



# GENERAL CATALOGUE 2015

UNDERFLOOR HEATING

SOLAR SYSTEMS

HEATING and PLUMBING



**orkli**

you can feel it



# Warm up with ORKLI

We provide safe comfort with our own technology, using renewable energies, respecting the environment.



See terms and conditions on page 187



See terms and conditions on page 9



**orkli**

you can feel it



A leading company



Orkli is a company with cooperative values. Its goal is to achieve profitability to the benefit of its customers and workers and to society as a whole. With over 30 years' experience, Orkli is today a global company, competitive worldwide. Orkli exports over 80% of its production and currently has manufacturing plants in Spain, China and Brazil.

It is structured into three business units: Thermoelectric Safety, Heating and Water Heating. **It is a world leader** in the manufacture of thermoelectric safety components, with own-designed products such as thermocouples, magnetic units and actuators acknowledged by the main household appliance manufacturers.

It has offices throughout Europe and strategically-located sales agents worldwide. Orkli does not tackle the challenges of a globalised world on its own, as it is a member company of the world's largest cooperative group: the Mondragon Corporation.

The company's commitment to the environment and to halting climate change has led to products with higher energy efficiency, manufactured through more efficient processes that minimize resource consumption and waste generation. Orkli has been granted the most demanding certifications in the areas of quality, safety and occupational health and safety, as well as protection and respect for the environment. Its

products are recognized by the main brands in the sector and the company's innovative philosophy continues to reinforce its international presence.

With its commitment to renewable energies for the Heating sector, Orkli develops and produces components for solar heating installations such as hydraulic pumping units, hydraulic units for large high-efficiency installations, automatic drain units and many more, all of which feature in this catalogue.

Orkli engages in innovation in terms of products, quality improvement, production systems, service and logistics: a comprehensive offer that aims to provide new solutions for the market while meeting customer needs.





energy  
efficiency



## UNDERFLOOR HEATING / COOLING

- Underfloor Heating: the heating system you don't see but feel .....	6
- General terms of service .....	8
- Orkli's full guarantee and cover of up to €2,000,000.....	9
- "7 steps" for a comprehensive underfloor heating and cooling system solution .....	10
- Underfloor Heating Systems.....	12
- Heating System for commercial establishments .....	14
- Components .....	16
- Components for control .....	24
- Hydraulic units for underfloor heating/cooling systems .....	30
- Manifold integration hydraulic unit .....	36
- Distribution collector to hydraulic units.....	38
- Underfloor heating/cooling distribution equipment .....	40
- Modular manifolds .....	42
- Components for distribution equipment.....	44

# HIGHLIGHTS

UNDERFLOOR HEATING **SYSTEMS**  
WITH A 15-YEAR GUARANTEE AND  
COVER OF UP TO €2,000,000



PAGE 9

AENOR-CERTIFIED  
UNDERFLOOR  
HEATING **SYSTEMS**



SRPT23-16



SRPT30-16

PAGE 12



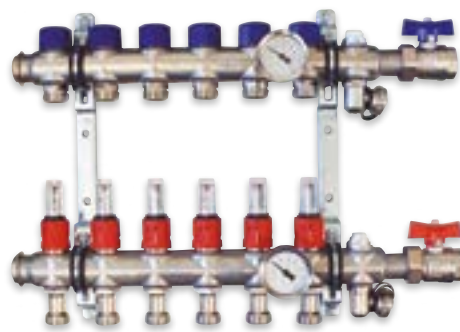
PAGE 17



PAGE 20



PAGE 35



PAGE 41



PAGE 20

Underfloor Heating:  
the **heating system** you don't see...  
but feel





## All-round Solution

The best all-round **Underfloor Heating** system to adapt to your needs.

Advantages of the **Underfloor Heating system as compared to other solutions:**

- **Ideal** and uniform temperature **distribution** throughout the room.
- Up to 15% **energy savings compared to other systems, such as radiators.**
- **Benefits health**, as heat from the floor is gentler and more pleasant. There is no air movement, creating a more comfortable environment.
- **Clean and attractive:** there are no radiators, so no dirt or dust can accumulate and rooms stay clean and uncluttered.
- **Compatible** with any source of energy. Ideal for combining with renewable energies.





## GENERAL TERMS OF SERVICE

---

- **OFFER VALIDITY PERIOD:** 90 calendar days from the project delivery date.
- **OFFER MODIFICATION:** This estimate will be valid providing the specifications agreed on with the customer are not altered. Any modification made after delivery of the project will entail review of the offer and project.
- **SUPPLY CONDITIONS:** The transport will be at the expense of Orkli S.Coop, for all complete underfloor heating orders supplied in one single delivery and exceeding a net price of 900 €. A complete order is taken to mean the purchase of the totality of the underfloor heating and regulation components that figure in Orkli S.Coop.'s estimate.
- **PRICES:** The prices are retail prices. The discount agreed on with Orkli S.Coop will be applied in each case.
- **OFFERS:** Different estimates will be delivered with each project. A combination of the different estimates may be made in accordance with the customer's requirements.
- **CONDITIONS OF THE OFFER:** This is an offer for the supply of products. It is based on the **project drawn up by Orkli S.Coop** on the basis of information provided by the customer, and on the exclusive use of **Orkli products**. If Orkli does not have sufficient information to draw up the projects, they reserve the right to make hypothetical projects. If the customer does not indicate that the data are erroneous, Orkli will presume them to be correct. Orkli shall not be held liable for any damages arising from:
  - Failure to comply with the specifications indicated in the technical documentation supplied by Orkli S.Coop.
  - The total or partial use of products other than Orkli S.Coop products.
  - The incorrect or inappropriate handling, use, conservation or maintenance of the products manufactured and supplied by Orkli S.Coop.
  - The installation failure of the products.
  - The data supplied by the customer not being confirmed or being erroneous, incorrect or incomplete. If the offer is accepted, Orkli S.Coop shall only be liable as a supplier of its own products.

January 2015

# Orkli's full guarantee and cover of up to **2,000,000 €**



Our aim is to guarantee the efficiency of all Orkli Underfloor Heating/Cooling installations, and as part of this commitment we issue a **COVERAGE CERTIFICATE** for all installations requiring this certification when the installation has been made in accordance with our process and assembly procedure. To request this service, simply indicate this fact along with your order, or call us on 943 80 94 57.



## COVERAGE CERTIFICATE

ORKLI S. COOP. has contracted a product liability insurance policy guaranteeing up to: **2 MILLION EUROS** and for a period of: **15 YEARS** any damages caused by the use of the system products (Basic-16, Basic-20, Mini-16 and Mini-20) attributable to:

- Product manufacturing defects.
- Defects in the concept or design of the product.

### IMPORTANT:

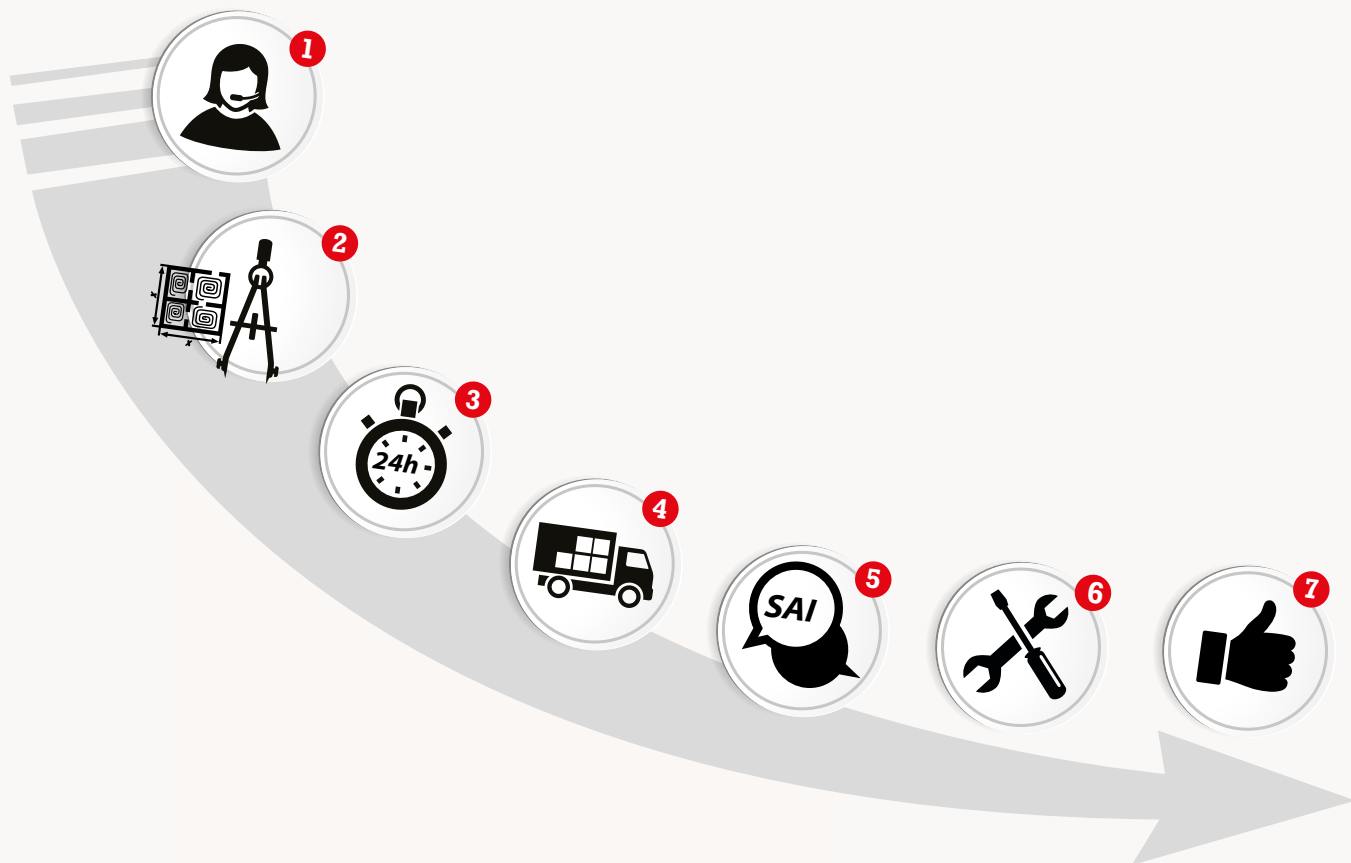
This certificate shall be issued in the following cases:

- Projects undertaken and offered by Orkli based on dimensioned drawings supplied by the customer.
- Installations comprised entirely of Orkli brand products.
- Certification inspection requests to our Installer Assistance Service (SAI).
- Installations requiring inspection during works, prior to pouring mortar, by our Installer assistance Service (SAI).
- Installations certified following inspection by our Installer Assistance Service (SAI) team.

This certificate will not be valid in the following cases:

- Failure to comply with the specifications indicated in the technical documentation supplied by Orkli S. Coop.
- Incorrect or inappropriate handling, use, conservation or maintenance of the products manufactured and supplied by Orkli S. Coop.
- Any damages deriving from the installation of failure the products.
- The data supplied by the customer not being confirmed or being erroneous, incorrect or incomplete.
- Products other than Orkli products being used in the installation.

# "7 steps" for a comprehensive underfloor heating and cooling system solution



# ORKLI at your service

THE GUARANTEE OF A LEADING COMPANY  
OVER 20,000 PROJECTS COMPLETED



- 1 PERSONALISED SUPPORT:** Our customer service department can provide you with all the information and advice you need to answer your queries about underfloor heating and cooling.
- 2 A TAILORED PROJECT:** ORKLI's project team work to a dimensioned drawing so that all the materials and components required for installation of the project will meet your needs.
- 3 24-HOUR RESPONSE:** A quick, personalised response. Our project includes a complete estimate, together with an itemised description and characteristics of the all the materials required.
- 4 DELIVERY OF MATERIALS:** All the components required for the project are sent directly to the site, avoiding storage issues.
- 5 ON-SITE TECHNICAL ASSISTANCE:** ORKLI's technical team provides free assistance, not only solving any queries during and after installation but also certifying the installation on a visit to the site before the mortar is laid.
- 6 EASY INSTALLATION:** All ORKLI's component design, technical advice and on-site assistance work focuses on making the installation as easy as possible.
- 7 CUSTOMER SATISFACTION:** Your safety and peace of mind matter to us, so ORKLI offers you **€2,000,000 of cover** and a **15-year guarantee**.



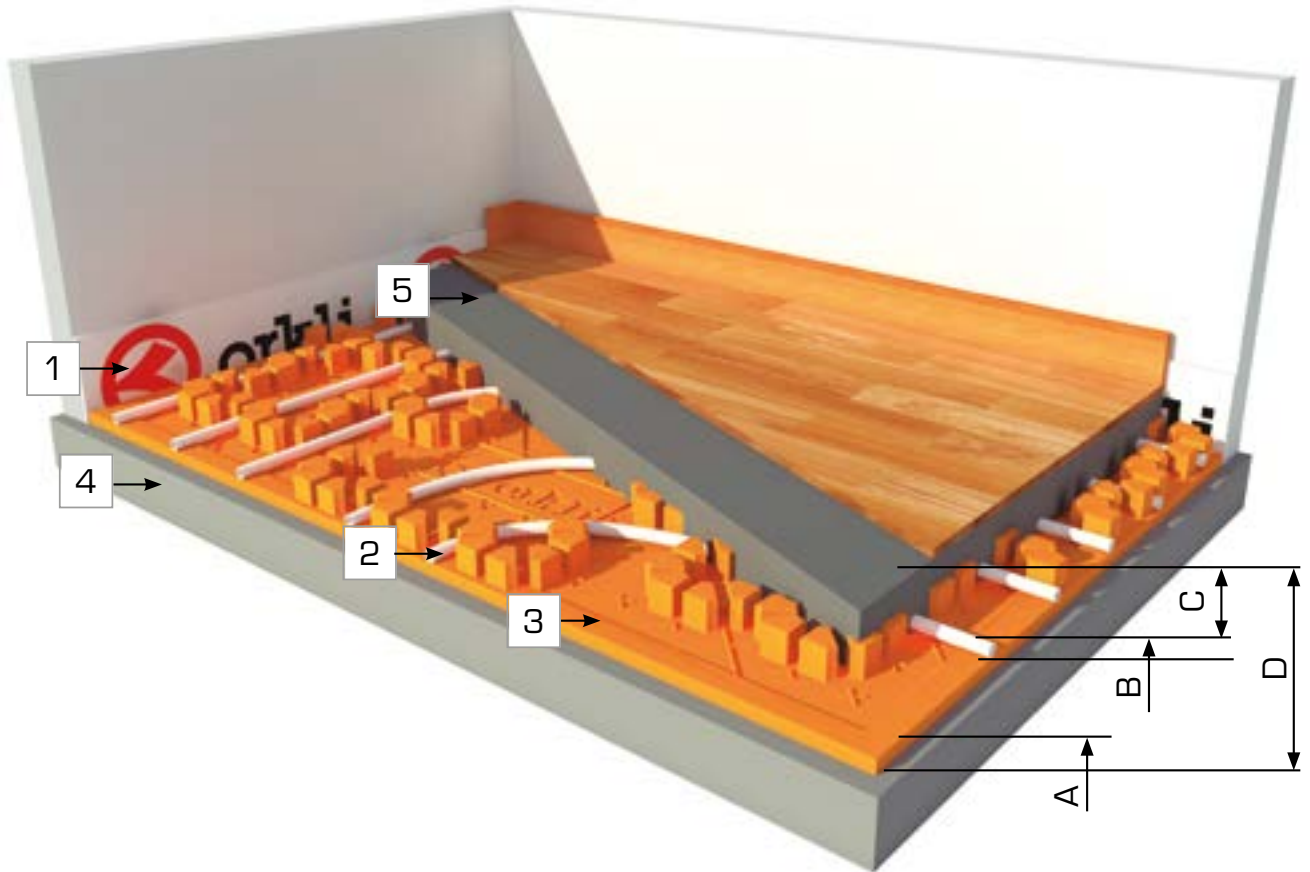
SRPT23-16



SRPT30-16

Telephone number +34 943 80 94 57 and email address for sending dimensioned drawings for your tailored project: [sr@orkli.es](mailto:sr@orkli.es)

**AENOR-CERTIFIED UNDERFLOOR HEATING SYSTEM**



- 1 
- 2 
- 3 
- 4 floor slab
- 5 mortar

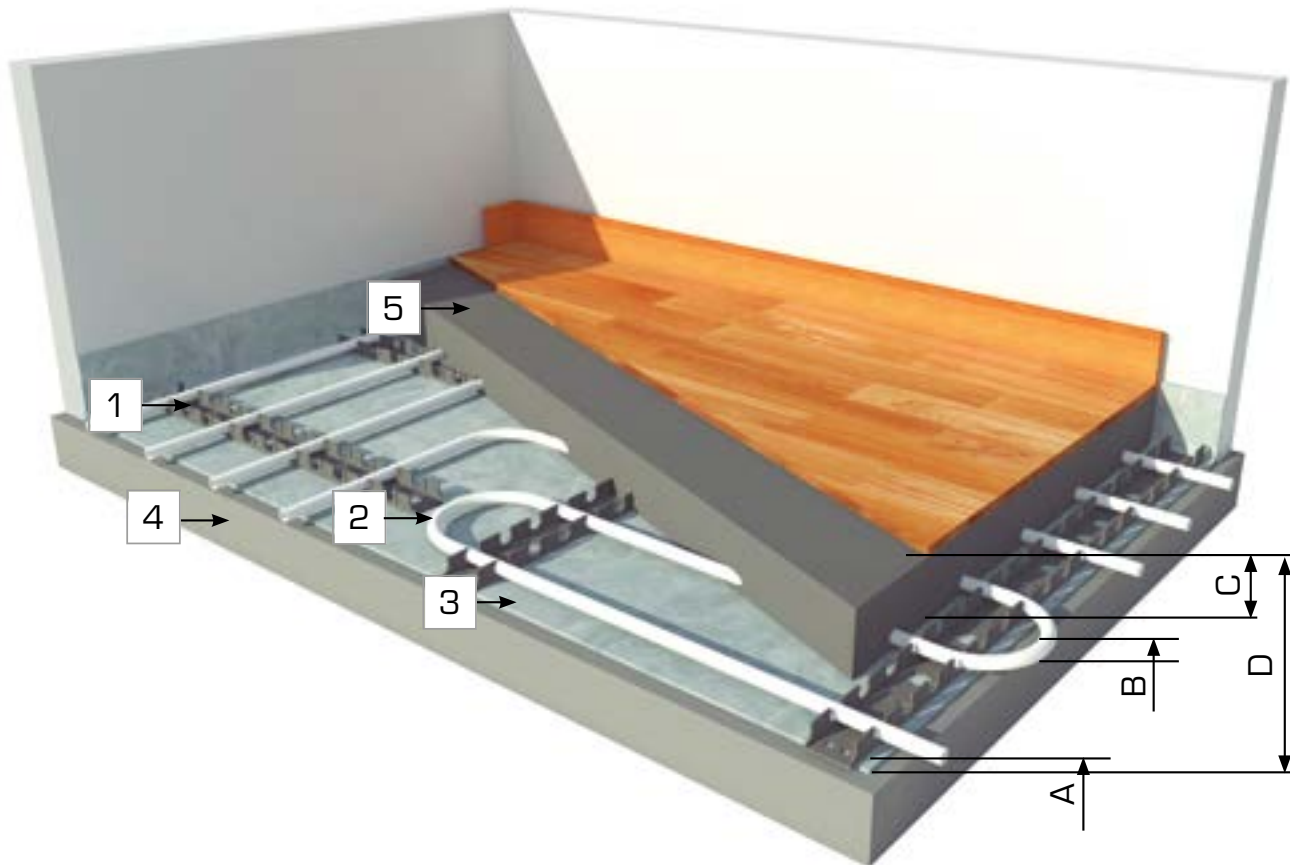
	SYSTEM <b>SRPT23-16</b>	SYSTEM <b>SRPT30-16</b>
--	----------------------------	----------------------------

A	Panel	25 mm	26 mm
B	Tube	16 mm	16 mm
C	Mortar	45 mm	45 mm
D	Total	86 mm	87 mm





# UNDERFLOOR HEATING SYSTEM



- 1
- 2
- 3
- 4 floor slab
- 5 mortar

## SYSTEM SRPL-16

## SYSTEM SRPL-20

A Plates	5 mm	5 mm
B Tube	16 mm	20 mm
C Mortar	30 mm*	30 mm*
D Total	51 mm	55 mm

\* With self-levelling mortar: 30 mm;  
with traditional mortar: 45 mm.

UNDERFLOOR HEATING / COOLING  
HEATING SYSTEM FOR  
**COMMERCIAL ESTABLISHMENTS**

patented





## HEATING SYSTEM FOR **COMMERCIAL ESTABLISHMENTS**



### Make use of the heat from cold storage

#### **Enjoy maximum Energy Efficiency**

This installation system **uses the heat emitted by cold chambers for ambient heating in commercial establishments, meaning no power source is required for heating.**

The underfloor heating system installed beside the cold chamber emits heat in both winter and summer and the area is therefore not an excessively cold zone in summer, creating comfort for people transiting through these areas (it is a proven fact that purchasing customers spend a much longer time in these cooled areas).

An added advantage is the fact that when an underfloor heating installation is used to dissipate the heat emitted by the cooling circuit, no condenser needs to be fitted and therefore no evacuation chimney needs to be installed. Consequently, as no condenser needs to be fitted, the installation makes much less noise.

#### **Benefits all round:**

- Comfortable temperature in cooled areas.
- Consequently customers will shop for longer.
- No nuisance noises, as no condenser is required.

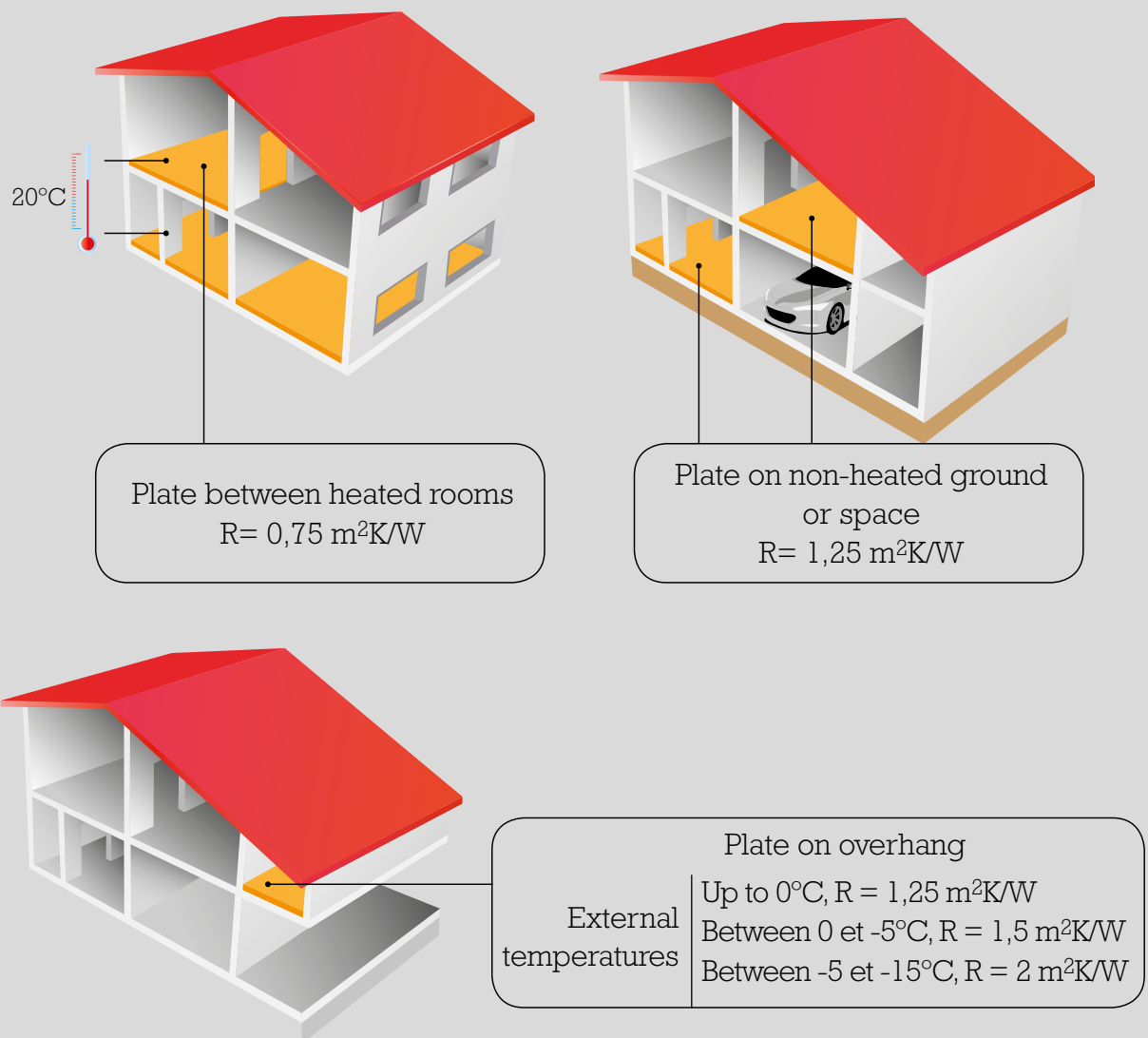
## UNDERFLOOR HEATING / COOLING COMPONENTS

### UNDERFLOOR HEATING PLATES

The EN 1264 European underfloor heating standard states that the insulating plate is to have a different thermal resistance depending on where the underfloor heating is to be installed.

The thermal resistance values set by the standard are as follows:

#### MINIMUM THERMAL RESISTANCE ACCORDING TO INSTALLATION PREMISES AND IN COMPLIANCE WITH THE UNE EN 1264 STANDARD





## UNDERFLOOR HEATING PLATES



*did you know...?*

this new panel have AENOR underfloor heating system certification and will comply with the EN-1264 Standard.

and also...

- Improved heat transfer between the pipe and the mortar.
- Better proportion of studs to clips.
- Now **reversible**: protects the panel from knocks.
- **Less storage space** required: smaller volume for storage and transport.
- **Saves on installation time**: larger surface area per panel: 1.215m<sup>2</sup> = quicker installation.
- Easier to install: **more stepping space** on panel.
- Posibilidad de **realizar el circuito en diagonal**.



**exclusive design**

- EPS material.
- Maximum panel dimensions: 1350 x 900 mm.
- Pipe: 16 – 20 mm.
- Pipe configuration: can be installed in several directions. Diagonal circuits possible.
- Pipe ducts in 75 mm multiples.
- Stud shape: undercut.
- Insulation panels with a density of 23kg/m<sup>3</sup>, sound insulation: AL<sub>w</sub>= 20 db. (Certification performed out on item SRPAN26).
- Reversible panel: a more compact block to resist knocks on transport.
- Efficiency: more contact between the pipe and the mortar.
- 150µm polyethylene (PF) film coating.

**NOTE:** Request availability for other densities.

### Studded multidirectional insulating plate **SRPAN**

THERMAL RESISTANCE	BASE THICKNESS (mm)	ARTICLE	DENSITY	PIECES/BOX
R=0,8 m <sup>2</sup> K/W	26	SRPAN26	23	16
R=0,85 m <sup>2</sup> K/W	26	SRPAN26-30	30	16
R=1,35 m <sup>2</sup> K/W	43	SRPAN43-30	30	11
R=1,8 m <sup>2</sup> K/W	58	SRPAN58-30	30	8

# UNDERFLOOR HEATING / COOLING COMPONENTS

## UNDERFLOOR HEATING PLATE



*did you know...?*

**that a thickness of just 5 mm** is sufficient to comply with the minimum thermal resistance standard of  $0.75 \text{ m}^2\text{k/W}$ ? Ideal for refurbishments.

- Material: multilayer.
- Maximum panel dimensions: 12.66 m x 1.58 m.
- Acoustic insulation:  $AL_w = 22 \text{ db}$ .

### Multi-layer heat reflective insulation

THERMAL RESISTANCE	BASE THICKNESS (mm)	ARTICLE	M <sup>2</sup> /ROLL
R=0,75 m <sup>2</sup> K/W	5	SRTR5	20

## FIXING RAIL FOR TUBE



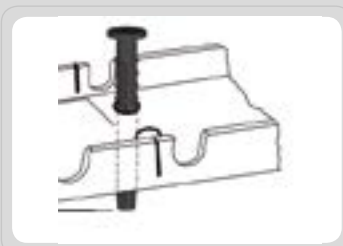
- Pitch 50 mm.

### Fixing rail for multilayer panel

DESCRIPTION	ARTICLE	M./RAIL
Rail for Ø 16 tube	SRCAR16-L	2
Rail for Ø 20 tube	SRCAR20-L	2

## Heat reflector plate installation diagram

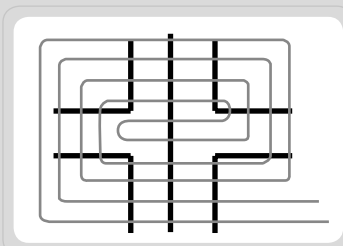
1. Place the fixing rail.



2. Place the pipe in the fixing rail.



3. Final installation diagram.



**NOTE:** To avoid a heat bridge use plastic plugs. If metallic plugs are used add a spot of expanded polyurethane.

## COMPONENTS



### ■ UNDERFLOOR HEATING PLATE



- Material: polyurethane mousse.
- Maximum panel dimensions: 1200 x 1000 mm.
- Grid with multiples of 10 cm on top face for pipe installation.
- Effective panel dimensions: 1190 x 990 mm.
- Efficiency: more contact between the pipe and the mortar.
- Thermal conductivity: 0.023 W/(m·K).

**NOTE:** Request availability for other densities.

#### Density: 31 kg/m<sup>3</sup> and Thermal Resistance up to 1.7 m<sup>2</sup>K/W

The great advantage of this polyurethane mousse is that they require less thickness to achieve the same thermal resistance as other materials used for this purpose.

Certification:

- CE marking as per standard NF EN 13165.
- ACERMI certification n°11/121/684.

Plain polyurethane mousse panel for thermal insulation

THERMAL RESISTANCE	BASE THICKNESS (mm)	ARTICLE	DENSITY	PIECES/BOX
R=1,3 m <sup>2</sup> K/W	30	SREPU30-LP	31	16
R=1,7 m <sup>2</sup> K/W	40	SREPU40-LP	31	12

### ■ ACOUSTIC UNDERLAY



- Supplied in rolls of 1.1 m width and 24 m length. Thickness 10 mm.
- Working temperature (°C): -25°C to +85°C
- Thermal resistance with a 10 mm air box on both sides (m<sup>2</sup>·h·2C/kcal): 0.39
- Thermal conductivity (W/m.k): 0.030
- Acoustic impact sound reduction (dB): 22
- Weight (g/m<sup>2</sup>): 1100
- Maximum compression (Kg/m<sup>2</sup>): 2000
- Permissible compression with 10% deformation (kg/m<sup>2</sup>): 1000

Orkli's underfloor heating acoustic system combines a fibre underlay and Orkli EPS panels (expanded polyethylene), making it the ideal solution for anyone wishing to improve the acoustic features of their installation. The characteristics of this wool fibre acoustic underlay improve **the unit's impact sound insulation by up to 28dB.**

The wool fibre acoustic underlay solution also increases thermal resistance by **0,3 m<sup>2</sup>K/W.**

DESCRIPTION	ARTICLE	M./COIL
Acoustic underlay	V-04208	24

## UNDERFLOOR HEATING / COOLING COMPONENTS

### FLANKING STRIP



- Thickness: 7mm.
  - Density: 33 kg/m<sup>3</sup>.
- NOTE:** check out other options.

#### Polyethylene foam flanking strip

DESCRIPTION	HEIGHT (mm)	ARTICLE	M./COIL
With self-adhesive backing	130	SRBAN-2	50
With self-adhesive backing	180	SRBAN-4	50

### TUBE



AVIS TECHNIQUE  
CSTB 14/07-1149



#### Cross-linked polyethylene tube using the peroxide method (PEX-A) with EVOH antidiffusion barrier

DESCRIPTION	ARTICLE	M./COIL
Ø16x1,5	SRTBA16F-200	200
Ø16x1,8	SRTBA16-120	120
Ø16x1,8	SRTBA16-200	200
Ø16x1,8	SRTBA16-500	500
Ø20x1,9	SRTBA20-120	120
Ø20x1,9	SRTBA20-200	200
Ø20x1,9	SRTBA20-500	500

**NOTE:** for other diameters and lengths of the coil, request for price and availability.



#### Multilayer pipe

DESCRIPTION	ARTICLE	M./COIL
Ø16x2	SRTM16-200	200
Ø20x2	SRTM20-200	200

**NOTE:** for other diameters and lengths of the coil, request for price and availability.

# COMPONENTS

## TOOLS



### Staple Gun

DESCRIPTION	ARTICLE
Staple Gun	SRGRAP



### Uncoiler

DESCRIPTION	ARTICLE
Uncoiler up to rolls of 600 meters	SRDESB



### Pipe-cutting scissors for PEX-PP-PE and PB pipes of up to 26 mm diameter

DESCRIPTION	ARTICLE
Pipe cutting scissors	SRCUT

## UNDERFLOOR HEATING / COOLING COMPONENTS

### ADDITIVE FOR MORTAR



DESCRIPTION	ARTICLE	KG./DRUM
Super plasticising additive	SRADIT	25

### ANTI-MOISTURE BARRIER



- Thickness = 0,15 mm (G600).

DESCRIPTION	ARTICLE	M./COIL
Polyethylene film (1 m. width)	SRFILM	200

### GUIDE ELBOW



DESCRIPTION	ARTICLE
Ø16 mm.	SRGUIA16
Ø20 mm.	SRGUIA20

### EXPANSION JOINTS



- Thickness = 10 mm.  
- Height = 130 mm.

DESCRIPTION	ARTICLE	M./BOX
Joint (2 m./pieces)	SRJUNT-R	50



## COMPONENTS

### INSULATION PANEL ACCESSORIES



**Staple for castellated panel**

DESCRIPTION	ARTICLE	PIECES/BOX
Polypropylene staple for Ø16 and Ø20 mm tube	SRCLIP-T	50



**Staple for plain panel**

DESCRIPTION	ARTICLE	PIECES/BOX
Polypropylene staple for Ø16 and Ø20 mm tube	SRCLIP-L	50

### COUPLING TO PIPE ACCESSORIES



**Stainless steel connection for PEX-A pipe**

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" Eurocone Ø16x1,5mm	V-05227	40
3/4" Eurocone Ø16x1,8mm	V-04226	40
3/4" Eurocone Ø20x1,9mm	V-04227	40

**Stainless steel connection for multi-layer PERT-AL-PERT pipe**

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" Eurocone Ø16x2mm	V-04228	40
3/4" Eurocone Ø20x2mm	V-04229	40

- 2 units per bag.

**NOTE:** Ø20 accessories are the same for PEX-A and multilayer PERT-AL-PERT pipes.

## UNDERFLOOR HEATING / COOLING COMPONENTS FOR CONTROL

### ROOM THERMOSTATS AND CHRONOTHERMOSTATS



- Screen indicating room temperature and set temperature.
- Temperature adjustable from 5° - 35°C.
- Powered by two alkaline batteries (1,5 V type LR6) (included).
- Low battery indicator.
- Ready for fixing on the wall.

#### Digital

DESCRIPTION	ARTICLE	PIECES/BOX
Ambient thermostat - ON/OFF	547000	40
Summer - winter ambient thermostat	547001	40



- Temperature adjustable from 10-30°C.
- Ready for fixing on the wall.

#### Mechanical

DESCRIPTION	ARTICLE	PIECES/BOX
Ambient thermostat - ON/OFF	547005	40
Summer - winter ambient thermostat	547006	40



- Temperature adjustable from 5° - 30°C. Swing 0,5 °C.
- Powered by two alkaline batteries (1,5V type LR6) (included).
- Ready for fixing on the wall.

#### CS7 series

DESCRIPTION	ARTICLE
Weekly chronothermostat	579000



- Connections unit: for connection of thermoelectric heads.
- Available for connection to the pump for activation when one of the heads activates.
- Number of thermostat connections: 6

#### SR series

DESCRIPTION	ARTICLE
Connection box	E-25228
Thermostat	E-25229
Cover for public spaces	E-25601

### ROOM THERMOSTATS AND CHRONOTHERMOSTATS BY RADIO FREQUENCY



- Temperature adjustable from 5° - 30°C.
- Swing 0,5 °C.
- Powered by two alkaline batteries (1,5V type LR6) (included).
- Ready for fixing on the wall.
- Multi-channel RF connection system.

#### CS7 series

DESCRIPTION	ARTICLE	PIECES/BOX
Weekly chronothermostat + radio receiver kit	578155	5



- Connections unit: for connection of thermoelectric heads.
- Available for connection to the pump for activation when one of the heads activates.
- Multi-channel RF connection system.

#### SR series

DESCRIPTION	ARTICLE
Radio frequency connection box	E-25230
Radio frequency thermostat	E-25231
Cover for public spaces	E-25601

## COMPONENTS FOR CONTROL



*did you know...?*

... that with the new motor it is possible to adjust pumping temperature - and consequently internal house temperature - before it changes outside?

An external sensor measures outdoor temperature and adjusts pumped water temperature accordingly. So that when outdoor temperature begins to drop, your home gets ready to increase pumping temperature and warm up the home. If outdoor temperature rises, it has the opposite effect, with the motor decreasing pumping temperature.

The biggest advantage of this system is that if you are not at home and the temperature drops more than expected, the system will respond automatically.



- Outdoor temperature-regulated mixing motor valve.
- External sensor included.

DESCRIPTION	ARTICLE
Outdoor temperature mixer motor	V-05169

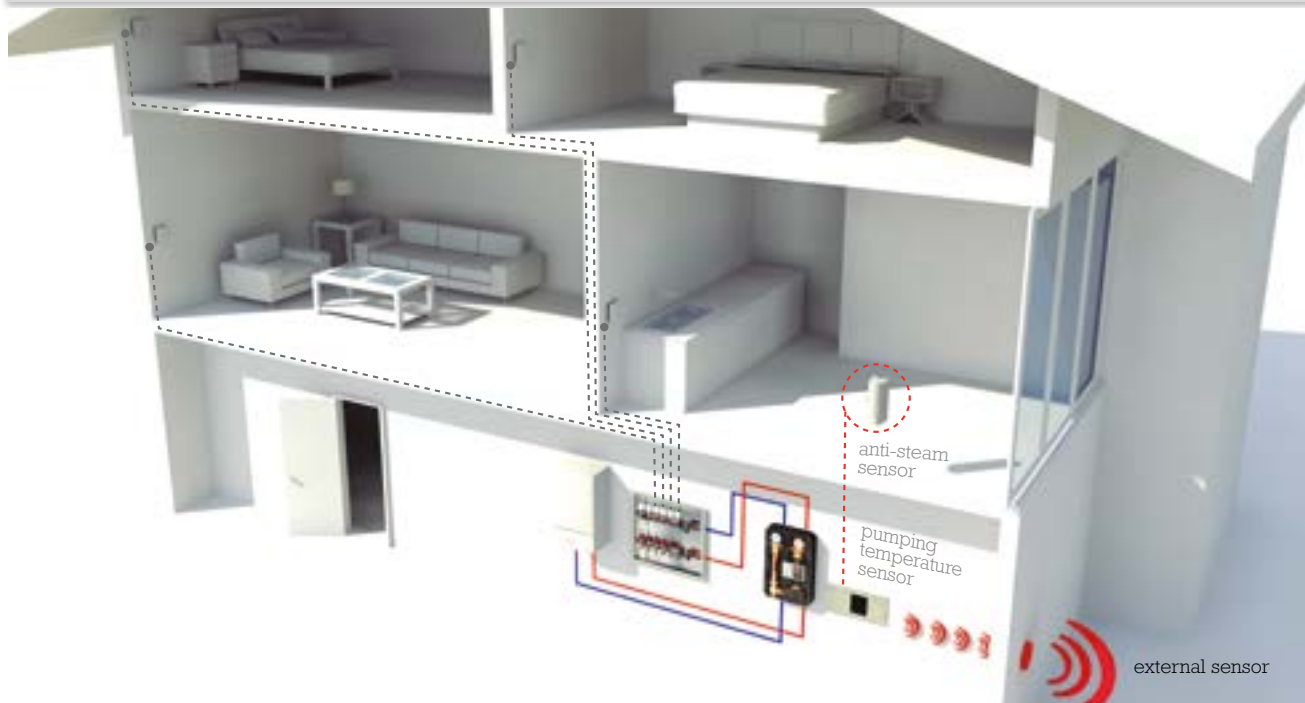
# UNDERFLOOR HEATING / COOLING COMPONENTS FOR CONTROL

## EXTERNAL CLIMATE CONTROL: **UNDERFLOOR HEATING**



*did you know...?*

Do the new control units include the system support RELAY MODULE ?



### Central heating unit

DESCRIPTION	ARTICLE
Digital station unit with control of central heating/cooling	E-22153



### Control unit connection box

DESCRIPTION	ARTICLE
Connection box	E-18905



### Heating application valve

DESCRIPTION	ARTICLE
Heating application valve	E-22104



- Also valid for the return.

### Pulse sensor

DESCRIPTION	ARTICLE
Thermosound TRP 150 Ø 6,5 x 36 mm. - wire 2 m.	E-19452



### Pocket for pulse sensor

DESCRIPTION	ARTICLE
Ø 7 x 8 x47, nut 1/2" NPT	555001



### External sensor

DESCRIPTION	ARTICLE
2 meters, IP65-NTC 1% - 10K OHM-25°C	E-18901



### Anti-steam sensor

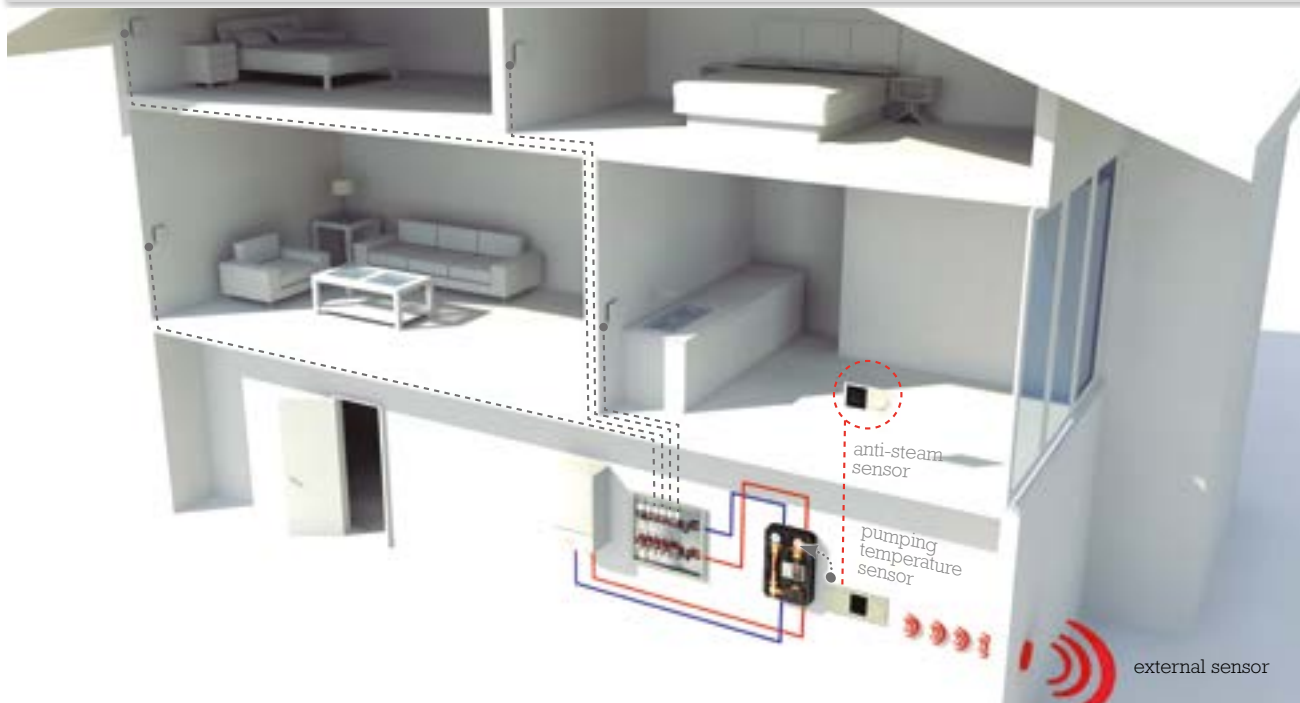
DESCRIPTION	ARTICLE
Enclosure IP20, Sensor NTC 1% - 10K OHM - 25°C	576808

**NOTE:** The order for this installation is comprised of: central heating unit, control unit connection box, heating application valve and the necessary sensors.



## EXTERNAL CLIMATE CONTROL: **UNDERFLOOR HEATING AND COOLING**

*did you know...?* Do the new control units include the system support RELAY MODULE ?



*new*

### Central heating unit

DESCRIPTION	ARTICLE
Digital station unit with control of central heating/cooling	E-22153



*new*

### Control unit connection box

DESCRIPTION	ARTICLE
Connection box	E-18905



*new*

### Heating/cooling application valve

DESCRIPTION	ARTICLE
Heating/cooling application valve	E-22105



- Also valid for the return.

### Pulse sensor

DESCRIPTION	ARTICLE
Thermosound TRP 150 Ø 6,5 x 36 mm. - wire 2 m.	E-19452



### Pocket for pulse sensor

DESCRIPTION	ARTICLE
Ø 7 x 8 x47, nut 1/2" NPT	555001



### External sensor

DESCRIPTION	ARTICLE
2 meters, IP65-NTC 1% - 10K OHM-25°C	E-18901



*new*

### Anti-steam sensor

DESCRIPTION	ARTICLE
To prevent steam	E-22106

**NOTE:** The order for this installation is comprised of: central heating unit, control unit connection box, heating/cooling application valve and the necessary sensors.

## UNDERFLOOR HEATING / COOLING COMPONENTS FOR CONTROL

### CLIMATE CONTROL ACCESSORIES



- Easy to install: first screw the nut onto the valve, and then screw on the head until you hear a click. The cable does not obstruct assembly.

#### Thermoelectric head

DESCRIPTION	ARTICLE	PIECES/BOX
M30x1,5 NC 230V head	CT410800	24
M30x1,5 NC 230Vhead with micro	V-05001	24
Adapter connector M30x1,5	V-02070	1
Adapter connector M28	V-02214	1



#### Safety contact thermostat

DESCRIPTION	ARTICLE	PIECES/BOX
TCS safety contact thermostat	543461	50



#### Differential pressure valve

DESCRIPTION	ARTICLE	PIECES/BOX
1 1/4" angle	E-18604	10
1" straight	V-01121	10

# COMPONENTS FOR CONTROL



## MIXING VALVES



### Thermostatic mixing valves for underfloor heating

DESCRIPTION	ARTICLE
3/4" female inlet - 1" male outlet	E-19813



- Outdoor temperature-regulated mixing motor valve.
- External sensor included.
- See diagram on page 25.

### Motorised head for mixing valve

DESCRIPTION	ARTICLE
Outdoor temperature mixer motor	V-05169



### Motorised head for mixing valve

DESCRIPTION	ARTICLE
230V - 5Nm - 60"	E-18683



### Mixing valve

DESCRIPTION	ARTICLE
3 ways 3/4"	E-18382
3 ways 1"	E-18680
3 ways 1 1/2"	E-19792
3 ways 2"	E-19258

- Compatible with motorised element V-05169 and E-18683.

## UNDERFLOOR HEATING / COOLING

### HYDRAULIC UNITS FOR UNDERFLOOR HEATING/COOLING SYSTEMS

#### ■ VARIABLE POINT HYDRAULIC UNITS WITH EXTERNAL TEMPERATURE CONTROL

Variable point hydraulic units consist of 2 shut-off valves, 2 thermometers, **a motorised mixing valve with external temperature adjustment** and a pump (180 mm). Including all these components in a single unit provides major advantages such as easy installation, savings on both materials and labour costs and the guarantee offered by a unit with all its components mounted.



# HYDRAULIC UNITS FOR UNDERFLOOR HEATING/COOLING SYSTEMS



## VARIABLE POINT HYDRAULIC UNITS WITH EXTERNAL TEMPERATURE CONTROL



- Maximum operating temperature: 110°C.
- Maximum operating pressure: 6 bar.
- Connections: 1" female.
- Centre distance: 125 mm.
- Differential pressure valve scale: 0.1 - 0.6 bar.
- Motor:
  - 3-point actuator.
  - 230V.
  - Connection cable: 1,5m.
  - 90° rotation time: 120s.
  - Torque: 6Nm.

