatures above 50 ° C can cause severe burns. During installation, commissioning and maintenance of the control units, take the necessary steps to ensure that such temperatures do not endanger people.

COMPONENTS:
1. Mixing valve
2. Bonnet M30 x 1,5
3. Thermostatic control
4. Check valve
5. Return circuit temperatue gauge
6. Return circuit connection
7. Offset supply manifold
8. Supply circuit temperature gauge
9. Safety thermostat
10. Supply circuit connection
11. High efficiency circulator

SET POINT REGULATING UNIT



Regulation of the flow temperature:



1	2	3	4	5	6
20°C	30°C	40°C	50°C	60°C	70°C

SET POINT REGULATING UNIT

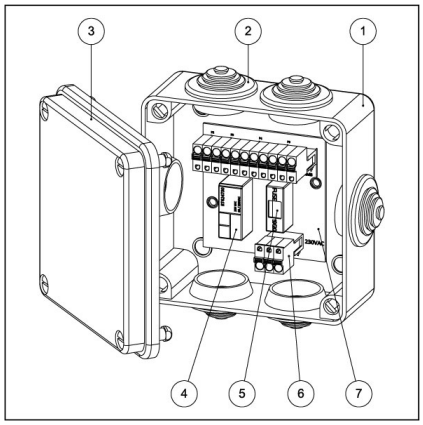
The thermostatic head adjusts the flow water temperature in the low temperature circuit. To set the temperature, simply rotate the head to the desired value, matching the adjustment scale with the thermostatic head indicator.
Once the temperature has been set, check with the thermometer on the supply circuit that the temperature corresponds to the desired value.

Important: The safety thermostat is factory-set at 55 °C in normally closed condition.

Circulator characteristics:
The circulator can be set to operate in proportional pressure (PP), constant pressure (CP) or constant curve (CC) mode. For underfloor heating circuits, the recommended mode is constant pressure (CP), so that the available head is kept constant regardless of the heat demand of the system. For each mode, 3 different speed levels are available: lower (1), intermediate (2) and higher (3). Using the AUTOADAPT (AA) function, the circulator adapts its performance automatically based on the size of the system and the varying conditions over time.
To set up the product, use the button on the control panel. Each time the button is pressed, the pump setting changes. The LEDs will indicate the selected control mode, according to the following diagram:

Mode	LED 1	LED 2	LED 3	LED 4	LED 5
PP AA	●				
CP AA		●			
PP 1	●		●		
PP 2	●		●	●	
PP 3	●		●	●	●
CP 1		●	●		
CP 2		●	●	●	
CP 3		●	●	●	●
CC 1			●		
CC 2			●	●	
CC 3			●	●	●

Circulator control logic:
The circulator logic allows you to control the switching on and off of the circulator installed on the regulation unit and the closing and opening of a clean contact for starting the boiler, by means of two analogue inputs: TERM AMB (ambient thermostat) and TERM SIC (safety thermostat).

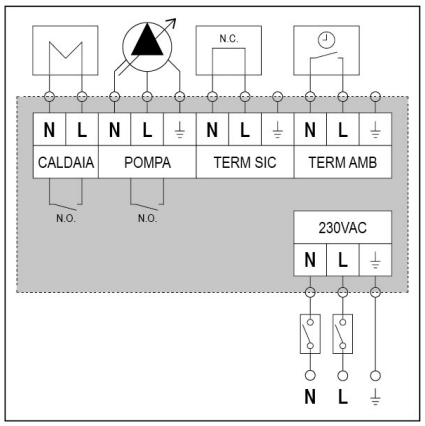


1. Plastic box
2. Rubber clamp
3. Cover
4. Relay
5. Fuse
6. Quick fit connector
7. PBC

SET POINT REGULATING UNIT

If necessary, the fuse can be replaced with one of the same characteristics (2 A, 250 V, Ø5 x 20 mm).

The circulator logic is built according to the rule of art and in compliance with the directives and laws of the member states of the European Community.
- Electromagnetic Compatibility Standard 89/336/EEC.
- Product electrical safety regulation 2006/95/EEC.



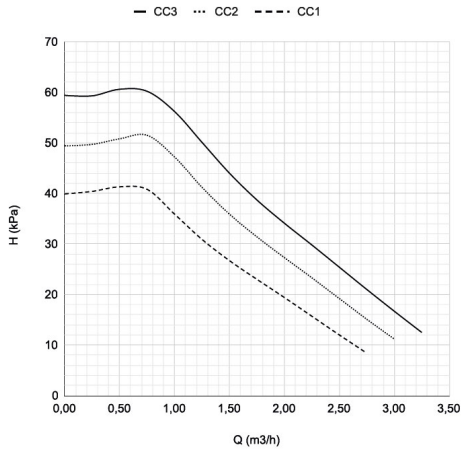
Operating logic (0 = contact open, 1 = contact closed):

TERM AMB	TERM SIC	PUMP	BOILER
0	0	OFF	OFF
0	1	OFF	OFF
1	0	OFF	OFF
1	1	ON	ON

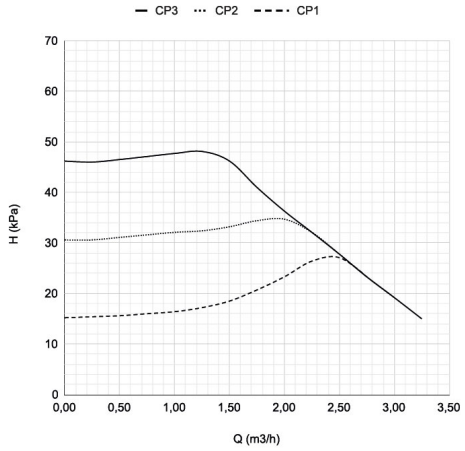
230VAC	Input	230 V AC power supply
TERM AMB	Input	Clean contact for consent from room thermostat or from auxiliary contacts of the electrothermal actuators.
TERM SIC	Input	Clean contact for consent from safety thermostat
POMPA	Output	Circulator power supply
CALDAIA	Output	Normally open clean contact for boiler consent

CIRCULATOR GRAPH

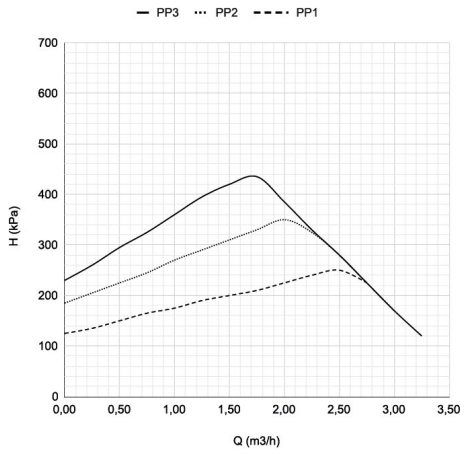
SET POINT REGULATING UNIT



CC (constant speed): the circulator runs on a constant speed curve, which means that it runs at a constant speed or power. The working point of the circulator moves up or down the selected constant curve, according to the heat demand in the system.



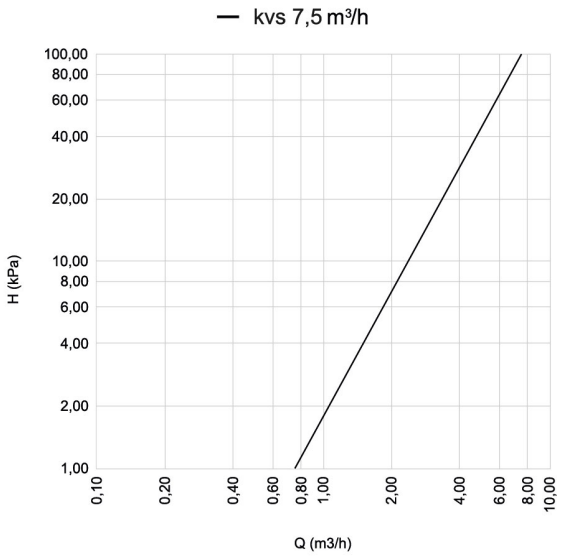
CP (constant pressure): the head (pressure) is kept constant, regardless of the heat demand. The duty point of the circulator will move towards the outside or inside of the selected constant pressure curve, according to the heat demand in the system.



