ARKA

# Innovative solutions

Patents and registration certificates


REGISTRATION CERTIFICATE 69947

REGISTRATION CERTIFICATE 73476

5 YEARS WARRANTY

# S40 PRO

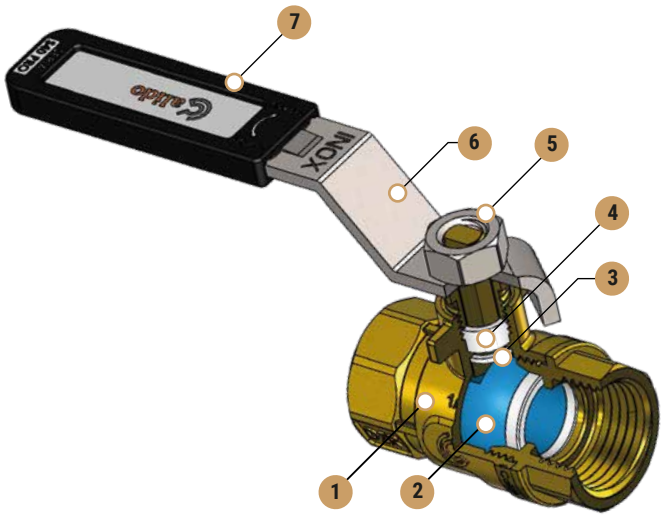
# Application

**Calido S40 Pro** is a series of ball valves dedicated to the distribution of drinking water, meeting the highest hygienic standards contained in Directive (EU) 2020/2184 of the European Parliament and the Council of 16 December 2020 and in the Regulation of the Minister of Health of 7 December 2017 on the quality of water dedicated to human consumption. The materials used are compatible with the requirements of 4MS. The valves can also be installed in heating systems (including those with glycol solution up to 40%), refrigeration, pneumatic and oil systems.

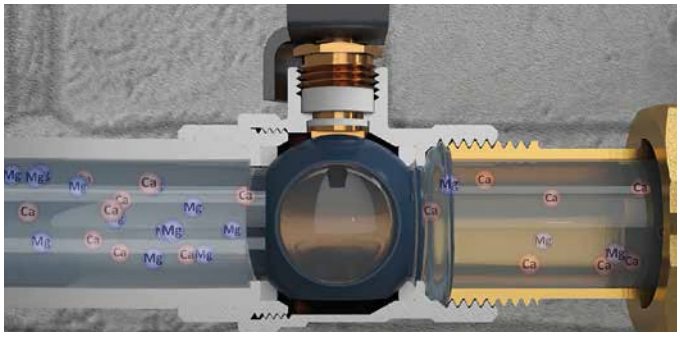
## Product advantages

- valve ball covered with nanoceramics- **elimination of chromium from contact with drinking water, anti-lime characteristics**
- body made of DZR brass - **elimination of zinc and nickel from contact with drinking water, without dezincification of brass**;
- valve stem equipped with double sealing:
  - traditional gland is located on the top of the stem - **possibility of sealing with a nut by plumber**;
  - in the lower part of stem, modern dynamic sealing is applied in which the force of sealing is proportional to pressure between the ball and the body - **tightness guarantee**;
- increased wall thickness in critical areas and added four reinforcing bridges on the body - **guarantee of durability and long life service**;
- anti-blow-out stem - **guarantee of safety**;
- threat entry chamfer - **easy guiding for screwed element into the thread and forming the incoming sealants between the threads;**
- valve equipped with a stainless steel lever - **guarantee of long lever life**;
- lever indication window - **allows to mark circuit, device**;
- body and lever design allow side change of lever mounting - **easing during valve installation**.