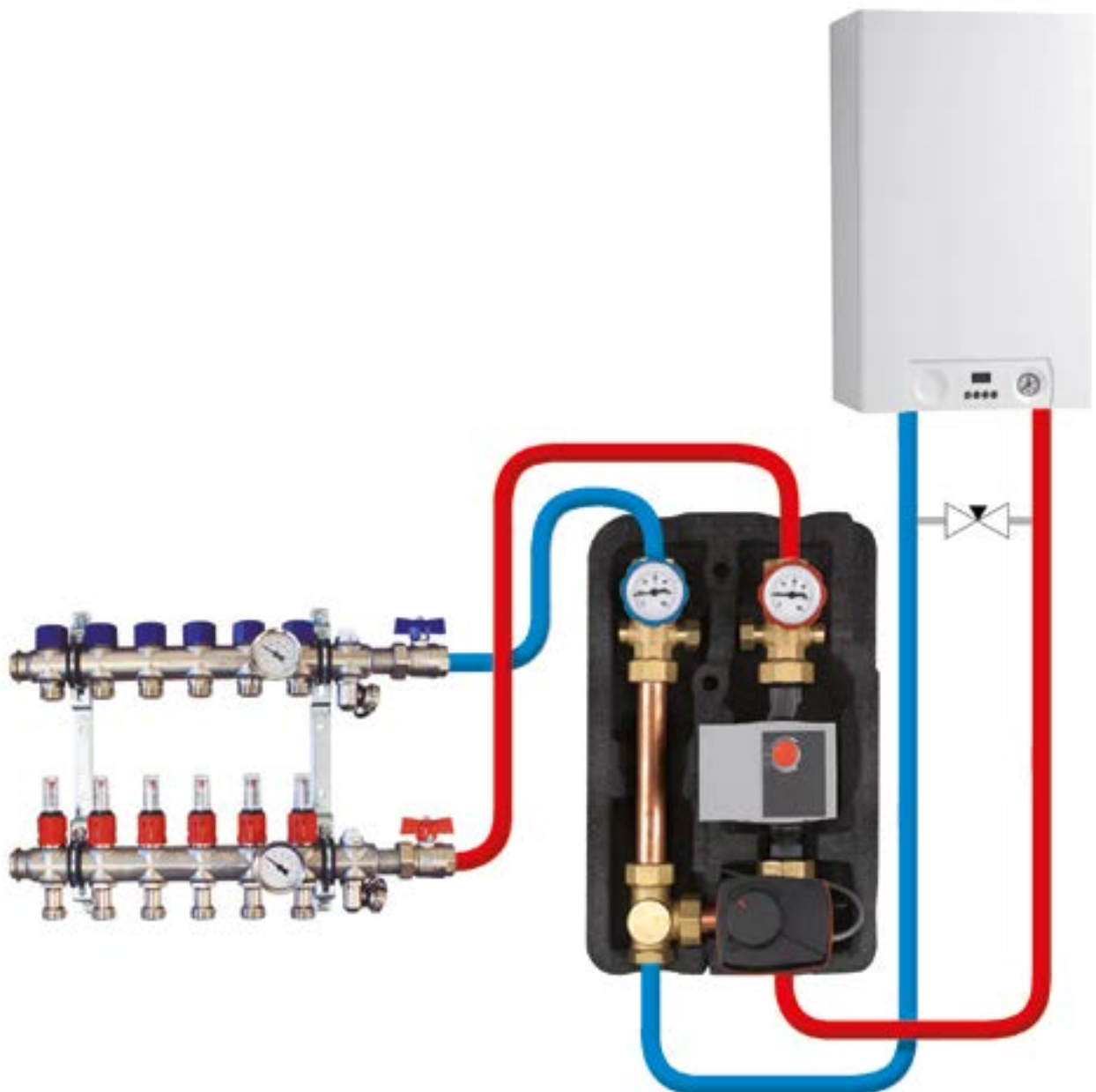
- Hydraulic characteristics (page 46).
- Materials:
  - Insulation: EPP
  - Copper pipes (UNE 1057).
  - Brass bodies (EN 12165CW617N).
  - Seals: EPDM.
- Pump characteristics:
  - Distance between connections: 180 mm.
  - Connections: 1 ½".

DESCRIPTION	PUMP	ARTICLE
1" unit with shut-off valve, motorised mixing valve with external temperature adjustment and thermometers	YONOS PARA RS25/7.5RKA (High Efficiency)	SR3300

**NOTE:** For adjustment, see the section on adjustment according to outdoor temperature (pages 25-26-27).

#### ■ VARIABLE POINT HYDRAULIC UNITS

Variable point hydraulic units consist of 2 shut-off valves, 2 thermometers, **a motorised mixing valve** and a pump (180 mm). Including all these components in a single unit provides major advantages such as easy installation, savings on both materials and labour costs and the guarantee offered by a unit with all its components mounted.



# HYDRAULIC UNITS FOR UNDERFLOOR HEATING/COOLING SYSTEMS



## VARIABLE POINT HYDRAULIC UNITS



- Maximum operating temperature: 110°C.
- Maximum operating pressure: 6 bar.
- Connections: 1" female.
- Centre distance: 125 mm.
- Differential pressure valve scale: 0.1 - 0.6 bar.
- Motor:
  - 3-point actuator.
  - 230V.
  - Connection cable: 1,5m.
  - 90° rotation time: 120s.
  - Torque: 6Nm.

- Hydraulic characteristics (page 46).
- Materials:
  - Insulation: EPP
  - Copper pipes (UNE 1057).
  - Brass bodies (EN 12165CW617N).
  - Seals: EPDM.
- Pump characteristics:
  - Distance between connections: 180 mm.
  - Connections: 1 ½".

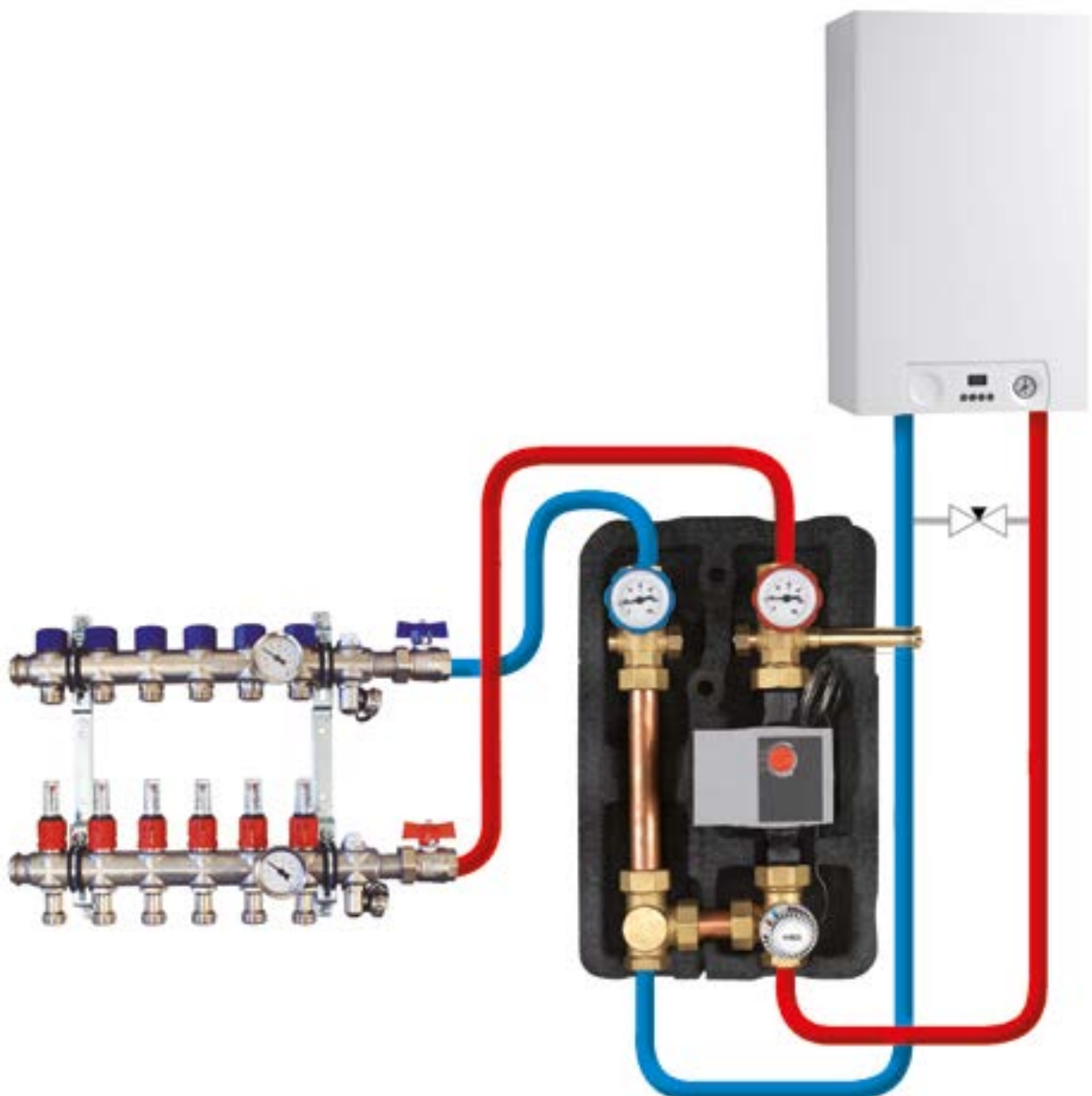
DESCRIPTION	PUMP	ARTICLE
1" unit with shut-off valve, motorised mixing valve and thermometers		SR2100
1" unit with shut-off valve, motorised mixing valve, thermometers and differential pressure valve	RS 25/6-3*	SR2130
1" unit with shut-off valve, motorised mixing valve and thermometers	YONOS PARA RS25/7.5RKA (High Efficiency)	SR2300

**NOTE:** For adjustment, see the section on adjustment according to outdoor temperature (pages 25-26-27).

**\*NOTE:** Check the availability of this item.

#### ■ SINGLE POINT HYDRAULIC UNITS

Single point hydraulic units consist of 2 shut-off valves, 2 thermometers, **a single point mixing valve** and a pump (180 mm). Including all these components in a single unit provides major advantages such as easy installation, savings on both materials and labour costs and the guarantee offered by a unit with all its components mounted.





## ■ SINGLE POINT HYDRAULIC UNITS



- Maximum operating temperature: 110°C.
- Maximum operating pressure: 6 bar.
- Connections: 1" female.
- Centre distance: 125 mm.
- Differential pressure valve scale: 0.1 - 0.6 bar.
- Mixing valve temperature range: 25°C-55°C.
- Hydraulic characteristics (page 46).

- Materials:
  - Insulation: EPP.
  - Copper pipes (UNE 1057).
  - Brass bodies (EN1265CW617N).
  - Seals: EPDM
- Pump characteristics:
  - Distance between connections: 180 mm.
  - Connections: 1 ½".

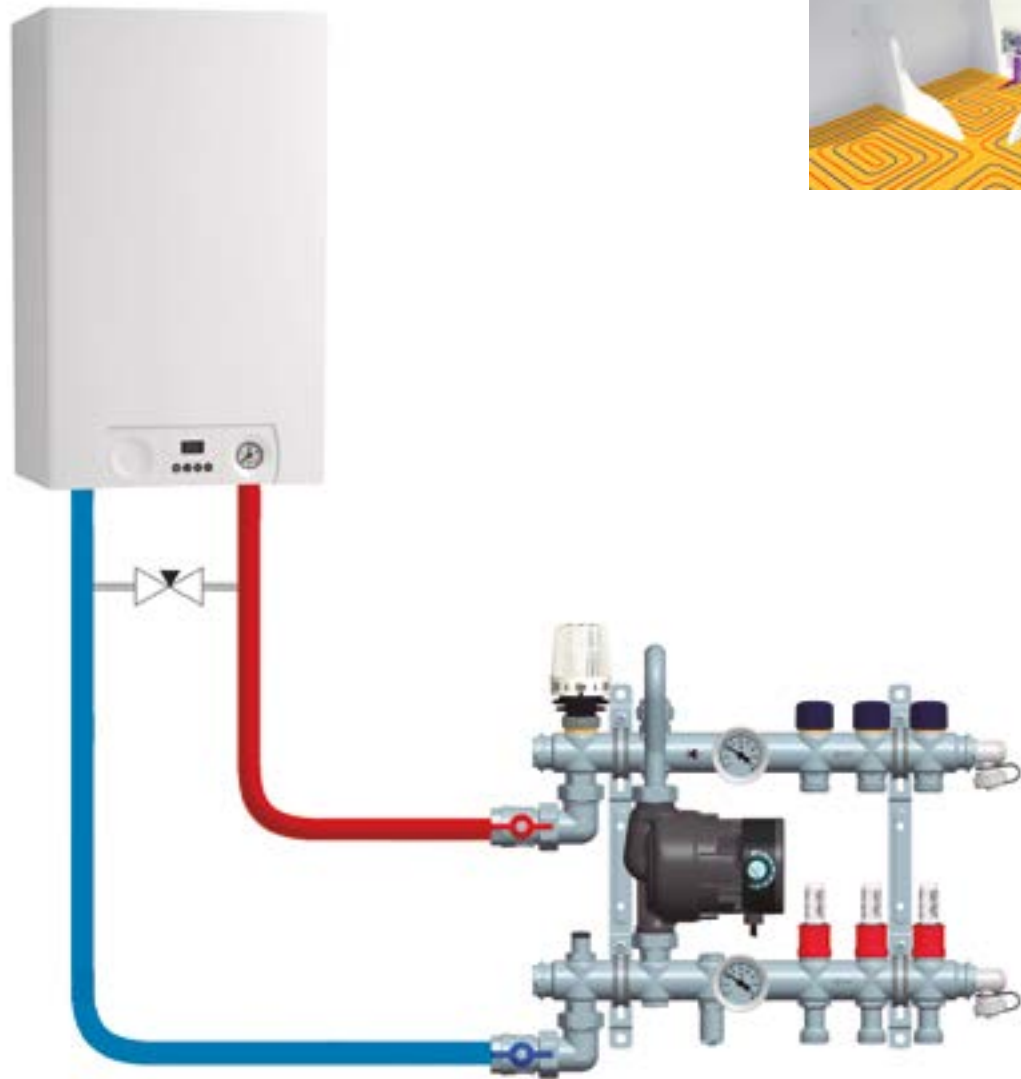
DESCRIPTION	PUMP	ARTICLE
1" unit with shut-off valve, single point mixing valve and thermometers		SR1100
1" unit with shut-off valve, single point mixing valve, thermometers and differential pressure valve	RS 25/6-3*	SR1110
1" unit with shut-off valve, single point mixing valve and thermometers	YONOS PARA RS25/7.5RKA (High Efficiency)	SR1300

\*NOTE: Check the availability of this item.

## UNDERFLOOR HEATING / COOLING MANIFOLD INTEGRATION HYDRAULIC UNIT

### ■ SINGLE POINT AND VARIABLE POINT MANIFOLD INTEGRATION HYDRAULIC UNIT

Single point and variable point manifold integration units are designed to provide professionals with products to assist them in implementing their projects, significantly improving final installation quality. We have carefully designed this product down to the last detail to make it a competitive solution and so that it really is “all advantages”: **safety and reliability**, **savings** on materials and labour costs and **quick and easy** installation, resulting in a fully-guaranteed product.



To install this distribution equipment the pumping section (item SR2200S, SR1200S) must be connected to the required manifold. To install this assembly the manifold shut-off valves must be eliminated.

# MANIFOLD INTEGRATION HYDRAULIC UNIT



## VARIABLE POINT MANIFOLD INTEGRATION HYDRAULIC UNIT



- Maximum operating temperature: 110°C.
- Maximum operating pressure: 6 bar.
- Mixing valve temperature range: 25°C-55°C.
- Pump characteristics:
  - Distance between connections: 130mm.
  - Connections: 1 ½".

**NOTE:** High-efficiency pumps with a variable flow.

DESCRIPTION	ARTICLE
-	SR2200S

## SINGLE POINT MANIFOLD INTEGRATION HYDRAULIC UNIT



- Maximum operating temperature: 110°C.
- Maximum operating pressure: 6 bar.
- Mixing valve temperature range: 25°C-55°C.
- Pump characteristics:
  - Distance between connections: 130mm.
  - Connections: 1 ½".

**NOTE:** High-efficiency pumps with a variable flow.

DESCRIPTION	ARTICLE
-	SR1200S

**NOTE:** To install this distribution equipment the pumping section (item SR2200S, SR1200S) must be connected to the required manifold. To install this assembly the manifold shut-off valves must be eliminated.

## UNDERFLOOR HEATING / COOLING DISTRIBUTION COLLECTOR TO HYDRAULIC UNITS

Distribution collector to connect main circuit to underfloor heating/cooling hydraulic units.

Includes a high-density polyurethane thermal insulation cell.



## DISTRIBUTION COLLECTOR TO HYDRAULIC UNITS



- Cast iron hydraulic body.
- High-density polyurethane thermal insulation cell.
- Main body dimensions: 60/60 mm.
- Hydraulic unit connection wheelbase: 125 mm.
- Main circuit connection wheelbase: 200mm.
- Main circuit connection: 1 ½" female.
- Connection for hydraulic units: 1" male.
- Collector supplied with insulation fitted.

DESCRIPTION	ARTICLE
Distribution collector for two pump units	V-03058



- Cast iron hydraulic body.
- High-density polyurethane thermal insulation cell.
- Main body dimensions: 60/60 mm.
- Hydraulic unit connection wheelbase: 125 mm.
- Main circuit connection wheelbase: 200mm.
- Main circuit connection: 1 ½" female.
- Connection for hydraulic units: 1" male.
- Collector supplied with insulation fitted.

DESCRIPTION	ARTICLE
Distribution collector for three pump units	V-03059

### ACCESSORY



- Brass decoupled 1" male/ 1" female connector.
- Includes one for each unit.

Accessory for coupling the hydraulic units to the distribution collector

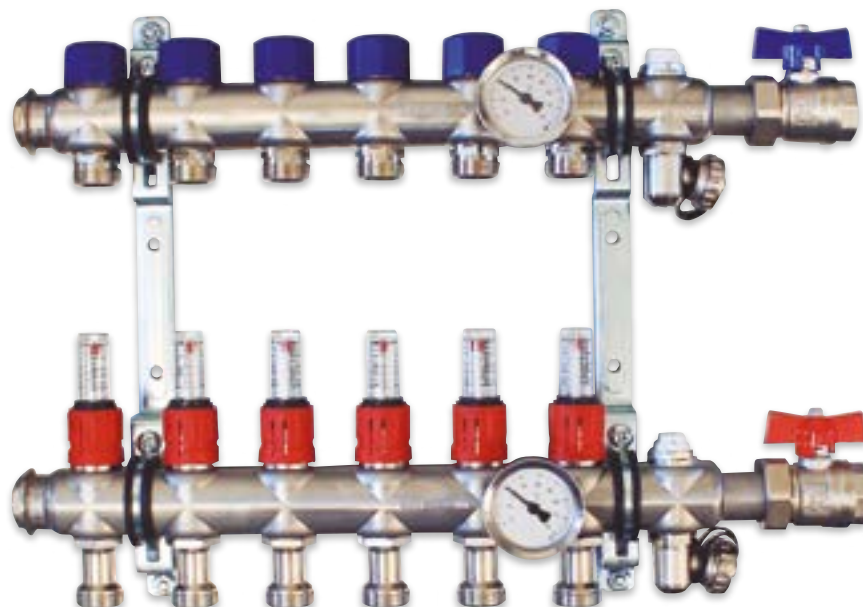
DESCRIPTION	ARTICLE
Connection accessory	V-04132

Distribution manifolds for underfloor heating in inox or modular.





## ■ DISTRIBUTION UNITS WITH FLOW REGULATORS



- DN32 stainless steel collectors.
- With shut-off valves (3/4" connection).
- Include thermostatic valves on return circuit and flow meters on flow circuit.
- Includes thermometer, fill/drain valve and manual drain valve on both branches.
- Outlet thread: 3/4" Eurocone.
- Outlet distance 50 mm.
- Includes metal collector supports.
- Branch distance: 200 mm.

**NOTE:** For manifold and cabinet measurements, see p. 45.

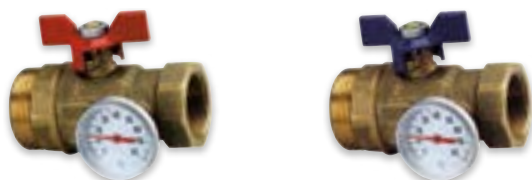
DESCRIPTION	ARTICLE
2 Ways	SM1002S
3 Ways	SM1003S
4 Ways	SM1004S
5 Ways	SM1005S
6 Ways	SM1006S
7 Ways	SM1007S
8 Ways	SM1008S
9 Ways	SM1009S
10 Ways	SM1010S
11 Ways	SM1011S
12 Ways	SM1012S



*did you know...?*

that a fixing support must be included for every 4 modules?

START MODULE



Shut-off valve

DESCRIPTION	ARTICLE	PIECES / BOX
1" Shut-off valve for impulse without thermometer	E-23147	24
1" Shut-off valve for impulse with thermometer	E-23148	24
1" Shut-off valve for return without thermometer	E-25232	24
1" Shut-off valve for return with thermometer	E-25233	24



Start module

DESCRIPTION	ARTICLE
Start module	E-26795

NOTE: For manifold and cabinet measurements, see p. 45.

INTERMEDIATE MODULES



Module with **M30x1,5** thermostatic valve

DESCRIPTION	ARTICLE
1" manifold. Outlet thread 3/4" Euroconus	5140000HA



Module with flow regulator

DESCRIPTION	ARTICLE
1" manifold. Outlet thread 3/4" Euroconus	5130000H



Module with lockshield

DESCRIPTION	ARTICLE
1" manifold. Outlet thread 3/4" Euroconus	5120000H

NOTE: For manifold and cabinet measurements, see p. 45.

## MODULAR MANIFOLDS



### START/END MODULES + SHUT-OFF VALVE UNIT



Start/end module with drain valve and drain tap

DESCRIPTION	ARTICLE
With drain valve and drain tap	E-26796



Start/end modules + shut-off valve unit

DESCRIPTION	ARTICLE
Start/end modules + shut-off valve unit	E-23145

**NOTE:** For manifold and cabinet measurements, see p. 45.

### SUPPORT FOR MODULAR MANIFOLDS



- 2 units per bag.

DESCRIPTION	ARTICLE	PIECES/BOX
Support for modular manifolds	E-23149	15

**NOTE:** For manifold and cabinet measurements, see p. 45.

## UNDERFLOOR HEATING / COOLING COMPONENTS FOR DISTRIBUTION EQUIPMENT

### MANIFOLD INSPECTION BOXES



- Background adjustable between 90 and 130 mm. with lock incorporated.
- Steel plate, epoxy painted.
- White (RAL 9010), rust-proofed.
- Stronger.
- Height manifold variable into the inspection box.

#### Metallic inspection box to build in

DESCRIPTION (width x high (mm))	ARTICLE
401 x 510	1005090
540 x 510	1006090
690 x 510	1007090
840 x 510	1008090

### DISTRIBUTION EQUIPMENT INSPECTION BOXES



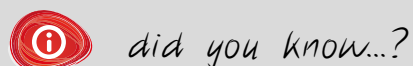
- Background adjustable between 150 and 190 mm. with lock incorporated.
- Steel plate, epoxy painted.
- White (RAL 9010), rust-proofed.
- Stronger.
- Height manifold variable into the inspection box.

#### Metallic inspection box to build in

DESCRIPTION (width x high (mm))	ARTICLE
690 x 525	1007150
840 x 525	1008150
990 x 525	1009150
1140 x 525	1010150



## MANIFOLD INSPECTION BOXES



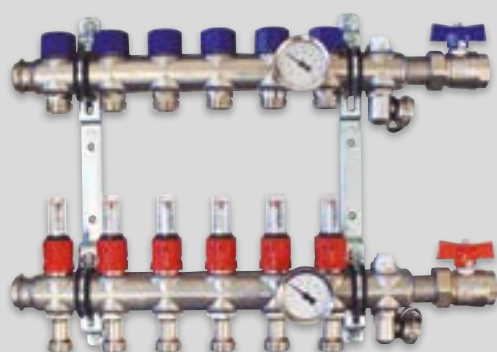
**the manifold inspection boxes can be ordered dismantled, so that they take up less space?**

Our manifold inspection boxes are ready for quick and easy assembly. We supply the boxes folded so that you can assemble them whenever you wish.

Indications for choosing the manifold inspection boxes are given below.

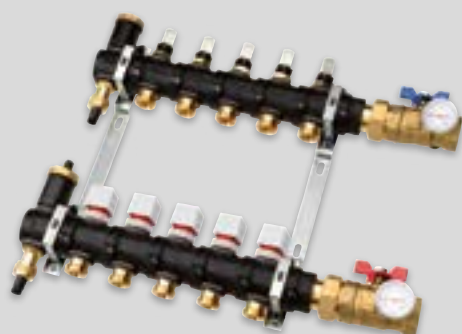
How to choose a **cabinet** according to the type of manifold.

STAINLESS STEEL FLOW CONTROL MANIFOLDS – MANUAL, THERMOSTATIC AND LOCKSHIELD ACTIVATION – MANUAL THERMOSTATIC ACTIVATION



MODULAR MANIFOLDS

Ways	Manifold measurement	Metallic inspection box
2 Ways	264 mm.	401 mm.
3 Ways	294 mm.	401 mm.
4 Ways	344 mm.	401 mm.
5 Ways	394 mm.	540 mm.
6 Ways	444 mm.	540 mm.
7 Ways	494 mm.	540 mm.
8 Ways	544 mm.	690 mm.
9 Ways	594 mm.	690 mm.
10 Ways	644 mm.	690 mm.
11 Ways	694 mm.	840 mm.
12 Ways	744 mm.	840 mm.



DISTRIBUTION EQUIPMENT

Ways	Manifold measurement	Metallic inspection box
2 Ways	283 mm.	401 mm.
3 Ways	333 mm.	401 mm.
4 Ways	383 mm.	540 mm.
5 Ways	433 mm.	540 mm.
6 Ways	483 mm.	540 mm.
7 Ways	533 mm.	690 mm.
8 Ways	583 mm.	690 mm.
9 Ways	633 mm.	690 mm.
10 Ways	683 mm.	840 mm.
11 Ways	733 mm.	840 mm.
12 Ways	783 mm.	840 mm.

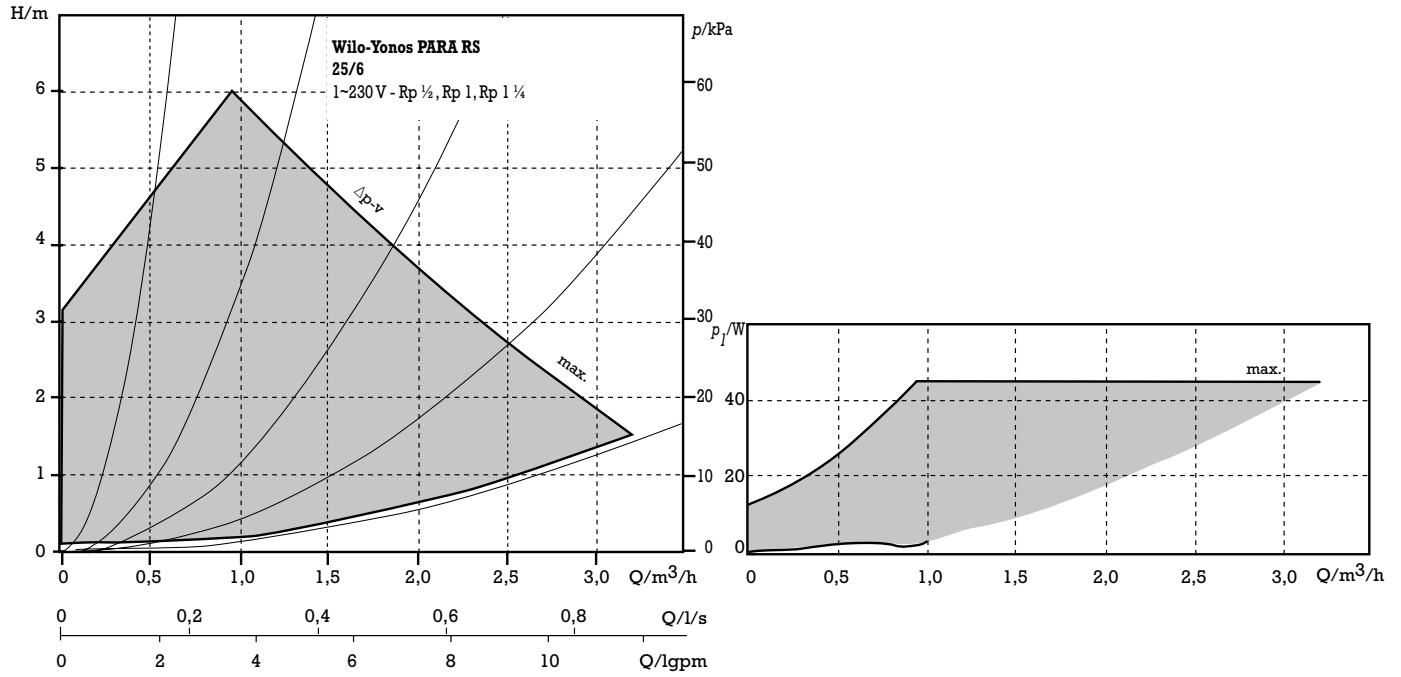


Ways	Distribution equipment measurement	Metallic inspection box
2 Ways	494 mm.	690 mm.
3 Ways	524 mm.	690 mm.
4 Ways	574 mm.	690 mm.
5 Ways	624 mm.	690 mm.
6 Ways	674 mm.	840 mm.
7 Ways	724 mm.	840 mm.
8 Ways	774 mm.	840 mm.
9 Ways	824 mm.	990 mm.
10 Ways	874 mm.	990 mm.
11 Ways	924 mm.	990 mm.
12 Ways	974 mm.	1140 mm.

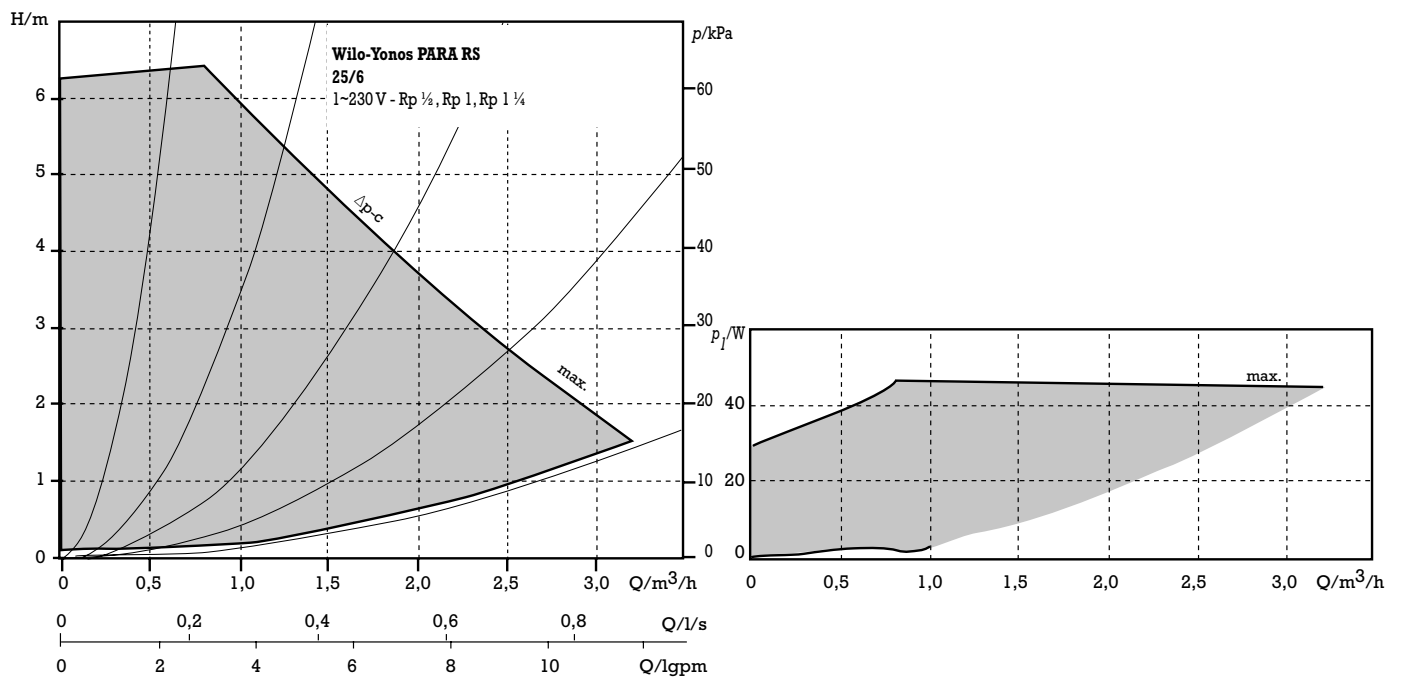
**HIDRAULIC CHARACTERICS**

• Pump WILO "Yonos Para RS 25/6"

$\Delta p-v$  (variable)



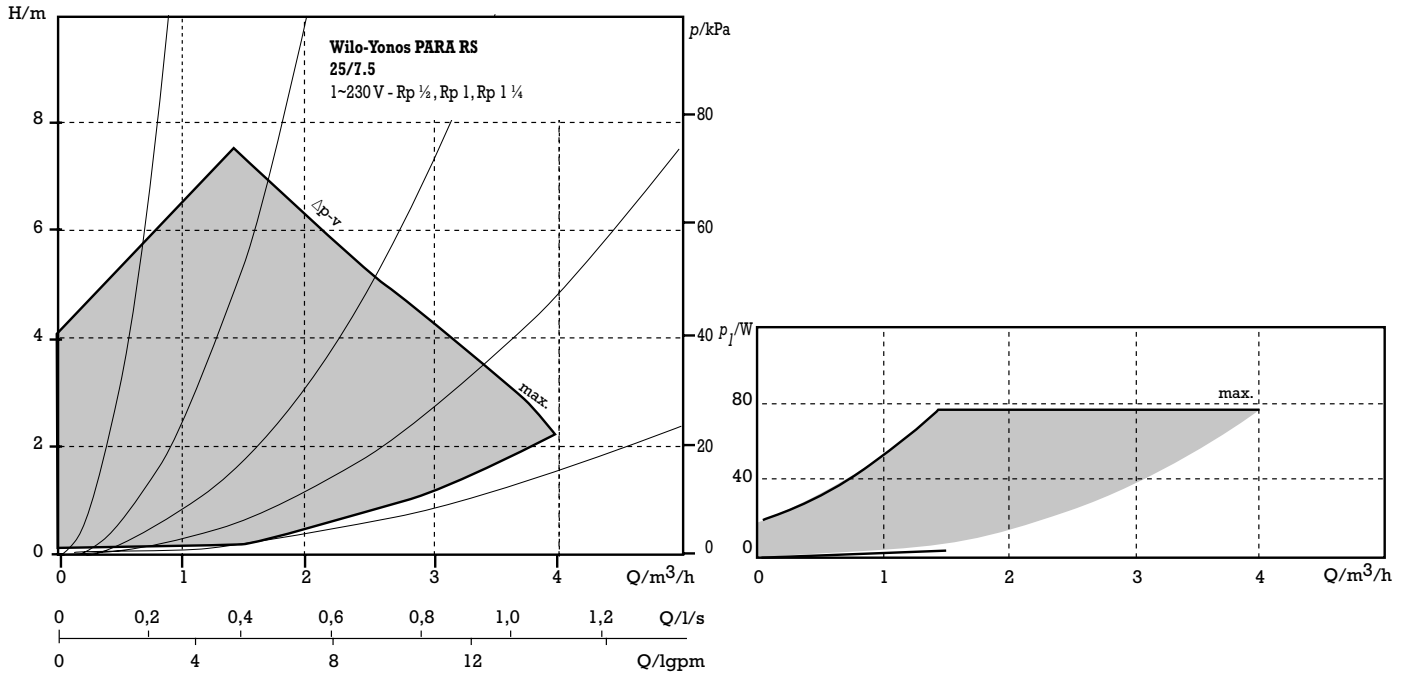
$\Delta p-c$  (constant)



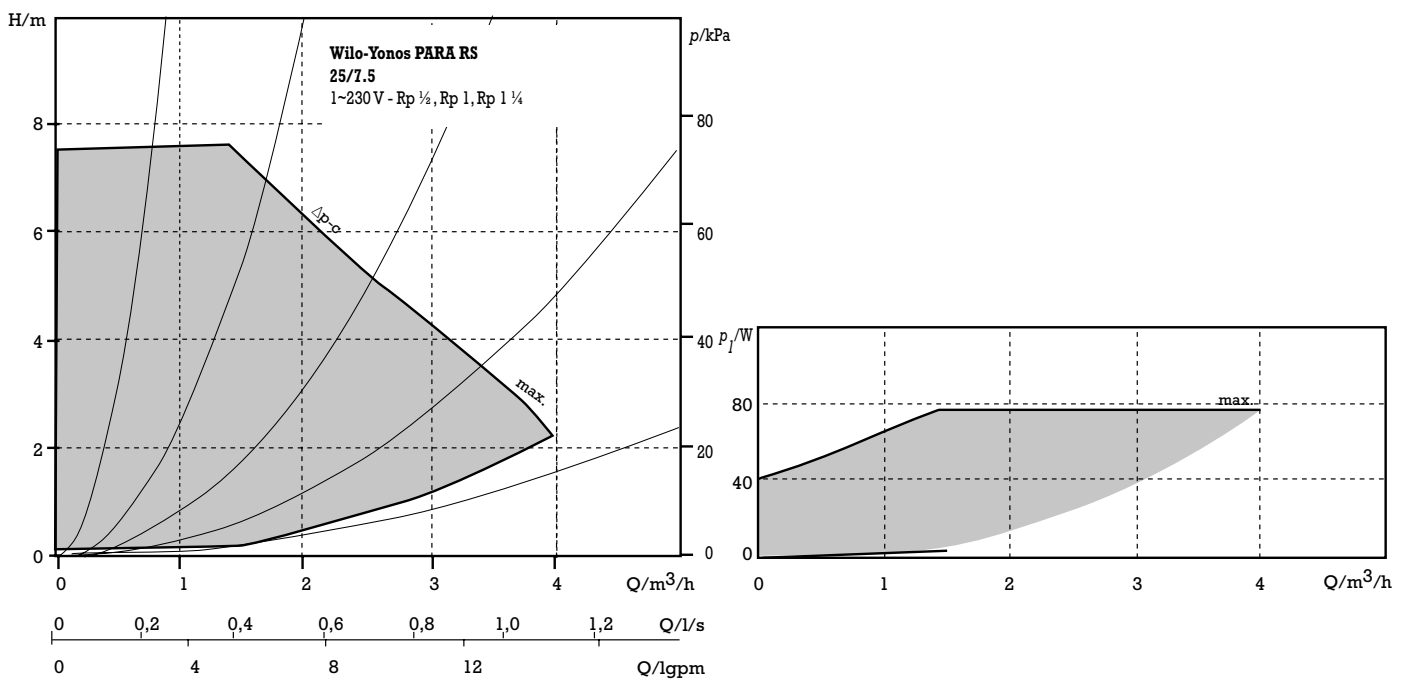


• Pump WILO "Yonos Para RS 25/7.5"

$\Delta p-v$  (variable)

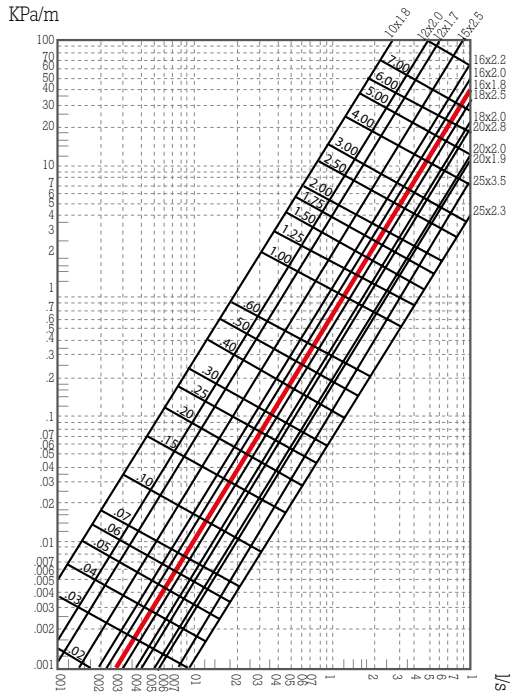


$\Delta p-c$  (constant)



**HIDRAULIC CHARACTERISTICS**

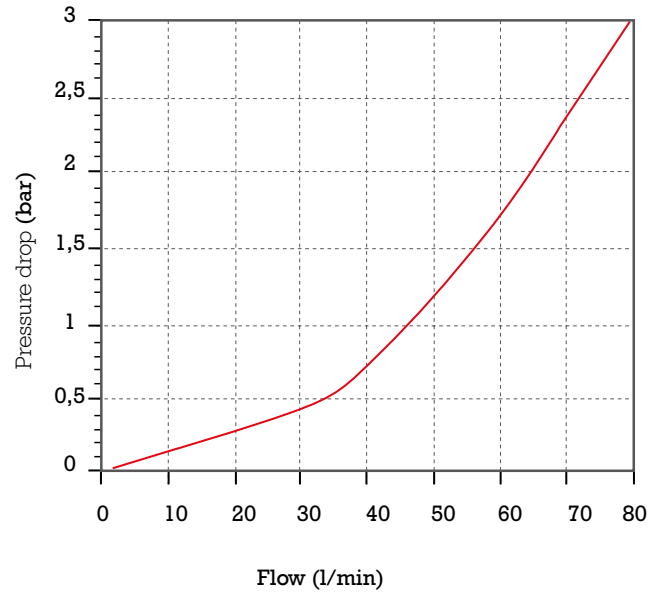
- PE-X and PE/AL/PE-X pressure drop



Correction factor for other temperatures

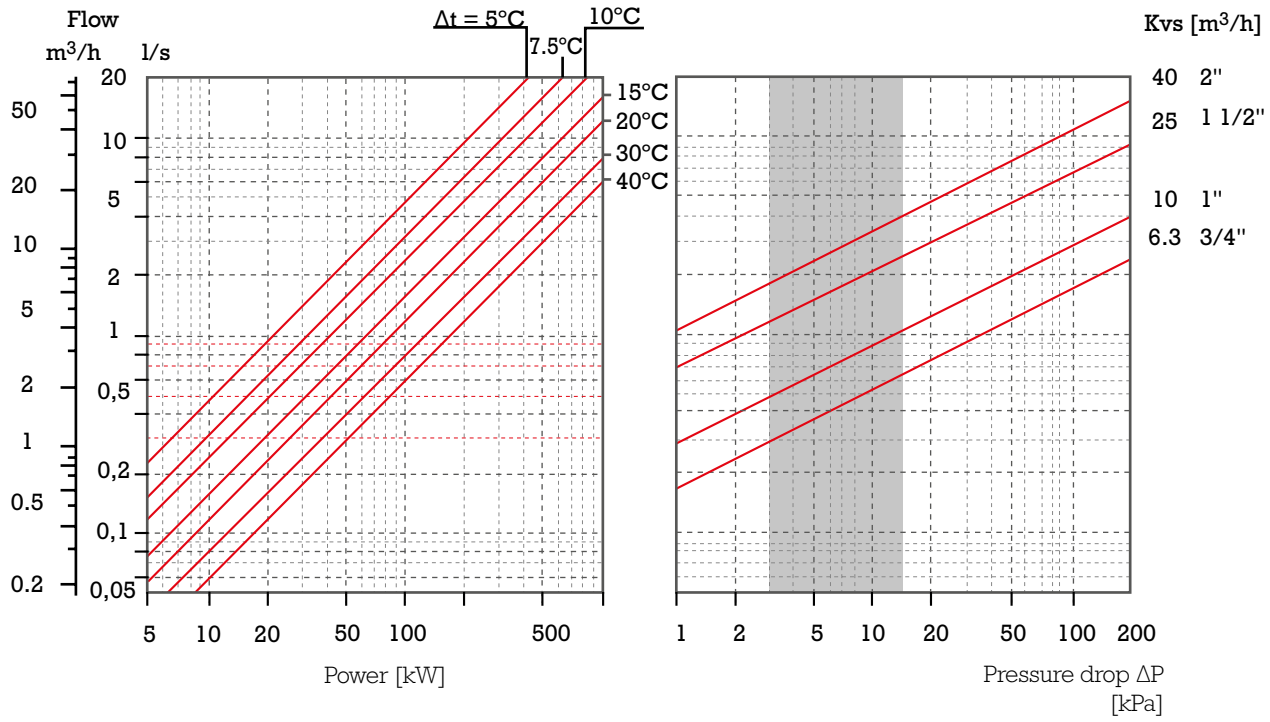
Temperature °C	90	80	60	50	40	30	20
Factor	0,95	0,98	1,02	1,05	1,10	1,14	1,20
Water temperature	70°C						

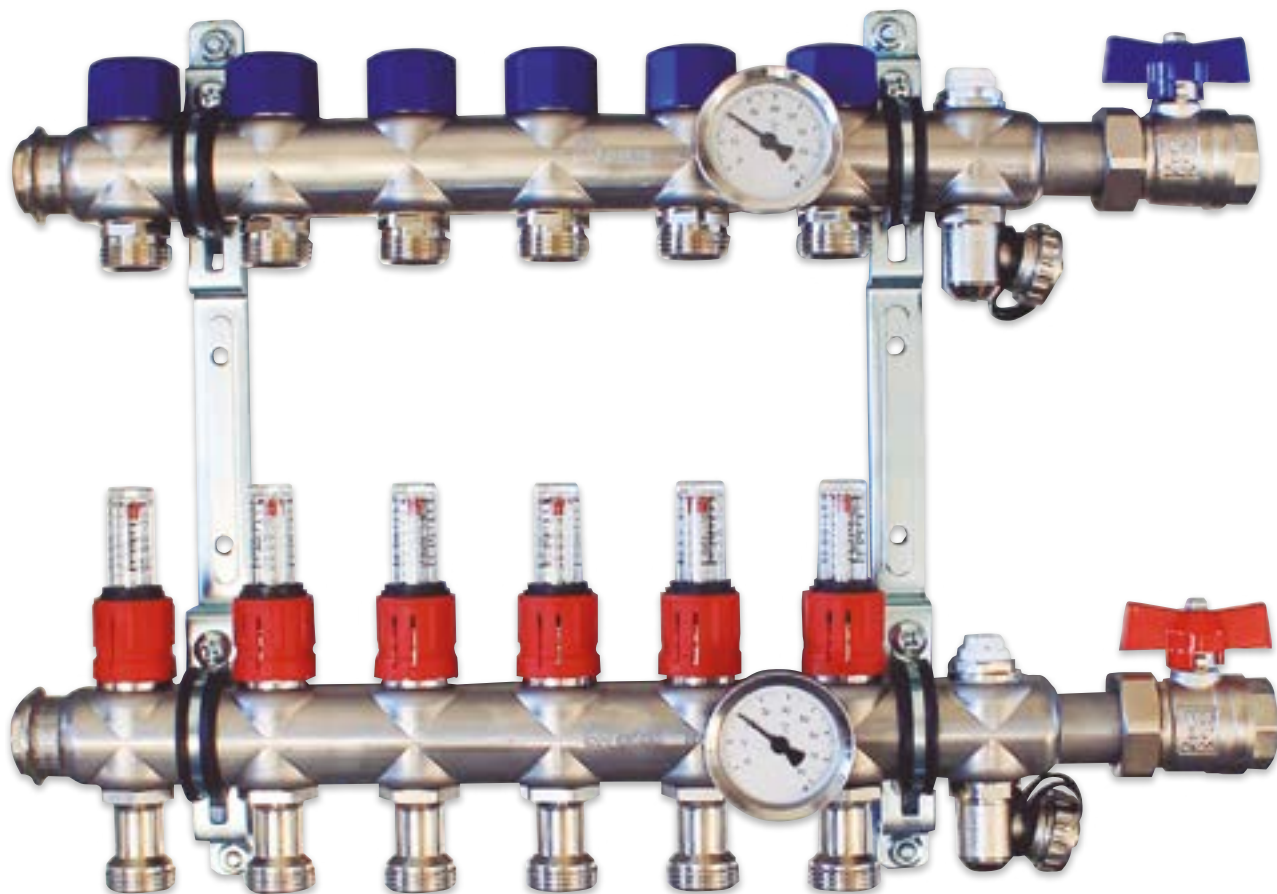
- Mixing valves thermostatics





• **Mixing valves**





---

## MANIFOLDS AND DISTRIBUTION EQUIPMENT

---

- Radiators distribution equipment .....	52
- Components for radiators .....	57
- Underfloor heating/cooling distribution equipment.....	58
- Modular manifolds .....	60
- Components for distribution equipment <b>NEW</b> .....	64

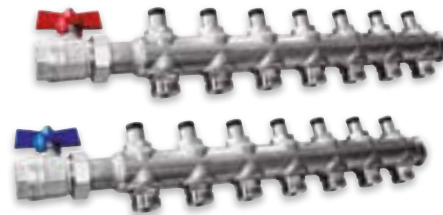
# HIGHLIGHTS



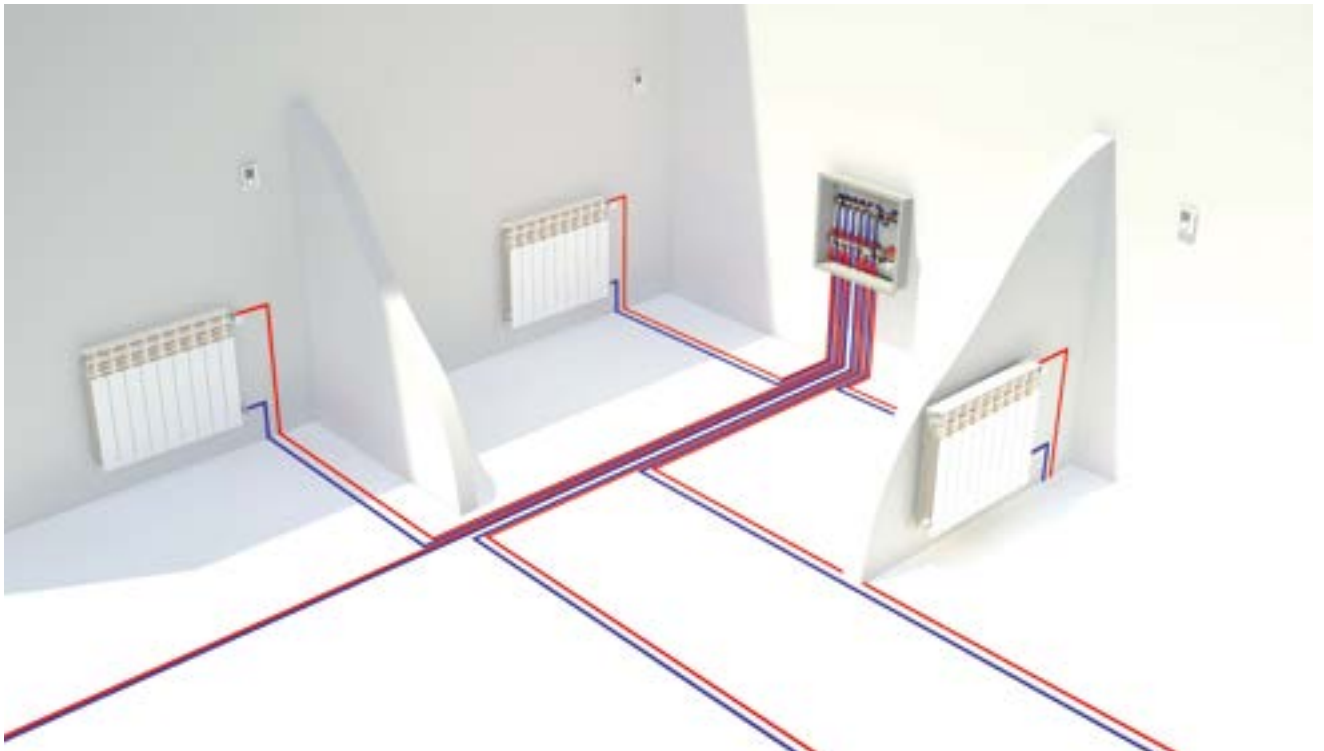
PAGE 54



PAGE 57



PAGE 55



 *did you know...?*

**radiators** can be installed **with manifolds?**

Advantages:

- Centralised hydraulics installation.
- The installation can be centrally controlled.
- "Visible" joints, at specific points, not inside walls, floors, etc.

can the installation be made **without a valve on the radiator?**

Advantages:

- The installation can be centrally regulated.
- No "obstacles".
- It is cleaner.