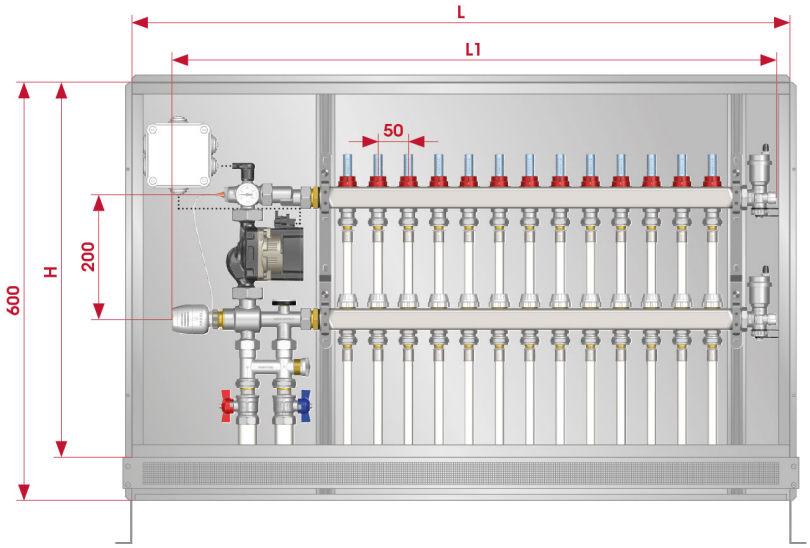
PP (proportional pressure): the head (pressure) decreases as the heat demand decreases and increases as the heat demand increases. The working point of the circulator will move up or down by the selected proportional pressure curve, according to the heat request in the system.

REGULATING UNIT PRESSURE DROP

SET POINT REGULATING UNIT



POSITIONING THE REGULATING UNIT INTO THE METAL BOX

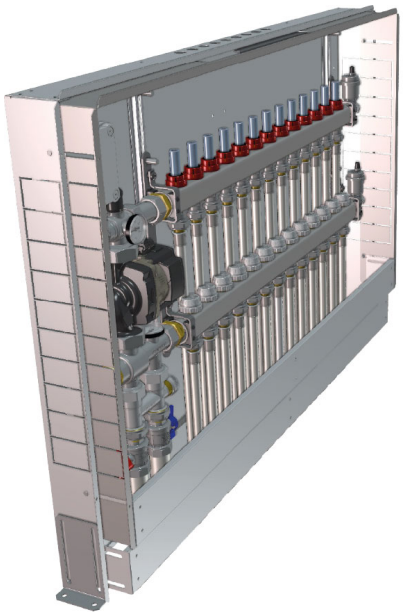


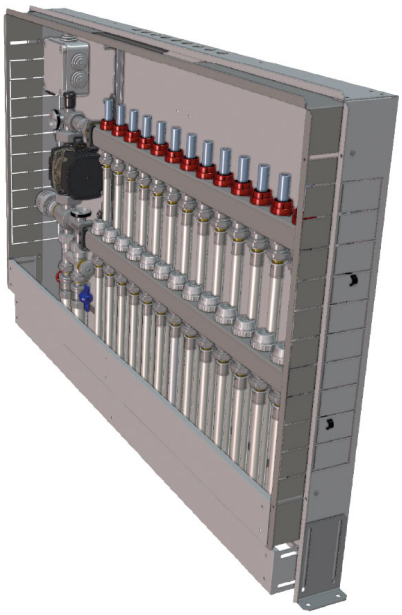
CODE	498.600.500	498.700.500	498.800.500	498.900.500	498.1000.500	498.1100.500
LxH (mm)	600x500	700x500	800x500	900x500	1000x500	1100x500
N. ways	2-3	4-5	6-7	8-9	10-11	12-13
MANIFOLD	1"					
L1	495	595	695	795	895	995

CONSTRUCTION

The regulating unit is housed in a galvanised steel box (depth 90 mm), which makes it ideal for installation in thin walls. To protect the contents of the enclosure and facilitate the necessary masonry work, it is fitted with a galvanised steel cover, which mounts to the front of the enclosure with four screws. The cover has a 1 cm rim, which acts as a plastering guide. Both the front and back of the enclosure are fitted with mesh to prevent the plaster retracting and cracking. Once the enclosure has been installed and plastered over, remove the cover and fit the door. These are made of galvanised steel with a white (RAL9010) coating and protective film which is removed at the end of the installation process. The base of the enclosure is adjustable vertically by 100 mm, while its door can be adjusted inwards or outwards by 50 mm. The roof of the enclosure has holes for routing the electrical cables.

SET POINT REGULATING UNIT



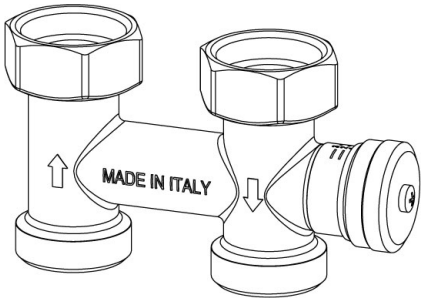


The 3-way mixing valve has 20 mm inside diameter. This large diameter means that the medium can be heated up to the desired temperature quicker than with units with smaller diameter ports. The result is that the circulator pump runs for less time throughout the day, which considerably reduces its power consumption. An additional saving is represented by the use of variable speed circulator pumps compliant with Directive ErP 2015 (starting from january 1st 2013), which considerably reduces power consumption and promote the new concept of eco-design.

INSTALLATION OF REGULATING UNIT

1. The control unit is supplied with the connection of the main pipes down, with the outlet on the left and the return on the right.
2. Using the swivel fittings, connect the unit to the secondary pipes or distributor manifolds, paying attention to connecting the supply circuit to the outlet at the top and the return circuit on the bottom one.
3. Connect the primary circuit bypass (optional) and the ball valves (optional), paying attention to connecting the supply circuit to the left and the return circuit to the right.
4. Connect the main pipes.

PRIMARY CIRCUIT BY-PASS



The by-pass for the primary circuit (optional) allows the hydraulic separation between the primary and secondary circuit. This hydraulic separation optimizes the operation of the secondary circuit and prevents changes in the flow rate of the primary from affecting the secondary circuit. The flow rate that passes through the respective circuits depends exclusively on the flow rate characteristics of the pumps, avoiding the mutual influence due to their coupling in series.
An adjustable differential valve is placed on the by-pass, whose intervention value can be changed using the appropriate knob. If the secondary circuit is closed, the differential valve opens to allow the water to returnto the boiler.

Setting	Opening pressure
3	30 kPa
2	20 kPa
1	10 kPa
Completly open	5 kPa

GENERAL INFORMATION

This appliance may be used only for its intended application. Any other use is improper and dangerous. This appliance is designed for heating water to a temperature below boiling point at atmospheric pressure.

The appliance is designed only for installation indoors, in the room or suitably equipped rooms. It may not be installed or operated outdoors. Installing the unit outdoors may cause malfunction and hazards. For outdoors installations, we recommend the use of equipment designed specifically for such applications.

Before wiring the unit, have all circuit pipes flushed by a professionally qualified technician to remove any residue or impurities capable of compromising the operation of the boiler.

The appliance must be installed in conformity with the instructions given in this manual. The installation must be done by a professional technician, liable for the observance of all applicable local and national legislation published in the official gazette, as well as applicable technical regulations.

Install the appliance only to a closed wall made of non-flammable material, which is flat and vertical and provides the minimum clearances necessary for installation and maintenance.

The installation must be done in compliance with the standards, regulations and instructions given in this manual, which constitute a non-exhaustive list of applicable regulations which are subject to change with developments in good practice. The installation technician is responsible for ensuring compliance with applicable regulations.

The installation must be done in compliance with the standards, regulations and instructions given in this manual, which constitute a non-exhaustive list of applicable regulations which are subject to change with developments in good practice. The installation technician is responsible for ensuring compliance with applicable regulations.

Do not leave the packaging materials within the reach of children as they are potentially hazardous. The manufacturer is not liable for any damage or injury to property, persons or animals resulting from failure to comply with the above instructions.

This manual is an integral and essential part of the product and is supplied with every regulation unit sold. Keep it for reference.

Please read the information in this manual carefully; it provides important information for the use and maintenance of the product. Before cleaning or servicing the product, disconnect it from its power supply with the system's master power switch or circuit breakers. If the unit fails or malfunctions, switch it off immediately; do not attempt to repair it or work on it in any way. It may only be repaired by a legally authorised technician.

CAUTION

Leave this manual for use and service of the user.

The installation and wiring must be done by a qualified technician.

We reserve the right to make improvements and changes to the products described herein and to the relative technical data, at any time and without forewarning.