## Construction




| No | Name | Material |
|---|---|---|
| 1 | Body | Brass DZR |
| 2 | Valve ball covered with nanoceramics | Brass CW617N |
| 3 | Dinamic sealing | PTFE |
| 4 | Gland | PTFE |
| 5 | Lever nut | Stainless steel |
| 6 | Lever | Stainless steel |
| 7 | Lever plastic cover with label | PE+EVA/PVC |



*Anti-lime valve ball covered with nanoceramics - avoidance of limescale deposits distributing the operation of the valve*

## Parameters

- PN = **40 bar** (for liquid)
- Tmin = **-20°C** (without freezing)
- Tmax = **150°C** (for liquid)

National Technical Assessment ITB - KOT - 2020/1513 edition 1. Valves compliant with the requirements of the European Union Directive 2014/68/EU. CE certified for 11/2" - 2" valve sizes. Valves compliant with PN-EN 13828:2005 norm. Product with NIPH-PZH Certificate - intended for drinking water.

REGISTRATION CERTIFICATE
69947

5
YEARS
WARRANTY

# S30/S30N

# Application

**CALIDO S30/S30N** is a series of manually operated water ball valves, designed for installation in heating systems (S30N series)- including glycol solution up to 40%, drinking water distribution systems (S30 series), pneumatic and oil systems.

## Advantages

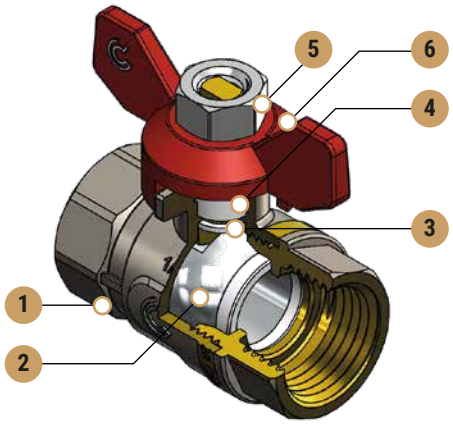
- valve stem equipped with double sealing:
  - traditional gland is located on the top of the stem - **possibility of sealing with a nut by plumber**;
  - in the lower part of stem, modern dynamic sealing is applied in which the force of sealing is proportional to pressure between the ball and the body - **tightness guarantee**;
- increased wall thickness in critical areas and added four reinforcing bridges on the body- **guarantee of durability and long life of the valve**;
- anti-blow-out stem - **a guarantee of safety**;
- threat entry chamfer - **easy guiding for sealant - making it easier screwing of elements**;
- valve equipped with a steel lever covered with an anti-corrsion layer DACROMET and a plastic cap (optionally the valve is available with powder-covered "butterfly" type aluminum lever) - **guarantee of long lever life**;
- lever indication window - **allows to mark circuit, device**;
- body and lever design allow side change of lever mounting - **easing during valve installation**.

## Parameters

- PN = **30 bar** (for liquid)
- Tmin = **-20°C** (without freezing), Tmax = **150°C** (for liquid)
- Tmax = **110°C** (for liquid for valves with a half-union)

National Technical Assessment ITB - KOT - 2020/1313 edition 3. Valves compliant with the requirements of the European Union Directive 2014/68/EU. CE certified for 11/2" - 4" valve sizes. Valve compliant with PN-EN 13828:2005 norm (confirmed by tests at the Technical University of Koszalin). Product with NIZP-PZH Certificate (brass elements, which have contact with water are not covered with nickel layer).

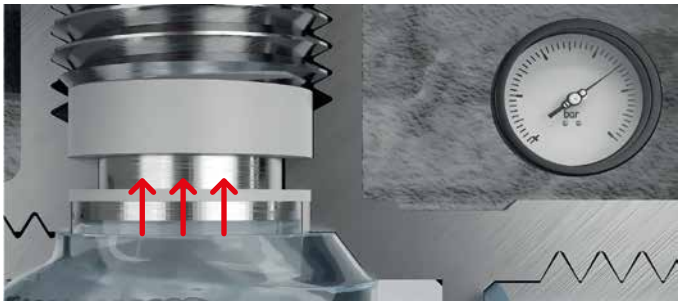
## Construction




| No | Name | Material |
|---|---|---|
| 1 | Body* | Brass CW617N |
| 2 | Chrome ball | Brass CW617N |
| 3 | Dinamic sealing | PTFE |
| 4 | Gland | PTFE |
| 5 | Knob nut covered with DACROMET | Structual steel |
| 6 | Painted knob | ZnAl |

*S30 series - externally nickel-plated brass body, S30N series - brass body nickel plated externally and internally.