To regulate the temperature of each room, is enough to install a thermostat connected to the manifold thermoelectric head in each one.

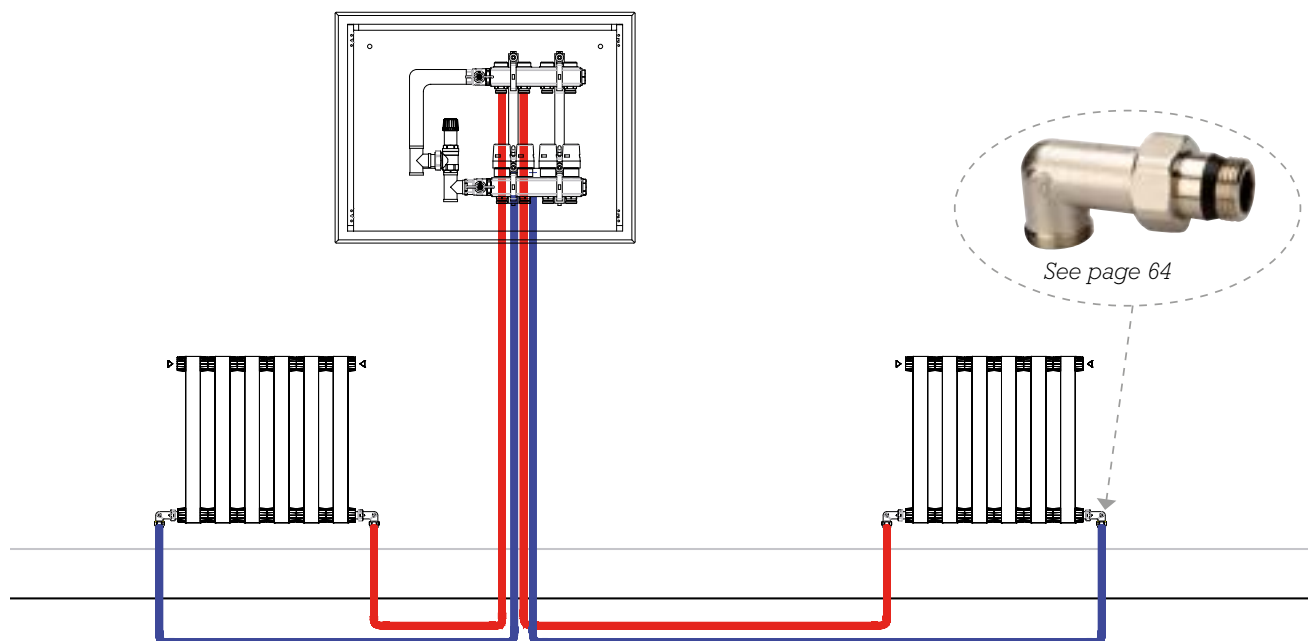
can the installation be made **with two-pipe valves if the radiator has a single-pipe format?**

Advantages:

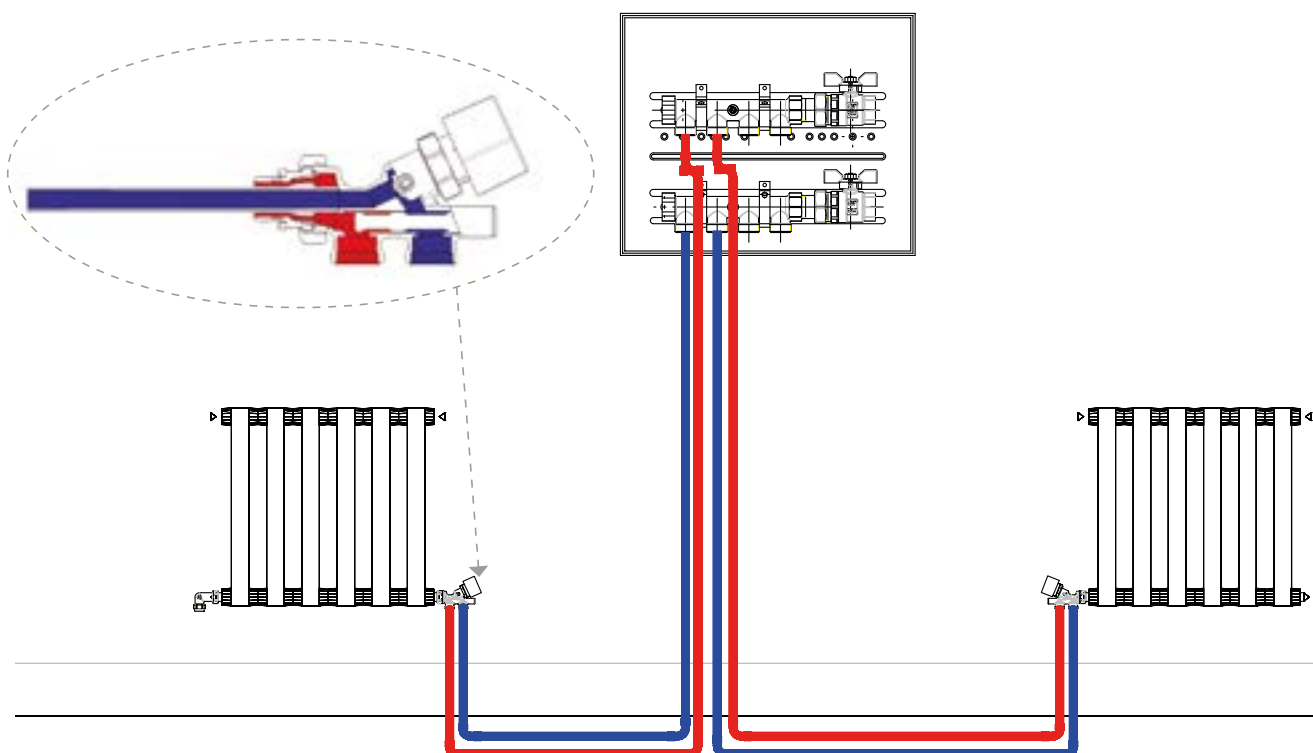
- One single inlet point to the radiator.
- The balancing is made from the valve itself.

# RADIATORS DISTRIBUTION EQUIPMENT

for installations without a valve on the radiator

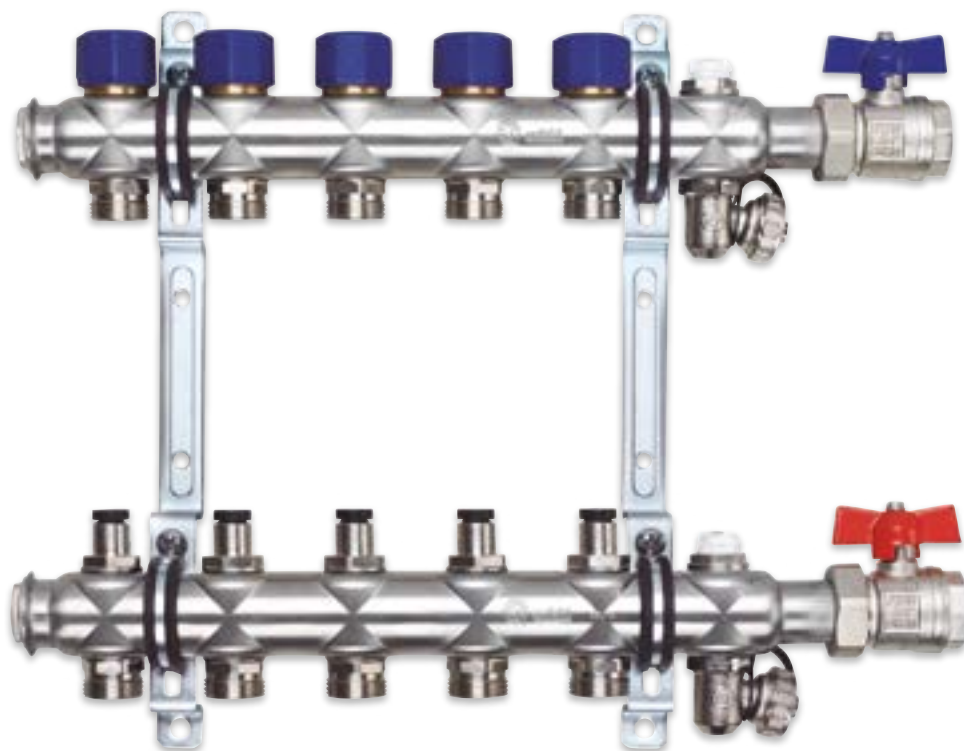


for two-pipe installations with a single-pipe format



## MANIFOLDS AND DISTRIBUTION EQUIPMENT RADIATORS DISTRIBUTION EQUIPMENT

FOR INSTALLATIONS WITH  
**NO VALVE ON THE RADIATOR**



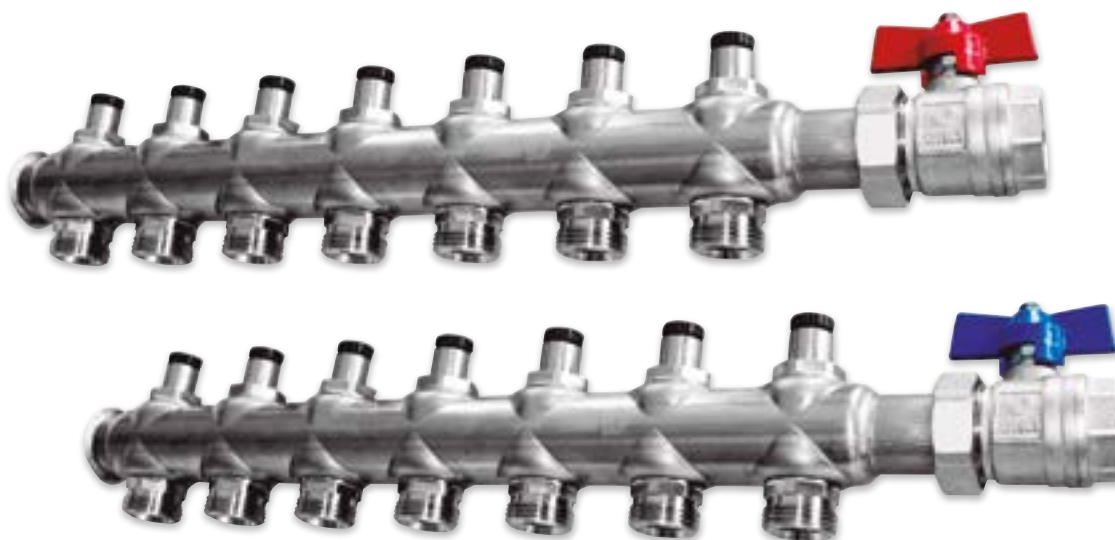
- DN32 stainless steel collectors.
- With shut-off valves (3/4" connection).
- Include thermostatic valves on return circuit and lockshields on flow circuit.
- Includes thermometer, fill/drain valve and manual drain valve on both branches.
- Outlet thread: 3/4" Eurocone.
- Outlet distance 50 mm.
- Includes metal collector supports.
- Branch distance: 200 mm.

**NOTE:** For manifold and cabinet measurements, see p. 67.

DESCRIPTION	ARTICLE
2 Ways	SM1102S
3 Ways	SM1103S
4 Ways	SM1104S
5 Ways	SM1105S
6 Ways	SM1106S
7 Ways	SM1107S
8 Ways	SM1108S
9 Ways	SM1109S
10 Ways	SM1110S
11 Ways	SM1111S
12 Ways	SM1112S

# RADIATORS DISTRIBUTION EQUIPMENT

## MONOTUBE AND BITUBE INSTALLATIONS



- DN32 stainless steel collector pair.
- With regulating lockshields.
- With shut-off valves (3/4" connection).
- Outlet thread: 3/4" Eurocone.
- Outlet distance 50 mm.

**NOTE:** For manifold and cabinet measurements, see p. 67.

DESCRIPTION	ARTICLE
2 Ways	SM1302S
3 Ways	SM1303S
4 Ways	SM1304S
5 Ways	SM1305S
6 Ways	SM1306S
7 Ways	SM1307S
8 Ways	SM1308S
9 Ways	SM1309S
10 Ways	SM1310S

# MANIFOLDS AND DISTRIBUTION EQUIPMENT

## RADIATORS DISTRIBUTION EQUIPMENT

### MONOTUBE AND BITUBE INSTALLATIONS



- DN32 stainless steel collector pair.
- With shut-off valves (3/4" connection).
- Outlet thread: 3/4" Eurocone.
- Outlet distance 50 mm.

**NOTE:** For manifold and cabinet measurements, see p. 67.

DESCRIPTION	ARTICLE
2 Ways	SM1202S
3 Ways	SM1203S
4 Ways	SM1204S
5 Ways	SM1205S
6 Ways	SM1206S
7 Ways	SM1207S
8 Ways	SM1208S
9 Ways	SM1209S
10 Ways	SM1210S

# COMPONENTS FOR RADIATORS

## MANIFOLDS



- DN32 stainless steel collectors.
- Outlet thread: 3/4" Eurocone.
- Outlet distance 50 mm.

**NOTE:** For manifold and cabinet measurements, see p. 67.

### Manifolds without regulating lockshields

DESCRIPTION	ARTICLE
2 Ways	SM1202U
3 Ways	SM1203U
4 Ways	SM1204U
5 Ways	SM1205U
6 Ways	SM1206U
7 Ways	SM1207U
8 Ways	SM1208U
9 Ways	SM1209U
10 Ways	SM1210U



- DN32 stainless steel collectors.
- With regulating lockshields.
- Outlet thread: 3/4" Eurocone.
- Outlet distance 50 mm.

**NOTE:** For manifold and cabinet measurements, see p. 67.

### Manifolds with regulating lockshields

DESCRIPTION	ARTICLE
2 Ways	SM1302U
3 Ways	SM1303U
4 Ways	SM1304U
5 Ways	SM1305U
6 Ways	SM1306U
7 Ways	SM1307U
8 Ways	SM1308U
9 Ways	SM1309U
10 Ways	SM1310U



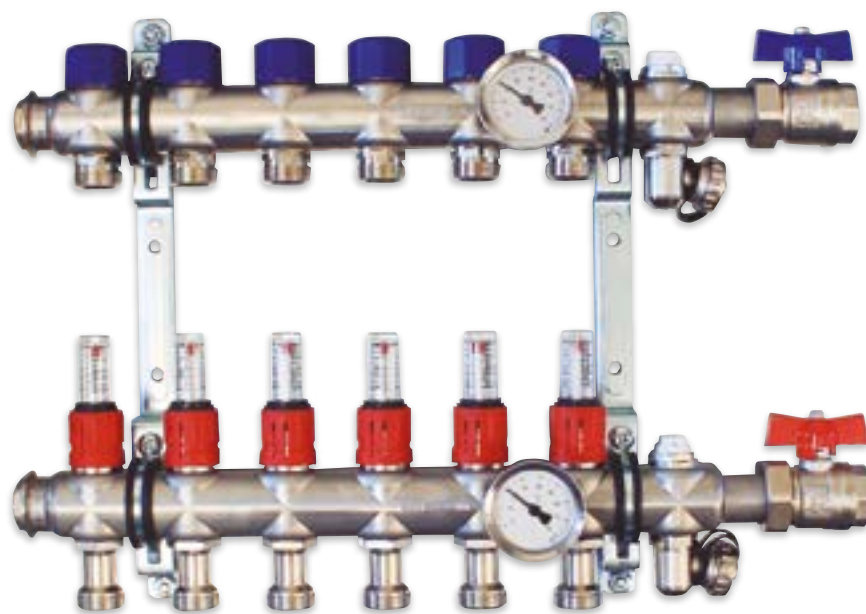
MANIFOLDS AND DISTRIBUTION EQUIPMENT  
UNDERFLOOR HEATING/COOLING DISTRIBUTION EQUIPMENT

Distribution manifolds for underfloor heating in inox or modular.



# UNDERFLOOR HEATING/COOLING DISTRIBUTION EQUIPMENT

## ■ DISTRIBUTION UNITS WITH FLOW REGULATORS



- DN32 stainless steel collectors.
- With shut-off valves (3/4" connection).
- Include thermostatic valves on return circuit and flow meters on flow circuit.
- Includes thermometer, fill/drain valve and manual drain valve on both branches.
- Outlet thread: 3/4" Eurocone.
- Outlet distance 50 mm.
- Includes metal collector supports.
- Branch distance: 200 mm.

**NOTE:** For manifold and cabinet measurements, see p. 67.

DESCRIPTION	ARTICLE
2 Ways	SM1002S
3 Ways	SM1003S
4 Ways	SM1004S
5 Ways	SM1005S
6 Ways	SM1006S
7 Ways	SM1007S
8 Ways	SM1008S
9 Ways	SM1009S
10 Ways	SM1010S
11 Ways	SM1011S
12 Ways	SM1012S

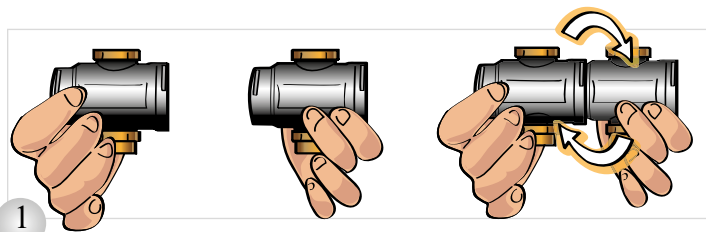
# modular manifolds



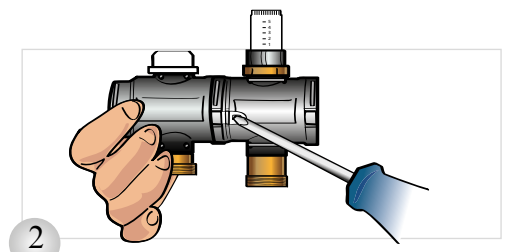
## ADVANTAGES

- Better service, less stock.
- Cleanliness: thanks to their inner sealing gasket which prevents dirt from entering.
- Greater product reliability.

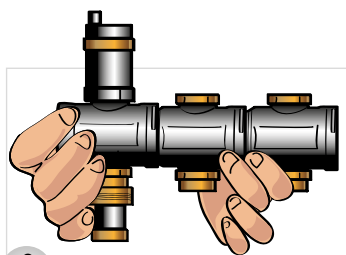
## ● PREPARING THE MANIFOLD



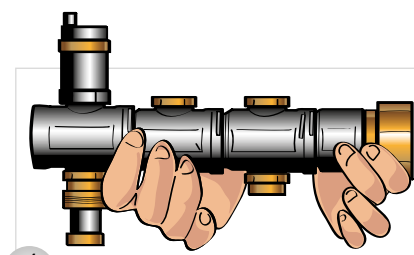
1 The installation of the manifold starts by joining the modules together manually, making the short male connector on one of the modules coincide with the short female connector on the other. Once the modules have been joined, you have to turn one module with-in the other as far as it will go.



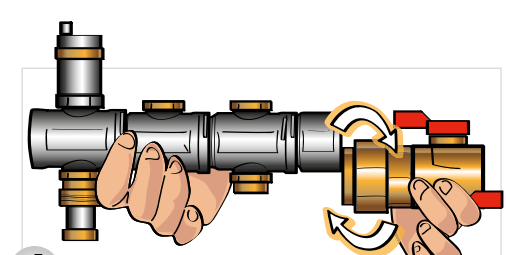
2 To finish, make sure that one part no longer turns with-in the other, pushing the safety element with the help of a tool. Carry out these steps with as many modules as necessary.



3 Once all the modules have been installed you need to fit the final module with the purging device and the drain valve following the same process as above.



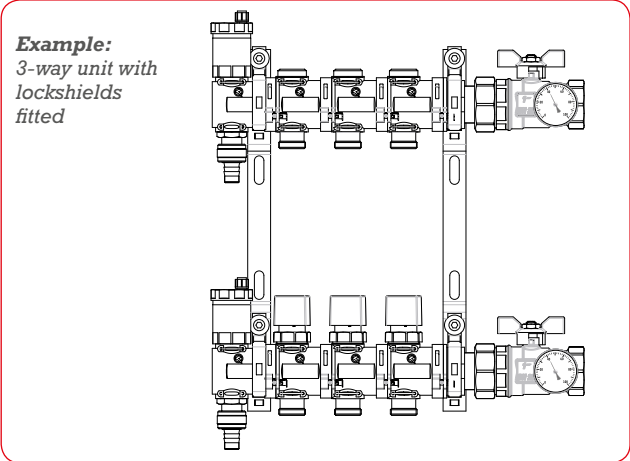
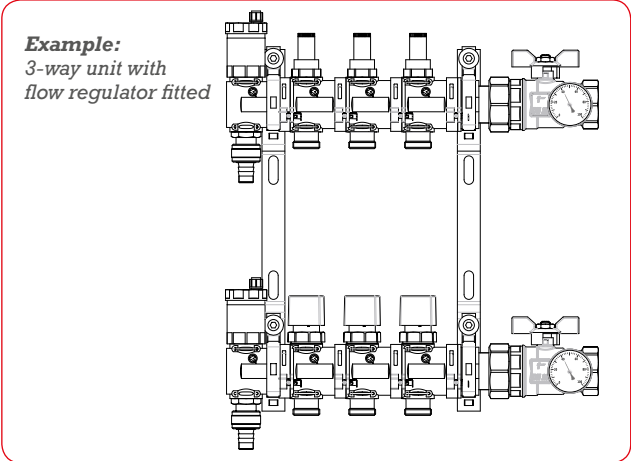
4 Then install the initial module.



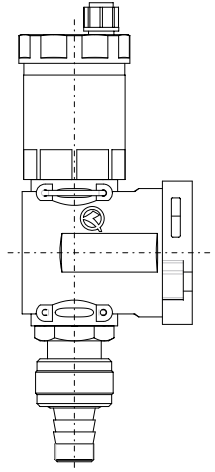
5 The ball valve will be the last element to be connected.

# MODULAR MANIFOLDS

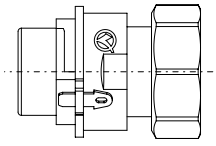
## option diagram



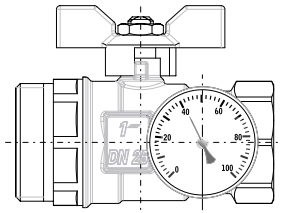
**FINAL MODULE**



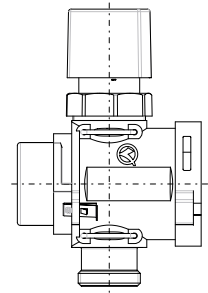
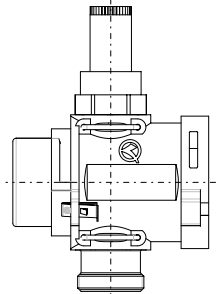
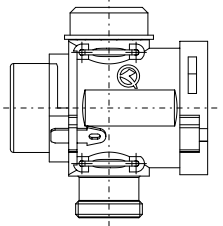
**INITIAL MODULE**



**SHUT-OFF VALVE**

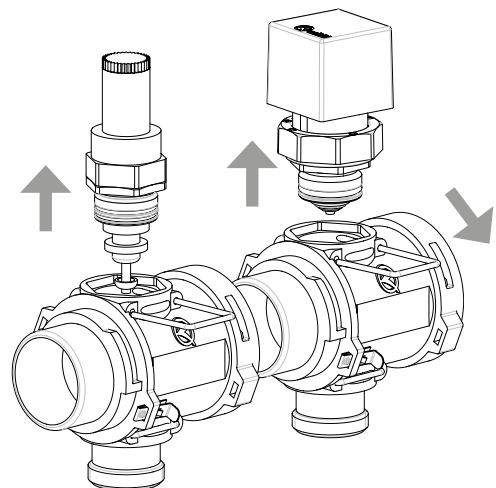


**INTERMEDIATE MODULE**



### Module exchange

Separate modules ensure quick, safe module exchange with "poka-yoke" coupling and an EPDM seal. Different functions can be combined on the same collector, whatever its position. A module's functions can also be replaced or exchanged by changing its functional parts with a simple clip system.



## MANIFOLDS AND DISTRIBUTION EQUIPMENT

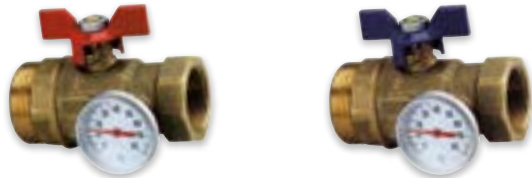
### MODULAR MANIFOLDS



*did you know...?*

that a fixing support must be included for every 4 modules?

#### START MODULE



#### Shut-off valve

DESCRIPTION	ARTICLE	PIECES/BOX
1" Shut-off valve for impulse without thermometer	E-23147	24
1" Shut-off valve for impulse with thermometer	E-23148	24
1" Shut-off valve for return without thermometer	E-25232	24
1" Shut-off valve for return with thermometer	E-25233	24



#### Start module

DESCRIPTION	ARTICLE
Start module	E-26795

**NOTE:** For manifold and cabinet measurements, see p. 67.

#### INTERMEDIATE MODULES



#### Module with **M30x1,5** thermostatic valve

DESCRIPTION	ARTICLE
1" manifold. Outlet thread 3/4" Euroconus	5140000HA



#### Module with flow regulator

DESCRIPTION	ARTICLE
1" manifold. Outlet thread 3/4" Euroconus	5130000H



#### Module with lockshield

DESCRIPTION	ARTICLE
1" manifold. Outlet thread 3/4" Euroconus	5120000H

**NOTE:** For manifold and cabinet measurements, see p. 67.

## MODULAR MANIFOLDS

### START/END MODULES + SHUT-OFF VALVE UNIT



Start/end module with drain valve and drain tap

DESCRIPTION	ARTICLE
With drain valve and drain tap	E-26796



Start/end modules + shut-off valve unit

DESCRIPTION	ARTICLE
Start/end modules + shut-off valve unit	E-23145

**NOTE:** For manifold and cabinet measurements, see p. 67.

### SUPPORT FOR MODULAR MANIFOLDS



- 2 units per bag.

DESCRIPTION	ARTICLE	PIECES/BOX
Support for modular manifolds	E-23149	15

**NOTE:** For manifold and cabinet measurements, see p. 67.

# MANIFOLDS AND DISTRIBUTION EQUIPMENT

## COMPONENTS FOR DISTRIBUTION EQUIPMENT

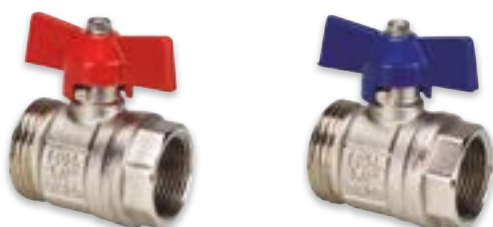
### STAINLESS STEEL SUPPORTS



- 2 units per bag.

DESCRIPTION	ARTICLE
Stainless steel DN 32	V-05003

### ACCESSORIES FOR MANIFOLDS



- A Reinz AFM34 seal is included.

#### Shut-off valve

DESCRIPTION	ARTICLE
Stainless steel DN32 red	V-05004
Stainless steel DN32 blue	V-05005



- Includes nut and hose.

**NOTE:** For M24 accessories, see pages 137-138.

#### Accessory for joining the pipe to the radiator with no valve

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" • M24	E-25193	40



#### Stainless steel manifold for fill/drain valve unit

DESCRIPTION	ARTICLE
-	V-05007



#### Differential pressure valve

DESCRIPTION	ARTICLE
1 1/4" angle	E-18604
1" straight	V-01121

## COMPONENTS FOR DISTRIBUTION EQUIPMENT

### OTHERS COMPONENTS



DESCRIPTION	ARTICLE
Thermometer	V-05352



DESCRIPTION	ARTICLE
Flow controller	V-05351



DESCRIPTION	ARTICLE
Thermostatic fitting	V-05350

### COUPLING TO PIPE ACCESSORIES



#### Stainless steel connection for PEX-A pipe

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" Eurocone Ø16x1,5mm	V-05227	40
3/4" Eurocone Ø16x1,8mm	V-04226	40
3/4" Eurocone Ø20x1,9mm	V-04227	40

#### Stainless steel connection for multi-layer PERT-AL-PERT pipe

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" Eurocone Ø16x2mm	V-04228	40
3/4" Eurocone Ø20x2mm	V-04229	40

- 2 units per bag.

**NOTE:** Ø20 accessories are the same for PEX-A and multilayer PERT-AL-PERT pipes.

# MANIFOLDS AND DISTRIBUTION EQUIPMENT COMPONENTS FOR DISTRIBUTION EQUIPMENT

## MANIFOLD INSPECTION BOXES



- Supports included.

### Plastic inspection box

DESCRIPTION	ARTICLE
335 x 275 x 88 mm.	E-18620
415 x 275 x 88 mm.	E-18621
515 x 275 x 88 mm.	E-18622
615 x 330 x 88 mm.	E-22510



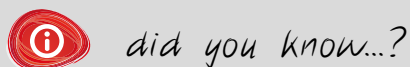
- Background adjustable between 90 and 130 mm. with lock incorporated.
- Steel plate, epoxy painted.
- White (RAL 9010), rust-proofed.
- Stronger.
- Height manifold variable into the inspection box.

### Metallic inspection box to build in

DESCRIPTION (width x high (mm))	ARTICLE
401 x 510	1005090
540 x 510	1006090
690 x 510	1007090
840 x 510	1008090

# COMPONENTS FOR DISTRIBUTION EQUIPMENT

## MANIFOLD INSPECTION BOXES



*did you know...?*

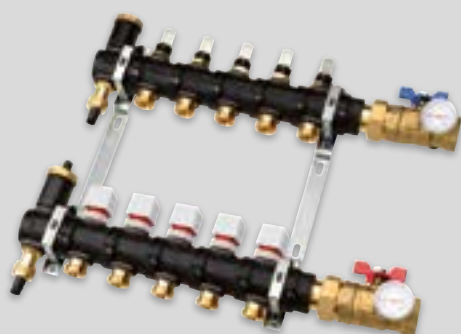
**the manifold inspection boxes can be ordered dismantled, so that they take up less space?**

Our manifold inspection boxes are ready for quick and easy assembly. We supply the boxes folded so that you can assemble them whenever you wish.

Indications for choosing the manifold inspection boxes are given below.

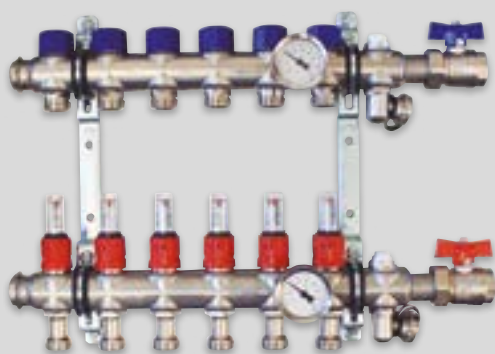
How to choose a **cabinet** according to the type of manifold.

### MODULAR MANIFOLDS



Ways	Manifold measurement	Metallic inspection box	Plastic inspection box
2 Ways	283 mm.	401 mm.	
3 Ways	333 mm.	401 mm.	
4 Ways	383 mm.	540 mm.	
5 Ways	433 mm.	540 mm.	
6 Ways	483 mm.	540 mm.	
7 Ways	533 mm.	690 mm.	
8 Ways	583 mm.	690 mm.	
9 Ways	633 mm.	690 mm.	
10 Ways	683 mm.	840 mm.	
11 Ways	733 mm.	840 mm.	
12 Ways	783 mm.	840 mm.	

### STAINLESS STEEL FLOW CONTROL MANIFOLDS – MANUAL, THERMOSTATIC AND LOCKSHIELD ACTIVATION – MANUAL THERMOSTATIC ACTIVATION



Ways	Manifold measurement	Metallic inspection box	Plastic inspection box
2 Ways	264 mm.	401 mm.	
3 Ways	294 mm.	401 mm.	
4 Ways	344 mm.	401 mm.	
5 Ways	394 mm.	540 mm.	
6 Ways	444 mm.	540 mm.	
7 Ways	494 mm.	540 mm.	
8 Ways	544 mm.	690 mm.	
9 Ways	594 mm.	690 mm.	
10 Ways	644 mm.	690 mm.	
11 Ways	694 mm.	840 mm.	
12 Ways	744 mm.	840 mm.	

### STAINLESS STEEL LOCKSHIELD MANIFOLDS – LOCKSHIELD AND NON-ADJUSTABLE – NON-ADJUSTABLE



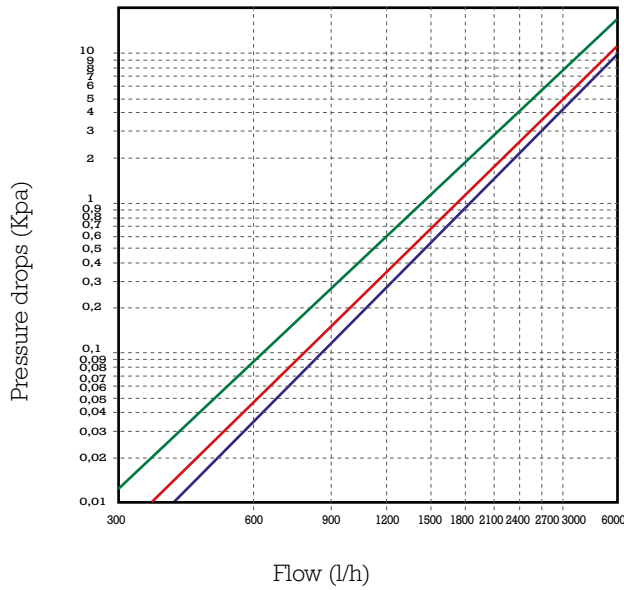
Ways	Manifold measurement	Metallic inspection box	Plastic inspection box
2 Ways	194 mm.	401 mm.	335 mm.
3 Ways	244 mm.	401 mm.	335 mm.
4 Ways	294 mm.	401 mm.	335 mm.
5 Ways	344 mm.	401 mm.	425 mm.
6 Ways	394 mm.	540 mm.	425 mm.
7 Ways	444 mm.	540 mm.	525 mm.
8 Ways	494 mm.	540 mm.	525 mm.
9 Ways	544 mm.	690 mm.	630 mm.
10 Ways	594 mm.	690 mm.	630 mm.

**NOTE:** The fill/drain valve measures 35 mm and is not included in the manifold measurement.



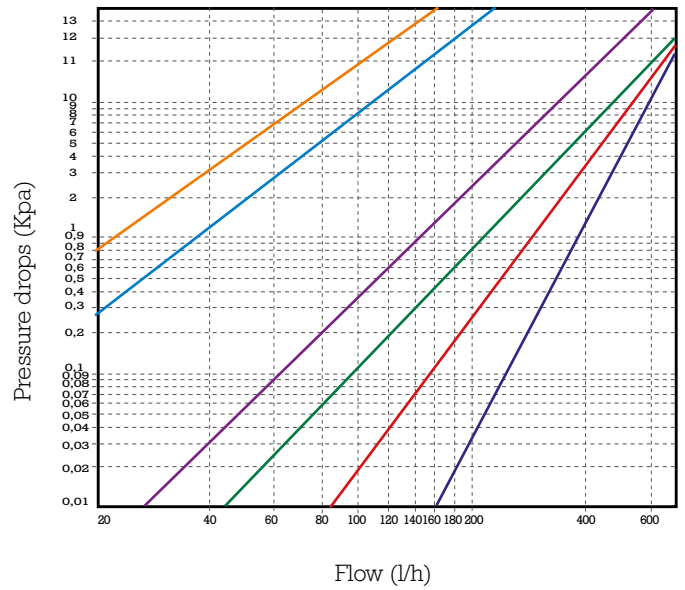
**HIDRAULIC CHARACTERICS**

• **Stainless steel manifolds**



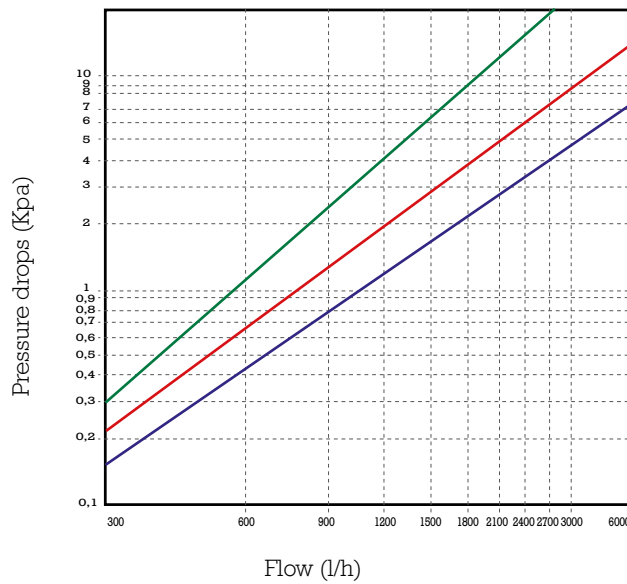
- Stainless steel manifold 4v Kv 0,01=1820  $\frac{l}{h}$
- Stainless steel manifold 8v Kv 0,01=1710  $\frac{l}{h}$
- Stainless steel manifold 10v Kv 0,01=1650  $\frac{l}{h}$

• **Rotating lockshield, stainless steel manifold**



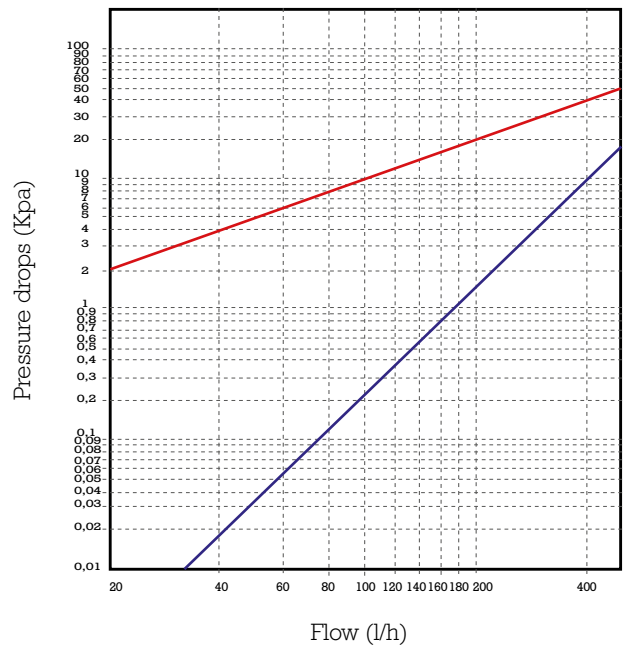
- Lockshield open Kv 0,01=377  $\frac{l}{h}$
- Lockshield 1 turn closed Kv 0,01=300  $\frac{l}{h}$
- Lockshield 2 turns closed Kv 0,01=217  $\frac{l}{h}$
- Lockshield 3 turns closed Kv 0,01=130  $\frac{l}{h}$
- Lockshield 4 turns closed Kv 0,01=34  $\frac{l}{h}$
- Lockshield 5 turns closed Kv 0,01=10  $\frac{l}{h}$

• **Modular manifolds**



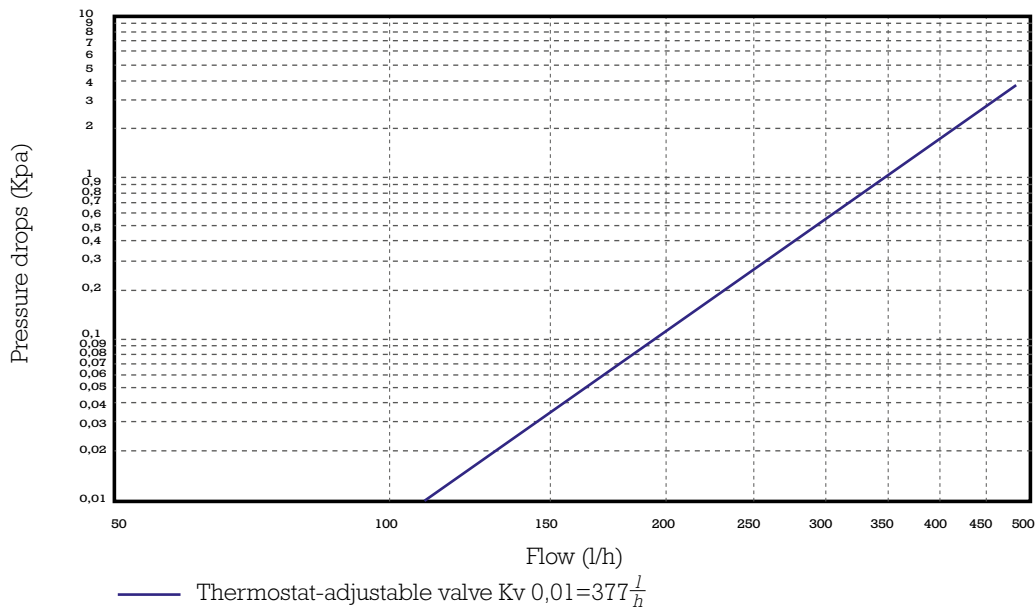
- Modular manifold 4v Kv 0,01=1055  $\frac{l}{h}$
- Modular manifold 8v Kv 0,01=720  $\frac{l}{h}$
- Modular manifold 12v Kv 0,01=500  $\frac{l}{h}$

• **Rotating lockshield, modular manifold**

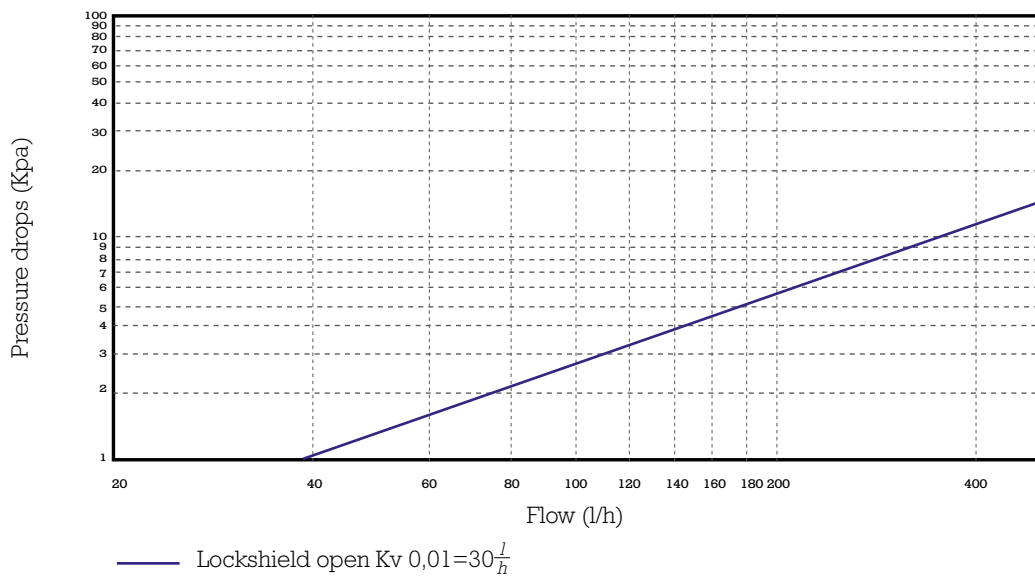


- Lockshield open = 143  $\frac{l}{h}$
- Lockshield 1 turn closed = 20  $\frac{l}{h}$

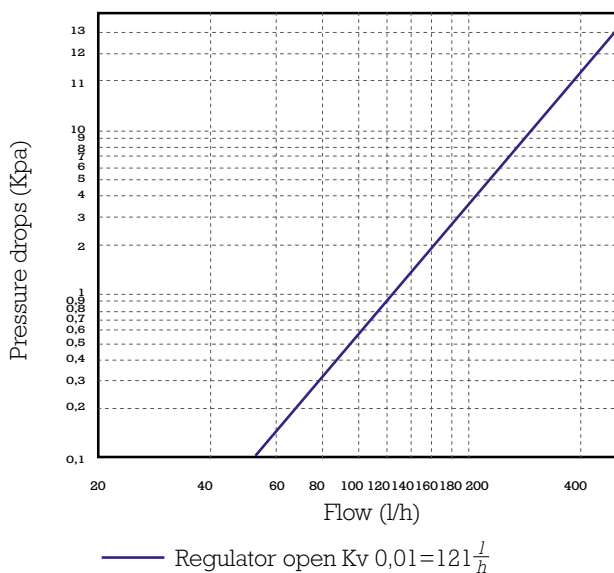
- Thermostat-adjustable valve, stainless steel manifold



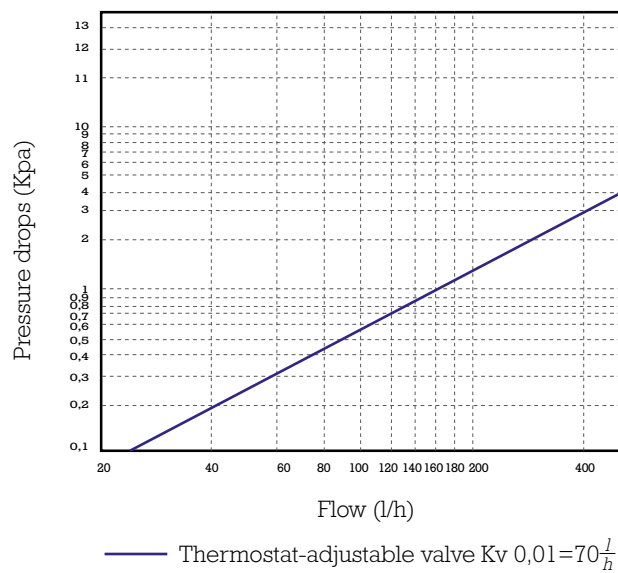
- Regulator open, stainless steel manifold



- Regulator open, modular manifold



- Thermostat-adjustable valve, modular manifold





energy  
efficiency



## SOLAR HEATING SYSTEMS AND COMPONENTS

- "ALL-IN-ONE" Solar System .....	72
- "SOLAR DRAIN BACK" System .....	76
- "FORCED SOLAR PACK" System .....	78
- "THERMOSIPHON SOLAR PACK" System .....	80
- Components for Solar Heating System:	
• Flat collector .....	82
• Structures, accessories, vertical tanks .....	83
• Drain Unit: Hydraulic unit high efficiency with Drain-Back System <b>NEW</b> .....	84
• Hydraulic units high efficiency .....	92
• Hydraulic units high efficiency for major installations <b>NEW</b> .....	96
• Fresh Water Station .....	100
• Indirect heat exchange solar kit .....	102
• Solar DHW kit.....	104
• Solar zone valves .....	106
• Safety valves, drain valves / air separators, controls for solar heating installations .....	110
• Flowmetres, mixing valves, solar expansion vessels, accessories for expansion vessels.....	111

# HIGHLIGHTS



PAGE 72



PAGE 79



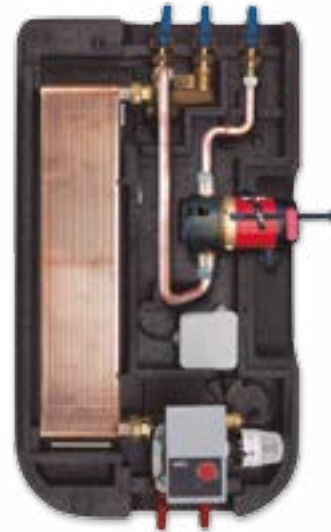
PAGE 79



PAGE 79



PAGE 81

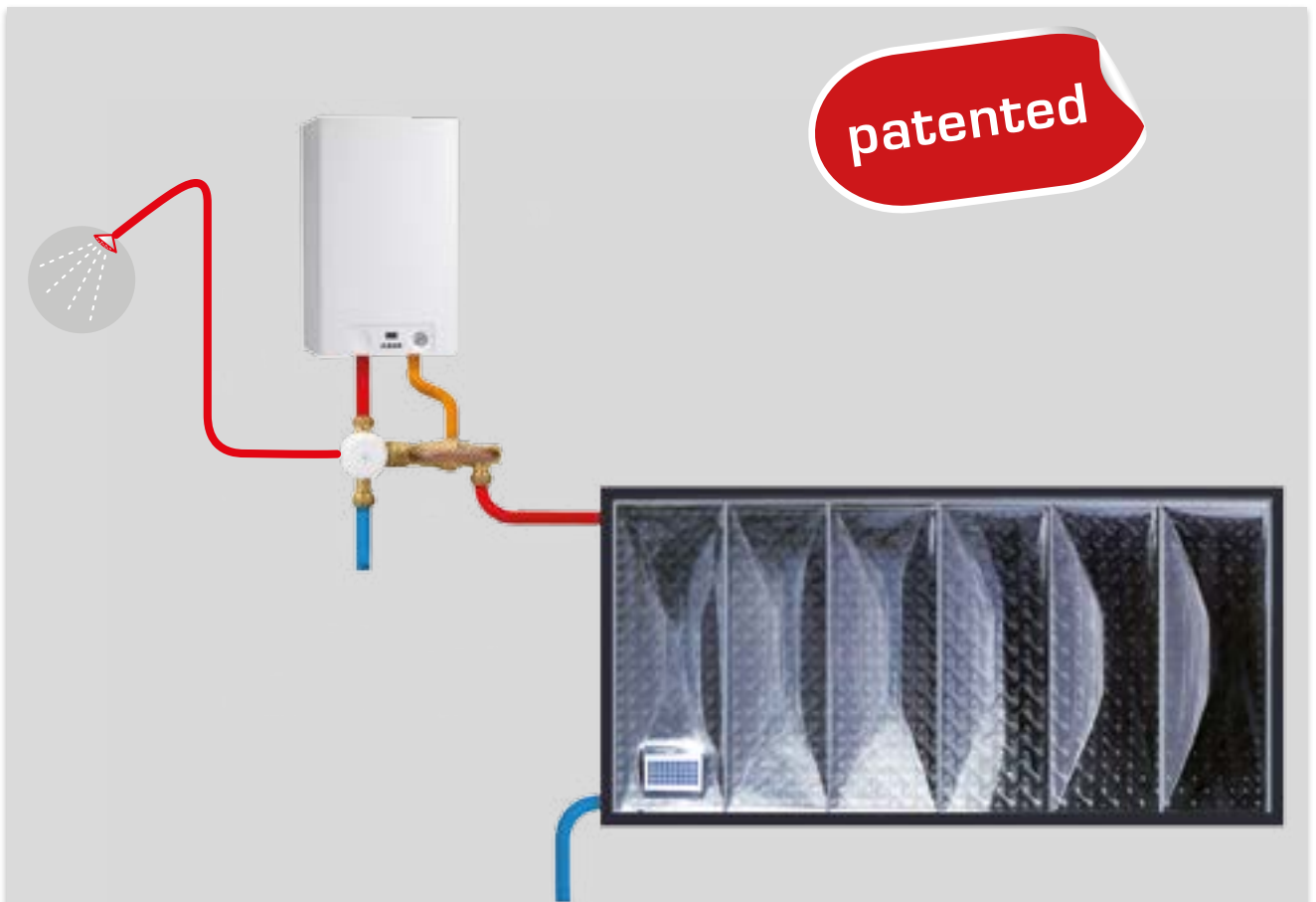


PAGE 100

# SOLAR HEATING SYSTEMS AND COMPONENTS

## SOLAR HEATING SYSTEM

### "ALL-IN-ONE" SOLAR SYSTEM



#### COMPONENTS TO INSTALL A SOLAR SYSTEM

COMPONENTS TO INSTALL A SOLAR SYSTEM		COMPONENTS SYSTEM	DRAIN BACK SYSTEM	"TODO EN UNO"
MATERIAL	Collector	●	●	●
	Hydraulic group	●	●	
	Tank	●	●	
	Solar tube	●	●	
	Secondary tube	●	●	●
ACCESSORIES	Structure 45°	●	●	●
	Expansion tank	●		
	Sanitary solar fluid	●	●	
	Drain valves	●		
ELECTRIC INSTALLATION	Electrical legalization	●	●	
	Material and labor	●	●	
INSTALLATION TIME		25,5 h.	15,5 h.	9,5 h.