SET POINT REGULATING UNIT

949CEF Wiring case for pump connection

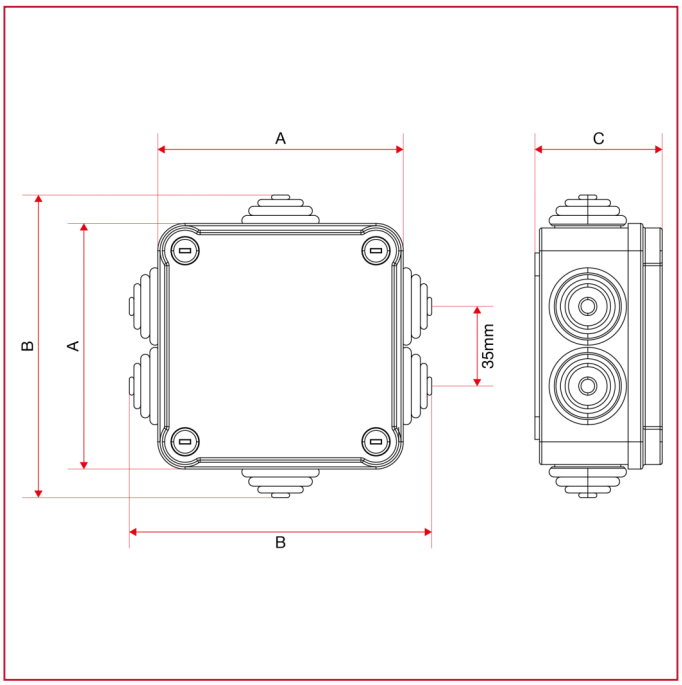
CODE	PACKING
949CEF	1/4

TECHNICAL SPECIFICATIONS

Including all the connections required for the correct operation of art. 949 regulating unit:
- boiler enablement (NO)
- room thermostat (RT)
- safety cutoff (ST)
- circulator power supply (PUMP)

It has to be powered at 230V.

OVERALL DIMENSIONS

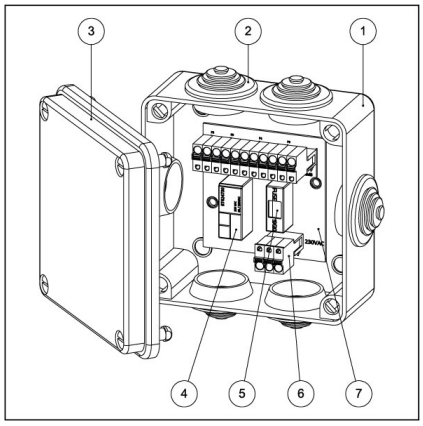


A	108
B	133
C	56

SET POINT REGULATING UNIT

INSTRUCTIONS

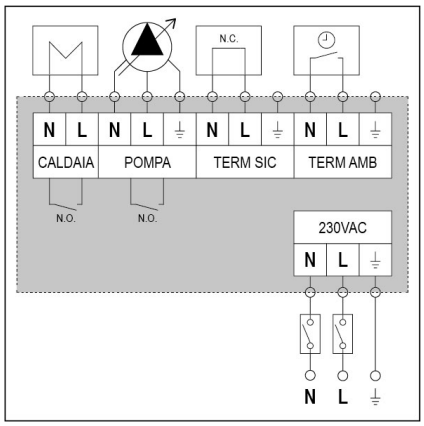
The circulator logic allows you to control the switching on and off of the circulator installed on the regulation unit and the closing and opening of a clean contact for starting the boiler, by means of two analogue inputs: TERM AMB (ambient thermostat) and TERM SIC (safety thermostat).



1. Plastic box
2. Rubber clamp
3. Cover
4. Relay
5. Fuse
6. Quick fit connector
7. PBC

If necessary, the fuse can be replaced with one of the same characteristics (2 A, 250 V, Ø5 x 20 mm).

The circulator logic is built according to the rule of art and in compliance with the directives and laws of the member states of the European Community.
- Electromagnetic Compatibility Standard 89/336/EEC.
- Product electrical safety regulation 2006/95/EEC.



Operating logic (0 = contact open, 1 = contact closed):

TERM AMB	TERM SIC	PUMP	BOILER
0	0	OFF	OFF
0	1	OFF	OFF
1	0	OFF	OFF
1	1	ON	ON

SET POINT REGULATING UNIT

230VAC	Input	230 V AC power supply
TERM AMB	Input	Clean contact for consent from room thermostat or from auxiliary contacts of the electrothermal actuators.
TERM SIC	Input	Clean contact for consent from safety thermostat
POMPA	Output	Circulator power supply
CALDAIA	Output	Normally open clean contact for boiler consent

SET POINT REGULATING UNIT

949BY Primary circuit by-pass kit

MEASURE	PRESSURE	CODE	PACKING
1"	6bar/87psi	949BY100	1/12

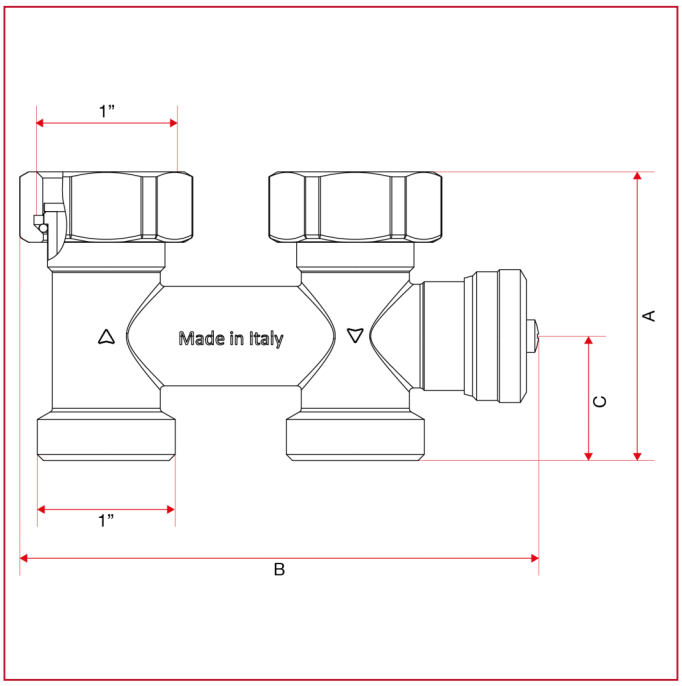
CERTIFICATIONS

TECHNICAL SPECIFICATIONS

To be installed before art. 949 regulating unit.
It allows the flow circulation in the primary circuit.
Adjustable for differential pressure between 10 and 30 kPa.
Maximum operating temperature: 100°C (without steam).
Maximum operating pressure: 6 bar.
Available size: 1”.
Threads: ISO 228 (equivalent to DIN EN ISO 228 and BS EN ISO 228).
Supplied with a pair of flat EPDM washer.

SET POINT REGULATING UNIT

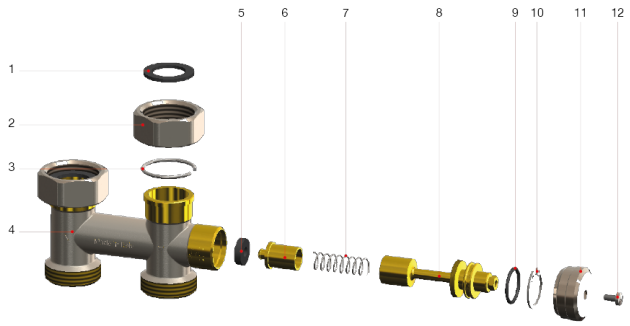
OVERALL DIMENSIONS



	1"
A	69,6
B	125
C	30
Kg/cm2 bar	6
LBS - psi	87

SET POINT REGULATING UNIT

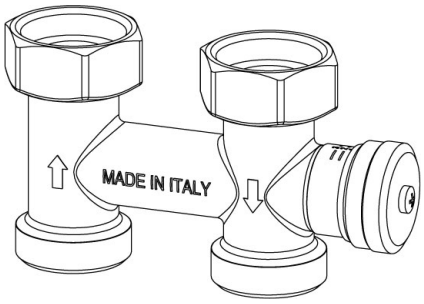
MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	GP EPDM 30 X 20 X 2	2	EPDM
2	NICKEL-PLATED NUT 1" H=17MM	2	CW617N
3	ELASTIC RING 28,5 X 2	2	AISI 304
4	BY-PASS BODY 1"	1	CW617N
5	GP EPDM 16 X 06 X 04	1	EPDM
6	BY-PASS SHUTTER	1	CW614N
7	SPRING 10 X 4 X 0.8 L=33	1	AISI 304
8	BY-PASS STEM M22X1	1	CW614N
9	OR EPDM 18.00 X 02.00	1	EPDM
10	ELASTIC RING FOR D. 23 HOLE	1	AISI 304
11	By-pass handle	1	CW614N
12	SCREW M4 X 7	1	STEEL

SET POINT REGULATING UNIT

INSTRUCTIONS



The by-pass for the primary circuit (optional) allows the hydraulic separation between the primary and secondary circuit. This hydraulic separation optimizes the operation of the secondary circuit and prevents changes in the flow rate of the primary from affecting the secondary circuit. The flow rate that passes through the respective circuits depends exclusively on the flow rate characteristics of the pumps, avoiding the mutual influence due to their coupling in series.
An adjustable differential valve is placed on the by-pass, whose intervention value can be changed using the appropriate knob. If the secondary circuit is closed, the differential valve opens to allow the water to returnto the boiler.