*Pressure increase - seal compression*



PATENT
228216

PATENT
228882

5
YEARS
WARRANTY


# GARDEN BIS

# Application

**Calido Garden** is a series of tap valves designed for installation in water supply systems, both inside and outside of the buildings.The valves are made of high-quality materials, which ensures their durability and corrosion resistance. Different versions and sizes available - all this to provide users with the opportunity to choose solutions, that will suit their needs and requirements.

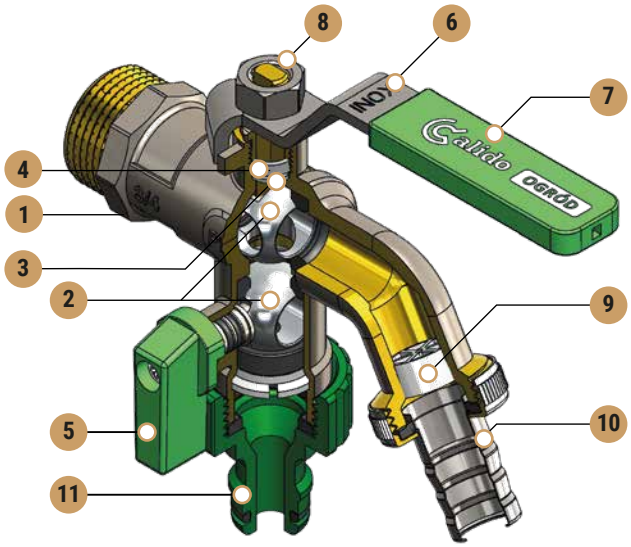
## Advantages

- unique design of the balls and sealings allow to reduce pressure during freezing process by redirecting frozing water back to the installation - **frost resistance of the valve**;
- body forged as one element from CW617N brass - **guarantee of valve tightness, durability and long life service**;
- spray guide located inside the body- **guarantee of a shaped water flow even after unscrewing hose connections**;
- lever and nut made of stainless steel - **guarantee of durability and long life of the lever**;
- two independent outlets in the valve of the GARDEN BIS series - **possibility of independent opening/closing of these two outlets**.

## Parameters

- PN = **30 bar**
- Tmax = **90°C**

## Construction




| No | Name | Material |
|---|---|---|
| 1 | Exterior nickel-plated body | Brass CW617N |
| 2 | Chrome ball | Brass CW617N |
| 3 | Slip ring | PTFE |
| 4 | Gland | PTFE |
| 5 | Painted knob | ZnAl |
| 6 | Lever | Stainless steel |
| 7 | Lever cover | PE+EVA |
| 8 | Nut | Stainless steel |
| 9 | Spray guide | PE |
| 10 | Garden hose connectors | Stainless steel |
| 11 | Quick coupler | ABS |

FROST RESISTANT CHECKED AT TEMPERATURE -18°C

Valves compliant with the requirements of the European Union Directive 2014/68/EU. Products with the NIPH-PZH Certificate (brass elements, which have contacts with water are not covered with a nickel layer).


REGISTRATION CERTIFICATE
70783


# ESKIMOS

# Application

**CALIDO ESKIMOS** is a series of supply and return radiator valves, that are used to cut and control the amount of heating medium supplying the radiator. Thanks to the split stems of the supply and check valves, the o-rings can be replaced without installation of water.