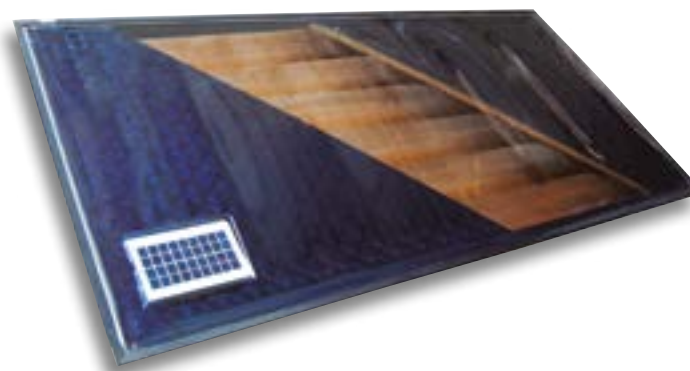
## SOLAR HEATING SYSTEM

### "ALL-IN-ONE" SOLAR SYSTEM

#### ADVANTAGES

##### Less components:

- less time to install
- less final price
- and more m<sup>2</sup> available
- the only solar heating product with **ZERO CO<sub>2</sub> EMISSIONS**
- the only independent forced solar heating system no electricity consumption



Built-in roof



Free-standing roof



Wall structure



Garden

The new OKSOL-150's **dissipator** prevents the system from stagnating (i.e. reaching a point where it cannot absorb any more power and cannot continue heating). With the older model, if radiation continued at this point hot water was released to prevent vaporisation. With this new improvement, the extra heat is now conveyed to the dissipator.

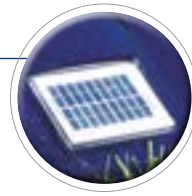


# SOLAR HEATING SYSTEMS AND COMPONENTS

## SOLAR HEATING SYSTEM

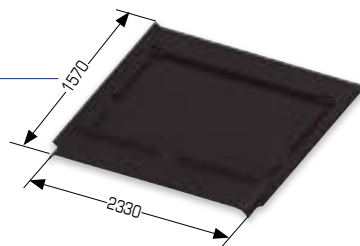
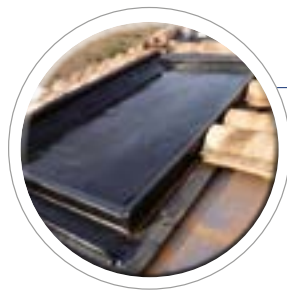


- Pump powered by photovoltaic cell.
- Storage capacity: 150 litres.
- Useful collection surface area: 2 m<sup>2</sup>.
- Heat exchanger surface: 0,29 m<sup>2</sup>.
- External dimensions:  
Length: 2024 mm.  
Width: 1049 mm.  
Depth: 290 mm.
- Empty weight including tank: 89 kg.  
Weight with glycol: 95 kg.
- Structure on floor or flat terrace, structure, sloping roof top structure and wall structure, under request. This structure is optional and is not included with the price.
- Solar Keymark certification (EN 12976)



DESCRIPTION	ARTICLE
Solar collector with integrated tank	OKSOL-150

### STRUCTURES



DESCRIPTION	ARTICLE
Roof-integrated structure	V-00397



DESCRIPTION	ARTICLE
Wall structure	V-00396

# SOLAR HEATING SYSTEM

## STRUCTURES



DESCRIPTION	ARTICLE
Sloping roof top structure (Non-perforatin anchor kit not included)	V-00395



DESCRIPTION	ARTICLE	PIECES/BOX
Non-perforating anchor kit	V-01036	6



DESCRIPTION	ARTICLE
Structure on floor or flat terrace (legs)	V-01035

## ACCESSORIES



DESCRIPTION	ARTICLE
Protective awning	V-02521

**NOTE:** Check availability of further accessories.

# SOLAR HEATING SYSTEMS AND COMPONENTS

## SOLAR HEATING SYSTEM

### "SOLAR DRAIN BACK" SYSTEM



## SOLAR HEATING SYSTEM

The "**Solar Drain Back**" System is an all-round domestic hot water production solution based on the internationally acclaimed hydraulic units with Orkli's automatic drain-back system.

The **drain-back technology** protects the installation, avoiding overheating and freezing problems and making the solar heating installation safe and efficient.

It is available in different configurations, according to the household's DHW requirements and the manometric height of the installation (up to 12 metres).

As these are preconfigured systems, virtually no system calculations or control unit programming are required: the system is ready to install and run, with no drain valves or expansion tanks required.



The Solar Drain Back system has the following components:

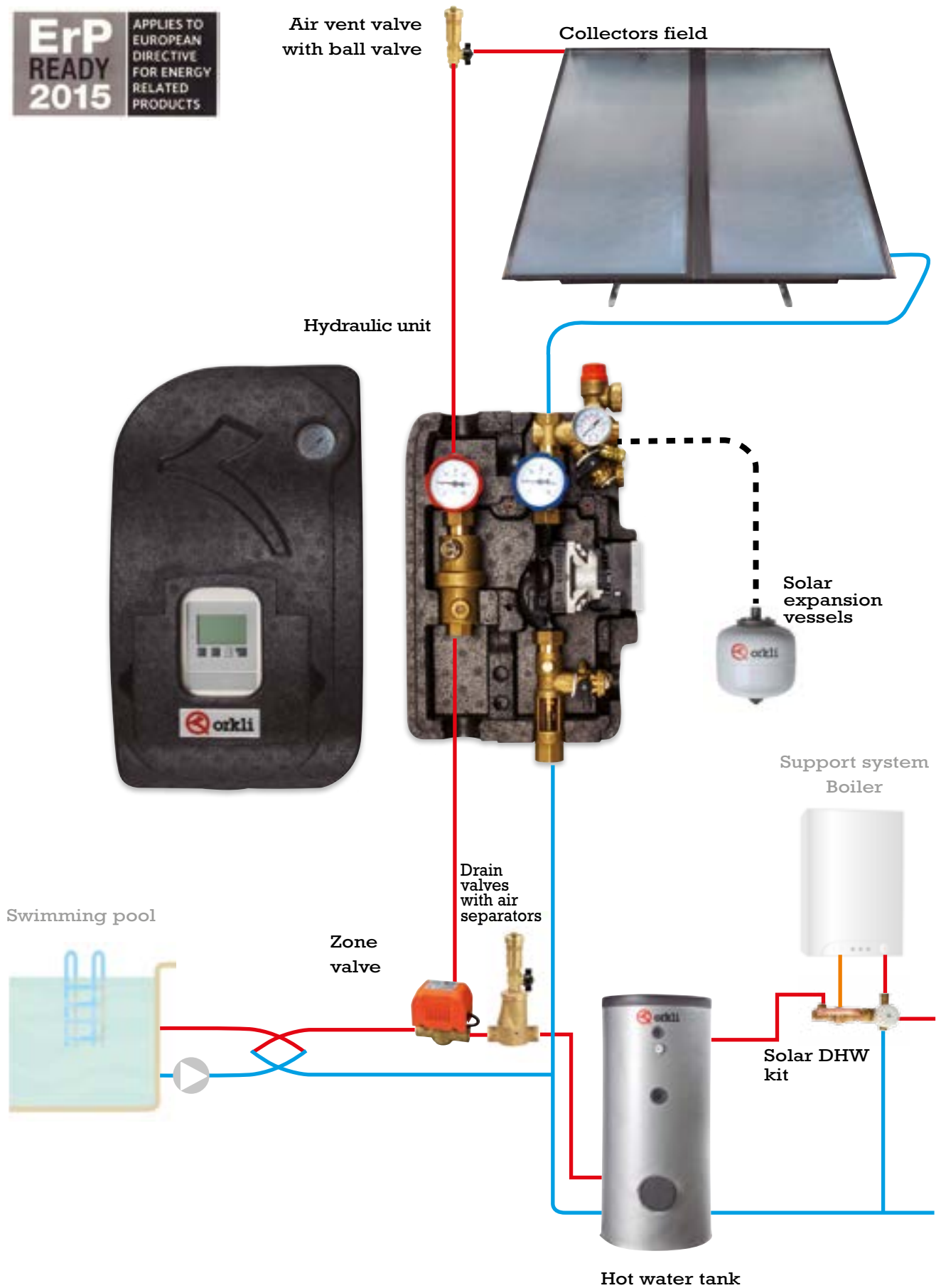
- 1 or 2 vertical solar collectors (highly selective meander type absorber).
- 160- or 300-litres capacity with 1 coil.
- Drain unit pumping system.
- Programmable solar power unit + 3 temperature sensors.
- Solar collector support structure.

DESCRIPTION	ARTICLE
1 collector + Hot water tank <b>160 litres</b> + Drain Unit 74400SO	SPD1160HE
2 collectors + Hot water tank <b>300 litres</b> + Drain Unit 74400SO	SPD2300HE

# SOLAR HEATING SYSTEMS AND COMPONENTS

## SOLAR HEATING SYSTEM

### "FORCED SOLAR PACK" SYSTEM

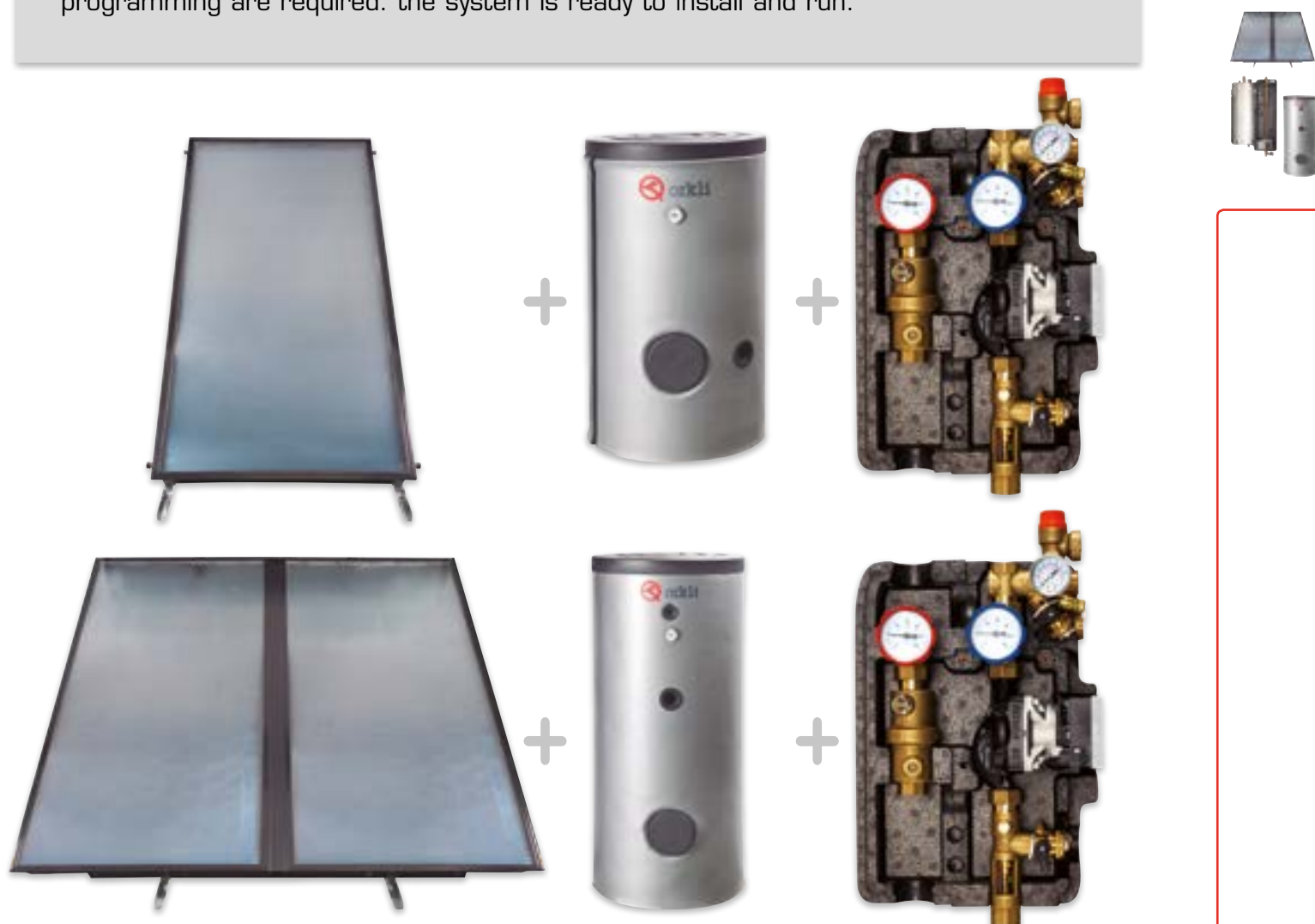


## SOLAR HEATING SYSTEM

The "**Forced Solar Pack**" system is an all-round DHW production system based on pump units for Orkli forced solar installations.

It is available in two different configurations, depending on the household's DHW requirements.

As these are preconfigured systems, virtually no system calculations or control unit programming are required: the system is ready to install and run.



Each solar pack includes the following components:

- 1 or 2 vertical solar collectors (highly selective meander type absorber).
- 160- or 300-litres capacity with 1 coil.
- Solar pumping system.
- Programmable solar power unit + 3 temperature sensors.
- Solar collector support structure.
- Drain valve with shut-off valve.
- 18 litre expansion tank.
- Expansion tank connection and fixing kit.

DESCRIPTION	ARTICLE
1 collector + Hot water tank <b>160 litres</b> + Solar pumping system 73100SOHE	SPF1160HE
2 collectors + Hot water tank <b>300 litres</b> + Solar pumping system 73100SOHE	SPF2300HE

# SOLAR HEATING SYSTEMS AND COMPONENTS

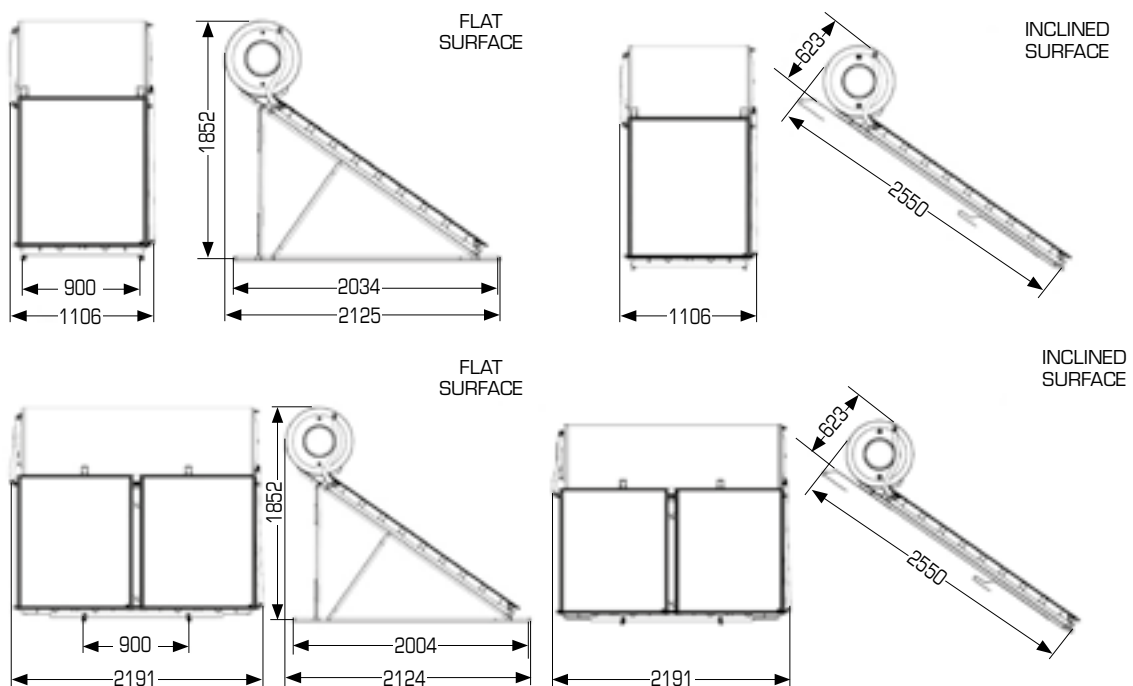
## SOLAR HEATING SYSTEM

### "THERMOSIPHON SOLAR PACK" SYSTEM



#### TECHNICAL CHARACTERISTICS

- **Weight of system with 1 collector + 160 litre tank:** 131.5 kg (empty) / 296 kg (full).
- **Weight of system with 2 collectors + 320 litre tank:** 225 kg (empty) / 555 kg (full).
- Maximum operating pressure: 8 bars (DHW circuit) / 3.5 bars (primary circuit).
- Primary circuit capacity (collector + tank): 15 litres (160 litre tank version) / 30 litres (320 litre tank version).
- Anti-freeze included.
- Galvanised steel fixing structure included.
- Solar Keymark certification (EN 12976).
- Includes hydraulic kits and safety valves for full installation and connection.
- Dimensions:



## SOLAR HEATING SYSTEM

### TECHNICAL CHARACTERISTICS OF THE THERMOSIPHON COLLECTOR

- **Total area:** 2.03 m<sup>2</sup>.
- **Absorption area:** 1.81 m<sup>2</sup>.
- **Absorber capacity:** 1.75 litres.
- Aluminium absorber with selective vacuum-deposited titanium coating.
- Copper pipe with harp absorber type distribution, laser-welded to the absorber.
- **Dimensions:** 2.010 x 1.010 x 110 mm.
- **Weight:** 38 kg (without liquid).
- Tempered solar glass with low Fe content. Thickness = 3.2 mm.
- **Frame:** aluminium monocoque.
- **Edge:** black aluminium.
- **Absorption coefficient:** 95% (+2%).
- **Radiation coefficient:** 5% (+2%).
- **Efficiency factor:**  $\eta_0 = 0.77$  (for absorber area).
- **a1 loss factor:** 4,61 W/m<sup>2</sup>·K. (for absorber area).
- **a2 loss factor:** 0,012 W/m<sup>2</sup>·K<sup>2</sup> (for absorber area).
- **Stagnation temperature:** 186° C.
- **Maximum operating pressure:** 10 bar.
- Solar Keymark certification (EN 12975).

### TECHNICAL CHARACTERISTICS OF THE THERMOSIPHON TANK

- Double jacketed steel tank with enamelled inner surface for domestic hot water circuit.
- High-density ecological polyurethane thermal insulation.
- Cathodic protection (replaceable magnesium anode) to minimise corrosion and internal scale.
- **Dimensions:**  
1,190 x 580 mm. (160 l.)  
2,110 x 580 mm. (320 l.)
- **Weight (empty):**  
60 kg. (160 l.)  
112 kg. (320 l.)
- **Double jacket capacity:**  
12.9 l. (160 l.)  
25.8 l. (320 l.)
- **Double jacket heat exchange surface:**  
0,92 m<sup>2</sup>. (160 l.)  
1,79 m<sup>2</sup>. (320 l.)

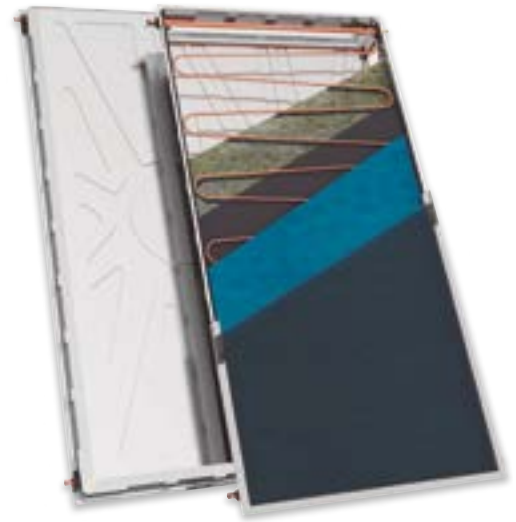


DESCRIPTION	ARTICLE
1 collector + 160 litres tank	SPT1160
2 collectors + 320 litres tank	SPT2320

# SOLAR HEATING SYSTEMS AND COMPONENTS

## COMPONENTS FOR SOLAR HEATING SYSTEM

### FLAT COLLECTOR



- Total area: 2.03 m<sup>2</sup>.
- Absorption area: 1.80 m<sup>2</sup>.
- Absorber capacity: 1.7 litres.
- Aluminium absorber with selective vacuum-deposited titanium coating.
- Copper pipe with meander absorber type distribution, laser-welded to the absorber.
- Dimensions: 2,010 x 1,010 x 110 mm.
- Weight: 36 kg (without liquid).
- Tempered solar glass with low Fe content. Thickness = 3.2 mm.
- Frame: aluminium monocoque.

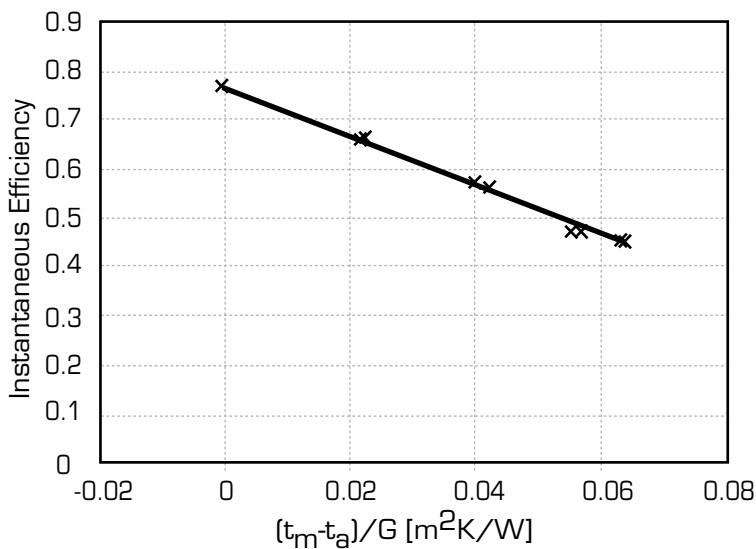
- Edge: black aluminium.
- Absorption coefficient: 95% (+-2%).
- Radiation coefficient: 5% (+-2%).
- $\eta_0$  efficiency factor: 0.764.
- a1 loss factor: 4.524 W/m<sup>2</sup>·K.
- a2 loss factor: 0.008 W/m<sup>2</sup>·K<sup>2</sup>.
- Maximum operating pressure: 10 bar.
- Operating position: vertical.
- Solar Keymark certification (EN 12975)



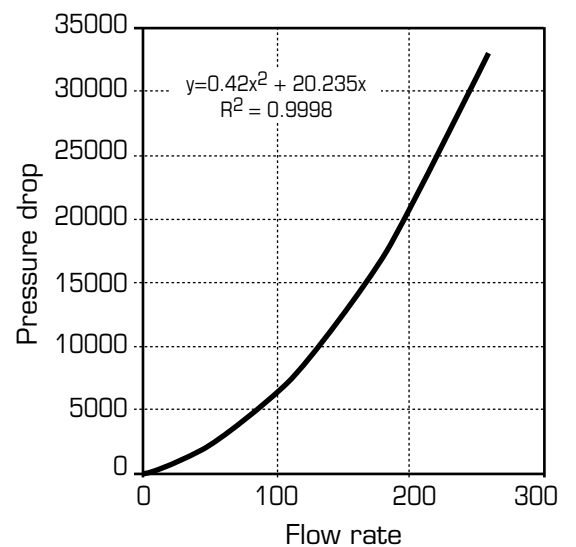
DESCRIPTION	ARTICLE	PIECES/BOX
Solar flat collector	V-04211	10

### HIDRAULIC CHARACTERICS

#### • Collector performance curve

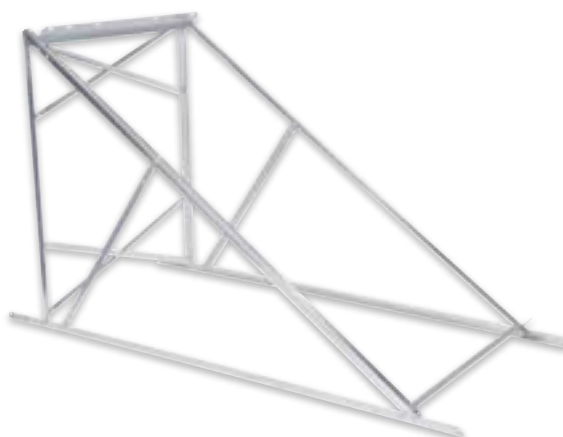


#### • Collector pressure drop curve



## COMPONENTS FOR SOLAR HEATING SYSTEM

### STRUCTURES



- Galvanised steel fixing structure
- The same structure can be used for installation on either a flat surface or a roof.
- For fixing 1 or 2 solar collectors (vertically).

DESCRIPTION	ARTICLE
Structure for flat collector	V-04218

### ACCESSORIES



DESCRIPTION	ARTICLE
Collector connections	V-04216



DESCRIPTION	ARTICLE
Collector socket cap	V-04217

### VERTICAL TANKS

- Capacity: 160 and 300 litres.
- Material: steel with enamelled interior, as per DIN 4753.
- Inner coil for primary solar circuit in lower part of tank.
- Cathodic protection (replaceable magnesium anode) to minimise corrosion and internal scale.
- Two sensor sockets included (on lower and upper part of tank).
- Thermometer and safety valve for domestic hot water circuit included.
- Thermal insulation: expanded ecological polyurethane.
- PVC outer finish with ABS covers.
- Rated pressure: 10 bar (160 l.) / 8 bar (300 l.).
- Connections:
  - Primary circuit (solar): G-1" H.
  - Domestic hot water circuit: G-1" H.
  - Recirculation circuit: G-3/4" H.
- Weight: 64 kg. (160 l.) / 108 kg. (300 l.).
- Dimensions:
  - Height: 1,010 mm. (160 l.) / 1,420 mm. (300 l.).
  - Diameter: 600 mm. (160 l.) / 650 mm. (300 l.).



DESCRIPTION	ARTICLE
160 litres solar tank	V-04212
300 litres solar tank	V-04213

## SOLAR HEATING SYSTEMS AND COMPONENTS

### COMPONENTS FOR SOLAR HEATING SYSTEM

**DRAIN UNIT:** HYDRAULIC UNIT HIGH EFFICIENCY WITH DRAIN-BACK SYSTEM



patented



**DRAINT UNIT:** A solution to prevent overheating and freezing.

#### ADVANTAGES

**High-efficiency** pumps are included to comply with the ErP directive.

**Installation protected from frost and overheating.**

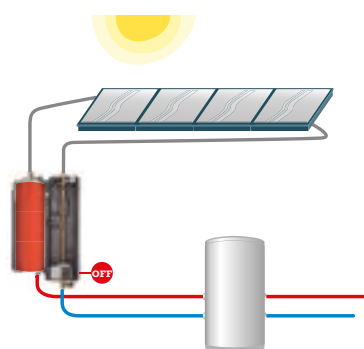
**Compatible** with practically any solar power unit on the market (manifolds, hot water tanks, etc.).

**Flexible, configurable system** (1 or 2 tanks, pumps with different powers, etc.) depending on installation height and the number of manifolds.

No expansion tank or drain valve required.

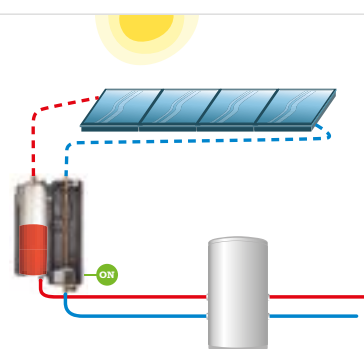
## COMPONENTS FOR SOLAR HEATING SYSTEM

### ● HOW DOES IT WORK?



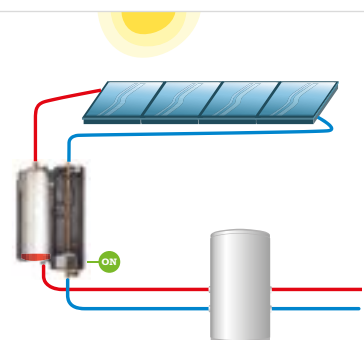
#### SYSTEM OFF - COLLECTORS EMPTY

If the system is idle, all the primary liquid is contained in the drain unit tank. The manifolds and the upper part of the installation are empty (i.e. they contain air), and the system is therefore protected against overheating and freezing.



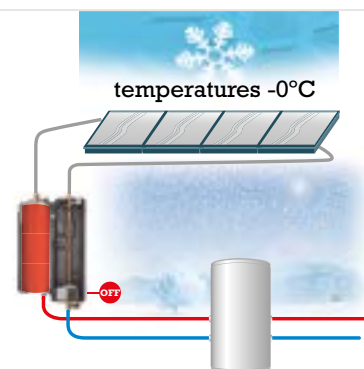
#### SYSTEM START-UP - FILLING CIRCUIT

When the system starts up, the primary liquid stored in the drain unit tank is pumped to the manifolds.



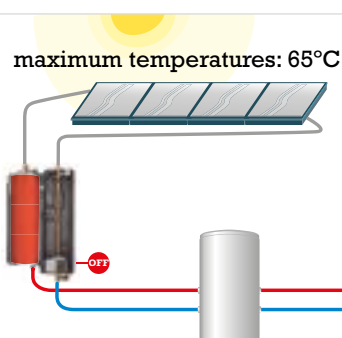
#### SYSTEM RUNNING - FORCED CIRCULATION

All the air in the manifolds is stored in the drain unit tank and the system works as a forced circulation pumping unit.



#### SYSTEM OFF - COLLECTORS EMPTY (no danger of freezing)

If there is insufficient solar radiation for the system to start up, all of the primary liquid will be contained in the drain unit tank (for frost protection).



#### SYSTEM OFF - COLLECTORS EMPTY (no risk of overheating)

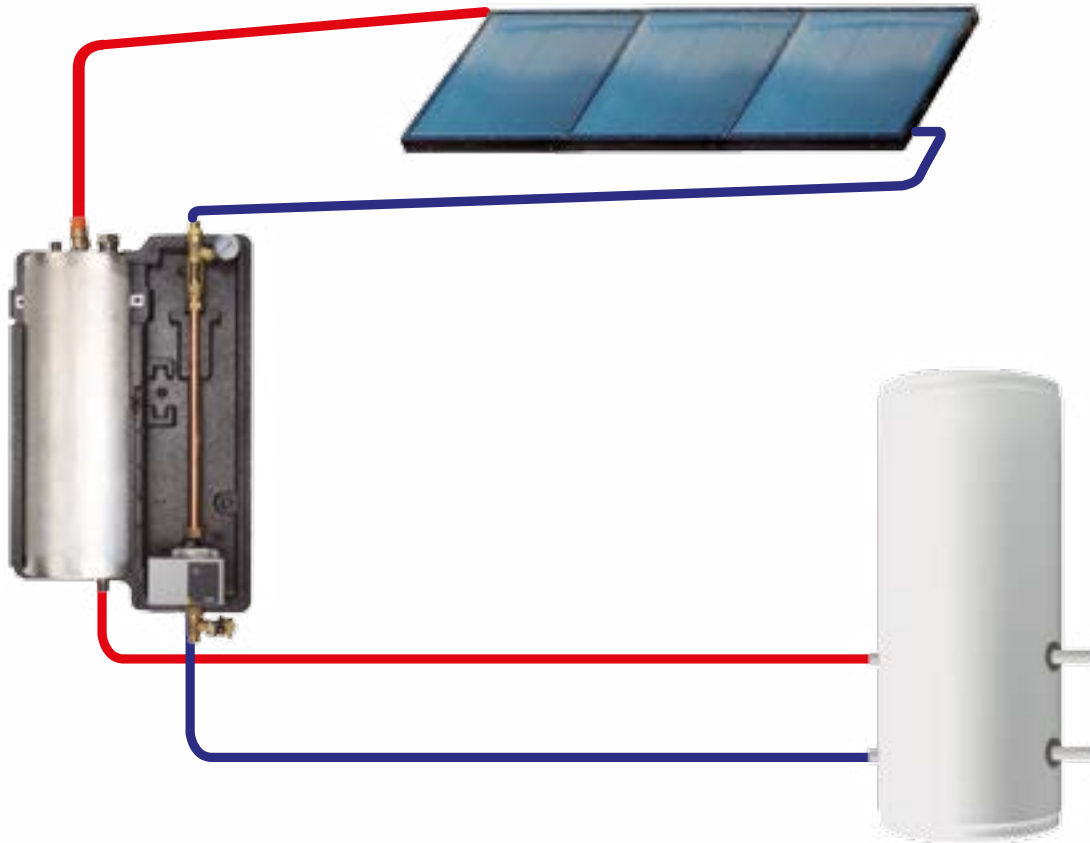
If the hot water tank setpoint is reached, the system stops and all of the primary liquid is again stored in the drain unit tank. This prevents vaporisation from occurring despite high radiation levels.



## SOLAR HEATING SYSTEMS AND COMPONENTS

### COMPONENTS FOR SOLAR HEATING SYSTEM

#### ■ **DRAIN UNIT:** HYDRAULIC UNIT HIGH EFFICIENCY WITH DRAIN-BACK SYSTEM



The Drain-Unit selection is determined by the height of the installation. Bear in mind the difference in height between the top of the collector array and the bottom part of the Drain-Unit positioning.

The volume of the circuit above the drain unit must not exceed 8 litres of working volume of the air separator in drain units with a single tank (or 16 litres for drain units with 2 tanks).

Volume calculation in upper part:

$$\text{Volume} = N^{\circ} \text{ of collectors} + \text{Volume of fluid in collector} + \text{Volume of pipes}$$

## COMPONENTS FOR SOLAR HEATING SYSTEM

### ■ DRAIN UNIT WITH INTEGRATED REGULATION

patented



- Maximum operating temperature: 110°C.
- Maximum peaks: 130°C.
- Safety valve calibration: 3 bar.
- Flow indication range: 2-12 litres/min.
- Maximum separation volume: 8 litres.
- Connections: bicone nut for a Cu15mm o 1/2" M pipe.
- Control options with pre-connections made.
- Consult for adaptability to other regulations.

### 13-metres pump

PUMPS	REGULATION	ARTICLE
Yonos Para ST15/13 PWM	(4 sensors + 2 relays + 1 PWM)	74400SO

# SOLAR HEATING SYSTEMS AND COMPONENTS

## COMPONENTS FOR SOLAR HEATING SYSTEM

### ■ DRAIN UNIT WITH INTEGRATED REGULATION

patented



- Maximum operating temperature: 110°C.
- Maximum peaks: 130°C.
- Safety valve calibration: 3 bar.
- Flow indication range: 2-12 litres/min.
- Maximum separation volume: 8 litres.
- Connections: bicone nut for a Cu15mm o 1/2" M pipe.
- Control options with pre-connections made.
- Consult for adaptability to other regulations.

#### 7-metres pump

PUMPS	REGULATION	ARTICLE
Yonos Para ST15/7 PWM	(4 sensors + 2 relays + 1 PWM)	74300SO

## COMPONENTS FOR SOLAR HEATING SYSTEM

### ■ DRAIN UNIT WITHOUT REGULATION

patented



- Maximum operating temperature: 110°C.
- Maximum peaks: 130°C. Safety valve calibration: 3 bar.
- Flow indication range: 2-12 litres/min.
- Maximum separation volume: 8 litres.
- Connections: bicone nut for a Cu15mm o 1/2" M pipe.
- Consult for adaptability to other regulations.

#### Recommended characteristics:

- A PWM output for pump speed control.
- Maximum temperature function of collector 110°C. (recommended).
- Difference in activation temperature 10-15°C (recommended).

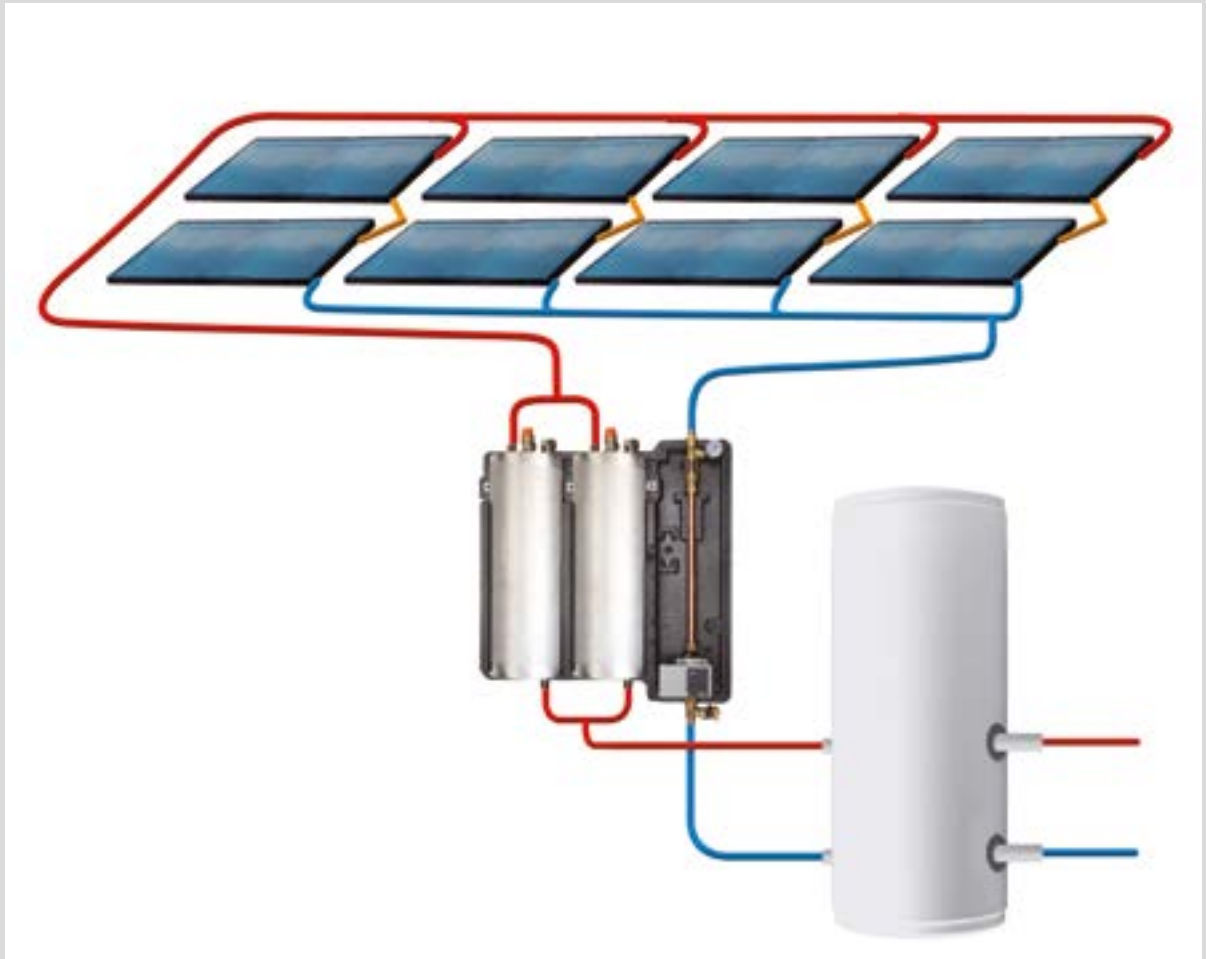
PUMPS	REGULATION	ARTICLE
Yonos Para ST15/13 PWM	NO	74400
Yonos Para ST15/7 PWM	NO	74300

## SOLAR HEATING SYSTEMS AND COMPONENTS

### COMPONENTS FOR SOLAR HEATING SYSTEM

#### ■ **DRAIN UNIT:** HYDRAULIC UNIT WITH DRAIN-BACK SYSTEM

For installations with twice as many solar collectors as the existing system.



# COMPONENTS FOR SOLAR HEATING SYSTEM

## ■ DRAIN UNIT: HYDRAULIC UNIT WITH DRAIN-BACK SYSTEM



- Maximum operating temperature: 110°C.
- Maximum peaks: 130°C.
- Safety valve calibration: 3 bar.
- Flow indication range: 2-12 litres/min.
- Maximum separation volume: 16 litres.
- Connections: bicone nut for a Cu15mm o 1/2" M pipe.
- Control options with pre-connections made.
- Consult for adaptability to other regulations.

**In case of no regulation options, the regulation must comply with the following characteristics:**

- A PWM output for pump speed control.
- Maximum temperature function of collector 110°C (recommended).
- Difference in activation temperature 10-15°C (recommended).

### 13-metres pumps

PUMPS	REGULATION	ARTICLE
Yonos Para ST15/13 PWM	(4 sensors + 2 relays + 1 PWM)	74400SODO
Yonos Para ST15/13PWM	NO	74400DO



### Drainback tank extension kit

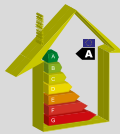
DESCRIPTION	ARTICLE
Tank	V-00625 1

# SOLAR HEATING SYSTEMS AND COMPONENTS

## COMPONENTS FOR SOLAR HEATING SYSTEM

### HYDRAULIC UNITS **HIGH EFFICIENCY**

#### The optimum efficiency of the sun as a power source



The Orkli line opts for technologically innovative products contributing to smarter, **more sustainable consumption of renewable energies**. An example are the high-efficiency solar hydraulic units, which include components that can increase energy efficiency by almost 50%.

All pumping units and drain unit systems with an Orkli electronic control unit contain a display that indicates panel liquid and hot water tank water temperature, power generated, pump status, etc.

For more precise data on the power generated by the solar heating installation, Orkli pump units optionally include electronic flow and temperature sensors.



#### "Connect" Function



Connect function is the new Plug & Play concept which does not require any particular network skills. Using a CAN-bus interface, the controllers can communicate with each other, or be connected with local networks or the Internet via Ethernet. The user can monitor and remote control his heating system by PC, tablet and smartphone - anywhere, anytime.

**Key features:** visualisation of the heating system with status messages, temperatures and heat yield statistics.

Experts can get a comprehensive PC software for setting all controller parameters in real time. Data logging is realised by a microSD card, so that all system data can be recorded and analysed extensively.



System Overview with Remote Control Panel



Energy Statistics



Technical Details for the Expert



- For use with Orkli solar power units.
- The set consists of data logger, Micro SD-card, Ethernet interface, wall power supply, CAN connection cable to the controller, licence for function Connet.

DESCRIPTION	ARTICLE
Data Logger	V-05246

# COMPONENTS FOR SOLAR HEATING SYSTEM

## HYDRAULIC UNITS **HIGH EFFICIENCY**



- Maximum working temperature in flow branch: 160° C (120° C with electronic sensors).
- Maximum working temperature in return branch: 110° C (100° C with electronic sensors).
- Maximum working temperature of safety valve: 160°C.
- Safety valve calibration: 6 bar.
- Thermometer temperature range: 0-120°C.
- Flow meter indication range: 2-12 l/min. (2-40 l/min. with electronic sensors).
- Hydraulic unit for solar collector fields up to 16 m<sup>2</sup>.
- Consult for adaptability to other regulations.
- Manometer scale: 0-10 bar.
- Connections: 3/4"H.
- Branch distance: 95 mm.
- Regulation with connections made.
- EPP insulation.
- Energy metering option on models with electronic sensors. (VFS: flow+temperature / RPS: pressure+temperature).

HIDRAULICS	PUMP	CLIMATE CONTROL	WITH ELECTRONIC FLOW* TEMPERATURE AND PRESSURE SENSORS	EXPANSION VESSEL JOINT ACCESSORIES	ARTICLE
Complete	Yonos Para ST 15/7 PWM	6 sensors+3 relays+2 PWM+2 VFS+2 RPS	YES	YES	73140SOHE
Complete	Yonos Para ST 15/7 PWM	6 sensors+3 relays+2 PWM+2 VFS+2 RPS	YES	NO	73040SOHE
Complete	Yonos Para ST 15/7 PWM	NO	YES	YES	73140HE
Complete	Yonos Para ST 15/7 PWM	NO	YES	NO	73040HE

\*WITH ELECTRONIC FLOW: Instant, accurate data.

HIDRAULICS	PUMP	CLIMATE CONTROL	WITHOUT ELECTRONIC FLOW* TEMPERATURE AND PRESSURE SENSORS	EXPANSION VESSEL JOINT ACCESSORIES	ARTICLE
Complete	Yonos Para ST 15/7 PWM	4 sensors+2 relays+1 PWM	NO	YES	73100SOHE
Complete	Yonos Para ST 15/7 PWM	4 sensors+2 relays+1 PWM	NO	NO	73000SOHE
Complete	Yonos Para ST 15/7 PWM	NO	NO	YES	73100HE
Complete	Yonos Para ST 15/7 PWM	NO	NO	NO	73000HE

\*WITHOUT ELECTRONIC FLOW: Estimated data on installation consumption.

# SOLAR HEATING SYSTEMS AND COMPONENTS

## COMPONENTS FOR SOLAR HEATING SYSTEM

### ■ HIGH-EFFICIENCY HYDRAULIC UNITS WITH INTEGRATED SINGLE-BRANCH REGULATION



- Maximum operating temperature in flow branch: 160°C.
- Maximum operating temperature in return branch: 110°C.
- Maximum operating temperature in safety valve: 160°C.
- Hydraulic unit for collector fields of up to 16 m<sup>2</sup>.
- Safety valve calibration: 6 bar.
- Thermometer temperature range: 0-120°C.

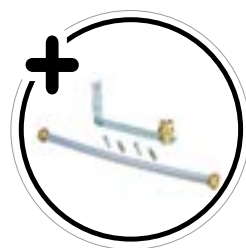
- Consult for adaptability to other regulations.
- Flow indication range: 2-12 l/min.
- Manometer scale: 0-10 bar.
- Connections: 3/4" H.
- Distance between branches: 95 mm.
- Control with connections made.