Setting	Opening pressure
3	30 kPa
2	20 kPa
1	10 kPa
Completly open	5 kPa

SET POINT REGULATING UNIT

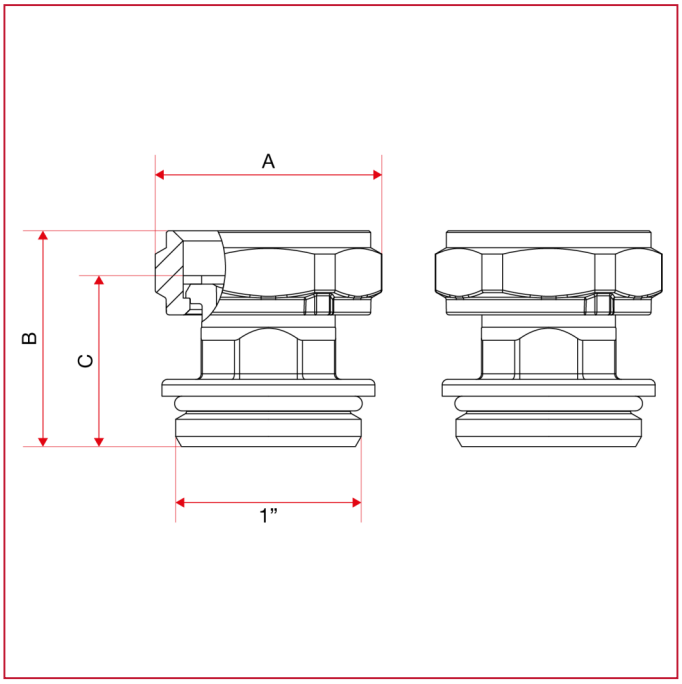
894K Pair of union connections, flat seat

MEASURE	PRESSURE	CODE	PACKING
1"	10bar/145psi	894DC100MPK	1/100

TECHNICAL SPECIFICATIONS

These are required for connecting art. 092K ball valve kit to art. 949 regulating unit.
Body in nickel-plated brass.
O-ring in EPDM.
Maximum operating temperature: 100°C (without steam).
Maximum working pressure: 10 bar.
Available size: 1”M x 1”F.
Supplied with a pair of fibre washer.

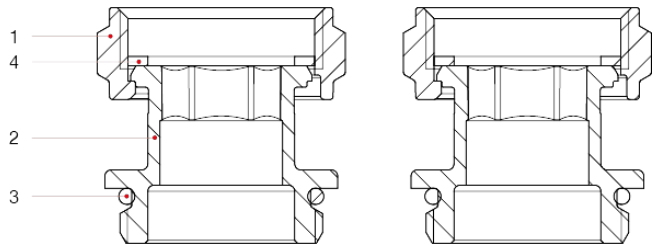
OVERALL DIMENSIONS



	1"
A	40,5
B	38,5
C	30,5
Kg/cm2 bar	10
LBS - psi	145

SET POINT REGULATING UNIT

MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Nut	2	Nickel-plated brass CW617N
2	Union	2	Nickel-plated brass CW617N
3	O-ring	2	EPDM
4	Washer	2	FASIT OMNIA

SET POINT REGULATING UNIT

092K Ball valves kit

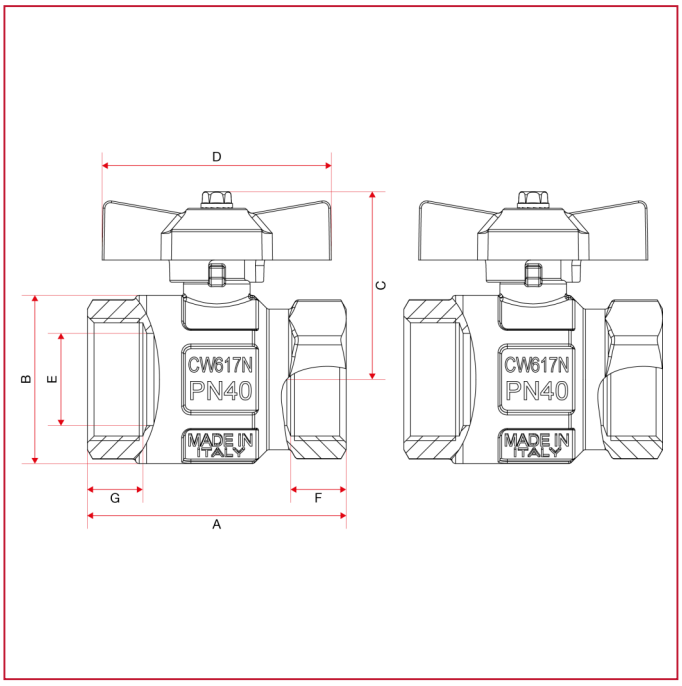
MEASURE	PRESSURE	CODE	PACKING
1"	40bar/580psi	0920100K	1/26

CERTIFICATIONS

TECHNICAL SPECIFICATIONS

Female/female threads.
T handle in aluminium.
Body in nickel-plated brass.
Minimum and maximum working temperatures: -20°C, 150°C in absence of steam.
Threads: ISO 228 (equivalent to DIN EN ISO 228 and BS EN ISO 228).

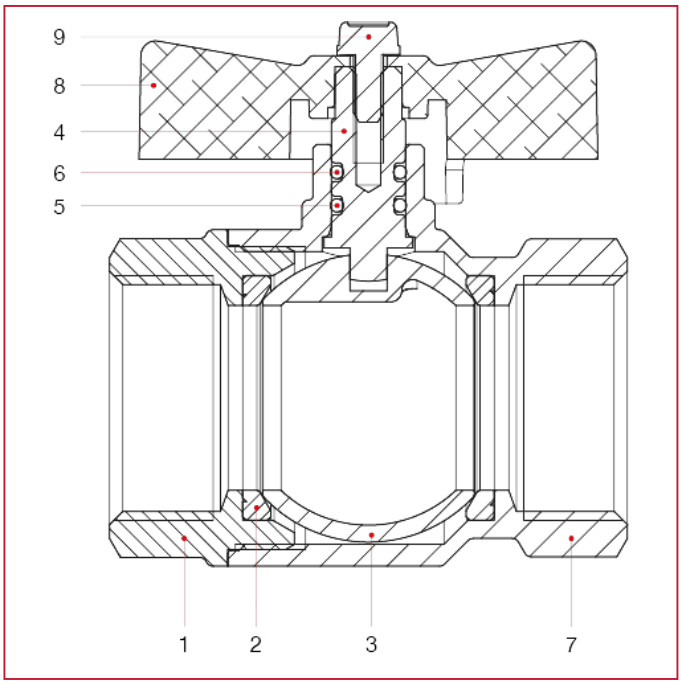
OVERALL DIMENSIONS



SET POINT REGULATING UNIT

	1"
DN	25
A	70
B	45,5
C	51
D	62
E	25
F	15
G	15
Kg/cm2 bar	40
LBS - psi	580

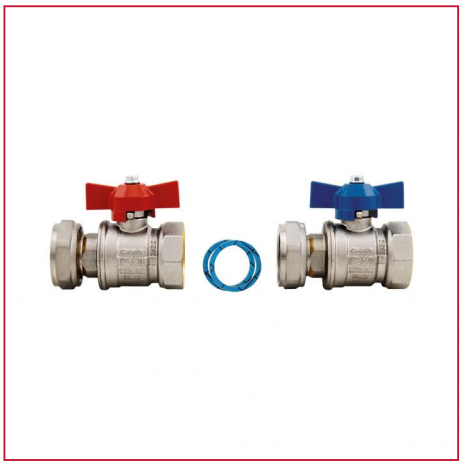
MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Female end adapter	1	Nickel-plated brass CW617N
2	Seat	2	P.T.F.E.
3	Ball	1	Chrome-plated brass CW617N
4	Stem	1	Brass CW614N
5	O-ring	1	NBR
6	O-ring	1	Viton®
7	Body	1	Nickel-plated brass CW617N
8	T handle	1	Varnished aluminium
9	Screw	1	Zinc-plated steel C4C