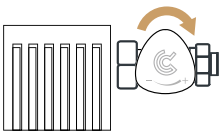
## Advantages

- split valve stem - **possibility to replace o-rings without emptying water from the installation**;
- spline in the half-union - **easy to install with a hex key or screwdriver**;
- high flow rates - **lower energy consumption by circulation pumps**;
- regulation and cut-off of flow in lockshield with a 6 mm hex key - **easy and precise adjustment**;
- metal/metal + o-ring (EPDM) sealing- **guarantee of tightness even in case of damage to the o-ring**;
- possibility of tilting the half-union from the axis in each direction by 5°- **no tension affecting the valve in the event that the pipe is not in axis with the valve**;
- knob in the supply valve covered with shrink wrap- **protection against dirt until the building is put into operation**;
- body produced from CW617N brass as a one element - **guarantee of tightness, durability and long life of valve**;
- the same assembly length of supply and lockshields - **easy installation**.

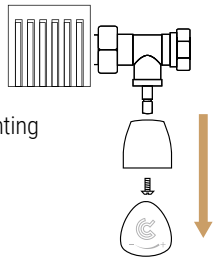
## Parameters

- PN = **16 bar**
- Tmax = **110°C**
- Kv = **2,4 m³/h** (straight valves); Kv = **2,8 m³/h** (angle valves)

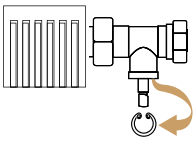
Instructions for replacing o-rings without emptying the installation.



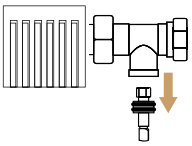
**1.** Close flow by turning the knob to the right. Close lockshield.



**2.** Remove the knob cover, mounting screw and knob. **Tool**: screwdriver,

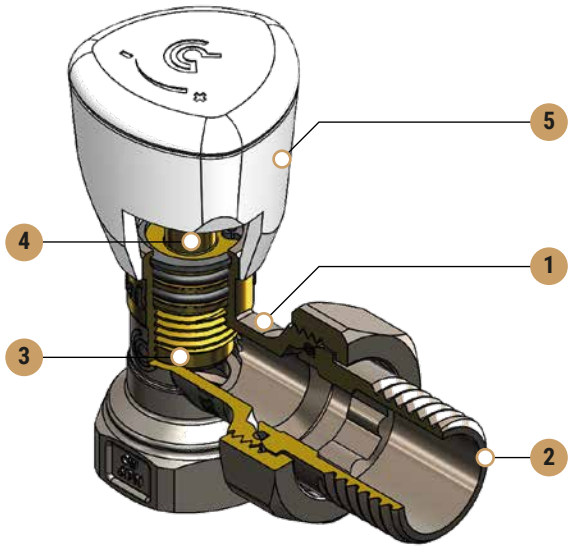


**3.** Remove snap ring locking valve's stem. **Tool**: ring pliers.



**4.** pull the top of the stem and replace the o-rings. **Tool**: combination pliers.

## Construction




| No | Name | Material |
|---|---|---|
| 1 | Nickel-plated body | Brass CW617N |
| 2 | Nickel-plated half-union | Brass CW617N |
| 3 | Spindle sealing element | Brass CW617N |
| 4 | Spindle drive element | Brass CW617N |
| 5 | Knob | ABS |

Valves compliant with the requirements of the European Union Directive 2014/68/EU and the PN-M-75002:2016-10 norm.

REGISTRATION CERTIFICATE
70783

# ESKIMOS

# Application

**CALIDO ESKIMOS** is a series of bottom radiator valves, that are used to regulate or cut off the flow of the heating medium supplying radiators. Thanks to the split stems, the o-rings can be replaced without emptying the installation of water.