HYDRAULICS		PUMP*	CLIMATE CONTROL	EXPANSION VESSEL JOINT ACCESSORIES	ARTICLE
FLOW BRANCH	RETURN BRANCH				
NO	Complete	Yonos Para ST15/7 PWM	4 inputs + 2 relays + 1 PWM	NO	73020SOHE
NO	Complete	Yonos Para ST15/7 PWM	4 inputs + 2 relays + 1 PWM	YES	73120SOHE

\*NOTE: Consult pump curves.

# COMPONENTS FOR SOLAR HEATING SYSTEM

## ■ HIGH-EFFICIENCY HYDRAULIC UNITS WITHOUT SINGLE-BRANCH REGULATION



- Maximum operating temperature in flow branch: 160°C.
- Maximum operating temperature in return branch: 110°C.
- Maximum operating temperature in safety valve: 160°C.
- Hydraulic unit for collector fields of up to 16 m<sup>2</sup>.
- Safety valve calibration: 6 bar.
- Consult for adaptability to other regulations.

- Thermometer temperature range: 0-120°C.
- Flow indication range: 2-12 l/min.
- Manometer scale: 0-10 bar.
- Connections: 3/4" H.
- Distance between branches: 95 mm.

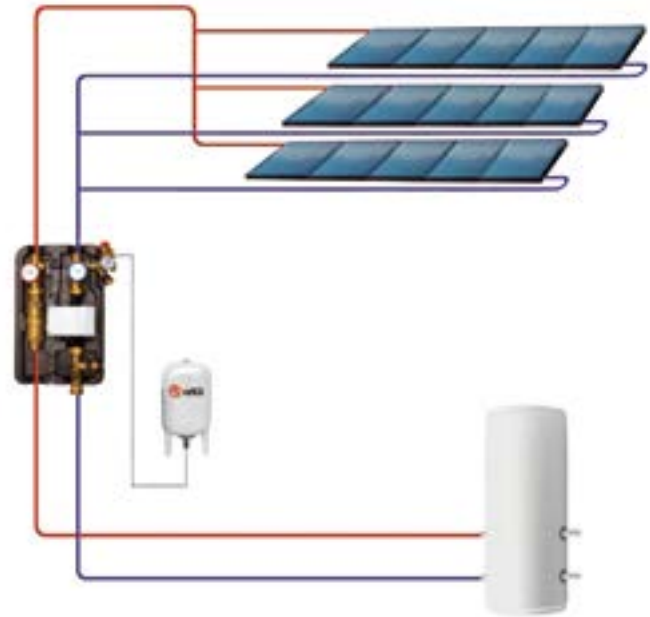
HYDRAULICS		PUMP*	CLIMATE CONTROL	EXPANSION VESSEL JOINT ACCESSORIES	ARTICLE
FLOW BRANCH	RETURN BRANCH				
No	Complete	Yonos Para ST15/7 PWM	NO	NO	73020HE
No	Complete	Yonos Para ST15/7 PWM	NO	YES	73120HE

\*NOTE: Consult pump curves.

# SOLAR HEATING SYSTEMS AND COMPONENTS

## COMPONENTS FOR SOLAR HEATING SYSTEM

■ HYDRAULIC UNITS  
HIGH EFFICIENCY FOR  
**MAJOR INSTALLATIONS**



- For installations of up to 50 m<sup>2</sup>.
- Maximum operating temperature in flow branch: 160°C.
- Maximum temperature in return branch: 110°C.
- Maximum temperature of safety valve: 160°C.
- Hydraulic unit for collector fields of up to 50 m<sup>2</sup>.
- Safety valve calibration: 6 bar.
- Thermometer temperature range: 0-120°C.
- Flow indication range: 5-40l/min.
- Manometer scale: 0-10 bar.
- Distance between branches: 125mm.
- Connections: 1 1/4" for flexible pipe DN25 and bicone nut for a pipe Cu 28mm.
- Connection for expansion vessel: 3/4" M.
- Consult for adaptability to other regulations.

PUMP	PIPE Cu28 JOINT ACCESSORIES	ARTICLE
Stratos Para 25/1-9 PWM	NO	75000HE
Stratos Para 25/1-9 PWM	YES	75100HE

# COMPONENTS FOR SOLAR HEATING SYSTEM

## HYDRAULIC DIAGRAMS COVERED BY THE SOLAR POWER UNIT

These illustrations should be considered schematic representations of the respective hydraulic systems only, rather than complete diagrams. The controller can never replace safety systems. Depending on the specific application, additional system components and safety components such as check valves, non-return valve, safe temperature release valves or overheating protectors may be compulsory and must therefore be provided. They are suitable for use with both the **"Drain Solar Pack"** and **"Forced Solar Pack"** systems.

### • HYDRAULIC VARIANTS



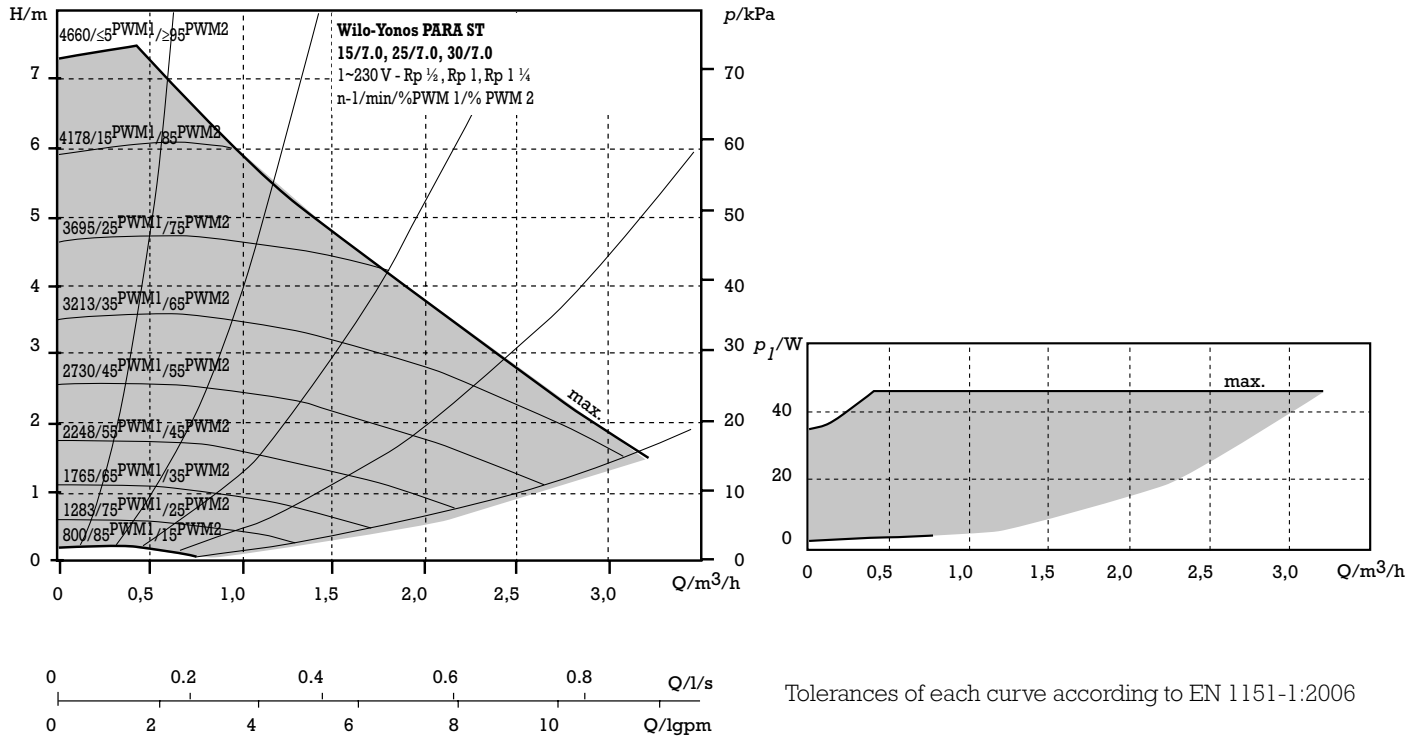
# SOLAR HEATING SYSTEMS AND COMPONENTS

## COMPONENTS FOR SOLAR HEATING SYSTEM

### HYDRAULIC CHARACTERISTIC

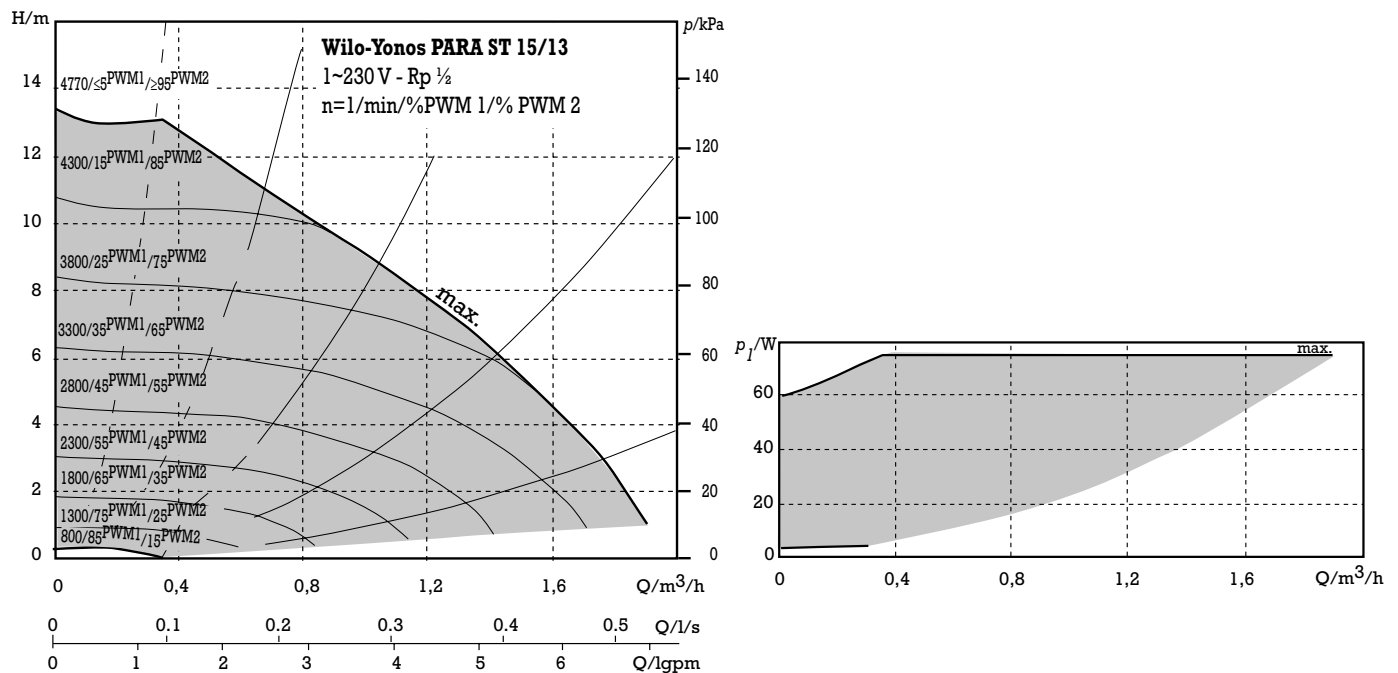
#### • WILO YONOS PARA ST15/7.0

External control via PWM



#### • WILO YONOS PARA ST15/13

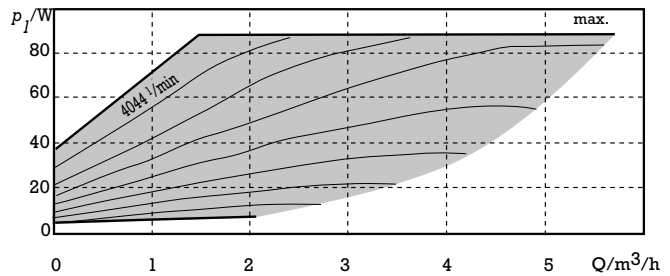
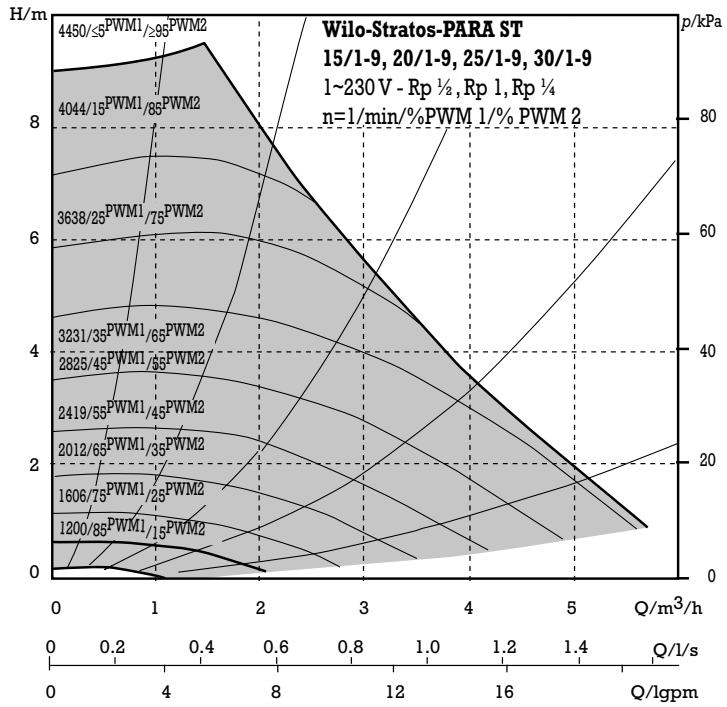
External control via PWM



# COMPONENTS FOR SOLAR HEATING SYSTEM

## • WILO STRATOS PARA 25/1-9

External control via PWM



FRESH WATER STATION

# Instant hot water whenever you need it and just the right temperature.

This system is guaranteed to cover all your domestic hot water requirements, **avoiding any hygiene** problems by heating the water to over 70°C to prevent risk of legionella and power loss associated with domestic hot water storage.

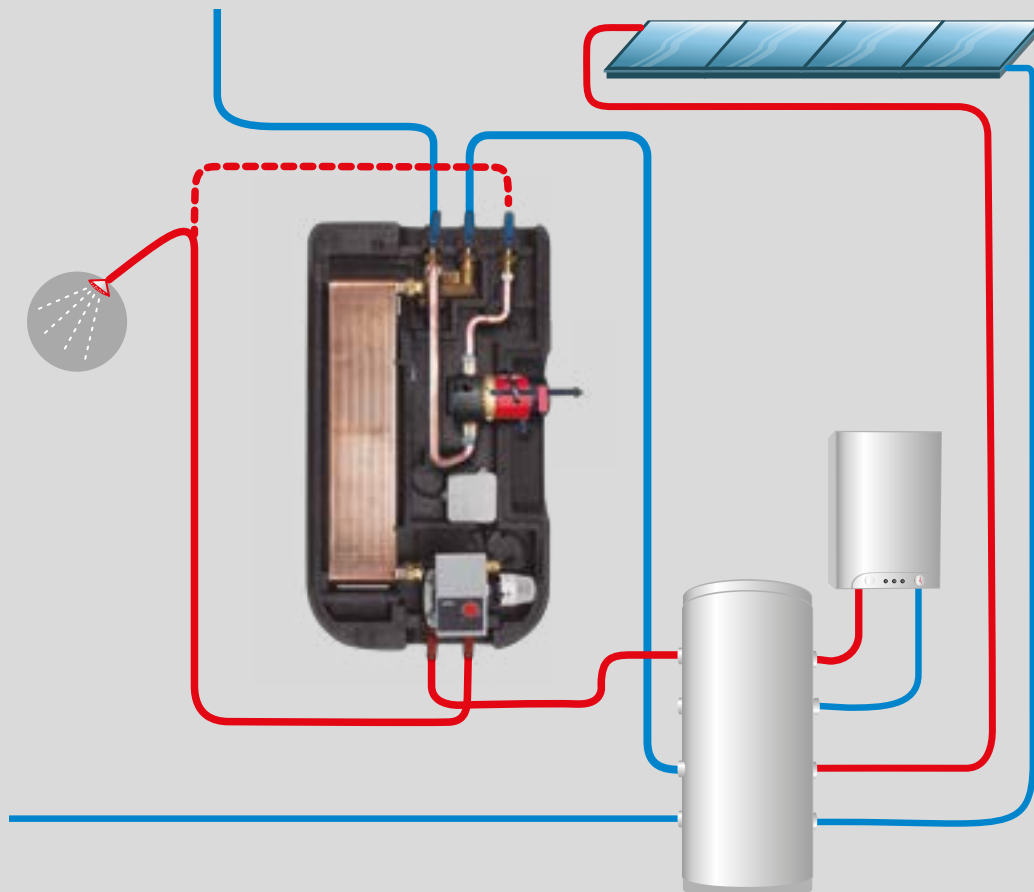
The optional domestic hot water recirculation kit increases efficiency and home comfort by supplying hot water to the actual point of consumption at the desired temperature, with no waiting or wasteful cold water runoff.

Also, the high-efficiency domestic hot water pump supplied works with "AutoAdapt"

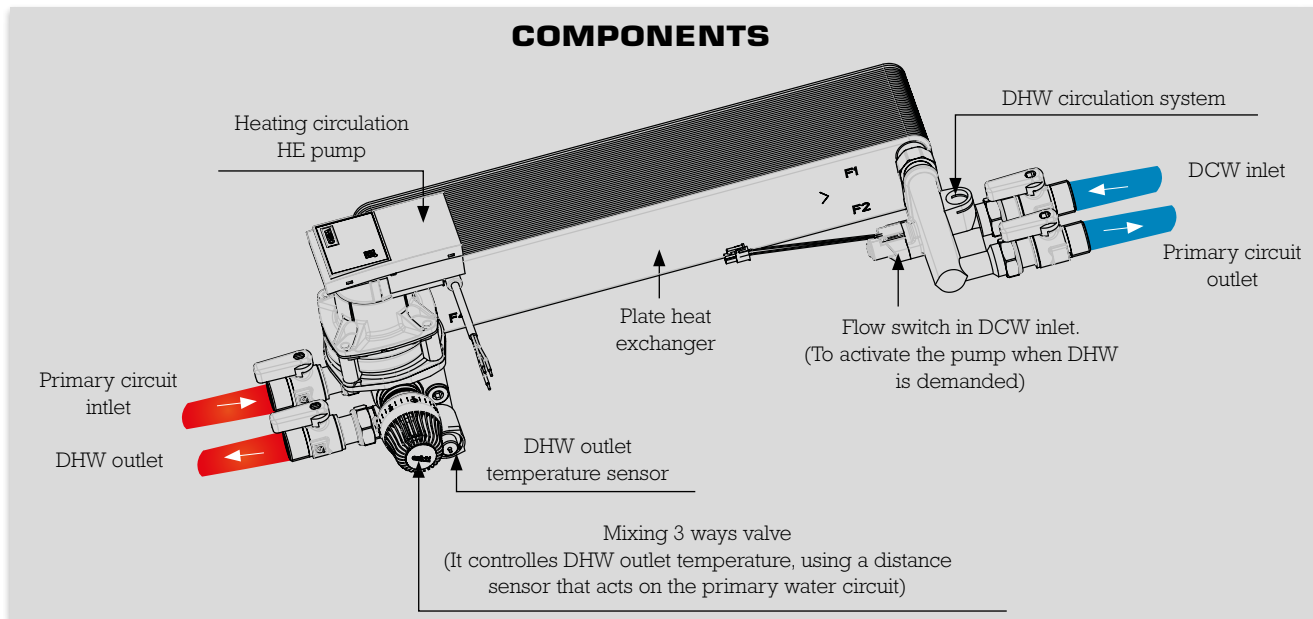
technology: it learns the users' DHW demand patterns to have hot water ready exactly when it is needed, thus optimising power consumption.

Is the ideal system for use in:

- ✓ Large agglomerations - communities.
- ✓ Sports complexes.
- ✓ **It is perfect** for use with renewable energy heating installations.



# COMPONENTS FOR SOLAR HEATING SYSTEM

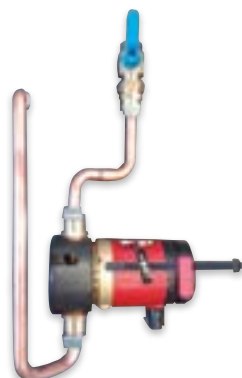


- Instantaneous domestic hot water production.
- Stainless steel 90 kW heat exchanger.
- Domestic hot water production capacity 30 l/min..
- Flow meter activation = 2 l/min.
- DHW temperature controlled by a thermostatic valve acting on the primary circuit's 3-way mixing valve to regulate the heat exchanger flow.
- Ensures a low return temperature of the water in the primary circuit (to aid stratification).
- Connection for an optional DHW circulating system available.
- The highest temperature is concentrated in the component in the lowest location so that the heat is naturally transferred to the top part of the heat exchanger, cooling down the hot zone and preventing problems with scale.



DESCRIPTION	ARTICLE
Fresh Water Station	S4000003

- Components include:
  - high-efficiency hot water pump with "AutoAdapt" function.
  - pipes and connectors for Fresh Water Station. connection.
  - non-return valve and inlet tap.



### Domestic hot water recirculation kit

DESCRIPTION	ARTICLE
Recirculation kit	V-04219

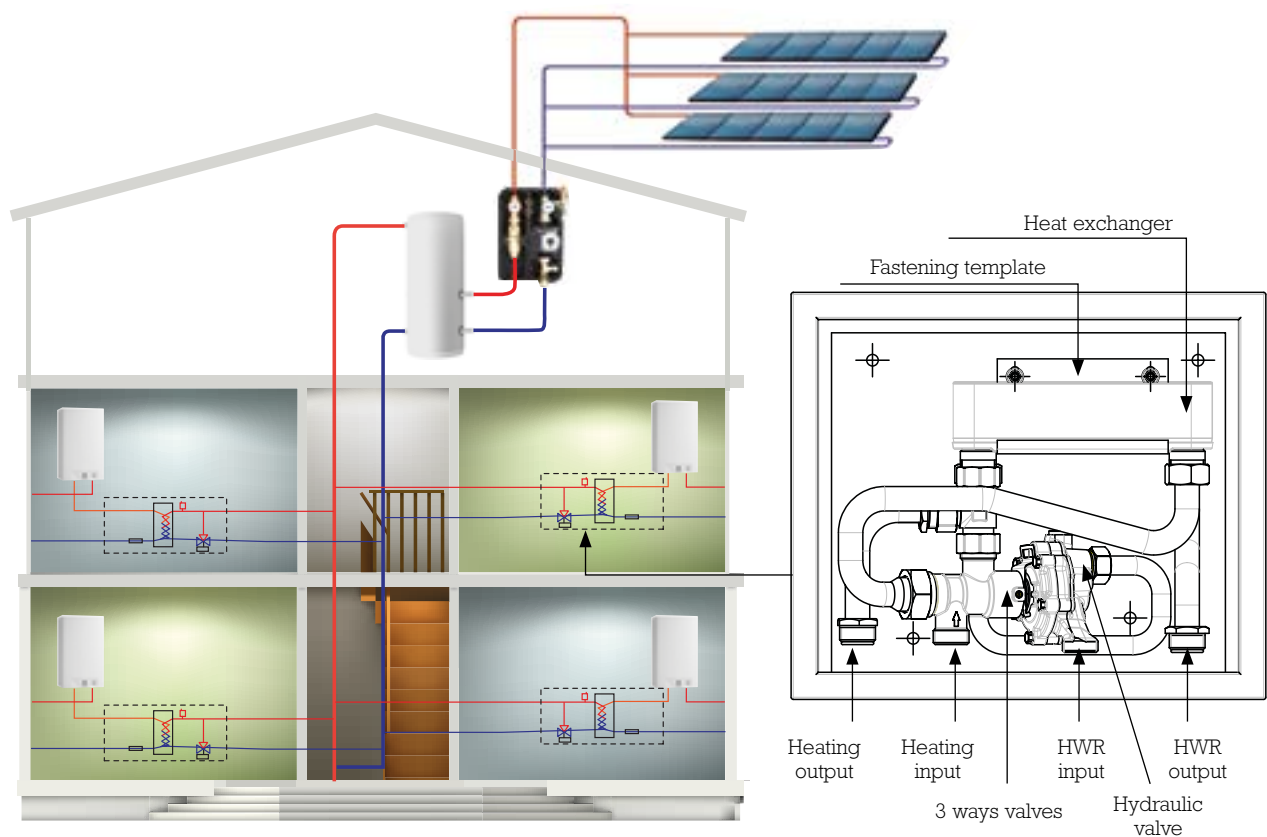
# SOLAR HEATING SYSTEMS AND COMPONENTS

## COMPONENTS FOR SOLAR HEATING SYSTEM

### INDIRECT HEAT EXCHANGE SOLAR KIT

The indirect heat exchange solar kit is designed for centralised solar heating installations with distributed back-up power. Each home has an individual back-up power source and its own interior distribution circuit supplying domestic water.

This kit regulates the recirculation inlet to the home from the circuit previously heated by the solar collector. If the kit detects that a tap has been turned on and hot water is required, the flow to the heat exchanger is opened to preheat the domestic water inlet. When the hot water tap is turned off, the 3-way valve opens the bypass again and shuts off the flow to the heat exchanger. The shut-off valves allow the central recirculation system to be completely blocked off at all the inlets.



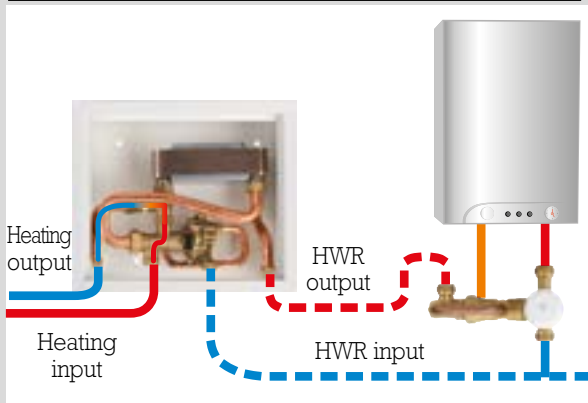
# COMPONENTS FOR SOLAR HEATING SYSTEM



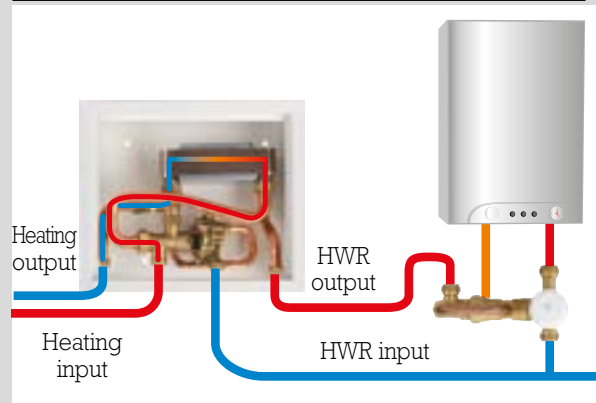
did you know...?

that if you wish you may complete the totally regulated installation with the solar domestic water kit?

**If there is no DHW demand:**



**If there is DHW demand:**

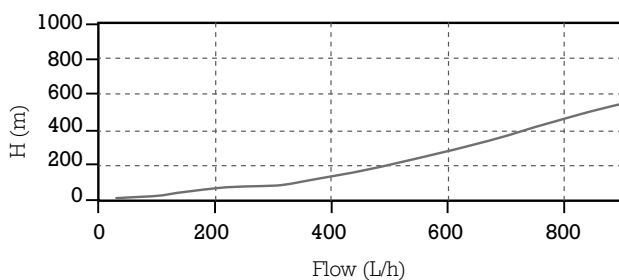


- Dimensions: 350 x 300 x 115 mm.
- Heat exchanger power: 35KW.
- Activation flow: 2L/min.
- Maximum HWR operating flow: 15L/min.
- Maximum heating operating flow: 20L/min.
- Maximum HWR pressure: 15bar.
- Maximum heating temperature: 70°C.
- Connections: 3/4" M.

DESCRIPTION	ARTICLE
Kit Solar	S4000002

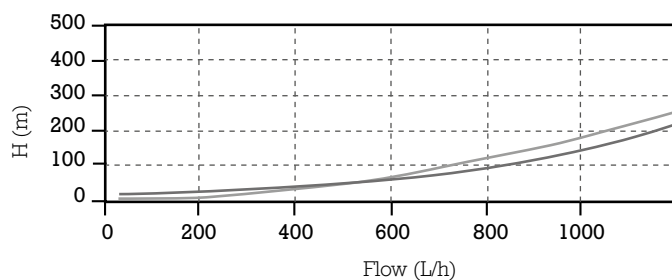
## HYDRAULIC CHARACTERISTIC

### Hot water circuit



— Hot water circuit

### Heating

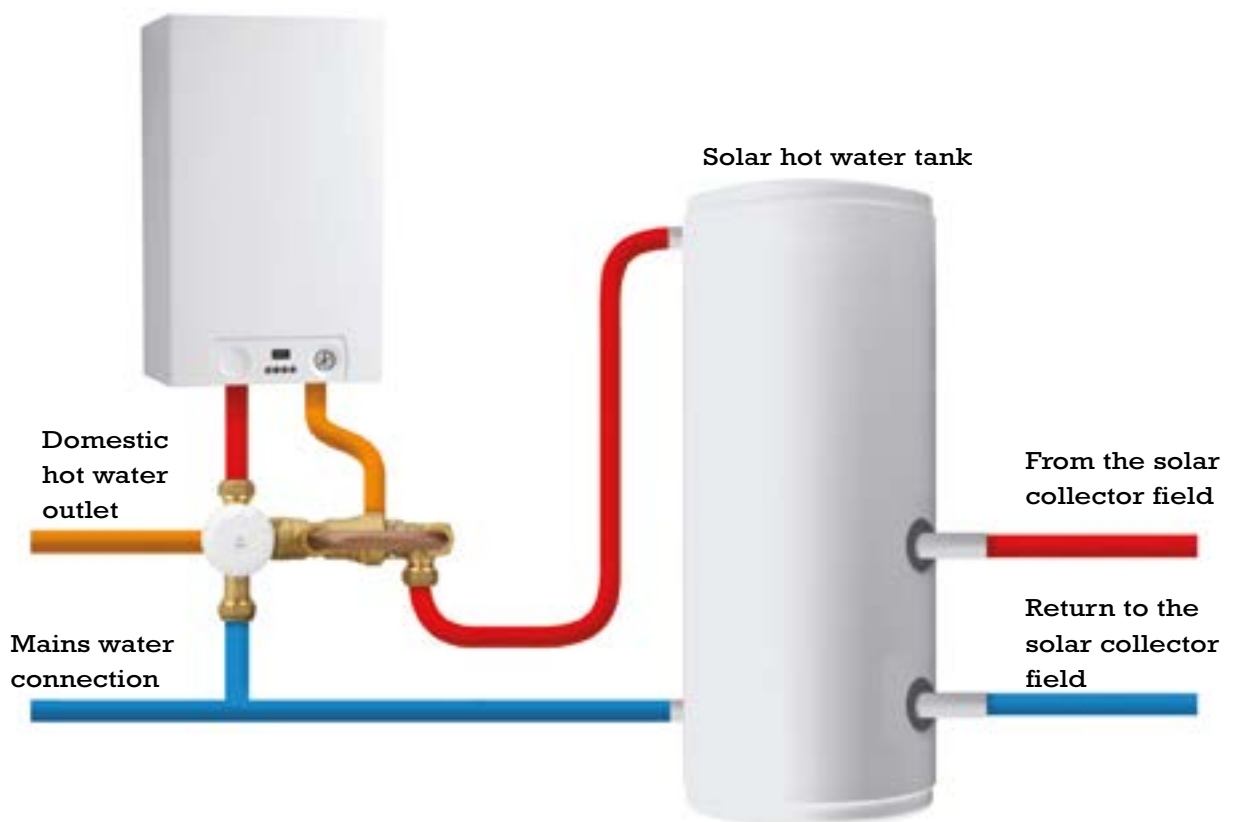


— Circuit bypass  
— Circuit heat exchanger

■ SOLAR DHW KIT

## **A universal kit for connecting a solar hot water tank to a conventional domestic hot water source.**

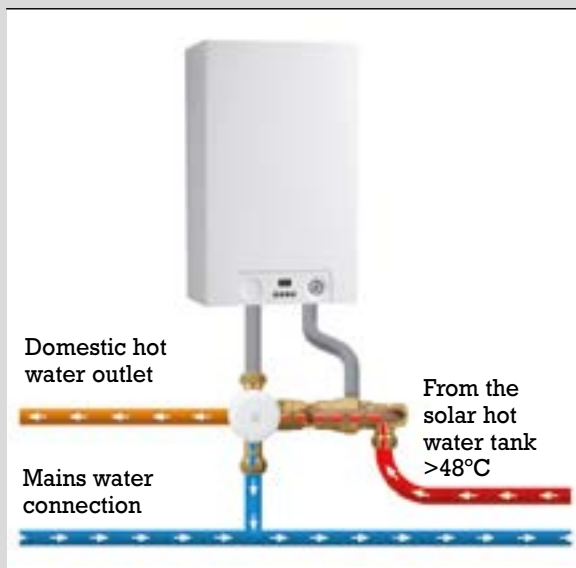
Unit for connection to the auxiliary domestic water heating units installed between the solar water tank and this back-up power source, normally an instant water heater or a gas or electric water heater. It includes a 3-way valve, which determines whether the water from the solar water tank should be conveyed via the back-up power source or can be directly sent on for consumption, and a mixing valve regulating the outlet temperature of the domestic hot water in the solar heating + conventional back-up system.



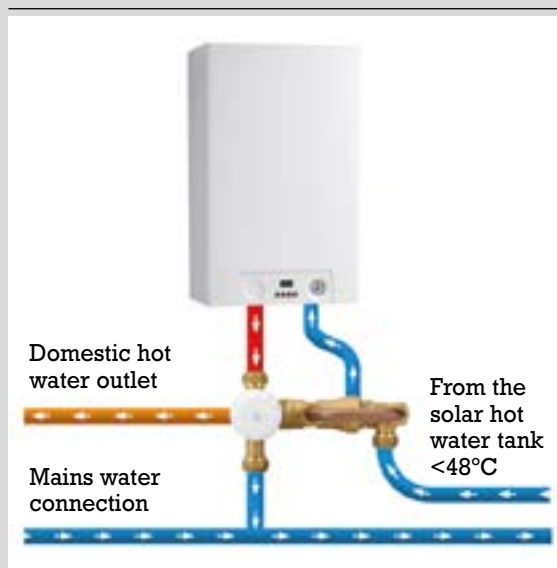
# COMPONENTS FOR SOLAR HEATING SYSTEM

## HYDRAULIC DIAGRAM

If water in solar hot water tank >48°C



If water in solar hot water tank <48°C



- Valve material: brass, according to EN12165 standard.
- Closure gasket material: EPDM.
- Connections: ½", or 15 mm copper pipes.
- Maximum operating temperature: 90°C.
- Maximum operating pressure: 10 bar.
- Calibration of 3-way valve/bypass temperature: 48°C.
- Bypass temperature tolerance: +-2°C.
- Thermostatic mixer regulation range: 30-60°C.
- Mixing outlet temperature calibration: 45°C.
- Components suitable for use with domestic water.

DESCRIPTION	ARTICLE
Solar dhw kit	S4000001

## SOLAR HEATING SYSTEMS AND COMPONENTS

### COMPONENTS FOR SOLAR HEATING SYSTEM

■ SOLAR ZONE VALVES NORMALLY CLOSED IN A



2 ways F-F

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	30112200	10
3/4"	30212200	10
1"	30312200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	30122200	10
3/4"	30222200	10
1"	30322200	10



3 ways F-F

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	40112200	10
3/4"	40212200	10
1"	40312200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	40122200	10
3/4"	40222200	10
1"	40322200	10

**NOTE:** Same discount as zone valves section.

## COMPONENTS FOR SOLAR HEATING SYSTEM

■ SOLAR ZONE VALVES NORMALLY CLOSED IN A



**2 ways M-M**

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
3/4"	30612200	10
1"	30712200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1"	30722200	10



**3 ways M-M**

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
3/4"	40612200	10
1"	40712200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1"	40722200	10

**NOTE:** Same discount as zone valves section.

## HIGH KV

These zone valves have a lower pressure drop than the standard valves, which means they have a higher flow.

KV = flow with a pressure drop of 1 bar.

They provide even greater **advantages** when used with a heat pump, as a higher flow is needed to obtain more energy efficiency due to the lower temperature gradient.



3 ways M-M

- Hysteresis motor 230V 50Hz.
- Spring return.
- Cable length 1.6m.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1"	20712900	10



3 ways F-F

- Hysteresis motor 230V 50Hz.
- Spring return.
- Cable length 1.6m.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

Without run-end micro: 3 wires

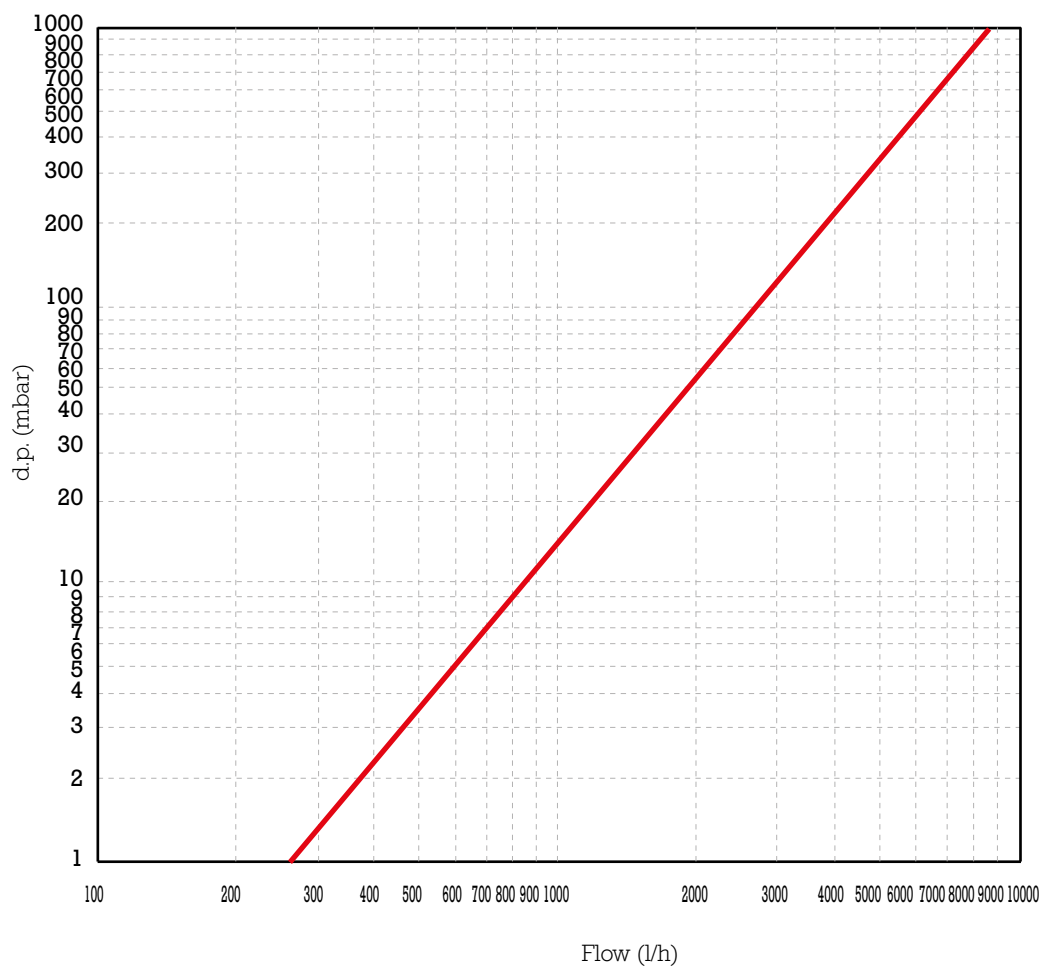
DESCRIPTION	ARTICLE	PIECES/BOX
1"	20312900	10

# COMPONENTS FOR SOLAR HEATING SYSTEM

**HIGH KV SOLAR ZONE-VALVES NORMALLY-CLOSED IN A**



## HYDRAULIC CHARACTERISTIC



— VZ high flow 1"



# SOLAR HEATING SYSTEMS AND COMPONENTS

## COMPONENTS FOR SOLAR HEATING SYSTEM

### SAFETY VALVES



- Safety valve for solar installation primary circuits.
- Suitable for working with 50% water-glycol mixture.
- Maximum operating temperature: 160°C.
- Solar safety valve certification: TÜV SV 12 2012 • SOL • 50
- Consult for other setting options.

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" F - 3/4" F (3 bar)	17175-00	50
1/2" F - 3/4" F (4 bar)	17176-00	50
1/2" F - 3/4" F (6 bar)	17177-00	50
1/2" F - 3/4" F (8 bar)	17178-00	50
1/2" F - 3/4" F (10 bar)	17179-00	50

**NOTE:** Same discount as valves and safety groups section.

### DRAIN VALVES/AIR SEPARATORS



- Maximum operating temperature 150°C.
- Suitable for working with water-glycol mixture.
- Maximum operating pressure 6 bar.

#### Automatic drain valve

DESCRIPTION	ARTICLE
3/8" (to be installed with ball valve)	E-22721
3/8" air vent valve with ball valve	E-22722



- Maximum operating temperature 150°C.
- Suitable for working with water-glycol mixture.
- Maximum operating pressure 6 bar.
- To be installed in horizontal lines.

#### Air separator

DESCRIPTION	ARTICLE
3/8" with accessories for 22 mm Cu pipe	E-22723

### CONTROLS FOR SOLAR HEATING INSTALLATIONS



- Controller for solar installation primary circuits
- 4 inputs+2 relays+1 PWM.
- Includes 3 temperature sensors (PT1000).
- 25 different solar installation configurations (see page 97).
- Optional connection via local networks or the Internet for installation monitoring and control.

DESCRIPTION	ARTICLE
Solar controller	V-05244

## COMPONENTS FOR SOLAR HEATING SYSTEM

### COMPENSATION VALVES



- Flow indication range: 5/40 l/m y 2-12 l/m.
- Includes: filling/emptying tap.
- Maximum operating temperature: 110°C.
- Flow regulation.
- Vertical installation.
- Suitable for use with 50% water/glycol mix.

DESCRIPTION	ARTICLE
3/4" F - 1" F (loose nut) / 2-12 l/m	E-23045
3/4" F - 1 1/2" F (loose nut) / 2-12 l/m	E-23046
1 1/4" M - 1 1/2" F (loose nut) / 5-40 l/m	E-25292

### FLOWMETERS



- Include two filters and two antireturns at the inlet and outlet.
- Kv 1,5 m<sup>3</sup>/h.
- **NOTE:** Product available while stocks last.

#### Thermostatic mixing valves for domestic water

DESCRIPTION	ARTICLE
3/4" M	E-19806
1/2" M without nuts	E-19809
1/2" H without nuts, 2 ball valves	E-19810

### SOLAR EXPANSION VESSELS



- Maximum operating temperature 130°C.
- Suitable for working with water-glycol mixture.
- Connection 3/4" M.

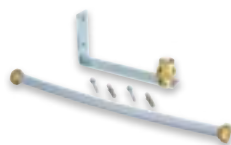
DESCRIPTION	ARTICLE
12 litres	E-22726
18 litres	E-22727
24 litres	E-22728



- Maximum operating temperature 130°C.
- Suitable for working with water-glycol mixture.
- Connection 1" M.

DESCRIPTION	ARTICLE
35 litres	E-24891
50 litres	E-24892
80 litres	E-24893

### ACCESSORIES FOR EXPANSION VESSELS



- Includes: Wall fixing plate, 3-piece connector, flexible hose, rawl plugs, screws.

DESCRIPTION	ARTICLE
3/4" F connection	E-23051



## VALVES AND FITTINGS FOR RADIATORS

### - SPECIAL FOR REFURBISHMENT:

VALVES WITH THERMOSTATIC HEADS .....	114
- Thermostatic head valves .....	118
- Thermostatic valves: bitube, monotube, thermostatic unit .....	119
- Special valves for bathrooms: Deluxe series .....	126
- Manual valves: bitube, monotube .....	128
- Lockshields .....	132
- Coupling to accessories .....	137
- Accessories .....	140

# HIGHLIGHTS



PAGE 118



PAGE 118



PAGE 118



PAGE 119



PAGE 122

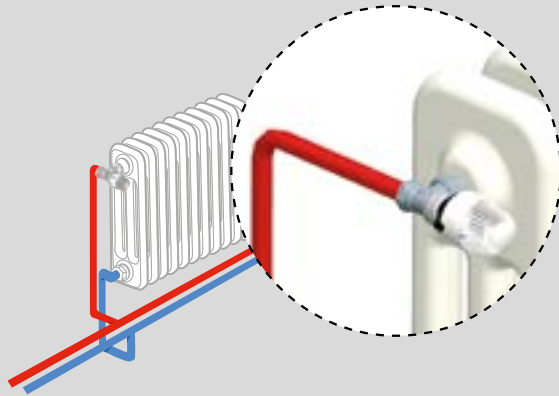


PAGE 133

**SPECIAL FOR REFURBISHMENT**

• **INDIVIDUAL AND CENTRALISED BITUBE INSTALLATION: CHANGING THE VALVE AND THE LOCKSHIELD**

**If** the valve-radiator distances do not coincide, use the telescopic tail.



See page 139



See page 139

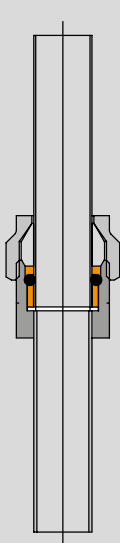
**If** when you dismantle the valve you find that the pipes are damaged or too short, use either the nickel-plated extension pipe or the adapter connector. If necessary, you can shorten the pipe more to enable the extension pipe to be fitted.



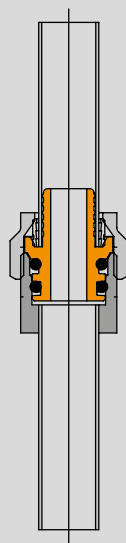
See page 139



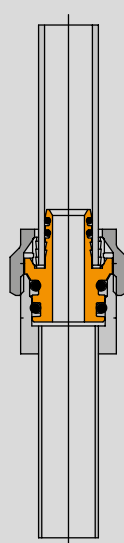
See page 139



Copper



Per



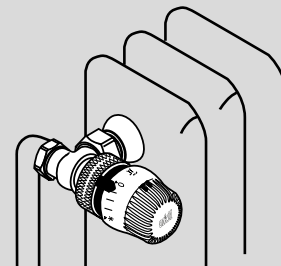
Multi-layer

**If** when fitting thermostatic valves you notice noises in the installation, you need to reduce the speed of the boiler pump. If the noises persist, you need to fit a differential pressure valve between the delivery and the return, on the boiler outlet.

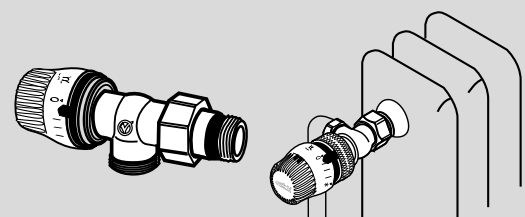


See page 140

To prevent the thermostatic head from sticking out from the wall more than the radiator,



Orkli recommends that you fit the interchangeable reverse angle valve.



**If** , moreover, you would like to save more on your energy bill, we suggest you fit a wireless programmable chronothermostat that will enable you to switch off your central heating system at the times of day necessary.