SET POINT REGULATING UNIT

113DFK Orient ball valve kit with female swivel, reduced flow

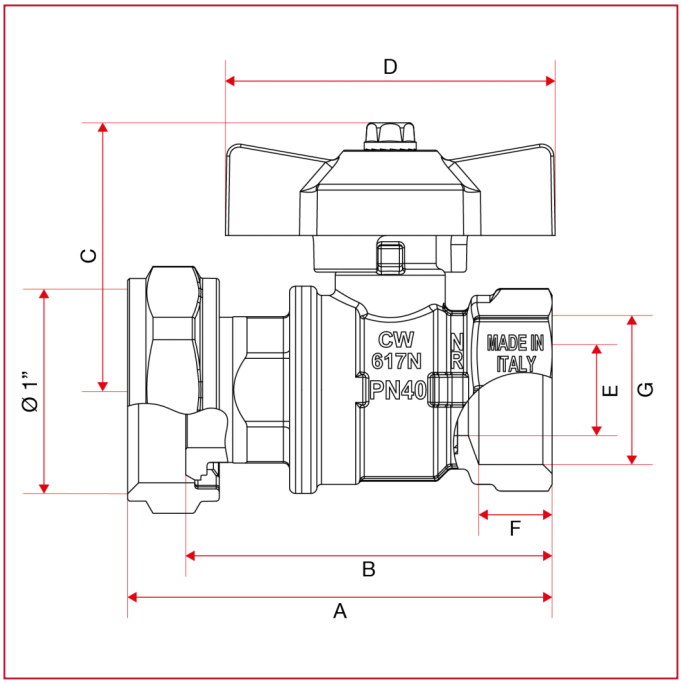


MEASURE	PRESSURE	CODE	PACKING
1" x 1"	40bar/580psi	1130100100K	1/26

TECHNICAL SPECIFICATIONS

Female/female threads.
T handle in aluminium.
Nickel-plated brass body and swivel.
Minimum and maximum working temperatures: -20°C, 150°C in absence of steam.
Threads: ISO 228 (equivalent to DIN EN ISO 228 and BS EN ISO 228).

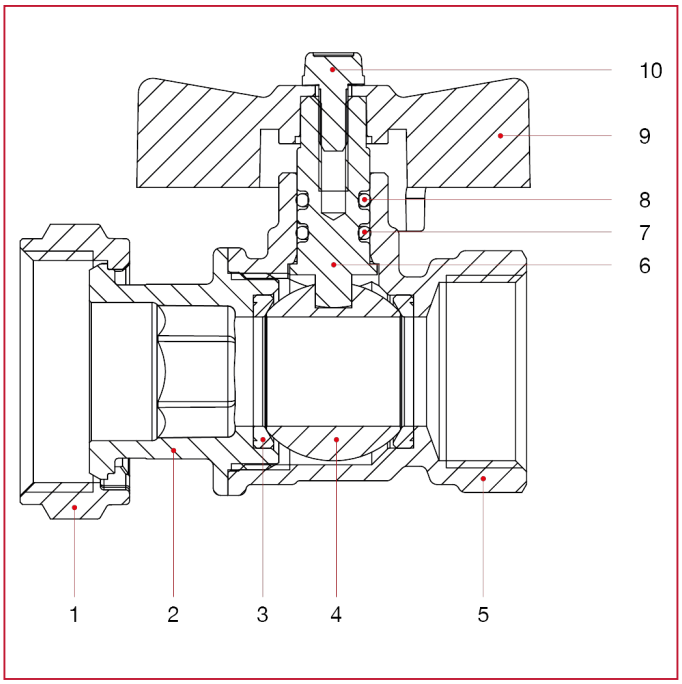
OVERALL DIMENSIONS



SET POINT REGULATING UNIT

	1" x 1"
DN	25
A	74,5
B	65
C	46,8
D	54
E	20
F	13
G	1"
Kg/cm2 bar	40
LBS - psi	580

MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Nut	1	Nickel-plated brass CW617N
2	Female end adapter	1	Nickel-plated brass CW617N
3	Seal	2	P.T.F.E.
4	Ball	1	Chrome-plated brass CW617N
5	Body	1	Nickel-plated brass CW617N
6	Stem	1	Brass CW614N
7	O-ring	1	NBR
8	O-ring	1	Viton®
9	Screw	1	Zinc-plated steel C4C
10	T handle	1	Varnished aluminium

SET POINT REGULATING UNIT

INSTALLATION

The itap S.p.A.'s valves are bi-directional, that means they manage the flow in both the directions.
The valves are composed by a ball, two seal in PTFE material, one stem, two sailing rings (O-Rings), one handle and a couple of parts made of brass (body and end adopter) that contain them and that are assembled by means of threat and a sealed material to obtain their aim.
In order to avoid that the sealed material gets broken and then the valve looses the connection between the body and the end-adapter, it's necessary to avoid to submit the two parts under the influence of a torque.
For the installation normal hydraulic practices must be used, and especially:
- ones have to be sure that the two pipes are correctly aligned;
- during the assembling process the installer has to apply its assembling tools at the end that is nearest to the pipe;
- the application of the sealing materials by the fitter (PTFE or hempen cloth) must be limited at the threat zone. An excess should interferes in the ball-gasket's closure zone, compromising the tightness.
- in the case that the fluid transported presents some impurities (dust, water too hard, etc.) ones have to remove these impurities by the means of a filter. Otherwise they could damage the seals.

DISASSEMBLY

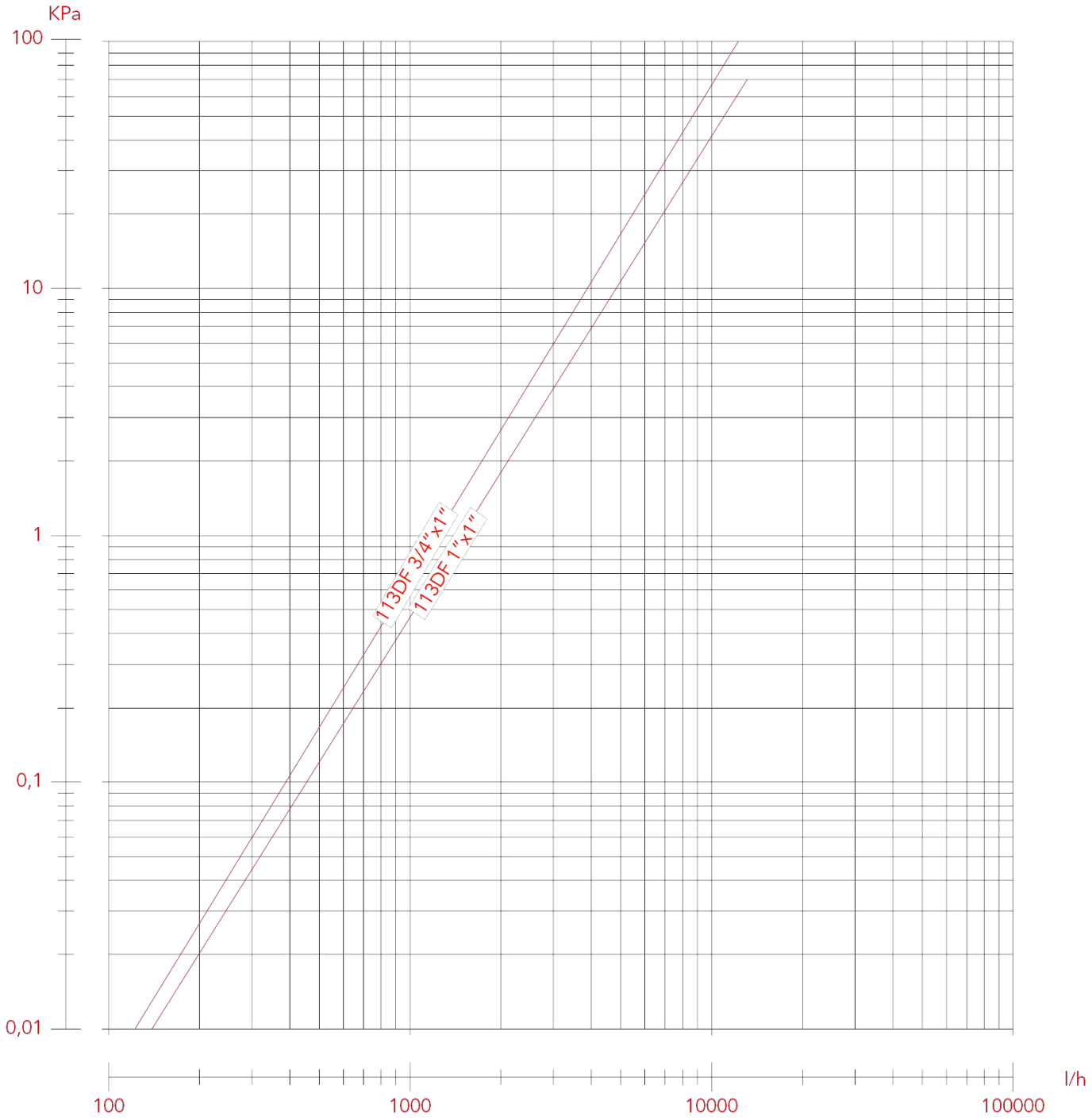
To remove the valve from the pipe line or anyhow before to unscrew the junctions linked to it:
- wear the clothing protective normally required to work with the fluid transported within the line;
- depressurizze the line and operate in this way:
  - positioning the valve in opened position and than empty the line;
  - handle the valve to put down the residue pressure contained inside the space between the ball and the body before of remove it from the line;
  - during the disassembly apply the screw tool at the end of the valve nearest the pipe;