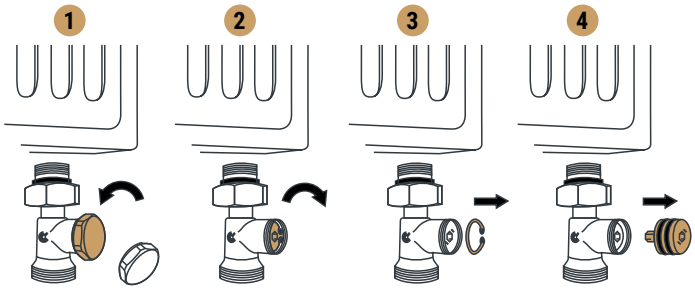
## Advantages

- split valve stem - **possibility of replacing the o-rings without emptying water from the system**;
- no bridge connecting the valves - **possibility of individual valve's settings in relation to the supply and return pipes**;
- high flow rates - **lower energy consumption for circulation pumps**;
- adjustment and cut-off the flow with a 6 mm hex key- **ease and precision of adjustment**;
- body produced from CW617N brass as a one element - **guarantee of tightness, durability and long life of valve**;
- complete with 1/2"x3/4" nipples - **ready for installation**.

## Parameters

- PN = **16 bar**
- Tmax = **110°C**
- Kv = **2,4 m³/h** (straight valves); Kv = **2,8 m³/h** (angle valves)

Instructions for replacing o-rings without emptying water from the installation.



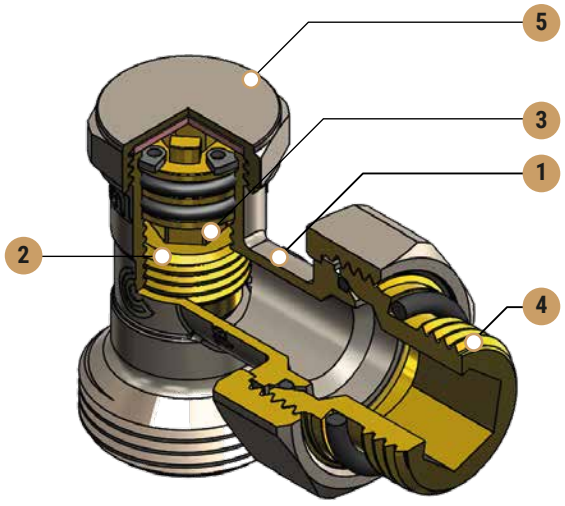

**1.** Unscrew the valve cap by turning it to the left.

**2.** Close the flow by turning the stem to the right. Close supply valve.
**Tool**: 6 mm hex key.

**3.** Remove the snap ring that locks the valve stem.
**Tool**: ring pliers.

**4.** Slide out the top of the stem and replace the o-rings.
**Tool**: combination pliers.

## Construction




| No | Name | Material |
|---|---|---|
| 1 | Nickel-plated body | Brass CW617N |
| 2 | Spindle sealing element | Brass CW617N |
| 3 | Spindle drive element | Brass CW617N |
| 4 | Nipple with Allen socket and o-ring | Brass/EPDM |
| 5 | Nickel-plated end cap with seal | Brass/EPDM |

Connectors compliant with the requirements of the European Union Directive 2014/68/EU and the PN-M-75002:2016-10 norm.

PATENT
231282


# PIONIER

# Application

**CALIDO PIONIER** is a series of check valves designed for heating and water distribution systems. Their task is to prevent from the return flows.