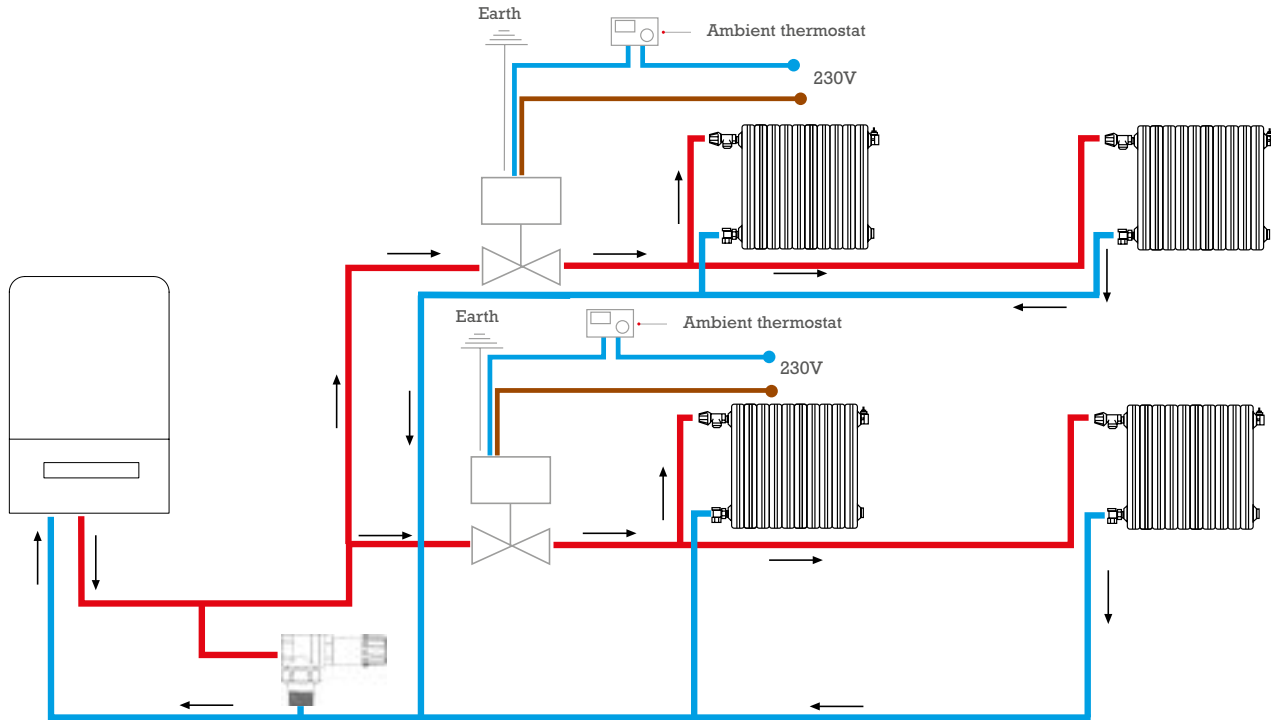


See page 176

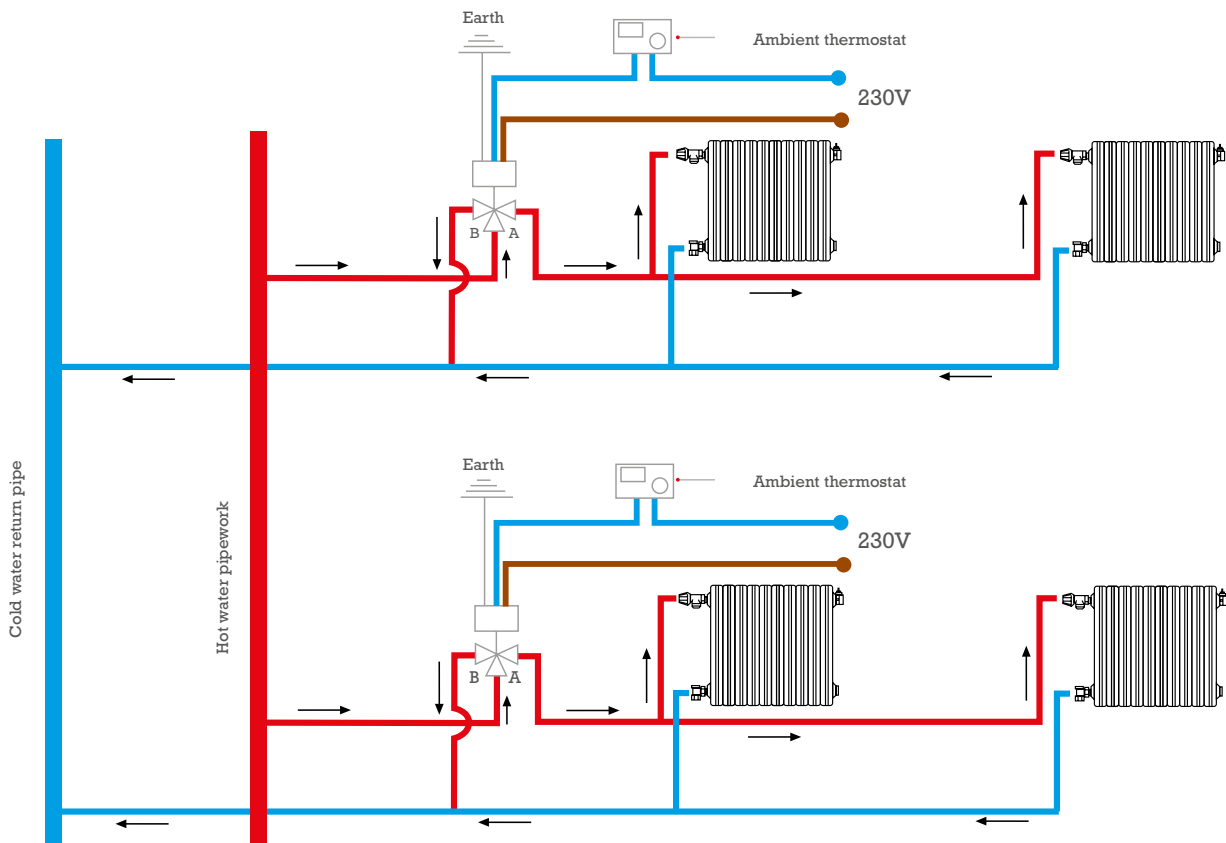
practical cases

• **INDIVIDUAL AND CENTRALISED BITUBE INSTALLATION: CHANGING THE VALVE AND THE LOCKSHIELD**

Example of hydraulic connection with zoning with individual boiler. Single family 2 storeys.



Example of hydraulic connection with central heating and 3-way valves.



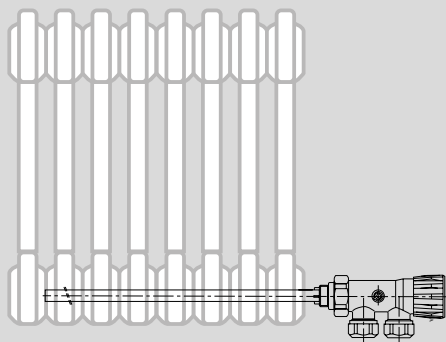
## SPECIAL FOR REFURBISHMENT

### • INDIVIDUAL AND CENTRALISED MONOTUBE INSTALLATION

The extensive range of Orkli monotube valves allows the different existing distances between the valves and the pipes to be absorbed.



It is important that the separation probe is inserted as far as possible into the radiator (at least 2/3 of its length).



To optimise the performance of the sheet metal panels, we recommend using the 4-way lockshields, as they allow the water to circulate through the radiator as if it were a bitube installation.



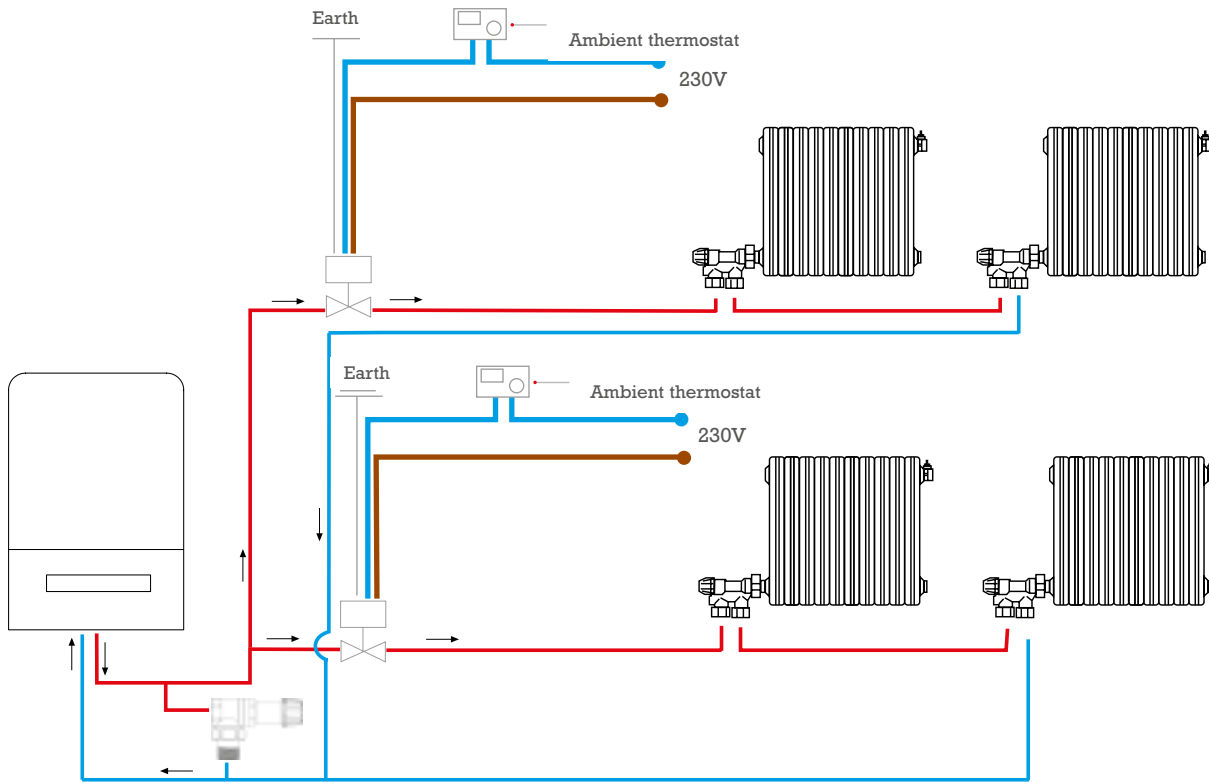
If any noises are heard, even after having balanced the installation, a differential pressure valve needs to be installed.



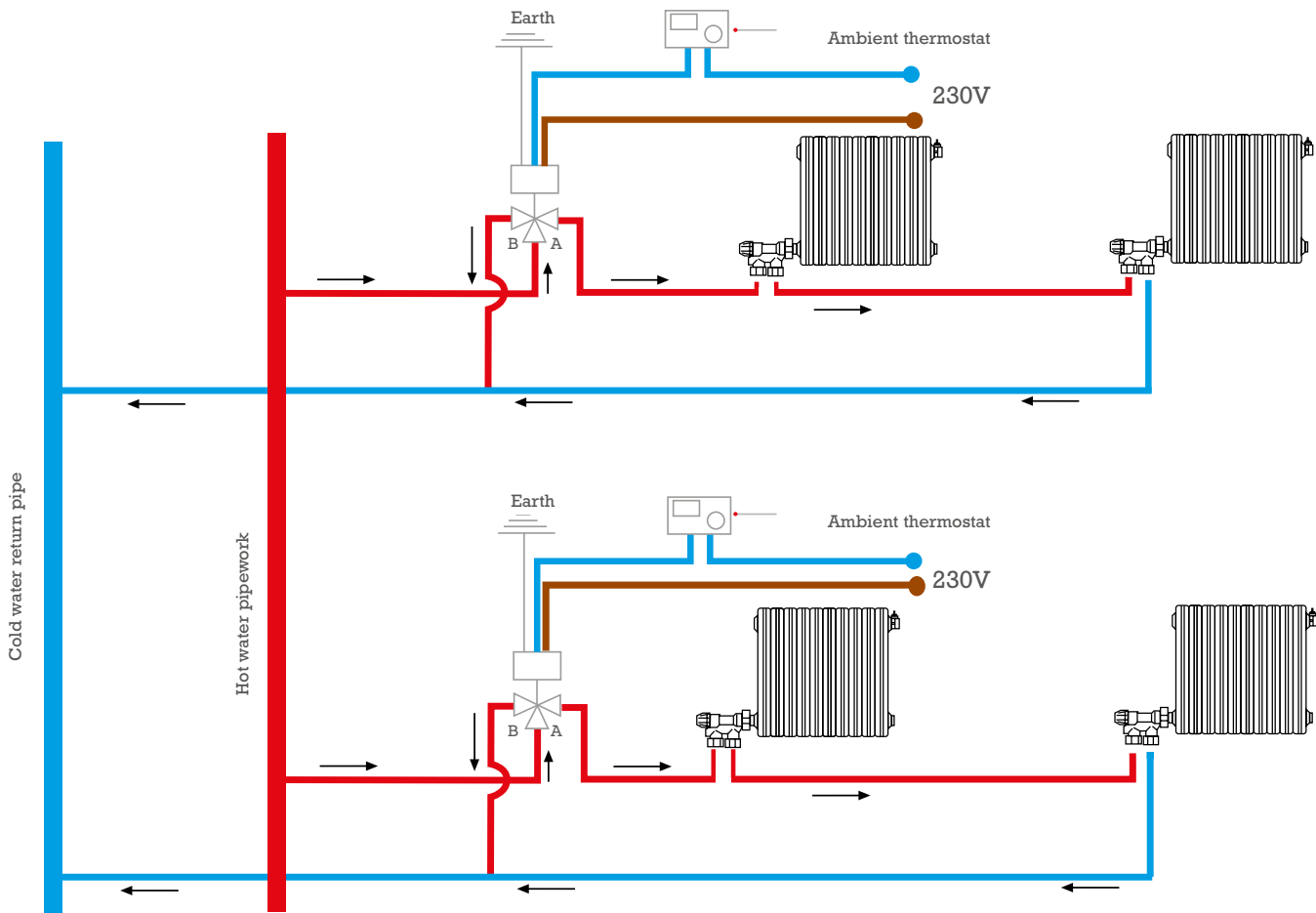
See page 140

• **INDIVIDUAL AND CENTRALISED MONOTUBE INSTALLATION**

Example of hydraulic connection with zoning with individual boiler. Single family 2 storeys.



Example of hydraulic connection with central heating and 3-way valves.



 did you know...?

**savings up to 12%.**

The Regulation concerning **Heating Installations in Buildings (RITE)** is mandatory and establishes the conditions that must be complied with by installations catering to the demand for thermal comfort and hygiene through heating, air conditioning and domestic hot water installations, to obtain rational energy use. Operative instruction ITE O2.11.2.2 of the RITE states **that thermostatic valves must be fitted** to all radiators installed in all rooms of a home, except rooms such as toilets, bathrooms, kitchens, halls and corridors.



- Adaptable to Orkli thermostatic valves.
- European norms (EN-215) approved.
- Handle locking device.
- Working range: (5°C-27°C).
- Anti-freeze device.

**Harmony**

DESCRIPTION	ARTICLE	PIECES/BOX
HARMONY liquid sensor M28	60010	50
HARMONY liquid sensor M30	60300	50
HARMONY remote sensor	60201	50

- Adaptable to Orkli thermostatic valves.
- European norms (EN-215) approved.
- Handle locking device.
- Working range: (5°C-27°C).
- Anti-freeze device.



**Eroso**

DESCRIPTION	ARTICLE	PIECES/BOX
EROSO liquid sensor M28	CHCT211400	50
EROSO liquid sensor M30	CHCT231400	50

- Adaptable to Orkli thermostatic valves.
- European norms (EN-215) approved.
- Handle locking device.
- Working range: (5°C-27°C).
- Anti-freeze device.



**Arima**

DESCRIPTION	ARTICLE	PIECES/BOX
ARIMA liquid sensor M28	CHCT211500	50
ARIMA liquid sensor M30	CHCT231500	50



**Anti-theft**

DESCRIPTION	ARTICLE	PIECES/BOX
Anti-theft black	E-6616	50
Anti-theft white	E-14133	50

## THERMOSTATIC VALVES

**Thermostatic lever screwed onto the valve:** safer, maximum grip, More precise flow control.

**BITUBE THERMOSTATIC VALVES SIMPLE ADJUSTMENT:** Thermostatic valve part



- Manual handle easily changeable by a thermostatic head.
- European norms (EN-215) approved.
- For copper pipe add nut and olive.
- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Female connection to thread



DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" M28	67150	50
Angle - 1/2" M28	67450	50



- Manual handle easily changeable by a thermostatic head.
- For copper pipe add nut and olive.
- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Female connection to thread: Interchangeable with straight one

DESCRIPTION	ARTICLE	PIECES/BOX
Reverse angle - 3/8" M28	67350	50
Reverse angle - 1/2" M28	67650	50



- Manual handle easily changeable by a thermostatic head.
- European norms (EN-215) approved.
- For copper pipe add nut and olive.
- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Female connection to thread



DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8" M28	67250	50
Straight - 1/2" M28	67550	50

## VALVES AND FITTINGS FOR RADIATORS

### THERMOSTATIC VALVES

■ BITUBE THERMOSTATIC VALVES **SIMPLE ADJUSTMENT**: Thermostatic valve part



- Manual handle easily changeable by a thermostatic head.
- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	67190	50
Angle - 1/2" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	67490	50



- Manual handle easily changeable by a thermostatic head.
- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Male connection for copper, PER, multilayer and polybutylene pipe: Interchangeable with straight one

DESCRIPTION	ARTICLE	PIECES/BOX
Reverse angle - 3/8" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	67390	50
Reverse angle - 1/2" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	67690	50



- Manual handle easily changeable by a thermostatic head.
- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	67290	50
Straight - 1/2" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	67590	50



- Manual handle easily changeable by a thermostatic head.
- Sleeve featuring mixed locking of O-ring and metal.
- With special welding instructions.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Connection for welding

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12	67100	50
Angle - 1/2" Ø 15	67401	50
Angle - 1/2" Ø 16	67402	50

## THERMOSTATIC VALVES

### THERMOSTATIC UNIT



Thermostat unit: thermostatic valve part + harmony head liquid sensor + lockshield

Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	68195	8
Angle - 1/2" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	68196	8

Female connection to thread

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8"	68185	8
Angle - 1/2"	68186	8

- Valve part and lockshield connected identically to pipe.
- Valve part and lockshield connected identically to radiator (mixed locking sleeve).
- Single adjustment valve part.
- Both nickel-plated.
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).



Thermostatic unit: thermostatic-adjustable valve part + lockshield

Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	68295	8
Angle - 1/2" Ø 12÷20 (PER,Mult,PB); 12÷16 (copper)	68495	8

Female connection to thread

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8"	68285	8
Angle - 1/2"	68485	8

- Valve part and lockshield connected identically to pipe.
- Valve part and lockshield connected identically to radiator (mixed locking sleeve).
- Single adjustment valve part.
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).

## VALVES AND FITTINGS FOR RADIATORS

### THERMOSTATIC VALVES

MONOTUBE THERMOSTATIC VALVES: Special for wall-radiator



*did you know...?*

item 52390 is a single pipe thermostatic valve that is FULLY INTERCHANGEABLE with the manual single pipe valve, as it has the SAME INTERAXIS DISTANCE of 30 mm.?



FOR REDUCED SPACES

- Total locking.
- It maintains a constant charge-losing, whatever the in and output senses maybe.
- Featuring input sounder.
- Thermostatic head not included.
- Manual handle easily changeable by a thermostatic head.
- Radiator 35% maximum derivation.
- Short distance from radiator-axis to connection nozzles (30 mm.)
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Male conetion for copper, PER, multilayer and polybutilene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52390	20



FOR REDUCED SPACES

- Total locking.
- It maintains a constant charge-losing, whatever the in and output senses maybe.
- Featuring input sounder.
- Thermostatic head not included.
- Manual handle easily changeable by a thermostatic head.
- Radiator 35% maximum derivation.
- Short distance from radiator-axis to connection nozzles (35 mm.)
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Male conetion for copper, PER, multilayer and polybutilene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52910	20
3/4" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52930	20



STANDARD

- Total locking.
- It maintains a constant charge-losing, whatever the in and output senses maybe.
- Featuring input sounder.
- Thermostatic head not included.
- Manual handle easily changeable by a thermostatic head.
- Radiator 32% maximum derivation.
- Short distance from radiator-axis to connection nozzles (47 mm.)
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52710	20
1/2" Ø 18 (copper)	53710	20
3/4" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52730	20

## THERMOSTATIC VALVES

### MONOTUBE THERMOSTATIC VALVES: Special for SPECIAL BATHROOMS



- Compact valve. Nickel plated finish.
- Radiator 30% maximum derivation.
- Featuring input sounder.
- Thermostatic head not included.
- Manual handle easily changeable by a thermostatic head.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Male conetion for copper, PER, multilayer and polybutilene pipe

#### FLOOR outlet model

DESCRIPTION	ARTICLE	PIECES/BOX
Floor 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52510	20



- Compact valve. Nickel plated finish.
- Radiator 30% maximum derivation.
- Featuring input sounder.
- Thermostatic head not included.
- Manual handle easily changeable by a thermostatic head.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

Male conetion for copper, PER, multilayer and polybutilene pipe

#### WALL outlet model

DESCRIPTION	ARTICLE	PIECES/BOX
Wall right 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52310	20
Wall left 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52110	20



## VALVES AND FITTINGS FOR RADIATORS

### THERMOSTATIC VALVES

■ BITUBE THERMOSTATIC VALVES: Special for **BITUBE INSTALLATIONS WITH MONOTUBE FORMAT**

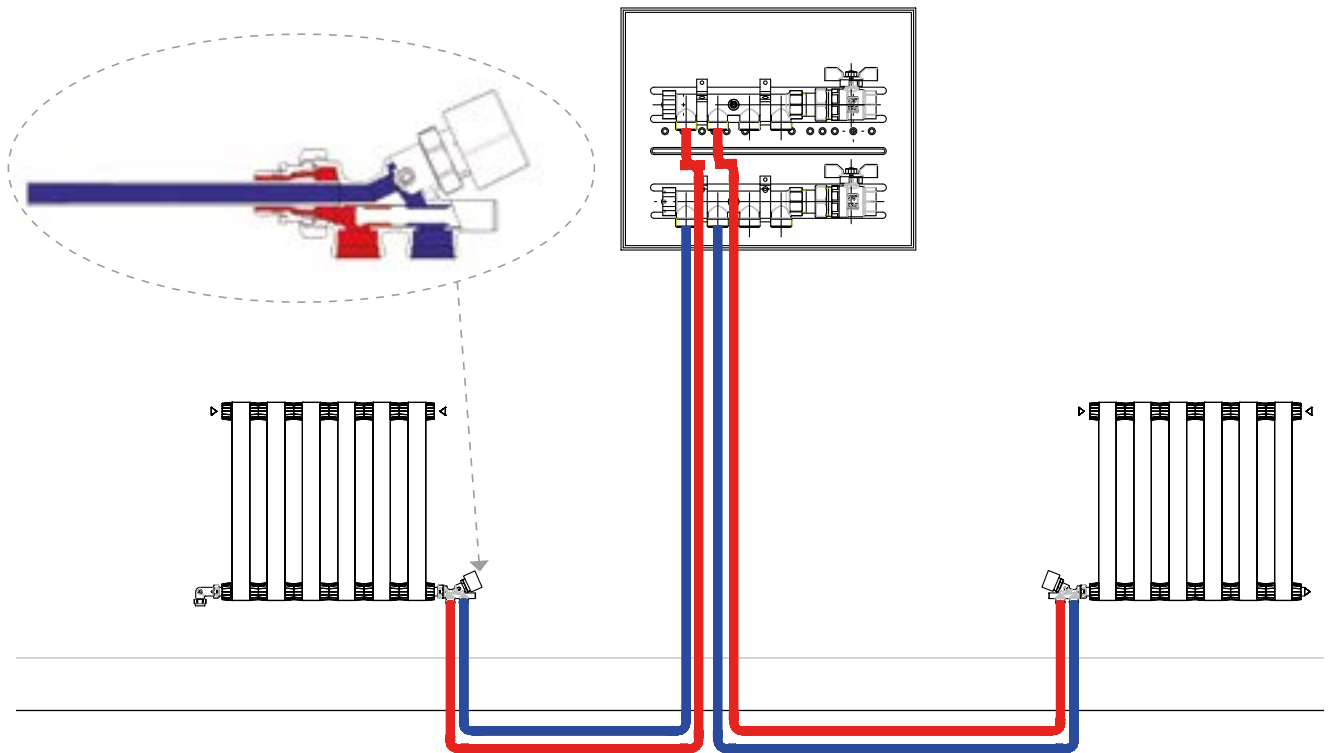


can the installation be made **with two-pipe valves if the radiator has a single-pipe format?**

#### Advantages:

- One single inlet point to the radiator.
- The balancing is made from the valve itself.

two-pipe valves with a single-pipe format are valves that have the single-pipe format on the outside, but which have no internal by-pass between flow and return, and therefore function as a valve and a lockshield but on the same valve.



## THERMOSTATIC VALVES

### BITUBE THERMOSTATIC VALVES: Special for BITUBE INSTALLATIONS WITH MONOTUBE FORMAT



FOR REDUCED SPACES

- Radiator 100% derivation (only valid for bitube installations).
- Featuring input sounder.
- Thermostatic head not included.
- Short distance from radiator-axis to connection nozzles (30 mm.)
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).

Male connetion for copper, PER, multilayer and polybutilene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52490	20



FOR REDUCED SPACES

- Radiator 100% derivation (only valid for bitube installations).
- Featuring input sounder.
- Thermostatic head not included.
- Short distance from radiator-axis to connection nozzles (35 mm.)
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).

Male connetion for copper, PER, multilayer and polybutilene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52920	20



STANDARD

- Compact valve. Nickel plated finish.
- Radiator 100% derivation (only valid for bitube installations).
- Featuring input sounder.
- Thermostatic head not included.
- Short distance from radiator-axis to connection nozzles (47 mm.)
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).

Male connetion for copper, PER, multilayer and polybutilene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52720	20



## VALVES AND FITTINGS FOR RADIATORS

### SPECIAL VALVES FOR BATHROOMS: DELUXE SERIES

#### MONOTUBE THERMOSTATIC VALVES: Special bathrooms



- Chrome plated and polished finish.
- Radiator 30% maximum derivation.
- Inlet probe included.
- Thermostatic head not included.
- Manual handle easily changeable by a thermostatic head.
- **Accessories not included. (Page 138).**

Male connection for copper, PER, multilayer and polybutylene pipe  
FLOOR outlet model

DESCRIPTION	ARTICLE	PIECES/BOX
Floor - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52513	20



- Chrome plated and polished finish.
- Radiator 30% maximum derivation.
- Inlet probe included.
- Thermostatic head not included.
- Manual handle easily changeable by a thermostatic head.
- **Accessories not included. (Page 138).**

Male connection for copper, PER, multilayer and polybutylene pipe  
WALL outlet model

DESCRIPTION	ARTICLE	PIECES/BOX
Wall right - 1/2"Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52313	20
Wall left - 1/2"Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52113	20

#### BITUBE THERMOSTATIC VALVES: Special bathrooms



- Chrome plated and polished finish.
- Radiator 100% maximum derivation.
- Inlet probe included.
- Thermostatic head not included.
- Manual handle easily changeable by a thermostatic head.
- **Accessories not included. (Page 138).**

Bitube installations with monotube format  
WALL outlet model

DESCRIPTION	ARTICLE	PIECES/BOX
Wall right - 1/2"Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52713	20
Wall left - 1/2"Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52613	20

## SPECIAL VALVES FOR BATHROOMS: DELUXE SERIES

### CHROME PLATED SERIES



Manual valves: Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	82215	50
Straight - 1/2"Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	82315	50



Manual valves: Female connection to thread

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 1/2"	82015	50
Straight - 1/2"	82115	50



Lockshields: Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	88215	50
Straight - 1/2"Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	88315	50



Lockshields: Female connection to thread

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 1/2"	88015	50
Straight - 1/2"	88115	50



Unit: Valve part + lockshield

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	83215	8



# VALVES AND FITTINGS FOR RADIATORS

## MANUAL BITUBE VALVES

### FEMALE CONNECTION TO THREAD



- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For copper tube add nut and olive.
- Lockshields. (Pages 132, 133)
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).

COPLINE: Simple adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8"	1115	60
Angle - 1/2"	1125	60
Angle - 3/4"	1135	60



- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For copper tube add nut and olive.
- Lockshields. (Pages 132, 133)
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).

COPLINE: Simple adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8"	1116	60
Straight - 1/2"	1126	60
Straight - 3/4"	1136	60



- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For copper tube add nut and olive.
- Lockshields. (Pages 132, 133)
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).

WOODLINE: Double adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8"	1615	60
Angle - 1/2"	1625	60
Angle - 3/4"	1535	60



- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For copper tube add nut and olive.
- Lockshields. (Pages 132, 133)
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included.** (Pages 137, 138, 139, 140, 141).

WOODLINE: Double adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8"	1616	60
Straight - 1/2"	1626	60
Straight - 3/4"	1536	60

## MANUAL BITUBE VALVES

### MALE CONNECTION FOR COPPER, PER, MULTILAYER AND POLYBUTHYLENE PIPE



- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### UREPEL: Simple adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	81210	60
Angle - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	82210	60



- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### UREPEL: Simple adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	81310	60
Straight - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	82310	60



- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### UREPEL: Double adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	84260	60
Angle - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	1210	60



- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### UREPEL: Double adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	84360	60
Straight - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	85360	60



# VALVES AND FITTINGS FOR RADIATORS

## MANUAL BITUBE VALVES

### CONNECTION FOR WELDING



- Simple adjustment.
- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.

WELDLINE: With assembled handle

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12	1315	60
Angle - 3/8" Ø 14	1310	60
Angle - 1/2" Ø 14	1320	60
Angle - 1/2" Ø 15	1325	60
Angle - 1/2" Ø 16	1330	60



- Simple adjustment.
- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.

WELDLINE: With assembled handle

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8" Ø 12	1316	60
Straight - 3/8" Ø 14	1311	60
Straight - 1/2" Ø 14	1321	60
Straight - 1/2" Ø 15	1326	60
Straight - 1/2" Ø 16	1331	60

### UNIT VALVE PART AND LOCKSHIELD



- Simple adjustment.
- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.

Unit: Manual valve part + lockshield

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 1/2" male connection to thread	82200	25



- Simple adjustment.
- Sleeve featuring mixed locking of O-ring and metal.
- Protection cowl.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.

Unit: Manual valve part + lockshield

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 1/2" female connection for copper	82201	25

## MANUAL MONOTUBE VALVES

### MALE CONNECTION FOR COPPER, PER, MULTILAYER AND POLYBUTHYLENE PIPE



- Total locking.
- Radiator 100% derivation.
- It maintains a constant charge-losing, whatever the in and output senses maybe.
- Featuring input sounder.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### UNILINE: Simple adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Ø 12÷20 (PER,Mult.PB);		
Ø 12÷16 (copper) with M24 thread	1816	20
1/2" Ø 18 (copper) with M26 thread	1817	20
3/4" Ø 12÷20 (PER,Mult.PB);		
Ø 12÷16 (copper) with M24 thread	1826	20
3/4" Ø 18 (copper) with M26 thread	1827	20



- Total locking.
- Radiator 100% derivation.
- It maintains a constant charge-losing, whatever the in and output senses maybe.
- Featuring input sounder.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### UNILINE: Double adjustment

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Ø 12÷20 (PER,Mult.PB);		
Ø 12÷16 (copper) with M24 thread	1865	20
1/2" Ø 18 (copper) with M26 thread	1866	20
3/4" Ø 12÷20 (PER,Mult.PB);		
Ø 12÷16 (copper) with M24 thread	1875	20
3/4" Ø 18 (copper) with M26 thread	1876	20



## VALVES AND FITTINGS FOR RADIATORS

### LOCKSHIELDS

#### MANUALLY OPERATED AND THERMOSTATIC VALVES



- Sleeve featuring mixed locking of O-ring and metal.
- For copper tube add nut and olive.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

WOODLINE-COPLINE: Female connection to thread

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8"	1015	60
Angle - 1/2"	1025	60
Angle - 3/4"	1035	60



- Sleeve featuring mixed locking of O-ring and metal.
- For copper tube add nut and olive.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

WOODLINE-COPLINE: Female connection to thread

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8"	1016	60
Straight - 1/2"	1026	60
Straight - 3/4"	1036	60



- For conical thread sleeve without sealing ring to radiator add "MC" to the article.

WELDLINE: Connection for welding: assembled

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12	1415	60
Angle - 3/8" Ø 14	1410	60
Angle - 1/2" Ø 14	1420	60
Angle - 1/2" Ø 15	1425	60
Angle - 1/2" Ø 16	1430	60



- For conical thread sleeve without sealing ring to radiator add "MC" to the article.

WELDLINE: Connection for welding: assembled

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8" Ø 12	1416	60
Straight - 3/8" Ø 14	1411	60
Straight - 1/2" Ø 14	1421	60
Straight - 1/2" Ø 15	1426	60
Straight - 1/2" Ø 16	1431	60

## LOCKSHIELDS

### MANUALLY OPERATED AND THERMOSTATIC VALVES



- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

**UREPEL: Male connection for copper, PER, multilayer and polybutylene pipe**

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 3/8" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	87210	60
Angle - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	1220	60



- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

**UREPEL: Male connection for copper, PER, multilayer and polybutylene pipe**

DESCRIPTION	ARTICLE	PIECES/BOX
Straight - 3/8" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	87310	60
Straight - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	88310	60



- Sleeve featuring mixed locking of O-ring and metal.
- For conical thread sleeve without sealing ring to radiator add "MC" to the article.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

**UREPEL: Male connection for copper, PER, multilayer and polybutylene pipe**

DESCRIPTION	ARTICLE	PIECES/BOX
Elbow sleeve	E-11729	60



- Both lockshield cap and valve handwheel.
- EPDM O-ring sealing system for spindle.
- Extendable 1/2" BSP connecting tail.
- Pipe connection system by means of nut + olive.
- **Fittings included.**

**White series - U.K. series**

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 15 mm copper pipe	80000	50
Angle - 8/10 mm copper pipe	80100	50
Straight - 15 mm copper pipe	80011	50



- Both lockshield cap and valve handwheel.
- EPDM O-ring sealing system for spindle.
- Extendable 1/2" BSP connecting tail.
- Pipe connection system by means of nut + olive.
- **Fittings included.**

**Plata series - U.K. series**

DESCRIPTION	ARTICLE	PIECES/BOX
Angle - 15 mm copper pipe	80012	50
Angle - 8/10 mm copper pipe	80013	50
Straight - 15 mm copper pipe	80112	50



## VALVES AND FITTINGS FOR RADIATORS

### LOCKSHIELDS

#### LOCKSHIELD VALVE SET

Follow the direction of the arrows when installing.



- For tube Ø 12÷20 (PER, Mult. PB); Ø 12÷16 (cooper).
- Supplied with manual adjustment handle, nut of Ø 15 mm. for pipe fitting.
- Between centres of bottom fitting 35 mm.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### Floor straight thermostatic monotube and bitube

DESCRIPTION	ARTICLE	PIECES/BOX
Monotube	54570	10
Bitube	54560	10



- For tube Ø 12÷20 (PER, Mult. PB); Ø 12÷16 (cooper).
- Supplied with manual adjustment handle, nut of Ø 15 mm. for pipe fitting.
- Between centres of bottom fitting 35 mm.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### Floor straight thermostatic monotube and bitube

DESCRIPTION	ARTICLE	PIECES/BOX
Monotube	54590	10
Bitube	54580	10



- For tube Ø 12÷20 (PER, Mult. PB); Ø 12÷16 (cooper).
- Supplied with manual adjustment handle, nut of Ø 15 mm. for pipe fitting.
- Between centres of bottom fitting 35 mm.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### Floor straight thermostatic monotube and bitube

DESCRIPTION	ARTICLE	PIECES/BOX
Monotube	54500	10
Bitube	54510	10

## LOCKSHIELDS

### LOCKSHIELD VALVE SET

Follow the direction of the arrows when installing.



- For tube Ø 12÷20 (PER, Mult. PB); Ø 12÷16 (cooper).
- Supplied with manual adjustment handle, nut of Ø 15 mm. for pipe fitting.
- Between centres of bottom fitting 35 mm.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### Wall straight thermostatic monotube and bitube

DESCRIPTION	ARTICLE	PIECES/BOX
Monotube	54470	10
Bitube	54460	10



- For tube Ø 12÷20 (PER, Mult. PB); Ø 12÷16 (cooper).
- Supplied with manual adjustment handle, nut of Ø 15 mm. for pipe fitting.
- Between centres of bottom fitting 35 mm.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### Wall straight thermostatic monotube and bitube

DESCRIPTION	ARTICLE	PIECES/BOX
Monotube	54490	10
Bitube	54480	10



- For tube Ø 12÷20 (PER, Mult. PB); Ø 12÷16 (cooper).
- Supplied with manual adjustment handle, nut of Ø 15 mm. for pipe fitting.
- Between centres of bottom fitting 35 mm.
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

#### Wall straight thermostatic monotube and bitube

DESCRIPTION	ARTICLE	PIECES/BOX
Monotube	54400	10
Bitube	54410	10



## VALVES AND FITTINGS FOR RADIATORS LOCKSHIELDS

### LOCKSHIELD



- Accessories not included. (Pages 137, 138, 139, 140, 141).

**FLOOR STRAIGHT MONOTUBE:** Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Floor - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52550	40
Floor - 1/2" Ø 18 (copper)	53550	40



- Accessories not included. (Pages 137, 138, 139, 140, 141).

**WALL STRAIGHT MONOTUBE:** Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Wall - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52450	40
Wall - 1/2" Ø 18 (copper)	53450	40



- Accessories not included. (Pages 137, 138, 139, 140, 141).

**FLOOR STRAIGHT BITUBE:** Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Floor - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52560	40
Floor - 1/2" Ø 18 (copper)	53560	40



- Accessories not included. (Pages 137, 138, 139, 140, 141).

**WALL STRAIGHT BITUBE:** Male connection for copper, PER, multilayer and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
Wall - 1/2" Ø 12÷20 (PER,Mult.PB); Ø 12÷16 (copper)	52460	40
Wall - 1/2" Ø 18 (copper)	53460	40

**NOTE:** Can be supplied to order. Check out delivery times.

## COUPLING TO ACCESSORIES

### COUPLING TO PIPE ACCESSORIES



- Greater closing surface with a double seal.
- Reduces the chance of leaks by 80%.
- New design.
- Featuring two units per each group.

Don't take chances with accessories!

#### Male connection for multilayer pipe

DESCRIPTION	ARTICLE	PIECES / BOX
M24x1,5 Ø16x2	V-01030	30



- Cap with seals, O-ring, ring and nut.
- Featuring two units per each group.

#### Male connection for multi-layer pipe

DESCRIPTION	ARTICLE	PIECES / BOX
M24x1,5 Ø14x2	E-13646	40
M24x1,5 Ø16x2	E-13727	40
M24x1,5 Ø16x2,25	E-13637	40
M24x1,5 Ø18x2	E-13667	40
M24x1,5 Ø20x2	E-13670	40
M24x1,5 Ø20x2,25	E-13643	40
M24x1,5 Ø20x2,5	E-13640	40
M24x1,5 Ø17,5x13 (Gladiator)	E-13793	40



- Cap, O-ring, ring and nut.
- Featuring two units per each group.

#### Male connection for PER

DESCRIPTION	ARTICLE	PIECES / BOX
M24x1,5 Ø12x1	E-13676	40
M24x1,5 Ø12x2	E-13673	40
M24x1,5 Ø14x2	E-13758	40
M24x1,5 Ø16x1,5	E-13679	40
M24x1,5 Ø16x1,8	E-15700	40
M24x1,5 Ø16x1,9	E-18871	40
M24x1,5 Ø16x2	E-13768	40
M24x1,5 Ø16x2,2	E-18872	40
M24x1,5 Ø17x2	E-13682	40
M24x1,5 Ø18x2	E-13780	40
M24x1,5 Ø18x2,5	E-13735	40
M24x1,5 Ø20x1,9	E-18873	40
M24x1,5 Ø20x2	E-13787	40
M24x1,5 Ø20x3	E-13741	40
M24x1,5 Ø20x3,4	E-13738	40



- Cap, O-ring, olive and nut.
- Featuring two units per each group.

#### Male connection for copper pipe

DESCRIPTION	ARTICLE	PIECES / BOX
M24x1,5 Ø10 (white)	E-8473	40
M24x1,5 Ø12 (red)	E-5135	40
M24x1,5 Ø14 (green)	E-5137	40
M24x1,5 Ø15 (brown)	E-5139	40
M24x1,5 Ø16 (yellow)	E-5141	40
M26x1,5 Ø18 (white)	E-5427	40



- Cap with seals, O-ring, ring and nut.
- Featuring two units per each group.

#### Male connection for Polybutylene pipe

DESCRIPTION	ARTICLE	PIECES / BOX
M24x1,5 Ø16x1,8	E-15700	40



## VALVES AND FITTINGS FOR RADIATORS

### COUPLING TO ACCESSORIES

#### COUPLING TO PIPE ACCESSORIES



- Cap with seals, O-ring, ring and nut.
- Featuring two units per each group.

#### Male connection for Polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
M24x1,5 Ø15x1,7	E-13816	40
M24x1,5 Ø20x2,3	E-19570	40

#### COUPLING TO PIPE ACCESSORIES: DELUXE SERIES



- Cap, O-ring, olive and nut.
- Featuring two units for each group.

#### Male connection for copper pipe

DESCRIPTION	ARTICLE	PIECES/BOX
M24X1,5 Ø12 (red)	E-5145	40
M24X1,5 Ø14 (green)	E-5147	40
M24X1,5 Ø15 (brown))	E-5149	40
M24X1,5 Ø16 (yellow)	E-5151	40



- Cap, O-ring, olive and nut.
- Featuring two units for each group.

#### Male connection for PER and polybutylene pipe

DESCRIPTION	ARTICLE	PIECES/BOX
M24X1,5 Ø16 x 12,4	E-17921	40
M24X1,5 Ø16 x 12	E-17922	40
M24X1,5 Ø20 x 16	E-17923	40



- Cap, O-ring, olive and nut.
- Featuring two units for each group.

#### Male connection for multilayer pipe

DESCRIPTION	ARTICLE	PIECES/BOX
M24X1,5 Ø16 x 12	E-17918	40
M24X1,5 Ø18 x 14	E-17919	40
M24X1,5 Ø20 x 16	E-17920	40



- "Fast" nut for copper pipe.
- Featuring two units per each group.

#### Male connection for copper pipe

DESCRIPTION	ARTICLE	PIECES/BOX
M24x1,5 Ø12	E-14000	80
M24x1,5 Ø14	E-14001	80
M24x1,5 Ø15	E-14002	80
M24x1,5 Ø16	E-14003	80

## COUPLING TO ACCESSORIES



- Nut and olive.

### Female connection to thread

DESCRIPTION	ARTICLE	PIECES/BOX
Brass - 3/8" - Ø12	F-3958	-
Brass - 1/2" - Ø12	F-3960	-
Brass - 1/2" - Ø14	F-4413	-
Brass - 1/2" - Ø15	F-3962	-
Brass - 1/2" - Ø16	F-4144	-
Olive - 3/8" - Ø12	F-5251	-
Olive - 1/2" - Ø12	F-5037	-
Olive - 1/2" - Ø14	F-5038	-
Olive - 1/2" - Ø15	F-5192	-
Olive - 1/2" - Ø16	F-5039	-



- Nut.

### Female connection to thread

DESCRIPTION	ARTICLE	PIECES/BOX
Nickel-plated - 3/8" - Ø12	F-4425	-
Nickel-plated - 1/2" - Ø12	F-4371	-
Nickel-plated - 1/2" - Ø14	F-4416	-
Nickel-plated - 1/2" - Ø15	F-4370	-
Nickel-plated - 1/2" - Ø16	F-4369	-



**NOTE:** For M24 accessories, see pages 137, 138.

### Pipe fitting

DESCRIPTION	ARTICLE	PIECES/BOX
½" M-Orkli accessory joint M24x1,5	E-13062	300
½" F-Orkli accessory joint M24x1,5	E-25169	300
¾" M-Orkli accessory joint M24x1,5	E-23860	300
¾" F-Orkli accessory joint M24x1,5	E-25170	300
M24 • 1,5 - M24 • 1,5	E-23859	300
M24 • 1,5 Male - M24 • 1,5 Female	V-00564	300



## COUPLING TO PIPE ACCESSORIES



- Extension range 20 mm (standard Orkli sleeve length - 2 mm. + 18 mm.).
- 1/2" coupling to radiator.
- Sealing-to-radiator area by means of EPDM sealing ring.

### Telescopic union tail piece 1/2"

DESCRIPTION	ARTICLE	PIECES/BOX
Telescopic union tail piece 1/2" - 20 mm	E-19733	-
Telescopic union tail piece 3/8" - 20 mm outlet at 1/2" valve	E-20185	-



### Bridge for installations testing

DESCRIPTION	ARTICLE	PIECES/BOX
Copper guide bridge at 35 mm for installations testing for monotube valves	E-19863	-
Accessory for bitube installations	E-22769	-



### Nickel-plated extension pipe

DESCRIPTION	ARTICLE	PIECES/BOX
118 mm. 1/2" valve connection wall outlet pipe - Ø14	E-19819	-
118 mm. 1/2" valve connection wall outlet pipe - Ø15	E-20195	-
118 mm. M24 x 1,5 valve connection wall outlet pipe - Ø 15 (Home refurbishment)	E-23794	-

## VALVES AND FITTINGS FOR RADIATORS ACCESSORIES



### Copper tube

DESCRIPTION	ARTICLE	PIECES/BOX
100 cm. Ø 15 mm.	E-10857	-



### Decorative pieces

DESCRIPTION	ARTICLE	PIECES/BOX
Double	19000313	50
Simple	19000304	100



- Metallic.
- Natural india-rubber filter.

### Automatic purging device

DESCRIPTION	ARTICLE	PIECES/BOX
1/8"	19000322	25



### Manual purging device

DESCRIPTION	ARTICLE	PIECES/BOX
3/8"	D-7584	100
1/8"	D-7074	100



### Angle purging device with floater

DESCRIPTION	ARTICLE	PIECES/BOX
1" right	D-7075	100
1" left	D-7076	100



### Purging device with automatic floater

DESCRIPTION	ARTICLE	PIECES/BOX
3/8"	D-7073	100
1/2"	D-7586	100



### Differential pressure valve

DESCRIPTION	ARTICLE	PIECES/BOX
1 1/4" angle	E-18604	10
1" straight	V-01121	10

## ACCESSORIES

### HYDRAULIC MODULES FOR RADIATORS WITH INTEGRATED TAPS



*did you know...?*

hydraulic modules are normally used for radiators with integrated valves? This type of valves is therefore only used for connecting the pipes to the radiator.



- Adjustment and isolation by means of globe valves.
- For copper, PER, multilayer and polybutylene pipe.
- Connection to radiator by means of 3/4" female nut (convertible to 1/2" male).
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

**For bitube installations: FLOOR outlet model**

DESCRIPTION	ARTICLE	PIECES/BOX
H3/4" - M24 (Orkli standard joint)	80020	50
H3/4" - G3/4" Euroconus	80021	50



- Adjustment and isolation by means of globe valves.
- For copper, PER, multilayer and polybutylene pipe.
- Connection to radiator by means of 3/4" female nut (convertible to 1/2" male).
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

**For bitube installations: WALL outlet model**

DESCRIPTION	ARTICLE	PIECES/BOX
H3/4" - M24 (Orkli standard joint)	80023	50
H3/4" - G3/4" Euroconus	80024	50



- Adjustment and isolation by means of globe valves.
- For copper, PER, multilayer and polybutylene pipe.
- Connection to radiator by means of 3/4" female nut (convertible to 1/2" male).
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

**For monotube installations: FLOOR outlet model**

DESCRIPTION	ARTICLE	PIECES/BOX
H3/4" - M24 (Orkli standard joint)	80026	50
H3/4" - G3/4" Euroconus	80027	50



- Adjustment and isolation by means of globe valves.
- For copper, PER, multilayer and polybutylene pipe.
- Connection to radiator by means of 3/4" female nut (convertible to 1/2" male).
- **Accessories not included. (Pages 137, 138, 139, 140, 141).**

**For monotube installations: WALL outlet model**

DESCRIPTION	ARTICLE	PIECES/BOX
H3/4" - M24 (Orkli standard joint)	80029	50
H3/4" - G3/4" Euroconus	80032	50

### ADAPTERS FOR HYDRAULIC MODULES



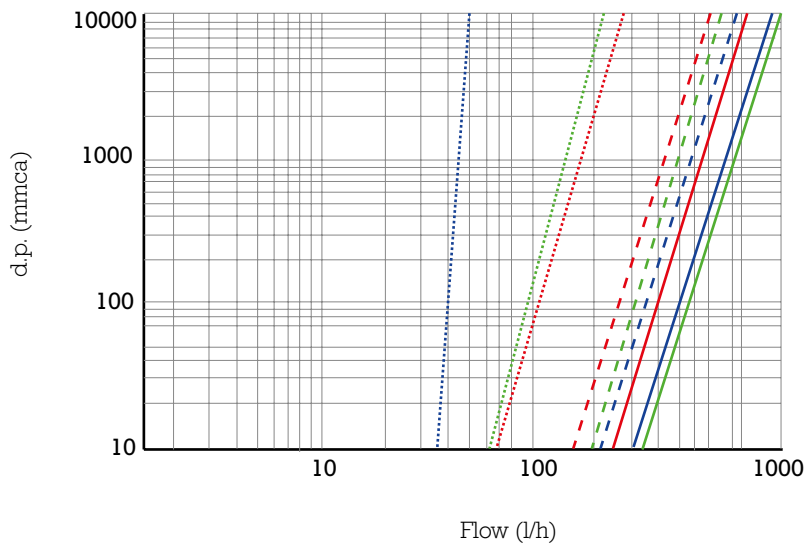
- 2 units per bag.