MAINTENANCE

Verify the valve periodically, according to its application's field and its works' field and its work's conditions, in order to be sure that the valve works correctly.

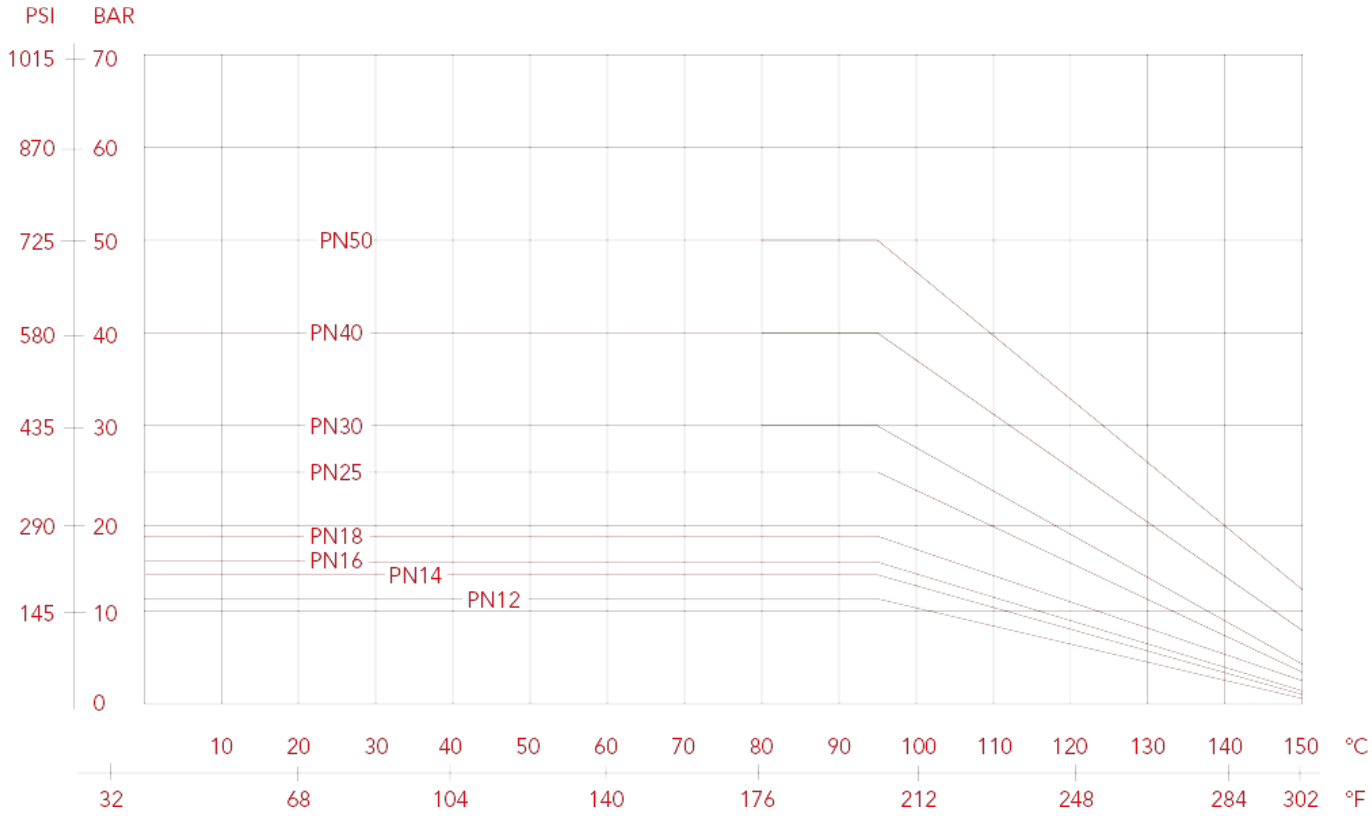
LOSS DIAGRAM (With water)

	1" x 1"
KV	13,2



PRESSURE-TEMPERATURE DIAGRAM

The values shown by the dropping lines state the maximum limit of employment of the valves.
The shown values are approximate.



498 Metal box for manifolds

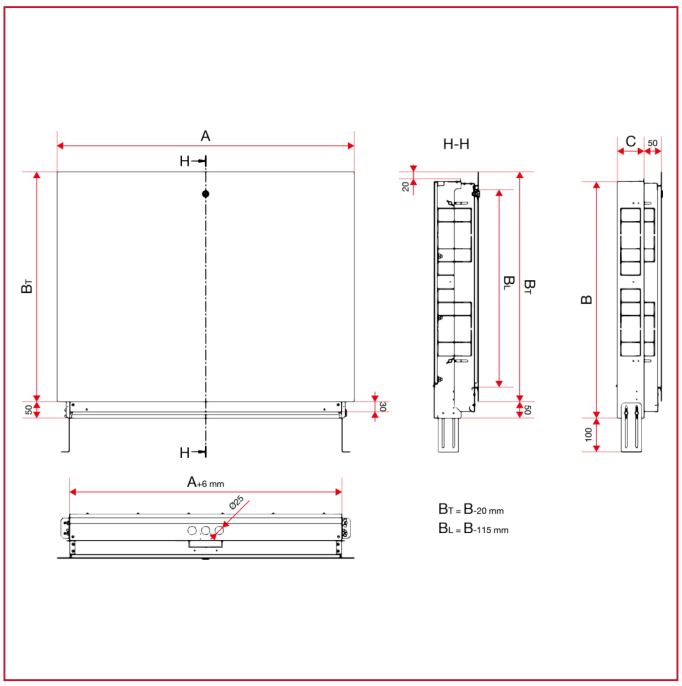
Complete with basement and support for floor installation.
Equipped with plaster protection.

MEASURE	CODE	PACKING
600x500x(80-130)	498600500	1/1
700x500x(80-130)	498700500	1/1
800x500x(80-130)	498800500	1/1
900x500x(80-130)	498900500	1/1
1000x500x(80-130)	4981000500	1/1
1100x500x(80-130)	4981100500	1/1

TECHNICAL SPECIFICATIONS

Enclosure, telescopic door frame and door in zincplated steel.
Painted door.
Adjustable depth: from mm. 80 to mm. 130.
Minimum depth for Itap manifolds installation: mm. 90.
Adjustable height: from mm. 600 to mm. 700.