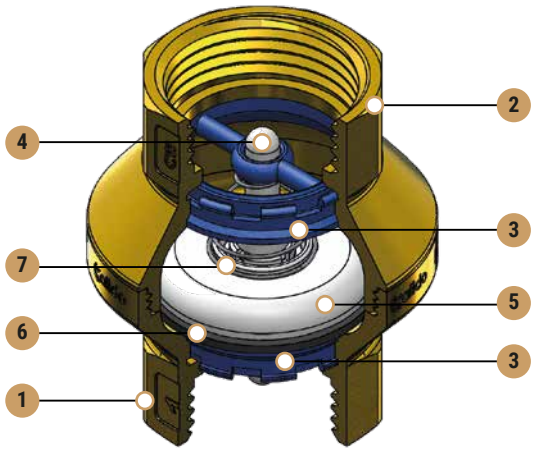
## Advantages

- unique valve design and optimal flow process of the liquid obtained thanks to cooperation with the Technical University of Koszalin, allowed to obtain full flow characteristics;
  (Kv=15.5 m³/h for the 1" valve) - **lower consumption energy by circulation pumps**;
- elimination of turbulence inside the valve in combination with the appropriate selection of materials used for the construction of internal components - **no deposit formation of limescale distributing the operation of the valve**;
- special shape of the unit: valve seat, closing disc, sealing - **guarantee of quiet valve operation**;
- specially designed valve spring - **cooperation with electronic pumps even in night mode performance**;
- valve can be operated in horizontal and vertical position - **easy installation.**

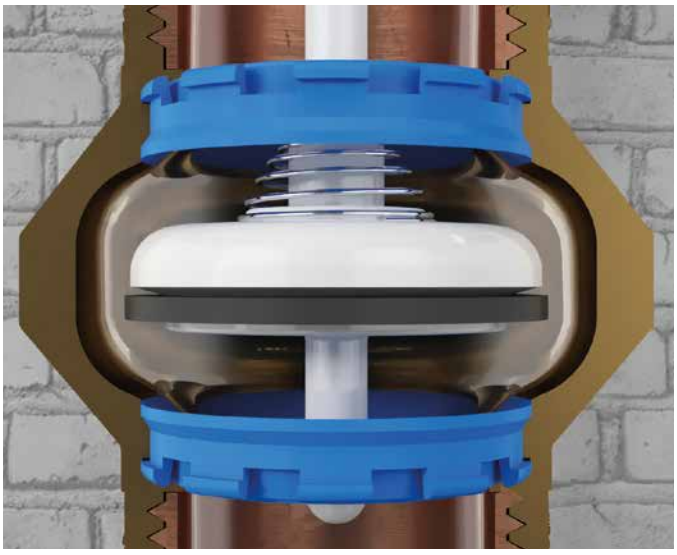
## Parameters

- PN = **25 bar**
- Tmin = **-20°C** (without freezing)
- Working temperature= **90°C**
- Tmax momentary = **110°C**

## Construction




| No | Name | Material |
|---|---|---|
| 1 | Inlet body | Brass CW617N |
| 2 | Outlet body | Brass CW617N |
| 3 | Head guides | POM |
| 4 | Poppet valve | POM |
| 5 | Closing disc | POM |
| 6 | Seal | cross-linked EPDM |
| 7 | Spring | 1.4310 |



*Valve in cross-section*

Valves compliant with PN-M-75002:2016-10 norm.
Product with NIPH-PZH Certificate.

PATENT
230959


# ERYK

# Application

**CALIDO ERYK** is a series of ball valves designed for installation in heating and drinking water distribution systems.
Especially recommended for the connection of wall-mounted combi boilers.