DESCRIPTION	ARTICLE	PIECES/BOX
Male G3/4" - G1/2" - for radiators with female connection G1/2"	80035	-
Cone adaptor for radiators with male cone connection G3/4"	80036	-



## HYDRAULIC CHARACTERISTICS

### • Bitube thermostatic valves 1/2"



Reverse angle	
— 100% open	1407,0 l/h
- - - Closed 1 turn	919,8 l/h
⋯ Closed 2 turns	50,4 l/h

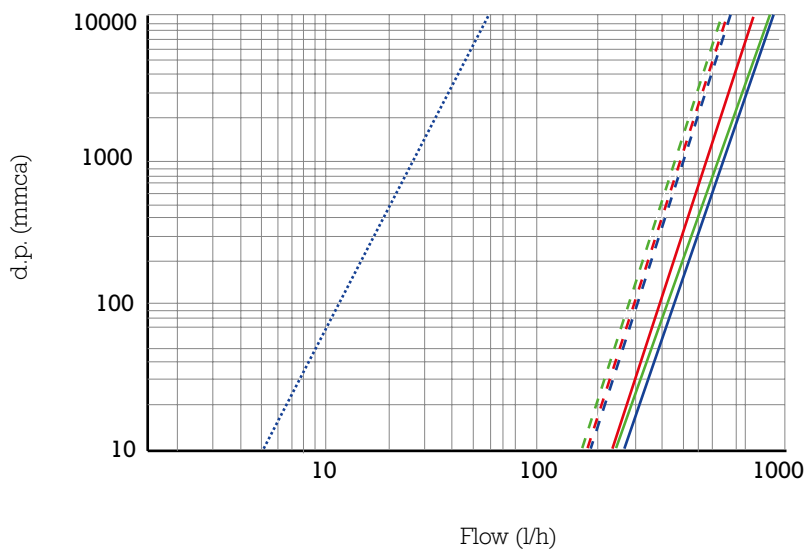
  

Angle	
— 100% open	1414,4 l/h
- - - Closed 1 turn	793,0 l/h
⋯ Closed 2 turns	223,5 l/h

Straight	
— 100% open	1036,3 l/h
- - - Closed 1 turn	691,6 l/h
⋯ Closed 2 turns	263,6 l/h

### • Bitube thermostatic valves 3/8"



Reverse angle	
— 100% open	1279,9 l/h
- - - Closed 1 turn	851,1 l/h
⋯ Closed 2 turns	58,8 l/h

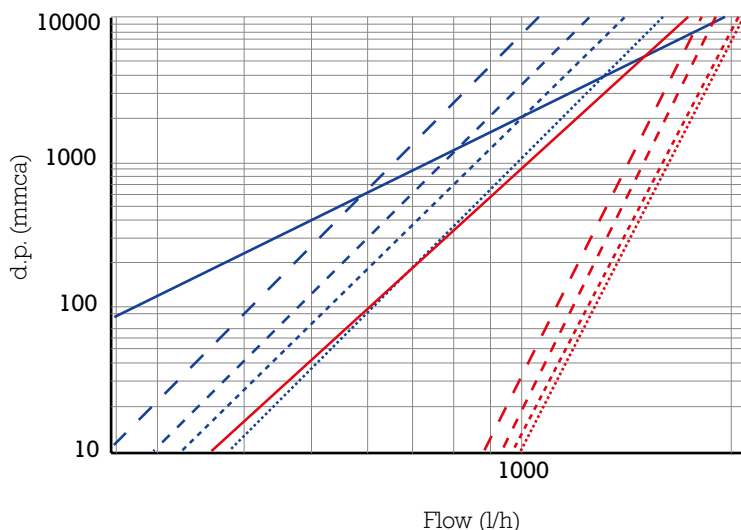
  

Angle	
— 100% open	1204,5 l/h
- - - Closed 1 turn	784,2 l/h
⋯ Closed 2 turns	43,6 l/h

Straight	
— 100% open	1044,3 l/h
- - - Closed 1 turn	844,7 l/h
⋯ Closed 2 turns	67,8 l/h

### • Thermostatic monotube valve special for reduced spaces

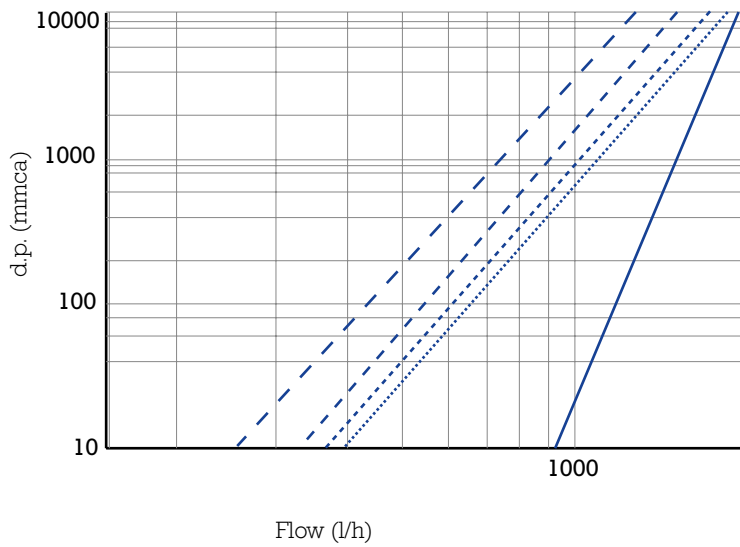


Reduced spaces (type 52390)	
— Thermostat and lockshield opens 100%	1788,9 l/h
- - - Thermostat and lockshield closed	1841,0 l/h
- - - Thermostat open 100% and lockshield open 25%	1906,4 l/h
- - - Thermostat open 100% and lockshield open 50%	2044,4 l/h
⋯ Thermostat open 100% and lockshield open 75%	2026,1 l/h

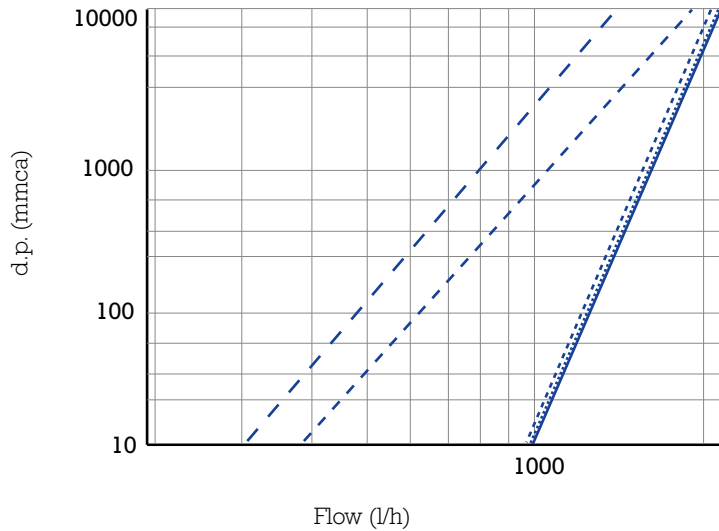
Reduced spaces (type 52910)	
— Thermostat and lockshield opens 100%	1947,6 l/h
- - - Thermostat and lockshield closed	1143,2 l/h
- - - Thermostat open 100% and lockshield open 25%	1402,6 l/h
- - - Thermostat open 100% and lockshield open 50%	1569,5 l/h
⋯ Thermostat open 100% and lockshield open 75%	1763,5 l/h

• **Thermostatic monotube valve standard**



—	Thermostat and lockshield opens 100%	1921,9 l/h
- - -	Thermostat and lockshield closed	1269,6 l/h
- - - -	Thermostat open 100% and lockshield open 25%	1500,9 l/h
- - - - -	Thermostat open 100% and lockshield open 50%	1706,7 l/h
.....	Thermostat open 100% and lockshield open 75%	1902,6 l/h

• **Bathroom thermostatic monotube valve**

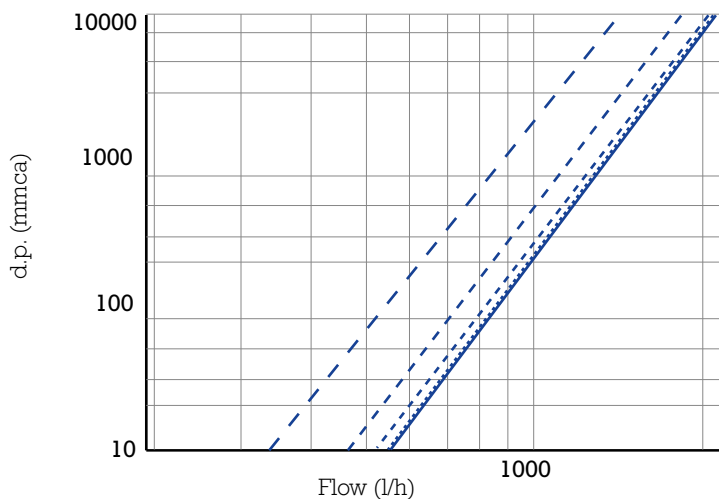


**Floor**

—	Thermostat and lockshield opens 100%	2116,1 l/h
- - -	Thermostat and lockshield closed	1389,4 l/h
- - - -	Thermostat open 100% and lockshield open 25%	1912,4 l/h
- - - - -	Thermostat open 100% and lockshield open 50%	2044,2 l/h
.....	Thermostat open 100% and lockshield open 75%	2105,5 l/h



• **Bathroom thermostatic monotube valve**

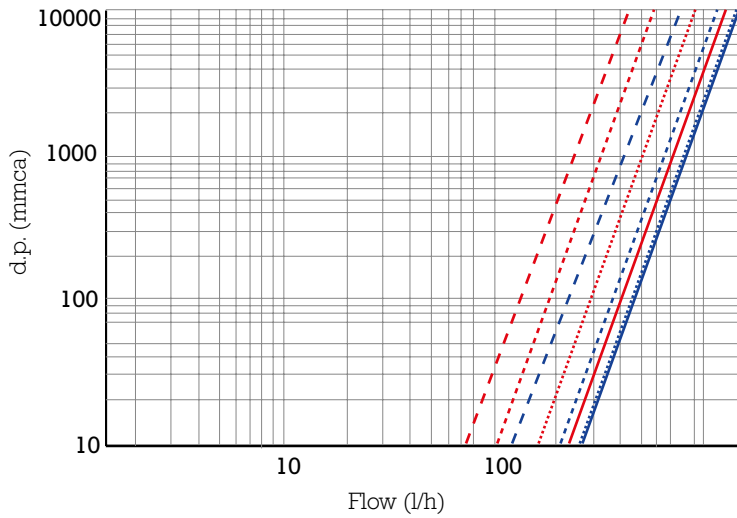


**Wall**

—	Thermostat and lockshield opens 100%	1959,3 l/h
- - -	Thermostat and lockshield closed	1213,4 l/h
- - - -	Thermostat open 100% and lockshield open 25%	1636,0 l/h
- - - - -	Thermostat open 100% and lockshield open 50%	1880,3 l/h
.....	Thermostat open 100% and lockshield open 75%	1950,6 l/h

## HYDRAULIC CHARACTERISTIC

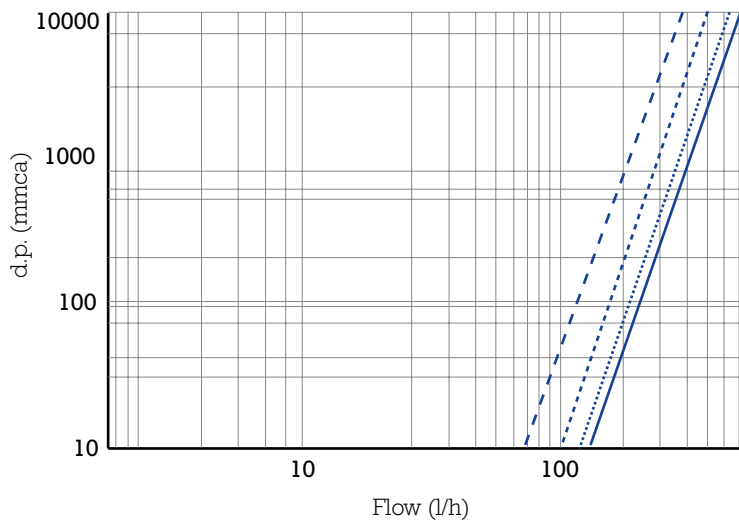
### • Thermostatic monotube valve special for reduced spaces



Reduced spaces (type 52490)		
—	Thermostat and lockshield opens 100%	874,9 l/h
- - -	Thermostat open 100% and lockshield open 25%	463,3 l/h
.....	Thermostat open 100% and lockshield open 50%	687,5 l/h
- · - · -	Thermostat open 100% and lockshield open 75%	854,4 l/h

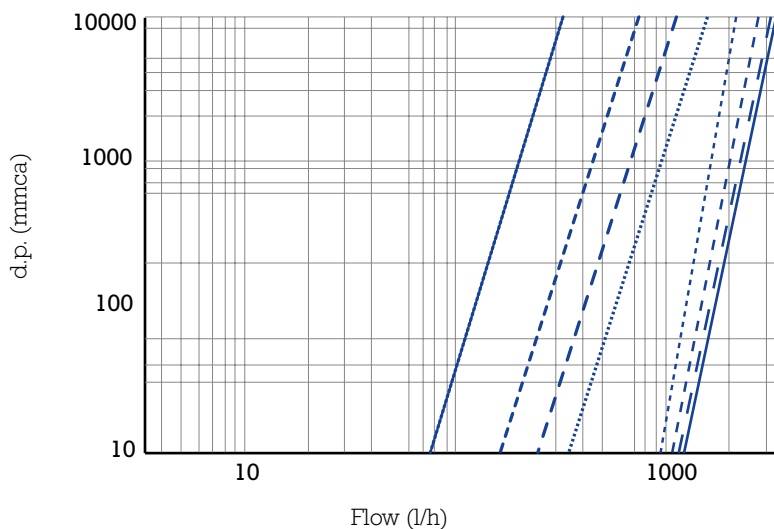
Reduced spaces (type 52920)		
—	Thermostat and lockshield opens 100%	726,2 l/h
- - -	Thermostat open 100% and lockshield open 25%	277,0 l/h
.....	Thermostat open 100% and lockshield open 50%	352,1 l/h
- · - · -	Thermostat open 100% and lockshield open 75%	570,7 l/h

### • Bitube installations valves with monotube format



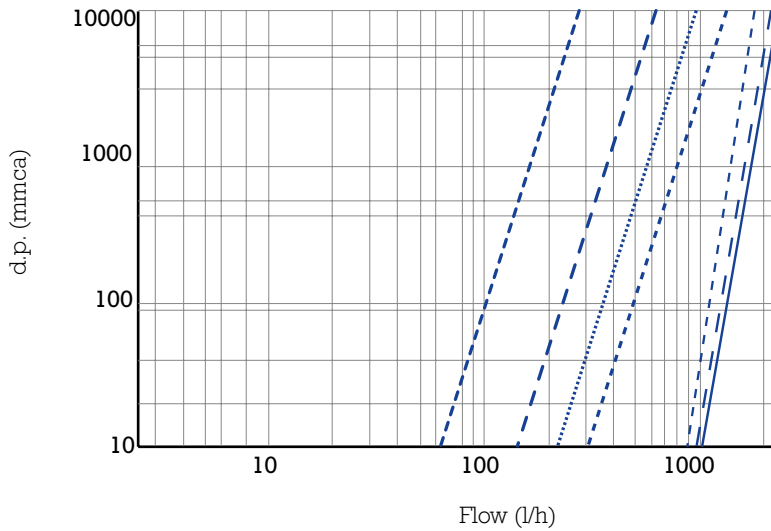
—	Thermostat and lockshield opens 100%	698,0 l/h
- - -	Thermostat open 100% and lockshield open 25%	372,7 l/h
.....	Thermostat open 100% and lockshield open 50%	481,6 l/h
- · - · -	Thermostat open 100% and lockshield open 75%	615,8 l/h

### • Bitube valves series Copline, Woodline Angle 3/4"



		Angle
—	100% open	3340,1 l/h
- - -	Closed 1 turn	3133,6 l/h
- - -	Closed 2 turns	2719,2 l/h
.....	Closed 3 turns	2160,5 l/h
.....	Closed 4 turns	1604,4 l/h
- - -	Closed 5 turns	1111,3 l/h
- - -	Closed 6 turns	745,8 l/h
- · - · -	Closed 7 turns	325,8 l/h

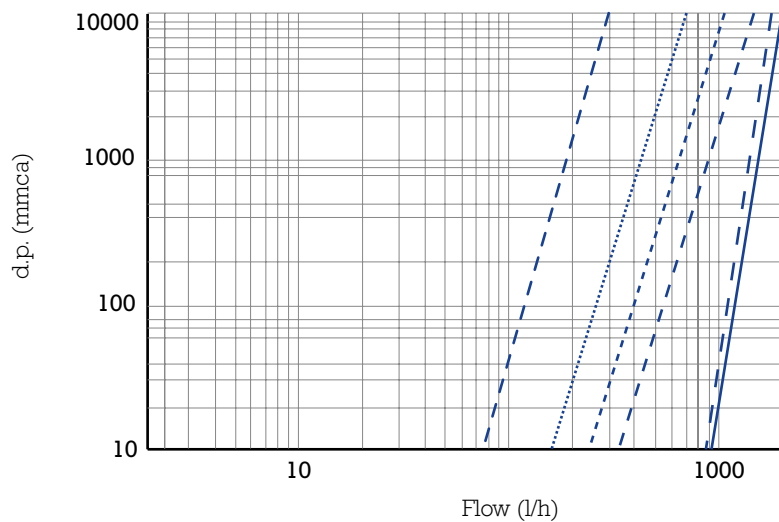
• Bitube valves series Copline, Woodline Straight 3/4"



- 100% open
- - - Closed 1 turn
- - - Closed 2 turns
- ..... Closed 3 turns
- ..... Closed 4 turns
- - - Closed 5 turns
- - - Closed 6 turns

Straight	
100% open	2457,4 l/h
Closed 1 turn	2299,4 l/h
Closed 2 turns	1932,1 l/h
Closed 3 turns	1404,0 l/h
Closed 4 turns	1004,0 l/h
Closed 5 turns	634,1 l/h
Closed 6 turns	276,2 l/h

• Bitube valves series Copline, Woodline, Urepel, Weldline, Epelur Angle 1/2"

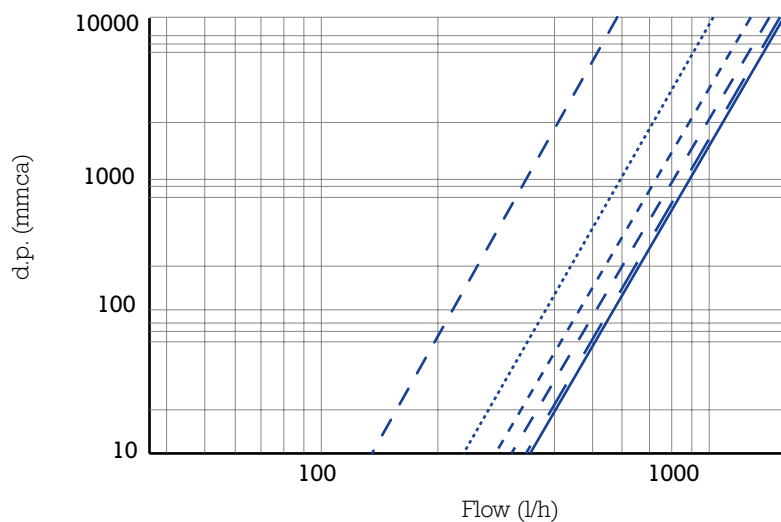


- 100% open
- - - Closed 1 turn
- - - Closed 2 turns
- ..... Closed 3 turns
- ..... Closed 4 turns
- - - Closed 5 turns

Angle	
100% open	1990,3 l/h
Closed 1 turn	1778,3 l/h
Closed 2 turns	1454,2 l/h
Closed 3 turns	1049,6 l/h
Closed 4 turns	685,6 l/h
Closed 5 turns	295,2 l/h



• Bitube valves series Copline, Woodline, Urepel, Weldline, Epelur Straight 1/2"



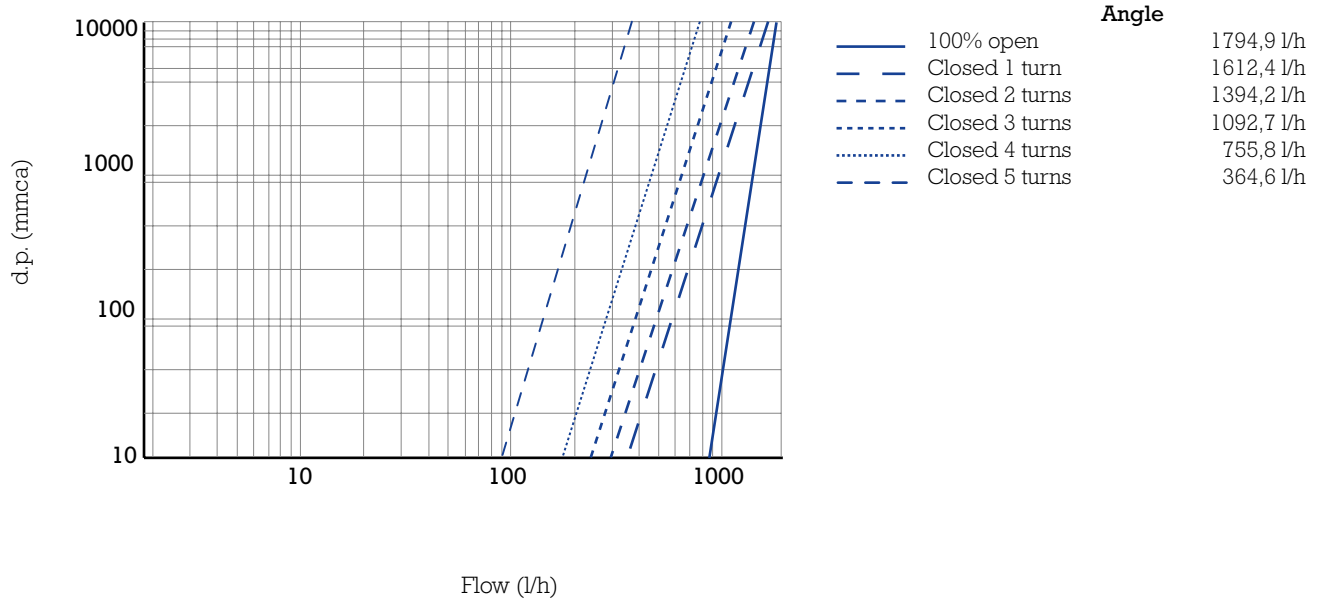
- 100% open
- - - Closed 1 turn
- - - Closed 2 turns
- ..... Closed 3 turns
- ..... Closed 4 turns
- - - Closed 5 turns

Straight	
100% open	1529,4 l/h
Closed 1 turn	1510,7 l/h
Closed 2 turns	1491,2 l/h
Closed 3 turns	1413,1 l/h
Closed 4 turns	1263,6 l/h
Closed 5 turns	1012,1 l/h

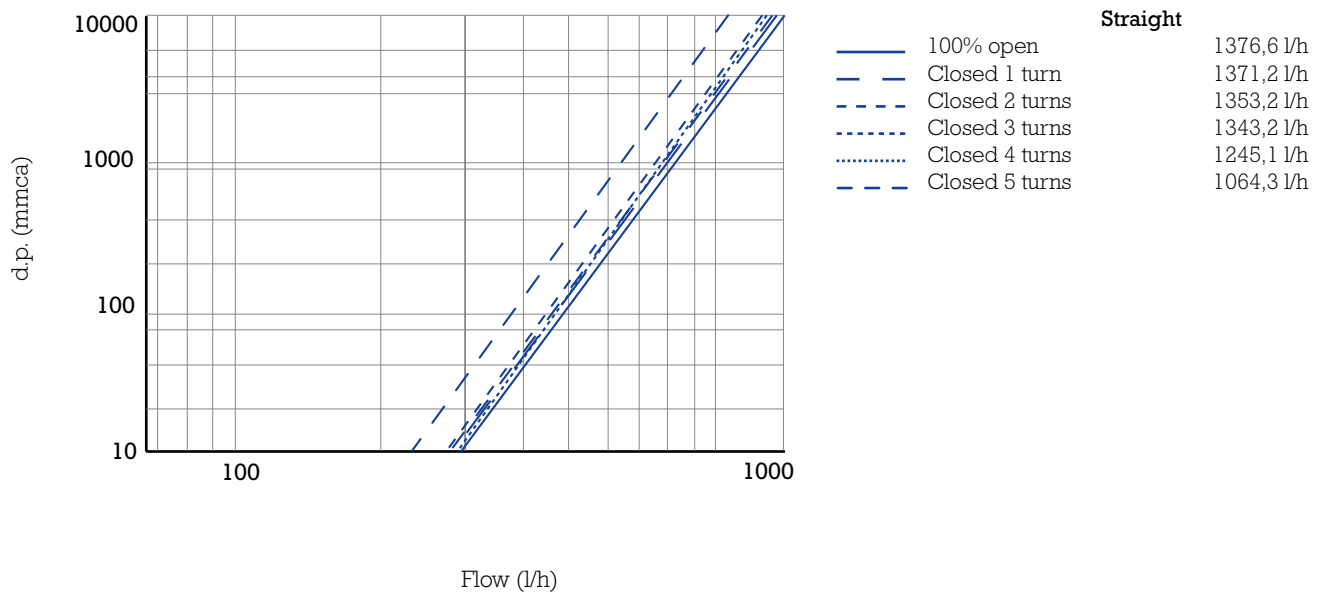
# VALVES AND FITTINGS FOR RADIATORS

## HYDRAULIC CHARACTERISTIC

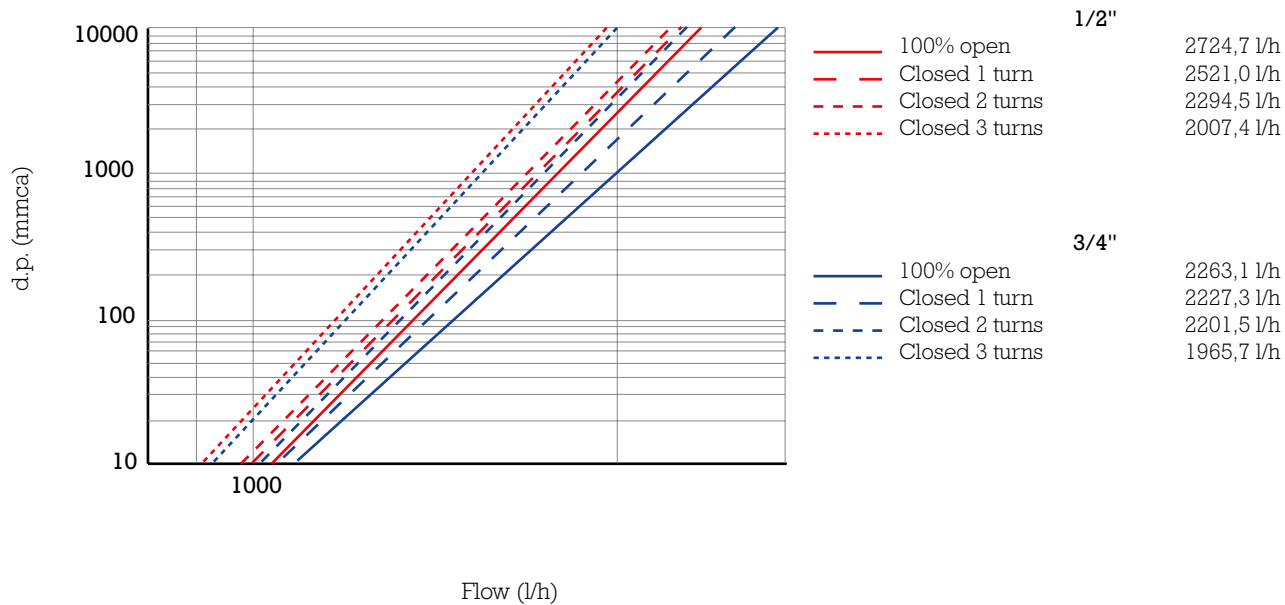
- Bitube valves series Coptine, Woodline, Urepel, Weldline, Epelur Angle 3/8"



- Bitube valves series Coptine, Woodline, Urepel, Weldline, Epelur Straight 3/8"



• **Monotube valves**





energy  
efficiency



## ZONE VALVES

### **Detectable** zone valves:

- Zone valves <b>normally closed in A</b> .....	150
- Zone valves <b>normally closed in A: U.S., CANADA</b> .....	152
- Zone valves <b>normally open in A</b> .....	153
- Zone valves <b>normally open in A: United Kingdom and Ireland</b> .....	154
- Zone valves <b>normally open in A: U.S., CANADA</b> .....	156
- Body valve + actuator <b>normally closed in A</b> .....	157
- Body valve + actuator <b>normally closed in A: United Kingdom and Ireland</b> ...	159
- Body valve + actuator <b>normally closed in A: U.S., CANADA</b> .....	161

### **Non detectable** zone valves:

- Zone valves <b>normally closed in A</b> .....	162
- Solar zone valves normally <b>closed in A</b> .....	164
- HIGH KV zone valves <b>normally closed in A</b> .....	166

# HIGHLIGHTS

## SPECIFIC VALVES U.S. AND CANADA



PAGE 152



PAGE 156



PAGE 162



PAGE 166

## PECIFIC VALVES UK AND IRELAND



PAGE 155



PAGE 162



## ZONE VALVES

### DETACHABLE ZONE VALVES



#### ZONE VALVES NORMALLY CLOSED IN A



The Orkli zone valves have a connector to make it easier for the installer to make the electrical connection and disconnection. Also, LEDs on the motorised part indicate the position/operating status of the valve at all times.



2 ways F-F

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	60114200	10
3/4"	60214200	10
1"	60314200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 60 cm.
- M-M option upon request.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	60124200	10
3/4"	60224200	10
1"	60324200	10



2 ways F-F



Without run-end micro: 3 wires with PLUG-IN

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" con PLUG-IN	60218600	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 1 m.
- M-M option upon request.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

With run-end micro: 5 wires with PLUG-IN and LED's

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" with PLUG-IN	60228600	10
3/4" with PLUG-IN and LED's	60226600	10

## DETACHABLE ZONE VALVES

■ ZONE VALVES NORMALLY CLOSED IN A



**3 ways F-F**

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 60 cm.
- M-M option upon request.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	70114200	10
3/4"	70214200	10
1"	70314200	10

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	70124200	10
3/4"	70224200	10
1"	70324200	10



**3 ways F-F**

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 1 m.
- M-M option upon request.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

Without run-end micro: 3 wires with PLUG-IN

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" with PLUG-IN	70218600	10

With run-end micro: 5 wires with PLUG-IN and LED's

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" with PLUG-IN	70228600	10
3/4" with PLUG-IN and LED's	70226600	10



## ZONE VALVES

### DETACHABLE ZONE VALVES

#### ZONE VALVES NORMALLY CLOSED IN A: U.S., CANADA



2 ways

- Fluid temperature: 41°F – 194°F ( 5°C - 90°C).
- Maximum ambient temperature: 122°F (50°C).
- Maximum static pressure: 145 PSI (1000 KPa).
- Opening time: 12 sec.
- Closing time: 5 sec.
- Supply voltage: 24V.
- Consumption: 60Hz, 5W.
- UL Recognized Component to U.S. and Canadian safety requirements.

- Valve without micro upon request.
- Spring return / Fail safe.
- Maximum differential pressure:
  - 1/2" (DN 15): 20 PSI (140 KPa)
  - 3/4" (DN 20): 10 PSI (70 KPa)
  - 1" (DN 25): 10 PSI (70 KPa)

**NOTE:** All zone Valves come complete with Optional End Switch supplied in the box.

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Flare 2 Way Zone Valve NC C/W End Switch	64120200	10
3/4" NPT 2 Way Zone Valve NC C/W End Switch	66220200	10
1" NPT 2 Way Zone Valve NC C/W End Switch	66320200	10
3/4" Copper Sweat 2 Way Zone Valve NC C/W End Switch	67220200	10
1" Copper Sweat 2 Way Zone Valve NC C/W End Switch	67320200	10
1/2" Inverted Flare 2 Way Zone Valve NC C/W End Switch	68120200	10



3 ways

- Fluid temperature: 41°F – 194°F ( 5°C - 90°C).
- Maximum ambient temperature: 122°F (50°C).
- Maximum static pressure: 145 PSI (1000 KPa).
- Opening time: 12 sec.
- Closing time: 5 sec.
- Supply voltage: 24V.
- Consumption: 60Hz, 5W.
- UL Recognized Component to U.S. and Canadian safety requirements.

- Valve without micro upon request.
- Spring return / Fail safe.
- Maximum differential pressure:
  - 1/2" (DN 15): 20 PSI (140 KPa)
  - 3/4" (DN 20): 10 PSI (70 KPa)
  - 1" (DN 25): 10 PSI (70 KPa)

**NOTE:** All zone Valves come complete with Optional End Switch supplied in the box.

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Flare 3 WAY Zone Valve C/W ES	74120200	10
3/4" NPT 3 Way Zone Valve C/W ES	76220200	10
1" NPT 3 Way Zone Valve C/W ES	76320200	10
3/4" Copper Sweat 3 Way Zone Valve C/W ES	77220200	10
1" Copper Sweat 3 Way Zone Valve C/W ES	77320200	10
1/2" Inverted Flare 3 WAY Zone Valve C/W ES	78120200	10

## DETACHABLE ZONE VALVES

■ ZONE VALVES NORMALLY OPEN IN A



**2 ways F-F**

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	60114200NA	10
3/4"	60214200NA	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 60 cm.
- M-M option upon request.
- Can be supplied to order. Check out delivery times. Minimum order: 40 units.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	60124200NA	10
3/4"	60224200NA	10



**2 ways F-F**

Without run-end micro: 3 wires with PLUG-IN

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" with PLUG-IN	60218600NA	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 1 m.
- M-M option upon request.
- Can be supplied to order. Check out delivery times. Minimum order: 40 units.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

With run-end micro: 5 wires with PLUG-IN and LED's

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" with PLUG-IN	60228600NA	10
3/4" with PLUG-IN and LED's	60226600NA	10



## ZONE VALVES

### DETACHABLE ZONE VALVES

ZONE VALVES NORMALLY OPEN IN A: UNITED KINGDOM AND IRELAND



2 ways F-F

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 60 cm.
- M-M option upon request.
- Can be supplied to order. Check out delivery times. Minimum order: 40 units.

With run-end micro

DESCRIPTION	ARTICLE	PIECES/BOX
U.K. model Ø28	60424600	10
U.K. model Ø22	60524600	10
Ireland model 1"	60824600	10
Ireland model 3/4"	60924600	10

**NOTE:** Request price for any items ordered that are not listed in this catalogue.



2 ways F-F



- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 60 cm.
- M-M option upon request.
- Can be supplied to order. Check out delivery times. Minimum order: 40 units.

With run-end micro, PLUG-IN and LED's

DESCRIPTION	ARTICLE	PIECES/BOX
U.K. model Ø22 with PLUG-IN	60528600	10
U.K. model Ø22 with PLUG-IN and LED's	60526600	10
U.K. model Ø28 with PLUG-IN	60428600	10
U.K. model Ø28 with PLUG-IN and LED's	60426600	10

**NOTE:** Request price for any items ordered that are not listed in this catalogue.



2 ways F-F

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 60 cm.
- M-M option upon request.
- Can be supplied to order. Check out delivery times. Minimum order: 40 units.

With microswitch

DESCRIPTION	ARTICLE	PIECES/BOX
U.K. model Ø28	60444600	10
Ireland model 1"	60844600	10

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

## DETACHABLE ZONE VALVES

■ ZONE VALVES NORMALLY OPEN IN A: UNITED KINGDOM AND IRELAND



3 ways F-F

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 60 cm.
- M-M option upon request.
- Can be supplied to order. Check out delivery times. Minimum order: 40 units.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

Mid-Position, all-mid-nil motor valve: 5 wires

DESCRIPTION	ARTICLE	PIECES / BOX
U.K. model Ø28	70454600	10
U.K. model Ø22	70554600	10
Ireland model 1"	70854600	10
Ireland model 3/4"	70954600	10



3 ways F-F

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Actuator that can be removed without having to empty the installation.
- Cable length 60 cm.
- M-M option upon request.
- Can be supplied to order. Check out delivery times. Minimum order: 40 units.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

Mid-Position, all-mid-nil motor valve: 5 wires with PLUG-IN and LED's

DESCRIPTION	ARTICLE	PIECES / BOX
U.K. model Ø22 with PLUG-IN	70558600	10
U.K. model Ø22 with PLUG-IN and LED's	70556600	10
U.K. model Ø28 with PLUG-IN	70458600	10
U.K. model Ø28 with PLUG-IN and LED's	70456600	10



## ZONE VALVES

### DETACHABLE ZONE VALVES

■ ZONE VALVES NORMALLY OPEN IN A: U.S., CANADA



**2 ways**

- Fluid temperature: 41°F – 194°F ( 5°C - 90°C).
- Maximum ambient temperature: 122°F (50°C).
- Maximum static pressure: 145 PSI (1000 KPa).
- Opening time: 12 sec.
- Closing time: 5 sec.
- Supply voltage: 24V.
- Consumption: 60Hz, 5W.
- UL Recognized Component to U.S. and Canadian safety requirements.

- Valve without micro upon request.
- Spring return / Fail safe.
- Maximum differential pressure:
  - 1/2" (DN 15): 20 PSI (140 KPa)
  - 3/4" (DN 20): 10 PSI (70 KPa)
  - 1" (DN 25): 10 PSI (70 KPa)

**NOTE:** All zone Valves come complete with Optional End Switch supplied in the box.

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" Flare 2 Way Zone Valve NO C/W End Switch	64120200NA	10
3/4" NPT 2 Way Zone Valve NO C/W End Switch	66220200NA	10
1" NPT 2 Way Zone Valve NO C/W End Switch	66320200NA	10
3/4" Copper Sweat 2 Way Zone Valve NO C/W End Switch	67220200NA	10
1" Copper Sweat 2 Way Zone Valve NO C/W End Switch	67320200NA	10
1/2" Inverted Flare 2 Way Zone Valve NO C/W End Switch	68120200NA	10

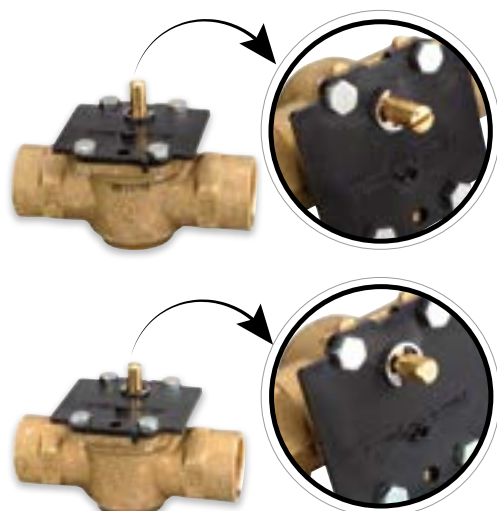
## DETACHABLE ZONE VALVES

### ■ BODY VALVE + ACTUATOR NORMALLY CLOSED IN A



Important information for replacement: The new actuator model will **only be compatible with the new valve part model**. It will not be compatible with the previous model. The reason for this is that the valve/actuator part movement transmission has been modified to achieve a more robust product.

2 ways



#### Body valve. Previous model

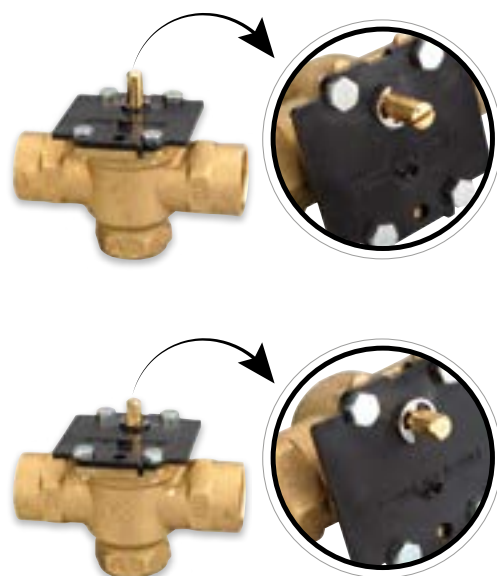
DESCRIPTION	ARTICLE	PIECES / BOX
1/2"	39100000	10
3/4"	39200000	10
1"	39300000	10

#### Body valve. New model

DESCRIPTION	ARTICLE	PIECES / BOX
1/2"	39104000	10
3/4"	39204000	10
1"	39304000	10

- Normally closed in A
- F-F / M-M option upon request.

3 ways



#### Body valve. Previous model

DESCRIPTION	ARTICLE	PIECES / BOX
1/2"	49100000	10
3/4"	49200000	10
1"	49300000	10

#### Body valve. New model

DESCRIPTION	ARTICLE	PIECES / BOX
1/2"	49104000	10
3/4"	49204000	10
1"	49304000	10

- Normally closed in A
- F-F / M-M option upon request.



## ZONE VALVES

### DETACHABLE ZONE VALVES

#### ■ BODY VALVE + ACTUATOR **NORMALLY CLOSED IN A**



Important information for replacement: The new actuator model will **only be compatible with the new valve part model**. It will not be compatible with the previous model. The reason for this is that the valve/actuator part movement transmission has been modified to achieve a more robust product.



Actuator. Previous model

DESCRIPTION	ARTICLE	PIECES/BOX
Without micro	50011200	10
With micro	50021200	10



Actuator. New model

DESCRIPTION	ARTICLE	PIECES/BOX
Without micro	50014200	10
With micro	50024200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.



Actuator. New model

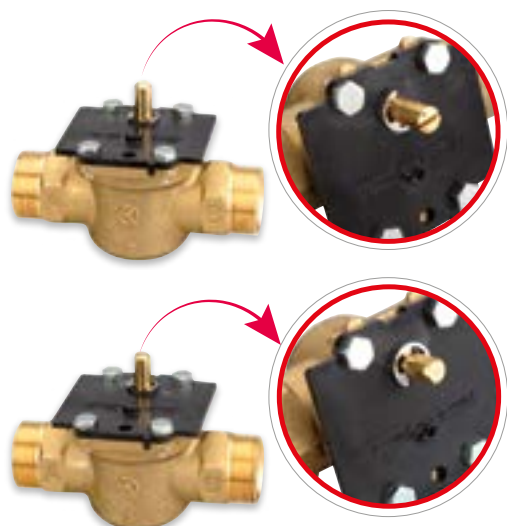
- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 1 m.

DESCRIPTION	ARTICLE	PIECES/BOX
Without micro and with PLUG-IN	50018600	10
With micro and with PLUG-IN	50028600	10
With micro, PLUG-IN and LED's	50026600	10

## DETACHABLE ZONE VALVES

### BODY VALVE + ACTUATOR NORMALLY CLOSED IN A: UNITED KINGDOM AND IRELAND

Important information for replacement: The new actuator model will **only be compatible with the new valve part model**. It will not be compatible with the previous model. The reason for this is that the valve/actuator part movement transmission has been modified to achieve a more robust product.



- Normally closed in A
- F-F / M-M option upon request.

**2 ways**

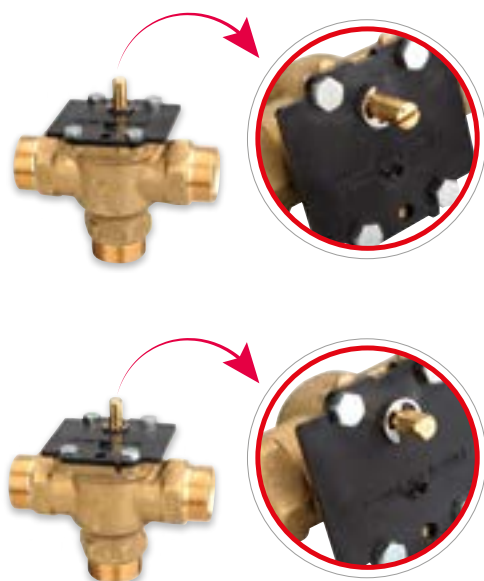
#### Body valve. Previous model

DESCRIPTION	ARTICLE	PIECES/BOX
U.K. model Ø28	39400000	10
U.K. model Ø22	39500000	10
Ireland model 1"	39800000	10
Ireland model 3/4"	39900000	10

#### Body valve. New model

DESCRIPTION	ARTICLE	PIECES/BOX
U.K. model Ø28	39404000	10
U.K. model Ø22	39504000	10
Ireland model 1"	39804000	10
Ireland model 3/4"	39904000	10

**3 ways**



- Normally closed in A
- F-F / M-M option upon request.

#### Body valve. Previous model

DESCRIPTION	ARTICLE	PIECES/BOX
U.K. model Ø28	49400000	10
U.K. model Ø22	49500000	10
Ireland model 1"	49800000	10
Ireland model 3/4"	49900000	10

#### Body valve. New model

DESCRIPTION	ARTICLE	PIECES/BOX
U.K. model Ø28	49404000	10
U.K. model Ø22	49504000	10
Ireland model 1"	49804000	10
Ireland model 3/4"	49904000	10



## ZONE VALVES

### DETACHABLE ZONE VALVES

■ BODY VALVE + ACTUATOR **NORMALLY CLOSED IN A: UNITED KINGDOM AND IRELAND**



Important information for replacement: The new actuator model will **only be compatible with the new valve part model**. It will not be compatible with the previous model. The reason for this is that the valve/actuator part movement transmission has been modified to achieve a more robust product.



Actuator. Previous model

DESCRIPTION	ARTICLE	PIECES/BOX
With micro	50021600	10
With microswitch	50041600	10
Mid-position	50051600	10



Actuator. New model

DESCRIPTION	ARTICLE	PIECES/BOX
Without micro	50014600	10
With micro	50024600	10
Microswitch	50044600	10
Mid-position	50054600	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.



Actuator. New model

DESCRIPTION	ARTICLE	PIECES/BOX
Without micro and with PLUG-IN	50018600	10
With micro and with PLUG-IN	50028600	10
With micro, plug-in and LED's	50026600	10
Mid-position with PLUG-IN	50058600	10
Mid-position with PLUG-IN and LED's	50056600	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 1 m.



Synchron motor

DESCRIPTION	ARTICLE	PIECES/BOX
240 V	V-05369	-
24V	V-05368	-

## DETACHABLE ZONE VALVES

■ BODY VALVE + ACTUATOR **NORMALLY CLOSED IN A: U.S., CANADA**



Replacement head C/W motor

DESCRIPTION	ARTICLE	PIECES / BOX
Replacement Head C/W Motor and End Switch	58020200	10



Transformer

DESCRIPTION	ARTICLE	PIECES / BOX
40 VA Transformer C/W Metal Case and 1/2" Male Connector and nut	V-04002	10



Flare fitting

DESCRIPTION	ARTICLE	PIECES / BOX
-------------	---------	--------------



Replacement motor

DESCRIPTION	ARTICLE	PIECES / BOX
24V Replacement Motor Only 50/60Hz	V-05368	10



## ZONE VALVES

### NON DETACHABLE ZONE VALVES

■ ZONE VALVES NORMALLY CLOSED IN A



2 ways F-F

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- M-M option upon request.
- Normally closed in A.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	30110200	10
3/4"	30210200	10
1"	30310200	10

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	30120200	10
3/4"	30220200	10
1"	30320200	10



3 ways F-F

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- M-M option upon request.
- Normally closed in A.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	40110200	10
3/4"	40210200	10
1"	40310200	10

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	40120200	10
3/4"	40220200	10
1"	40320200	10

## NON DETACHABLE ZONE VALVES

■ ZONE VALVES NORMALLY CLOSED IN A



2 ways M-M

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES / BOX
3/4"	30610200	10
1"	30710200	10



3 ways M-M

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.

**NOTE:** Request price for any items ordered that are not listed in this catalogue.

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES / BOX
3/4"	40610200	10
1"	40710200	10



## ZONE VALVES

### NON DETACHABLE ZONE VALVES

■ SOLAR ZONE VALVES NORMALLY CLOSED IN A



**2 ways F-F**

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	30112200	10
3/4"	30212200	10
1"	30312200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	30122200	10
3/4"	30222200	10
1"	30322200	10



**3 ways F-F**

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	40112200	10
3/4"	40212200	10
1"	40312200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1/2"	40122200	10
3/4"	40222200	10
1"	40322200	10

## NON DETACHABLE ZONE VALVES

### SOLAR ZONE VALVES NORMALLY CLOSED IN A



**2 ways M-M**

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
3/4"	30612200	10
1"	30712200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1"	30722200	10



**3 ways M-M**

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
3/4"	40612200	10
1"	40712200	10

- Hysteresis motor 230V 50Hz.
- Option with 24V 50Hz motor by special order.
- Spring return.
- Cable length 60 cm.
- To be used in solar system primary circuits.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

With run-end micro: 5 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1"	40722200	10



## ZONE VALVES

### NON DETACHABLE ZONE VALVES

■ HIGH KV ZONE-VALVES NORMALLY-CLOSED IN A



## HIGH KV: SOLAR AND HEATING

These zone valves have a lower pressure drop than the standard valves, which means they have a higher flow.

KV = flow with a pressure drop of 1 bar.

They provide even greater **advantages** when used with a heat pump, as a higher flow is needed to obtain more energy efficiency due to the lower temperature gradient.



3 ways M-M

- Hysteresis motor 230V 50Hz.
- Spring return.
- Cable length 1.6m.
- To be used in solar system primary circuits and heating.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

Without run-end micro: 3 wires

DESCRIPTION	ARTICLE	PIECES/BOX
1"	20712900	10



3 ways F-F

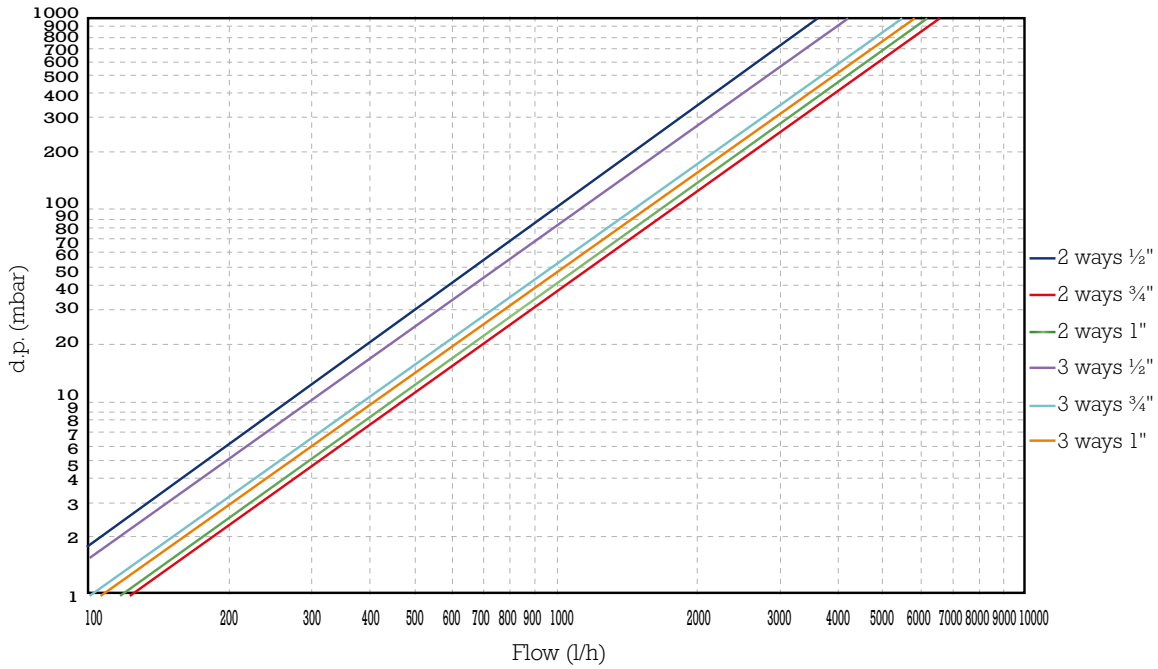
- Hysteresis motor 230V 50Hz.
- Spring return.
- Cable length 1.6m.
- To be used in solar system primary circuits and heating.
- Fluid: water with glicol up to 50%.
- Fluid temperature -20°C - 160°C.