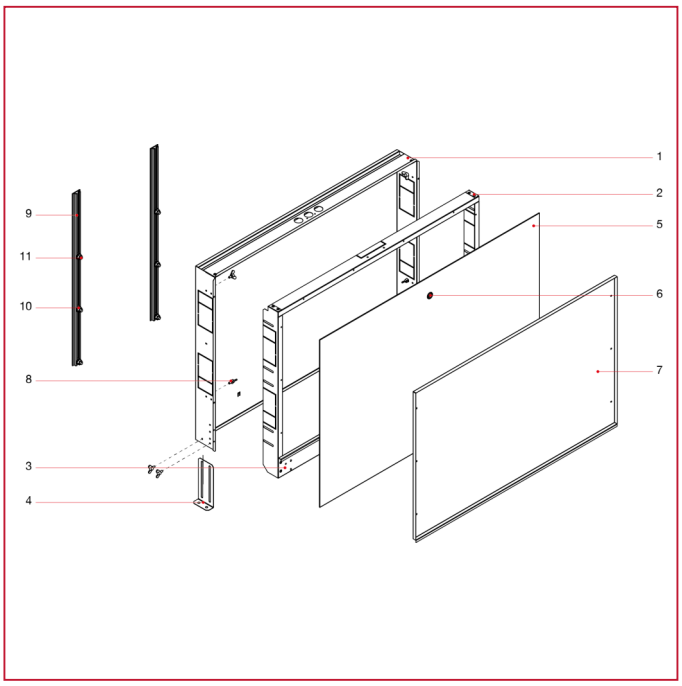
OVERALL DIMENSIONS



	600x500x (80-130)	700x500x (80-130)	800x500x (80-130)	900x500x (80-130)	1000x500 x(80-130)	1100x500 x(80-130)
A	600	700	800	900	1000	1100
B	600	600	600	600	600	600
C	80	80	80	80	80	80

SET POINT REGULATING UNIT

MATERIALS

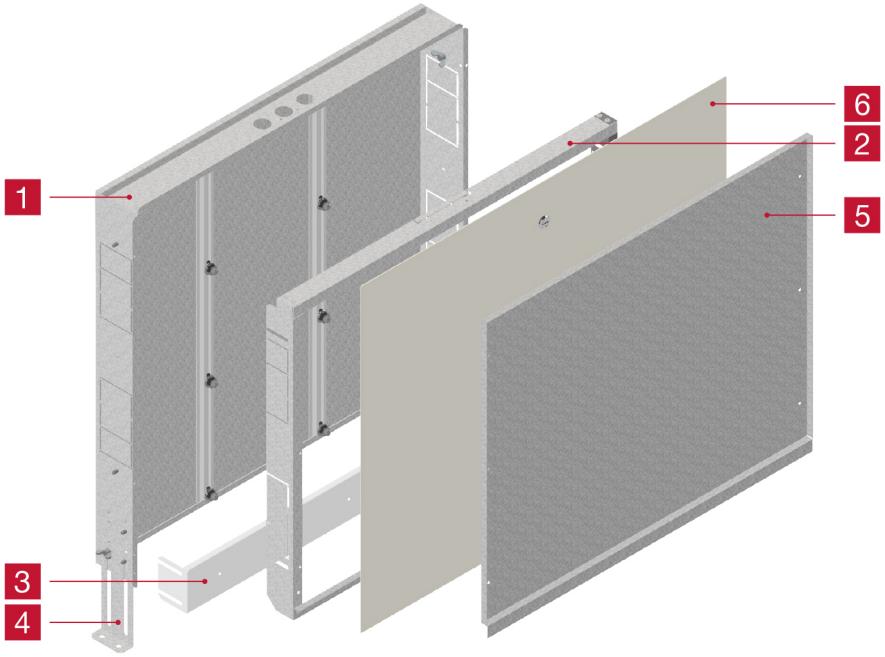


POS.	DESCRIPTION	N.	MATERIAL
1	Body	1	EN 10346 DX51+Z MAC
2	Telescopic frame	1	EN 10346 DX51+Z MAC
3	Fixed baseboard	1	EN 10346 DX51+Z MAC
4	Support bracket	2	EN 10346 DX51+Z MAC
5	Wall cover	1	EN 10346 DX51+Z MAC
6	Locking	1	Nickel-plated Zamak
7	Plastering cover	1	EN 10346 DX51+Z MAC
8	Butterfly screw	8	Fe 5.5 Zn Cr3
9	Manifold support profile	2	EN 485-1 AW 6061
10	Flanged nut	6	Fe 5.5 Zn Cr3
11	Square-head screw	6	Fe 8.8 Zn Cr3

SET POINT REGULATING UNIT

INSTRUCTIONS

The 498 metal box for manifolds is the new practical, price-wise, and rational solution for civil engineering that grants protection of water and technical fluid distribution systems for modern radiant heating and cooling systems, water supply systems and heat metering systems.



1. Box
2. Telescopic frame
3. Front base
4. Foot
5. Metal plaster cover
6. Front pane

1) Our technical staff designed the whole structure entirely in galvanized steel compliant to EN 10346 type DX51+Z140 MACE. It is mechanically assembled, without welds, in order to guarantee robustness without compromising the zinc coating and corrosion protection.
2 - 3) The main box is provided with a telescopie frame extending depth of the available space up to 50 mm over the depth dimension indicateci in the datasheet (mm 80).
The back of the box has a large Polypropylene anti-shrinkage net to ensure plaster adhesion.
4) The Adjustable feet let the box height to be raised up to 100 mm above height dimension indicateci in the datasheet (mm 600).
5) The sheet metal plaster cover fits on the extended telescopic frame.
It saves the box and its content from construction yard debris, dust and accidental damage, the 10 mm flanges neatly cut the plaster surface leaving a clean window perfectly fitting for the front panel.
6) After removing the plaster cover adjustable frame can receive the overlap front panel. It's made from a single galvanized sheet metal part sporting a reinforced frame structure and a wide flange overlapping the wall.

The galvanized sheet metal is laminateci with a special white RAL 9010 PVC film 100 micron thick which is protecded from scratches, dirt and dust by a further removable coating made of a transparent 80 micron film to be peeled off at the very end of the installation process ensuring a rapid and professional outcome.

SET POINT REGULATING UNIT

The PVC coating is atoxic (food contact grade), in comparison to traditional painting processes (liquid or powder coating), it grants a higher and stable quality standard, better technical properties as to scratch resistance and durability, a much more sustainable environmental and energy impact.
The product range covers a wide spectrum of technical needs.

SET POINT REGULATING UNIT

498R Metal box for manifolds - compact model

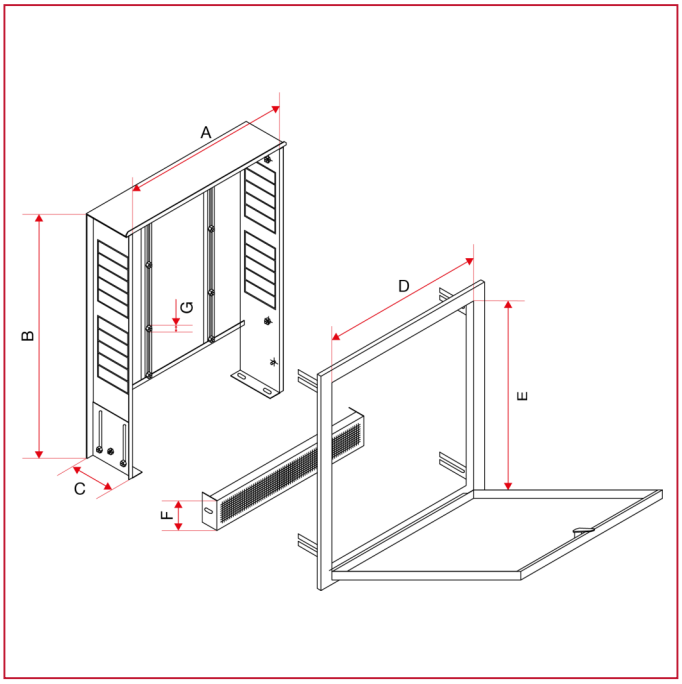
Complete with basement and support for floor installation.
Equipped with plaster protection.

MEASURE	CODE	PACKING
500x450x(90-130)	498500450	1/1
600x450x(90-130)	498600450	1/1
700x450x(90-130)	498700450	1/1
850x450x(90-130)	498850450	1/1
1000x450x(90-130)	4981000450	1/1
1100x450x(90-130)	4981100450	1/1

TECHNICAL SPECIFICATIONS

Zincplated steel enclosure, telescopic, door frame and door.
The telescopic door frame and the door are painted.
Adjustable depth: mm. 90 to mm. 130.
Minimum depth for Itap manifolds installation: mm. 90.
Overall height: mm. 575.