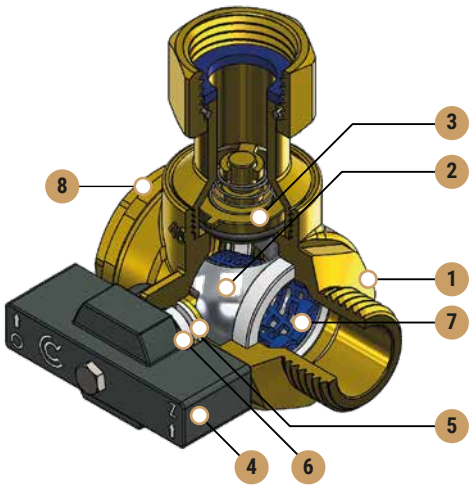
## Advantages

- compact design for limited space installation of wall-mounted boilers - **easy connection**;
- 1/2" valve for domestic hot water and heating and 3/4" valve for heating equipped with filter and check valve - **solution to the installation problem in the limited installation space of the wall-mounted boiler at the connecting of the valve, filter and check valve (3 in 1) - patent**;
- Kv flow rate enabling cooperation with boilers with a power up to 28 kW;
- valve stem equipped with double sealing:
  - traditional gland is located on the top of the stem - **possibility of sealing with a nut by plumber**;
  - in the lower part of stem, modern dynamic sealing is applied in which the force of sealing is proportional to pressure between the ball and the body - **tightness guarantee**;
- anti-blow-out stem - **guarantee of safety**;
- 1/2" valve for domestic hot water and heating and 3/4" valve for heating equipped with the anti-lime filter placed in the valve's ball - **protection of the boiler against contamination from the installation and the lack of the possibility of filters scaling**;
- 1/2" valve for domestic hot water and heating and 3/4" valve for heating equipped with check valve - **the filter can be cleaned without the need of emptying water from the system**;
- valve equipped with aluminum alloy lever covered with a protective coating - **guarantee of long life servis of lever**;
- lever's design allows for the use of a 10 or 21 mm wrench **- opening/closing of the valve in a limited space.**

## Parameters

- PN = **10 bar**, Pmax = **16 bar**
- Tnom = **110°C**
- Tmax momentary =**150°C** (for valves without a check valve)
- Tmax momentary=**120°C** (for check valves)

## Construction




| No | Name | Material |
|---|---|---|
| 1 | Body | Brass DZR |
| 2 | Chrome ball | Brass CW617N |
| 3 | Check valve | Brass CW617N |
| 4 | Painted knob | ZnAl |
| 5 | Dinamic sealing | PTFE |
| 6 | Gland | PTFE |
| 7 | Filter | POM |
| 8 | Plug | Brass CW617N |


Valves compliant with PN-M-75002:2016-10 norm.
Product witht NIPH-PZH Certificate.

PROTECTIO
CERTIFICATE
70546


# AIR VENT

# Application

**Air vent** is a key element of any heating system installation. It is used to remove air from closed heating systems (medium free from particles, fibers and other contaminants according to the **PN-C-04607:1993 standard**) and installations with a solution ofwater with glycol with a concentration of up to 50%. Thanks to the appropriate design which ensures continuous and trouble-free operation, and also elimination of problems related to aeration of the system.

## Advantages

- Maintenance-free operation – **fully automatic system venting**
- Durable design – **brass body and stop valve provide pressure and temperature resistance.**
- Hygroscopic sealing system – **additional leakage protection.** Additional protection is designed to ensure vent's tightness in case of contamination and the blockage of float's mechanism, when the medium would leak through the vent duct.
- Industrial design registered in the European Union Intellectual Property Office, thus gaining protection in all European Union member states.

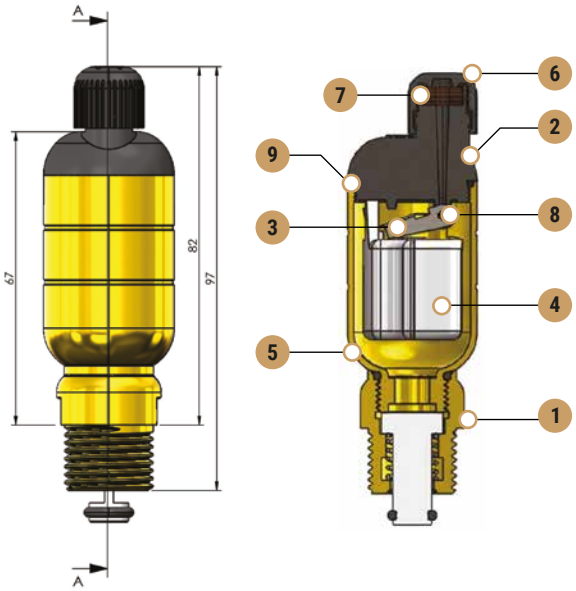
EUIPO
EUROPEAN UNION
INTELLECTUAL PROPERTY OFFICE

## Parameters

- Maximum Temperature = **120°C**
- Nominal temperature = **90°C**
- Maximum pressure = **10 bar**
- Connection thread of stop valve = **G 1/2"**