Without run-end micro: 3 wires

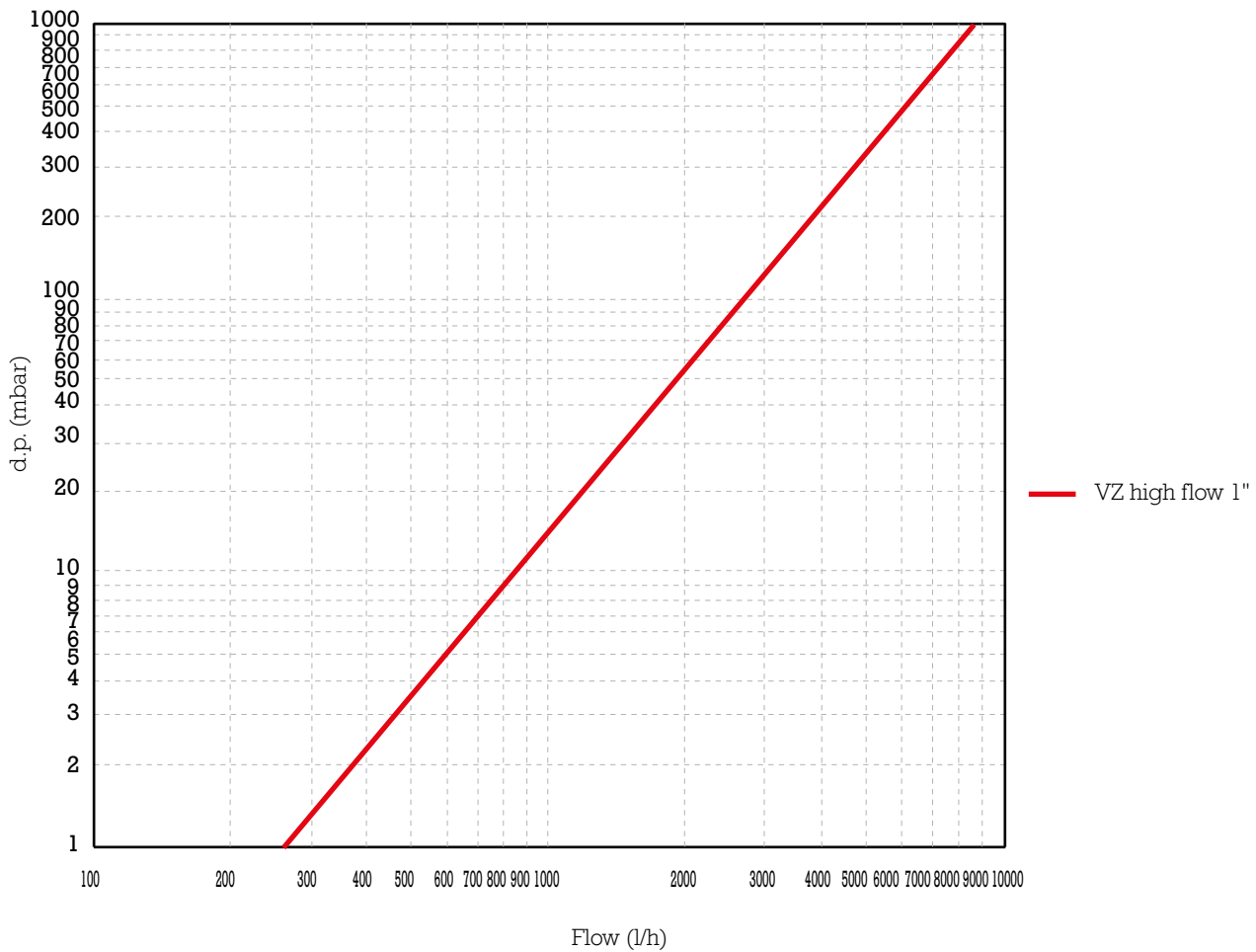
DESCRIPTION	ARTICLE	PIECES/BOX
1"	20312900	10

## HYDRAULIC CHARACTERISTIC

- Solar zone valves normally closed in A



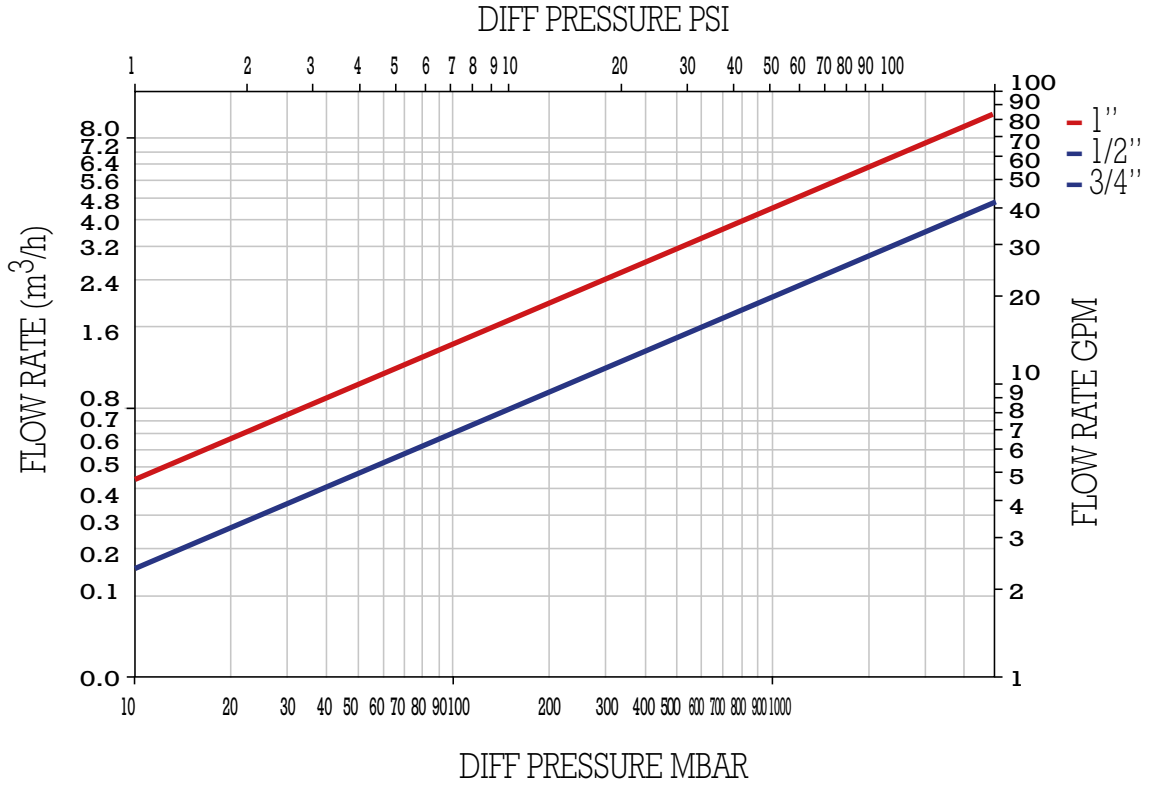
- High KV zone-valves normally closed in A



# ZONE VALVES

## HYDRAULIC CHARACTERISTIC

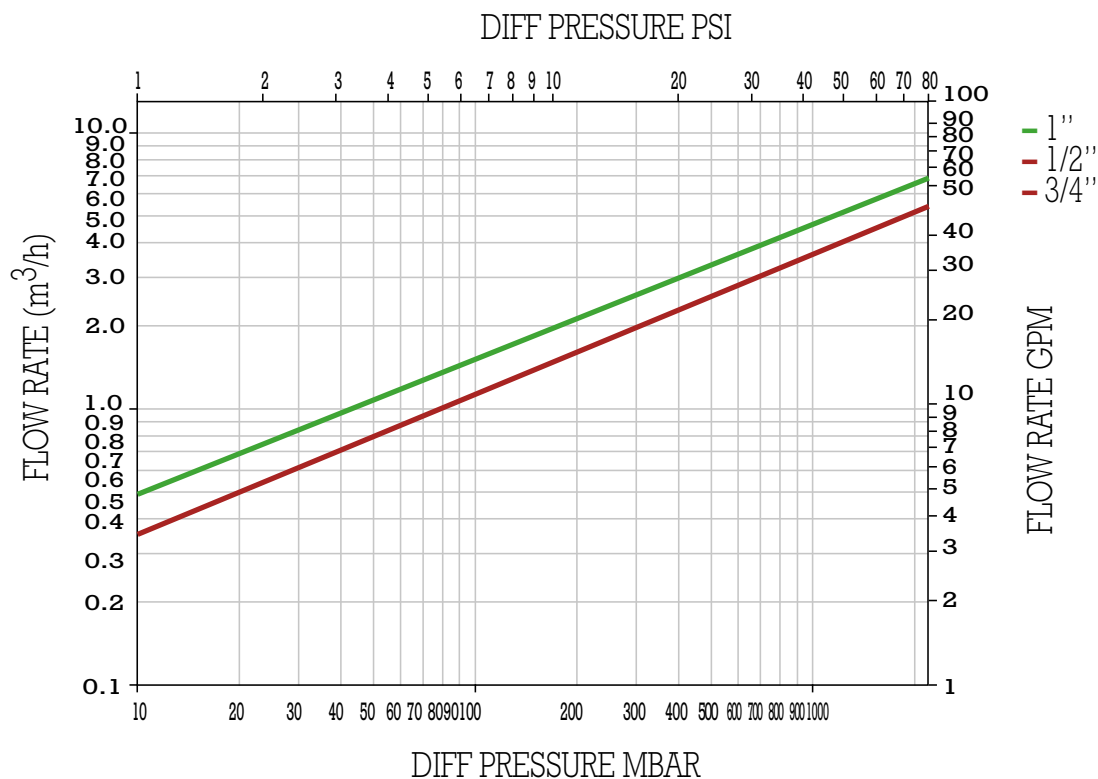
- Zone valves 2 ways: U.S., CANADA



Valve Size	Diff. Pr. (Psi)	CV	Flow (gpm)							
		1	2	3	4	5	6	8	10	15
1/2"		2.4	3.2	4.2	5.0	5.7	6.0	6.8	7.7	9.6
3/4"		2.4	3.2	4.2	5.0	5.7	6.0	6.8	7.7	9.6
1"		5.2	7.2	9.1	10.5	12.1	13.1	14.6	15.8	20.5

Valve Size	Diff. Pr. (mbar)	Flow (m³/h)										KV		
		10	100	200	300	400	500	600	700	800	900	1000	1500	2000
1/2"		0.2	0.7	0.9	1.1	1.3	1.5	1.6	1.8	1.9	2.0	2.1	2.6	3.0
3/4"		0.2	0.7	0.9	1.1	1.3	1.5	1.6	1.8	1.9	2.0	2.1	2.6	3.0
1"		0.4	1.4	2.0	2.4	2.8	3.2	3.5	3.8	4.0	4.2	4.5	5.2	6.1

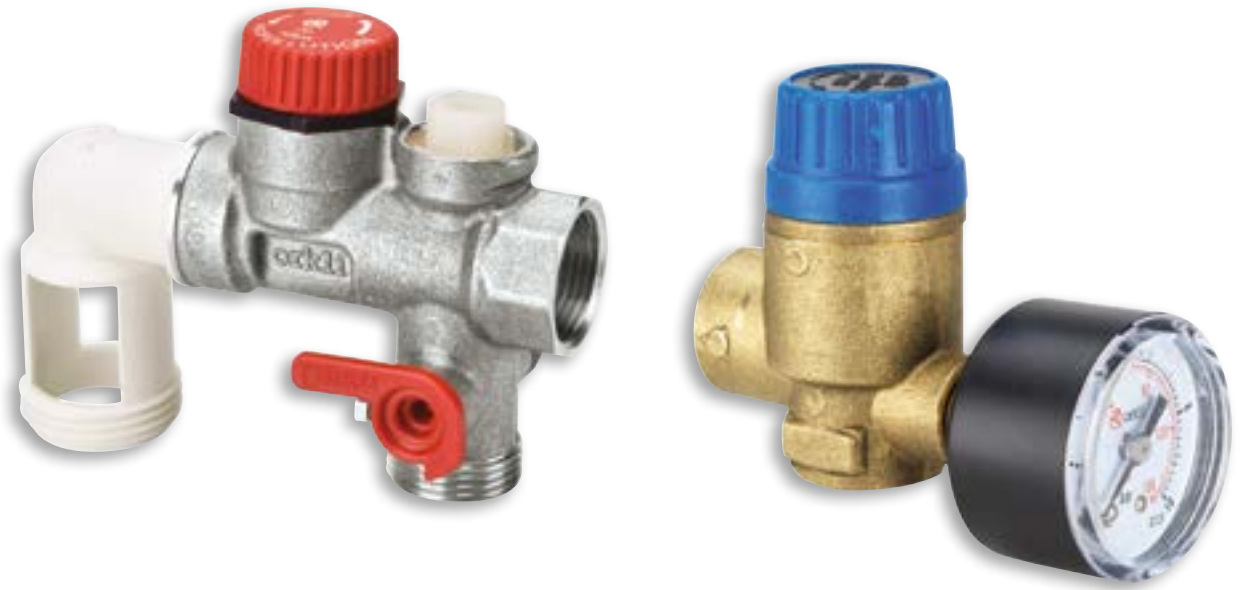
• Zone valves 3 ways: U.S., CANADA



Valve Size	Diff. Pr. (Psi)	CV	Flow (gpm)								
		1	2	3	4	5	6	8	10	15	
	1/2"	4.0	5.6	7.0	8.2	9.2	10.1	12.0	13.2	16.0	
	3/4"	4.0	5.6	7.0	8.2	9.2	10.1	12.0	13.2	16.0	
	1"	5.3	7.5	9.5	11.2	12.6	13.1	14.6	18.0	22.5	

Valve Size	Diff. Pr. (mbar)	Flow (m³/h)										KV		
		10	100	200	300	400	500	600	700	800	900	1000	1500	2000
	1/2"	0.3	1.1	1.6	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.6	4.4	5.1
	3/4"	0.3	1.1	1.6	1.9	2.2	2.5	2.8	3.0	3.2	3.4	3.6	4.4	5.1
	1"	0.5	1.5	2.1	2.7	3.1	3.5	3.8	4.1	4.4	4.7	4.9	6.1	7.0





---

## VALVES AND SAFETY GROUPS

---

- Safety valves.....	172
- Safety groups .....	173

# HIGHLIGHTS



PAGE 173



PAGE 173



PAGE 172



PAGE 172



## VALVES AND SAFETY GROUPS

### SAFETY VALVES

#### SET AT 3 BAR RADIATORS



- There are models for pressures from 2,5K - 10K (on order basis).

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" (NF) F-F	17003-00	50
1/2" (NF) with input F-F	17004-00	50
1/2" (NF) with manometer F-F	17004-01	50



- There are models for pressures from 2,5K - 10K (on order basis).

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" (NF) M-F	17005-00	50
1/2" (NF) with input M-F	17055-00	50
1/2" (NF) with manometer M-F	17017-00	50

#### SET AT 7 BAR DOMESTIC WATER



- There are models for pressures from 2,5K - 10K (on order basis).

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" F-F	17011-00	50
1/2" with input F-F	17034-00	50
1/2" with manometer F-F	17030-00	50



- There are models for pressures from 2,5K - 10K (on order basis).

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" M-F	17023-00	50
1/2" with input M-F	17018-01	50
1/2" with manometer M-F	17018-02	50

#### SOLAR



- Safety valve for solar installation primary circuits.
- Suitable for working with 50% water-glycol mixture.
- Maximum operating temperature: 160°C.
- Solar safety valve certification: TÜV SV 12 2012 • SOL • 50
- Consult for other setting options.

DESCRIPTION	ARTICLE	PIECES/BOX
1/2" F - 3/4" F (3 bar)	17175-00	50
1/2" F - 3/4" F (4 bar)	17176-00	50
1/2" F - 3/4" F (6 bar)	17177-00	50
1/2" F - 3/4" F (8 bar)	17178-00	50

## SAFETY GROUPS

### STANDARDS SERIES



- Set at 7 bar.
- Featuring:
  - Locking tap.
  - Purging or vacuum device.
  - Antireturn device.

#### Nickel-plated straight drain - vertical connection

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" plastic drain	GS11100001	20



- Set at 7 bar.
- Featuring:
  - Locking tap.
  - Purging or vacuum device.
  - Antireturn device.

#### Nickel-plated movable drain - horizontal connection

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" plastic drain	GS13100001	20

### PTFE SERIES



- Set at 7 bar.
- Featuring:
  - Locking tap.
  - Purging or vacuum device.
  - Antireturn device.

#### Nickel-plated straight drain - vertical connection

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" plastic drain	GS21100001	20



- Set at 7 bar.
- Featuring:
  - Locking tap.
  - Purging or vacuum device.
  - Antireturn device.

#### Nickel-plated movable drain - horizontal connection

DESCRIPTION	ARTICLE	PIECES/BOX
3/4" plastic drain	GS23100001	20



energy  
efficiency



---

## CLIMATE CONTROL

---

- Room thermostats and chronothermostats ..... 176
- Room thermostat and chronothermostats by radio frequency ..... 176
- External climate control: **UNDERFLOOR HEATING** ..... 177
- External climate control: **UNDERFLOOR HEATING AND COOLING** ..... 179
- Climate control accessories ..... 180
- Room thermostats and chronothermostats: **U.S., CANADA** ..... 180

# HIGHLIGHTS



PAGE 176



PAGE 176



PAGE 176



PAGE 177



PAGE 179



## CLIMATE CONTROL

### ROOM THERMOSTATS AND CHRONOTHERMOSTATS



- Screen indicating room temperature and set temperature.
- Temperature adjustable from 5° - 35°C.
- Powered by two alkaline batteries (1,5 V type LR6) (included).
- Low battery indicator.
- Ready for fixing on the wall.

#### Digital

DESCRIPTION	ARTICLE	PIECES/BOX
Ambient thermostat - ON/OFF	547000	40
Summer - winter ambient thermostat	547001	40



- Temperature adjustable from 10-30°C.
- Ready for fixing on the wall.

#### Mechanical

DESCRIPTION	ARTICLE	PIECES/BOX
Ambient thermostat - ON/OFF	547005	40
Summer - winter ambient thermostat	547006	40



- Temperature adjustable from 5° - 30°C. Swing 0,5 °C.
- Powered by two alkaline batteries (1,5V type LR6) (included).
- Ready for fixing on the wall.

#### CS7 series

DESCRIPTION	ARTICLE
Weekly chronothermostat	579000



- Connections unit: for connection of thermoelectric heads.
- Available for connection to the pump for activation when one of the heads activates.
- Number of thermostat connections: 6

#### SR series

DESCRIPTION	ARTICLE
Connection box	E-25228
Thermostat	E-25229
Cover for public spaces	E-25601

### ROOM THERMOSTATS AND CHRONOTHERMOSTATS BY RADIO FREQUENCY



- Temperature adjustable from 5° - 30°C.
- Swing 0,5 °C.
- Powered by two alkaline batteries (1,5V type LR6) (included).
- Ready for fixing on the wall.
- Multi-channel RF connection system.

#### CS7 series

DESCRIPTION	ARTICLE	PIECES/BOX
Weekly chronothermostat + radio receiver kit	578155	5



- Connections unit: for connection of thermoelectric heads.
- Available for connection to the pump for activation when one of the heads activates.
- Multi-channel RF connection system.

#### SR series

DESCRIPTION	ARTICLE
Radio frequency connection box	E-25230
Radio frequency thermostat	E-25231
Cover for public spaces	E-25601

## EXTERNAL CLIMATE CONTROL: **UNDERFLOOR HEATING**

### *did you know...?*

... that with the new motor it is possible to adjust pumping temperature - and consequently internal house temperature - before it changes outside?

An external sensor measures outdoor temperature and adjusts pumped water temperature accordingly. So that when outdoor temperature begins to drop, your home gets ready to increase pumping temperature and warm up the home. If outdoor temperature rises, it has the opposite effect, with the motor decreasing pumping temperature.

The biggest advantage of this system is that if you are not at home and the temperature drops more than expected, the system will respond automatically.



- Outdoor temperature-regulated mixing motor valve.
- External sensor included.

DESCRIPTION	ARTICLE
Outdoor temperature mixer motor	V-05169

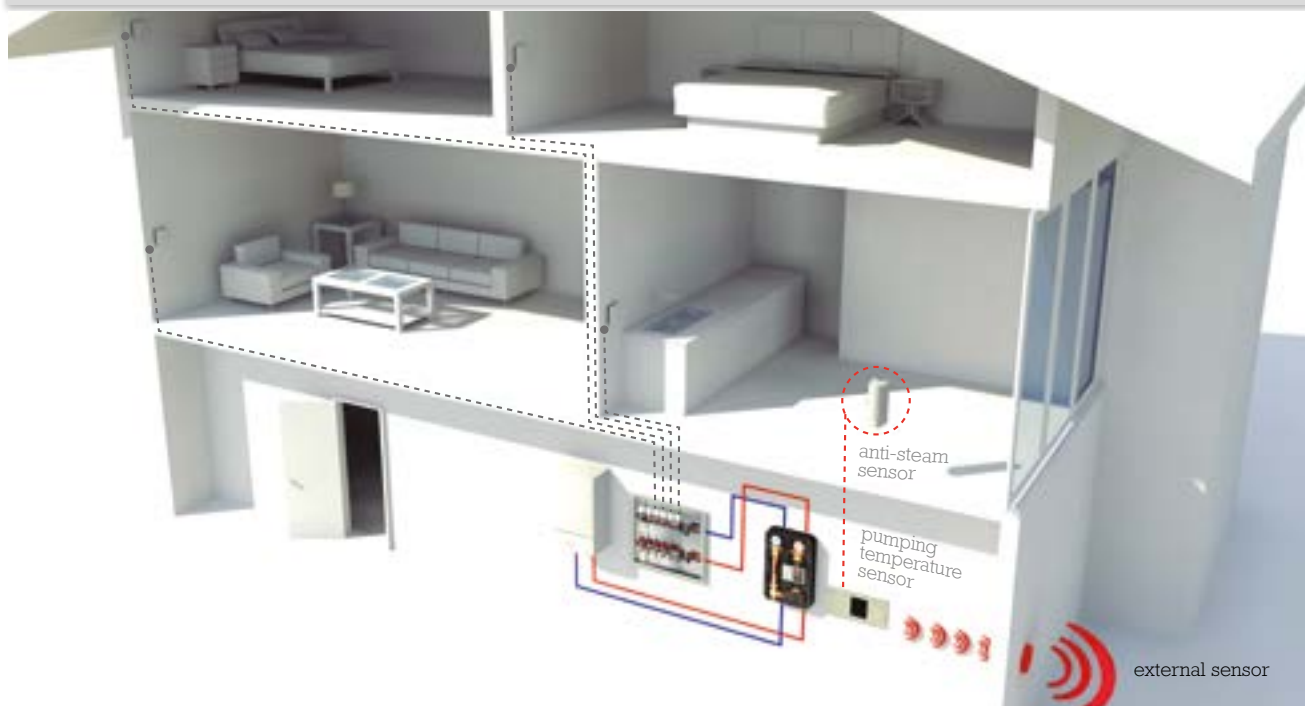
## CLIMATE CONTROL

### EXTERNAL CLIMATE CONTROL: **UNDERFLOOR HEATING**



*did you know...?*

Do the new control units include the system support RELAY MODULE ?



#### Central heating unit

DESCRIPTION	ARTICLE
Digital station unit with control of central heating/cooling	E-22153



#### Control unit connection box

DESCRIPTION	ARTICLE
Connection box	E-18905



#### Heating application valve

DESCRIPTION	ARTICLE
Heating application valve	E-22104



- Also valid for the return.

#### Pulse sensor

DESCRIPTION	ARTICLE
Thermosound TRP 150 Ø 6,5 x 36 mm. - wire 2 m.	E-19452



#### Pocket for pulse sensor

DESCRIPTION	ARTICLE
Ø 7 x 8 x47, nut 1/2" NPT	555001



#### External sensor

DESCRIPTION	ARTICLE
2 meters, IP65-NTC 1% - 10K OHM-25°C	E-18901



#### Anti-steam sensor

DESCRIPTION	ARTICLE
Enclosure IP20, Sensor NTC 1% - 10K OHM - 25°C	576808

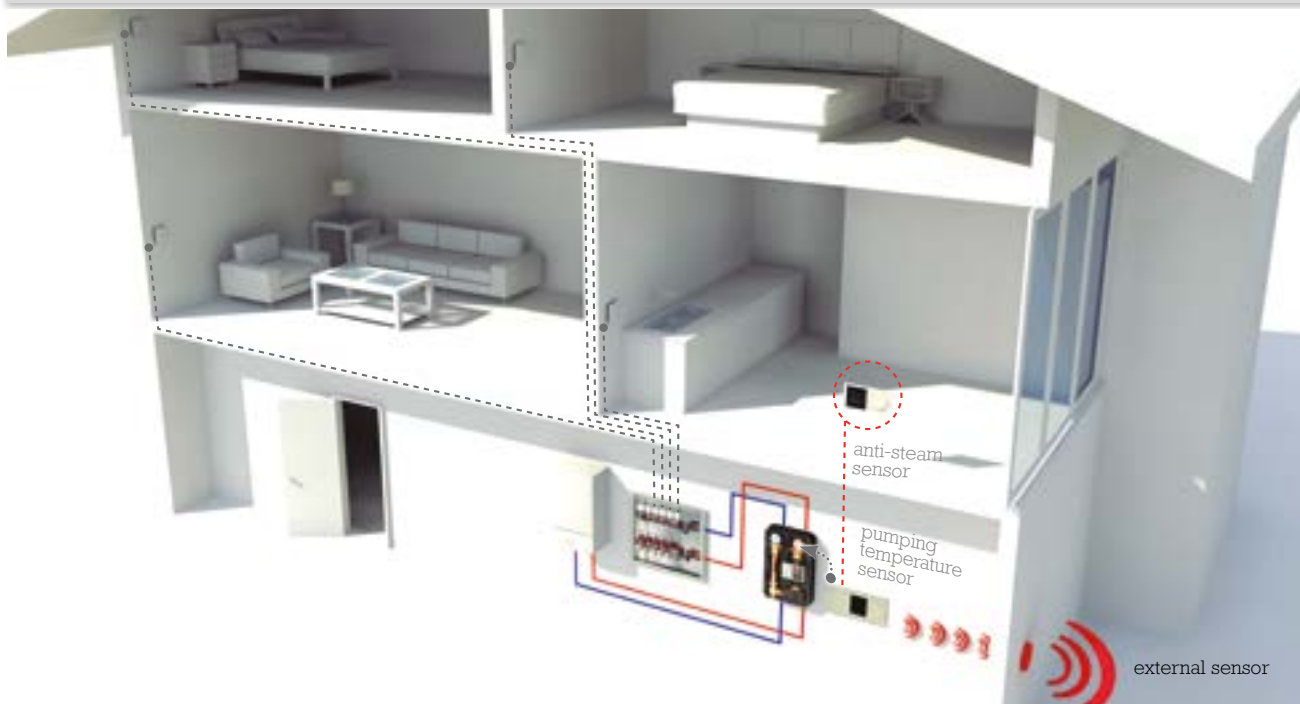
**NOTE:** The order for this installation is comprised of: central heating unit, control unit connection box, heating application valve and the necessary sensors.

# EXTERNAL CLIMATE CONTROL: UNDERFLOOR HEATING AND COOLING



*did you know...?*

Do the new control units include the system support RELAY MODULE ?



### Central heating unit

DESCRIPTION	ARTICLE
Digital station unit with control of central heating/cooling	E-22153



### Control unit connection box

DESCRIPTION	ARTICLE
Connection box	E-18905



### Heating/cooling application valve

DESCRIPTION	ARTICLE
Heating/cooling application valve	E-22105



- Also valid for the return.

### Pulse sensor

DESCRIPTION	ARTICLE
Thermosound TRP 150 Ø 6,5 x 36 mm. - wire 2 m.	E-19452



### Pocket for pulse sensor

DESCRIPTION	ARTICLE
Ø 7 x 8 x47, nut 1/2" NPT	555001



### External sensor

DESCRIPTION	ARTICLE
2 meters, IP65-NTC 1% - 10K OHM-25°C	E-18901



### Anti-steam sensor

DESCRIPTION	ARTICLE
To prevent steam	E-22106

**NOTE:** The order for this installation is comprised of: central heating unit, control unit connection box, heating/cooling application valve and the necessary sensors.

## CLIMATE CONTROL CLIMATE CONTROL ACCESSORIES



- Easy to install: first screw the nut onto the valve, and then screw on the head until you hear a click. The cable does not obstruct assembly.

### Thermoelectric head

DESCRIPTION	ARTICLE	PIECES/BOX
M30x1,5 NC 230V head	CT410800	24
M30x1,5 NC 230Vhead with micro	V-05001	24
Adapter connector M30x1,5	V-02070	1
Adapter connector M28	V-02214	1



### Safety contact thermostat

DESCRIPTION	ARTICLE	PIECES/BOX
TCS safety contact thermostat	543461	50



### Differential pressure valve

DESCRIPTION	ARTICLE	PIECES/BOX
1 1/4" angle	E-18604	10
1" straight	V-01121	10

## ROOM THERMOSTATS AND CHRONOTHERMOSTATS: **U.S., CANADA**



### Thermostats

DESCRIPTION	ARTICLE
Low voltage Thermostats basic	547002



### Thermostats

DESCRIPTION	ARTICLE
Low voltage Thermostats deluxe	579001



---

SPARE PARTS

---



## SPARE PARTS

### VALVES AND FITTINGS FOR RADIATORS



#### Thermostatic handle

DESCRIPTION	ARTICLE	PIECES/BOX
Thermostatic handle	V-02702	6



- Driving-wheel featurin cap.

#### Two-pipe lever

DESCRIPTION	ARTICLE
White handle 3/8" - 1/2"	F-10081
Stopper for handle ref. F-10081	E-9229



#### Single-pipe lever

DESCRIPTION	ARTICLE
White	F-8439
Black	F-8440



- \* For 3/4" sleeve and 1/2" sleeve monotube and 3/4" sleeve bitube.

#### Nut

DESCRIPTION	ARTICLE
Nut for 3/8" tube (5/8" thread)	F-7895
Nut for 1/2" tube (3/4" thread)	F-7894
Nut for 3/4" tube (1" thread)	F-7900*



#### Handle screw

DESCRIPTION	ARTICLE
3/8" - 1/2" - 3/4" bitube	F-10083
Zinc -single pipe white handle	F-7869
Anti oxidation proof single pipe black handle	F-3734



#### Stopper

DESCRIPTION	ARTICLE
Lockshield 3/8" - 1/2" nickel plated	F-5124
Wall lockshield	F-9596

## VALVES AND FITTINGS FOR RADIATORS



### Outlet terminal plug

DESCRIPTION	ARTICLE
Seal	F-7818
Interior stopper	F-9210
Stopper	F-9950



### Sleeve

DESCRIPTION	ARTICLE
3/8" Sleeve with seals	F-7883
3/8" Without locking seal to radiator	E-16338
1/2" Sleeve with seals	F-7882
1/2" Without locking seal to radiator	E-16324
1/2" - 3/8" Sleeve with seals	F-8822
1/2" - 3/8" Without locking seal	E-16401
1/2" - 3/4" (4V) Sleeve with seals	E-23758
3/4" Sleeve with seals with seals for monotube and bitube	E-24922
3/4" Tube without seal to radiator	F-7907

- O-ring supplied.



### Pipe, shank and straight pipe

DESCRIPTION	ARTICLE
Pipe 3/4"	E-1901
Pipe 1/2"	E-3259
Pipe 1/2" (Ref. 52390, 52290, 52490, 52590)	E-23545
Shank 3/4" (0,2 meters)	F-4382
Shank 3/4" (1 meters)	23805009
1/2" extension pipe (0,425 meters)	E-16099



**SPARE PARTS**  
**ZONE VALVES**



**Synchron motor**

DESCRIPTION	ARTICLE
240 V	V-05369
24V	V-05368

**PURGING DEVICE**



DESCRIPTION	ARTICLE
Purging device form modular manifolds	D-7071

**THERMOCOUPLES**



**Universal thermocouple**

DESCRIPTION	ARTICLE	PIECES/BOX
600 mm.	T100257600P	300
900 mm.	T100196900P	300
1200 mm.	T1002571200P	300
Special propane thermocouple 900 mm	T100844900P	300

## VALVES FOR WATER HEATERS CONNECTION

### ■ TAURO



Domestic hot water valve

DESCRIPTION	ARTICLE	PIECES/BOX
1/2 M - 1/2 H with loose nut	91199-01	80



Heating valve

DESCRIPTION	ARTICLE	PIECES/BOX
3/4 M - 3/4 H with loose nut	91399-00	70



Gas valve

DESCRIPTION	ARTICLE	PIECES/BOX
1/2 M - 1/2 H with loose nut	91097-00	80





## GENERAL PURCHASING CONDITIONS

The commercial relationships formed between **Orkli** and the customers will be conditioned by the points that follow:

- Payment: 60 days net monthly.
- **Orkli** reserves the right to cancel any order in case the purchaser had previously unfulfilled any previous contract.
- Delays by supplying, being the cause not due directly to **Orkli** will not be enough cause to cancel an order or delay payment.
- Failures due to the transport will not be attributed to **Orkli**.
- At the time of order, the minimum quantities for each product determined in the lists must be respected.
- No returns will be accepted without **Orkli** previous knowledge and authorisation.
- **Orkli** does not accept returns of customised products.
- **Orkli** reserves the right of ownership of any material sent but not paid for.
- **Orkli** will not accept any material supplied that is outside the guarantee period, or which has been modified in any way.

## TERMS OF THE 3-YEAR GUARANTEE



This is to certify that Orkli Sociedad Cooperativa warrants to the first purchaser only, the products manufactured by it to be free from defects in materials and workmanship, when properly maintained, and under normal use and service.

Orkli Sociedad Cooperativa's sole obligation under this warranty shall be limited to the repair or replacement, at its option, of any defective part of said product which is the result of defective material and/or defective workmanship of parts furnished by Orkli Sociedad Cooperativa. This warranty will expire thirty-six (36) months from date of delivery, and repairs under this warranty shall be at repairs facilities designated by Orkli Sociedad Cooperativa. Transportation expenses to the repair facility are to be borne by the Purchaser.

The warranty herein is expressly in lieu of any and all other warranties, expressed or implied.

The warranty herein does not apply to, and Orkli Sociedad Cooperativa makes no warranties, expressed or implied, with respect to any goods which after delivery hereunder have been repaired or altered by anyone other than has been authorized and approved by Orkli Sociedad Cooperativa, unless, in manufacturer's reasonable opinion, such repairs are in no way responsible for the condition complained of.

Customer and Manufacturer agree that customer's sole remedy for any defects in new goods delivered hereunder, whether customer's claim arises under the warranty set forth above, or otherwise, shall be limited to the repair or replacement at manufacturer's option within three (3) years after delivery of such goods to the first purchaser, of any defective goods, of which notice of the defects is given by Customer to Manufacturer immediately after such defect is or ought to have been discovered and which goods are returned to Manufacturer within ten (10) days after Manufacturer requests their return for inspection and/or repair or replacement.

**Orkli Sociedad Cooperativa**

**March 2015**

## SALES OFFICES

### *ORKLI, UK. LTD*

Simon Baker - Orkli (UK) Ltd.  
Unit 1, Trident Court  
One Oakcroft Road  
Chessington  
Surrey KT9 1BD  
Tel.: +44 (0) 203 044 2992  
Fax: +44 (0) 203 044 2701  
e-mail: [simon.baker@orkli.co.uk](mailto:simon.baker@orkli.co.uk)

### *Deutschland*

Orkli Dutschland GmbH  
[info@orkli.de](mailto:info@orkli.de)

### *Italy*

Orkli Italia, S.R.L.  
[mcccomp@mccit.com](mailto:mcccomp@mccit.com)

### *Russia*

MCC Rusia  
[orkli@mondragon.ru](mailto:orkli@mondragon.ru)

### *Czech Republic*

Orkli, S.Coop.  
[jprec@orkli.cz](mailto:jprec@orkli.cz)

### *Canada*

Orkli North America  
[blowe@orkli.com](mailto:blowe@orkli.com)

### *Portugal*

Orkli Portugal  
[cal@orkli.com](mailto:cal@orkli.com)

### *Belgium*

Orkli Belgium  
[info@impexsa.be](mailto:info@impexsa.be)

### *Argentina*

Orkli Argentina  
[mateo@uriarte.com.ar](mailto:mateo@uriarte.com.ar)

### *Brazil*

Orkli do Brasil  
[comercial@orkli.com.br](mailto:comercial@orkli.com.br)

### *France*

Orkli France  
[aruiz@orkli.es](mailto:aruiz@orkli.es)



# INDEX BY REFERENCES 2015

article	page	article	page	article	page
1015	132	17175-00	110, 172	52113	126
1016	132	17176-00	110, 172	52310	123
1025	132	17177-00	110, 172	52313	126
1026	132	17178-00	110, 172	52390	122
1035	132	17179-00	110	52450	136
1036	132	20312900	108, 166	52460	136
1115	128	20712900	108, 166	52490	125
1116	128	23805009	183	52510	123
1125	128	30110200	162	52513	126
1126	128	30112200	106, 164	52550	136
1135	128	30120200	162	52560	136
1136	128	30122200	106, 164	52613	126
1210	129	30210200	162	52710	122
1220	133	30212200	106, 164	52713	126
1310	130	30220200	162	52720	125
1311	130	30222200	106, 164	52730	122
1315	130	30310200	162	52910	122
1316	130	30312200	106, 164	52920	125
1320	130	30320200	162	52930	122
1321	130	30322200	106, 164	53450	136
1325	130	30610200	163	53460	136
1326	130	30612200	107, 165	53550	136
1330	130	30710200	163	53560	136
1331	130	30712200	107, 165	53710	122
1410	132	30722200	107, 165	54400	135
1411	132	39100000	157	54410	135
1415	132	39104000	157	54460	135
1416	132	39200000	157	54470	135
1420	132	39204000	157	54480	135
1421	132	39300000	157	54490	135
1425	132	39304000	157	54500	134
1426	132	39400000	159	54510	134
1430	132	39404000	159	54560	134
1431	132	39500000	159	54570	134
1535	128	39504000	159	54580	134
1536	128	39800000	159	54590	134
1615	128	39804000	159	543461	28, 180
1616	128	39900000	159	547000	24, 176
1625	128	39904000	159	547001	24, 176
1626	128	40110200	162	547002	180
1816	131	40112200	106, 164	547005	24, 176
1817	131	40120200	162	547006	24, 176
1826	131	40122200	106, 164	555001	26, 27, 178, 179
1827	131	40210200	162	576808	26, 178
1865	131	40212200	106, 164	578155	24, 176
1866	131	40220200	162	579000	24, 176
1875	131	40222200	106, 164	579001	180
1876	131	40310200	162	50011200	158
1005090	44, 66	40312200	106, 164	50014200	158
1006090	44, 66	40320200	162	50014600	160
1007090	44, 66	40322200	106, 164	50018600	158
1007150	44	40610200	163	50018600	160
1008090	44, 66	40612200	107, 165	50021200	158
1008150	44	40710200	163	50021600	160
1009150	44	40712200	107, 165	50024200	158
1010150	44	40722200	107, 165	50024600	160
19000304	140	49100000	157	50026600	158
19000313	140	49104000	157	50026600	160
19000322	140	49200000	157	50028600	158
17003-00	172	49204000	157	50028600	160
17004-00	172	49300000	157	50041600	160
17004-01	172	49304000	157	50044600	160
17005-00	172	49400000	159	50051600	160
17011-00	172	49404000	159	50054600	160
17017-00	172	49500000	159	50056600	160
17018-01	172	49504000	159	50058600	160
17018-02	172	49800000	159	58020200	161
17023-00	172	49804000	159	5120000H	42, 62
17030-00	172	49900000	159	5130000H	42, 62
17034-00	172	49904000	159	5140000HA	42, 62
17055-00	172	52110	123	60010	118

article	page	article	page	article	page
60201	118	70228600	151	88315	127
60300	118	70314200	151	91097-00	185
67100	120	70324200	151	91199-01	185
67150	119	70454600	155	91399-00	185
67190	120	70456600	155	CHCT211400	118
67250	119	70458600	155	CHCT211500	118
67290	120	70554600	155	CHCT231400	118
67350	119	70556600	155	CHCT231500	118
67390	120	70558600	155	CT410800	28, 180
67401	120	70854600	155	D-7071	184
67402	120	70954600	155	D-7073	140
67450	119	74120200	152	D-7074	140
67490	120	76220200	152	D-7075	140
67550	119	76320200	152	D-7076	140
67590	120	77220200	152	D-7584	140
67650	119	77320200	152	D-7586	140
67690	120	78120200	152	E-10857	140
68185	121	73000HE	93	E-11729	133
68186	121	73000SOHE	93	E-13062	139
68195	121	73020HE	95	E-13637	137
68196	121	73020SOHE	94	E-13640	137
68285	121	73040HE	93	E-13643	137
68295	121	73040SOHE	93	E-13646	137
68485	121	73100HE	93	E-13667	137
68495	121	73100SOHE	93	E-13670	137
60114200	150	73120HE	95	E-13673	137
60124200	150	73120SOHE	94	E-13676	137
60214200	150	73140HE	93	E-13679	137
60218600	150	73140SOHE	93	E-13682	137
60224200	150	74300SO	88	E-13727	137
60226600	150	74400DO	91	E-13735	137
60228600	150	74400SO	87	E-13738	137
60314200	150	74400SODO	91	E-13741	137
60324200	150	75000HE	96	E-13758	137
60424600	154	75100HE	96	E-13768	137
60426600	154	80000	133	E-13780	137
60428600	154	80011	133	E-13787	137
60444600	154	80012	133	E-13793	137
60524600	154	80013	133	E-13816	138
60526600	154	80020	141	E-14000	138
60528600	154	80021	141	E-14001	138
60824600	154	80023	141	E-14002	138
60844600	154	80024	141	E-14003	138
60924600	154	80026	141	E-14133	118
64120200	152	80027	141	E-15700	137
66220200	152	80029	141	E-16099	183
66320200	152	80032	141	E-16324	183
67220200	152	80035	141	E-16338	183
67320200	152	80036	141	E-16401	183
68120200	152	80100	133	E-17918	138
60114200NA	153	80112	133	E-17919	138
60124200NA	153	81210	129	E-17920	138
60214200NA	153	81310	129	E-17921	138
60218600NA	153	82015	127	E-17922	138
60224200NA	153	82115	127	E-17923	138
60226600NA	153	82200	130	E-18382	29
60228600NA	153	82201	130	E-18604	28, 64, 140, 180
64120200NA	156	82210	129	E-18620	66
66220200NA	156	82215	127	E-18621	66
66320200NA	156	82310	129	E-18622	66
67220200NA	156	82315	127	E-18680	29
67320200NA	156	83215	127	E-18683	29
68120200NA	156	84260	129	E-18871	137
74300	89	84360	129	E-18872	137
74400	89	85360	129	E-18873	137
70114200	151	87210	133	E-18901	26, 27, 178, 179
70124200	151	87310	133	E-18905	26, 27, 178, 179
70214200	151	88015	127	E-1901	183
70218600	151	88115	127	E-19258	29
70224200	151	88215	127	E-19452	26, 27, 178, 179
70226600	151	88310	133	E-19570	138

article	page	article	page	article	page
E-19733	139	F-4369	139	SM1209S	56
E-19792	29	F-4370	139	SM1209U	57
E-19806	111	F-4371	139	SM1210S	56
E-19809	111	F-4382	183	SM1210U	57
E-19810	111	F-4413	139	SM1302S	55
E-19813	29	F-4416	139	SM1302U	57
E-19819	139	F-4425	139	SM1303S	55
E-19863	139	F-5037	139	SM1303U	57
E-20185	139	F-5038	139	SM1304S	55
E-20195	139	F-5039	139	SM1304U	57
E-22104	26, 178	F-5124	182	SM1305S	55
E-22105	27, 179	F-5192	139	SM1305U	57
E-22106	27, 179	F-5251	139	SM1306S	55
E-22153	26, 27, 178, 179	F-7818	183	SM1306U	57
E-22510	66	F-7869	182	SM1307S	55
E-22721	110	F-7882	183	SM1307U	57
E-22722	110	F-7883	183	SM1308S	55
E-22723	110	F-7894	182	SM1308U	57
E-22726	111	F-7895	182	SM1309S	55
E-22727	111	F-7900	182	SM1309U	57
E-22728	111	F-7907	183	SM1310S	55
E-22769	139	F-8439	182	SM1310U	57
E-23045	111	F-8440	182	SPD1160HE	77
E-23046	111	F-8822	183	SPD2300HE	77
E-23051	111	F-9210	183	SPF1160HE	79
E-23145	43, 63	F-9596	182	SPF2300HE	79
E-23147	42, 62	F-9950	183	SPT1160	81
E-23148	42, 62	GS11100001	173	SPT2320	81
E-23149	43, 63	GS13100001	173	SR1100	35
E-23545	183	GS21100001	173	SR1110	35
E-23758	183	GS23100001	173	SR1200S	37
E-23794	139	OKSOL-150	74	SR1300	35
E-23859	139	S40000001	105	SR2100	33
E-23860	139	S40000002	103	SR2130	33
E-24891	111	S40000003	101	SR2200S	37
E-24892	111	SM1002S	41, 59	SR2300	33
E-24893	111	SM1003S	41, 59	SR3300	31
E-24922	183	SM1004S	41, 59	SRADIT	22
E-25169	139	SM1005S	41, 59	SRBAN-2	20
E-25170	139	SM1006S	41, 59	SRBAN-4	20
E-25193	64	SM1007S	41, 59	SRCAR16-L	18
E-25228	24, 176	SM1008S	41, 59	SRCAR20-L	18
E-25229	24, 176	SM1009S	41, 59	SRCLIP-L	23
E-25230	24, 176	SM1010S	41, 59	SRCLIP-T	23
E-25231	24, 176	SM1011S	41, 59	SRCUT	21
E-25232	42, 62	SM1012S	41, 59	SRDESB	21
E-25233	42, 62	SM1102S	54	SREPU30-LP	19
E-25292	111	SM1103S	54	SREPU40-LP	19
E-25601	24, 176	SM1104S	54	SRFILM	22
E-26795	42, 62	SM1105S	54	SRGRAP	21
E-26796	43, 63	SM1106S	54	SRGUIA16	22
E-3259	183	SM1107S	54	SRGUIA20	22
E-5135	137	SM1108S	54	SRJUNT-R	22
E-5137	137	SM1109S	54	SRPAN26	17
E-5139	137	SM1110S	54	SRPAN26-30	17
E-5141	137	SM1111S	54	SRPAN43-30	17
E-5145	138	SM1112S	54	SRPAN58-30	17
E-5147	138	SM1202S	56	SRTBA16-120	20
E-5149	138	SM1202U	57	SRTBA16-200	20
E-5151	138	SM1203S	56	SRTBA16-500	20
E-5427	137	SM1203U	57	SRTBA16F-200	20
E-6616	118	SM1204S	56	SRTBA20-120	20
E-8473	137	SM1204U	57	SRTBA20-200	20
E-9229	182	SM1205S	56	SRTBA20-500	20
F-10081	182	SM1205U	57	SRTM16-200	20
F-10083	182	SM1206S	56	SRTM20-200	20
F-3734	182	SM1206U	57	SRTR5	18
F-3958	139	SM1207S	56	T100196900P	184
F-3960	139	SM1207U	57	T1002571200P	184
F-3962	139	SM1208S	56	T100257600P	184
F-4144	139	SM1208U	57	T100844900P	184

article	page
V-00395	75
V-00396	74
V-00397	74
V-00564	139
V-00625	91
V-01030	137
V-01035	75
V-01036	75
V-01121	28, 64, 140, 180
V-02070	28, 180
V-02214	28, 180
V-02521	75
V-02702	182
V-03058	39
V-03059	39
V-03978	161
V-03979	161

article	page
V-03980	161
V-03981	161
V-03998	161
V-04001	161
V-04002	161
V-04132	39
V-04208	19
V-04211	82
V-04212	83
V-04213	83
V-04216	83
V-04217	83
V-04218	83
V-04219	101
V-04226	23, 65
V-04227	23, 65
V-04228	23, 65

article	page
V-04229	23, 65
V-05001	28, 180
V-05003	64
V-05004	64
V-05005	64
V-05007	64
V-05169	25, 29, 177
V-05227	24, 65
V-05244	110
V-05246	92
V-05350	65
V-05351	65
V-05352	65
V-05368	160, 161, 184
V-05369	160, 184



**ORKLI, S. Coop.**

Ctra. Zaldibia, s/n / E - 20240 Ordizia (Gipuzkoa)

Tel.: + 34 943 08 85 00 / Fax: + 34 943 80 52 41

E-mail: [cal@orkli.es](mailto:cal@orkli.es) [www.orkli.com](http://www.orkli.com)