OVERALL DIMENSIONS



SET POINT REGULATING UNIT

	500x450x (90-130)	600x450x (90-130)	700x450x (90-130)	850x450x (90-130)	1000x450 x(90-130)	1100x450 x(90-130)
A	500	600	700	850	1000	1100
B	575	575	575	575	575	575
C	90 -130	90 -130	90 -130	90 -130	90 -130	90 -130
D	487	587	687	837	987	1087
E	450	450	450	450	450	450
F	70	70	70	70	70	70
G	M6	M6	M6	M6	M6	M6

SET POINT REGULATING UNIT

498ST Mounting brackets in steel for metal boxes art. 498 and 498R

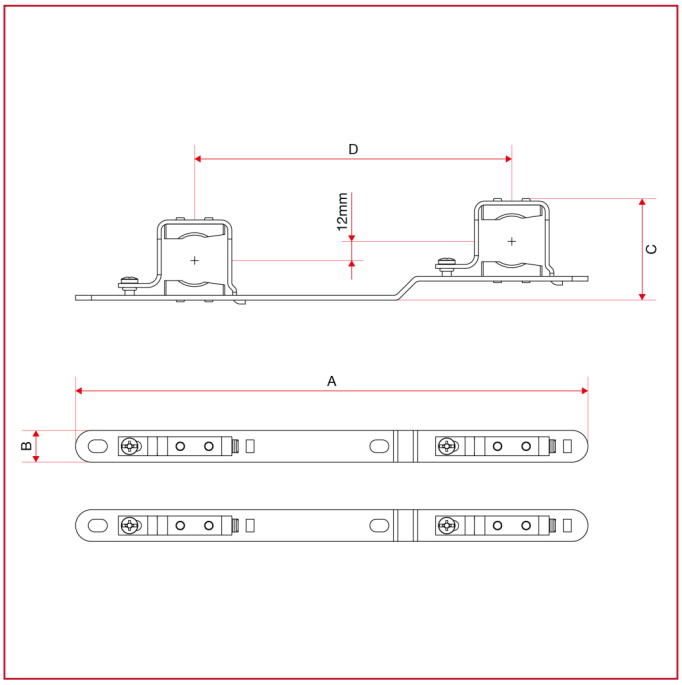
498STK

MEASURE	CODE	PACKING
1"	498ST100K	1/20

TECHNICAL SPECIFICATIONS

The set includes a pair of brackets with screws and fixings.
For installation in box art. 498 - 498R:
- 498STK: Standard version: centres distance mm. 200, offset: 12mm. Suitable for outlets pipe up to 20mm.

OVERALL DIMENSIONS art.498STK

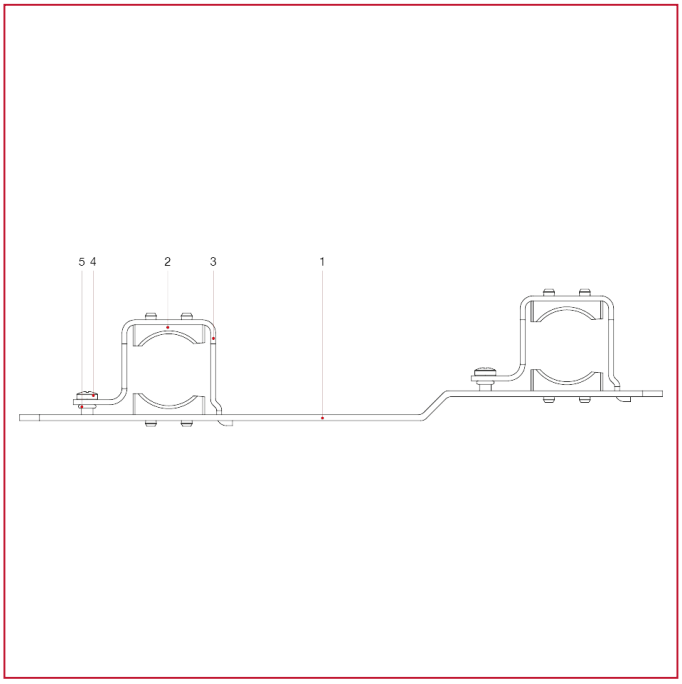


498STK

	1"
A	323
B	20
C	66
D	200

SET POINT REGULATING UNIT

MATERIALS art.498STK size 1"



POS.	DESCRIPTION	N.	MATERIAL
1	Bracket	2	Steel-P11
2	Dowel	8	TPE - 95 SHORE A
3	Collar	4	Steel-P11
4	Screw	4	Zinc-plated steel C4C
5	O-ring	4	NBR

SET POINT REGULATING UNIT

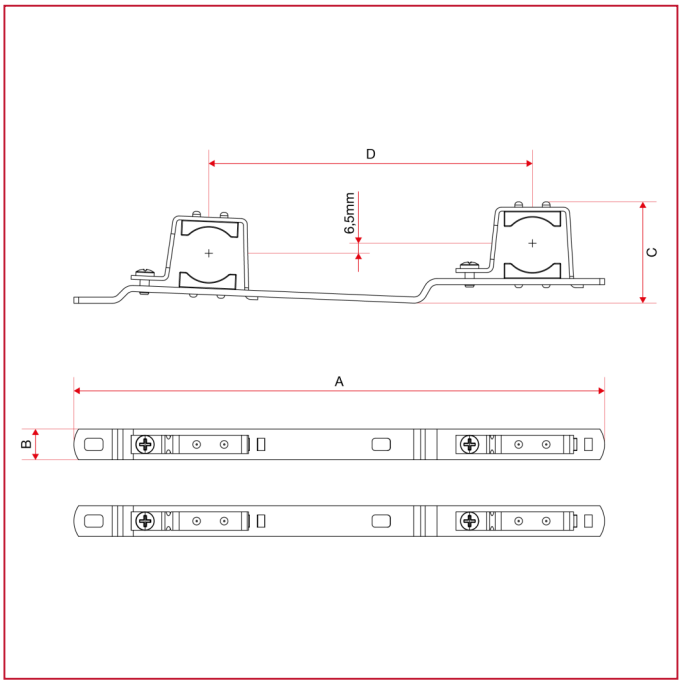
949ST Mounting brackets in steel for metal boxes art. 498 and 498R

MEASURE	CODE	PACKING
1"	949ST211K	1/20

TECHNICAL SPECIFICATIONS

The set includes a pair of brackets with screws and fixings.
4 spacers included.
- 949ST: centres distance mm. 211, offset: 6,5mm.

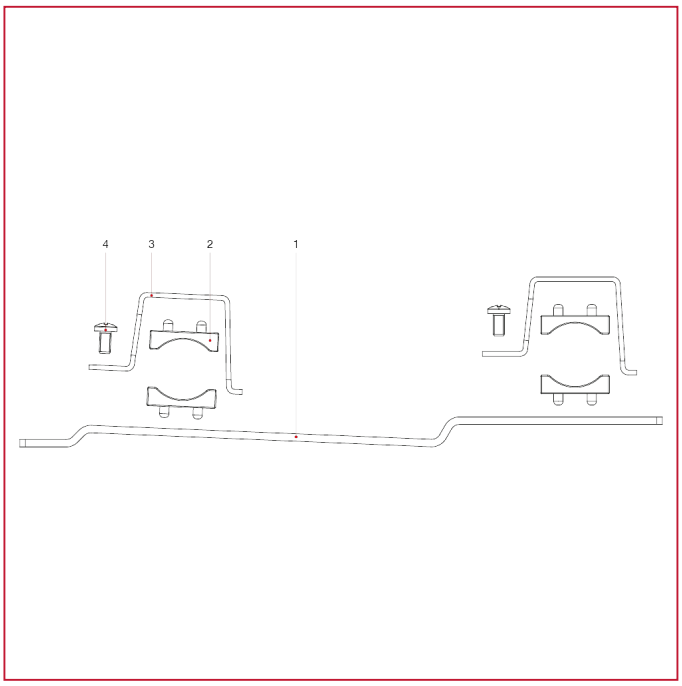
OVERALL DIMENSIONS



	1"
A	346
B	20
C	66
D	211

SET POINT REGULATING UNIT

MATERIALS



POS.	DESCRIPTION	N.	MATERIAL
1	Bracket	2	Steel-P11
2	Dowel	8	MOPLEN
3	Collar	4	Steel-P11
4	Screw	4	Zinc-plated steel Fe

ITAP S.p.A.
Via Ruca 19
25065 Lumezzane
Brescia (ITALY)
Tel 030 8927011
Fax 030 8921990
www.itap.it - info@itap.it

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