## Construction

Each element of the Calido air vent is made of high-quality materials, ensuring durability and resistance.




| Nr | Name | Material |
|---|---|---|
| 1 | Stop valve | CW617N |
| 2 | Air vent's lid | POM |
| 3 | Vent's lever | AISI 304 |
| 4 | Float | PP |
| 5 | Body | CW617N |
| 6 | Vent's duct cap | PP |
| 7 | Hygroscopic pads | - |
| 8 | Gasket | Silikon |
| 9 | O-ring | NBR |

REGISTRATION CERTIFICATE
71918

5
YEARS
WARRANTY

# MULTI

# Application

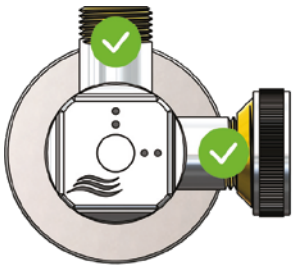
**Duro MULTI** is an angle valve designed for installation in water supply systems. Thanks to application of two outlets, the valve enables simultaneous water supply of two devices, e.g. tap faucets and household appliances (washing machine or dishwasher) and independent opening - closing their flows.

## Advantages

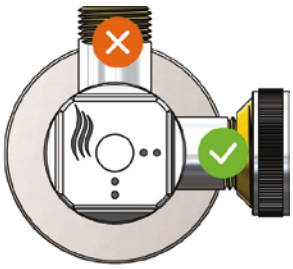
- four knob settings - **the valve can be set in positions: open - open, closed - open, closed - closed or open - closed**;
- body made from one element of CW617N brass - **guarantee of tightness, strength and long life service**;
- double stem o-rings - **tightness guaranteed**;
- internal valve element made in the anti-lime technology - **no limescale accumulacion interrupting valve operation**;
- two outlets - **possibility of connecting tap with washing machine/dishwasher at the same time**;
- interchangeable adapter 3/8"x3/4" - **possibility of working as "right" or "left".**

**Knob settings**

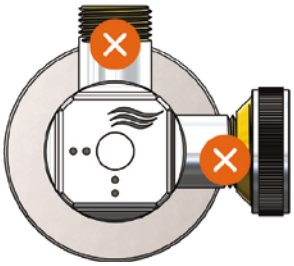
**open-open**



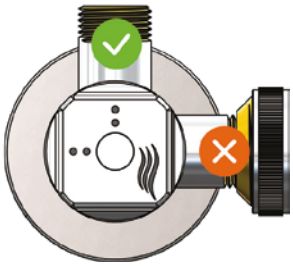
**closed-open**



**closed-closed**



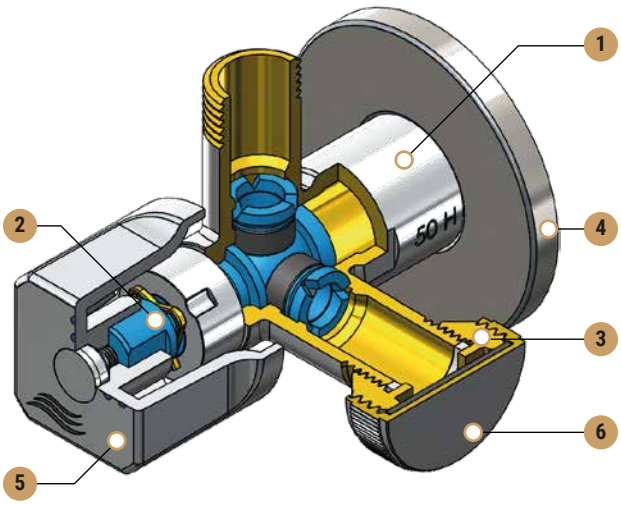
**open-closed**



## Parameters

- PN = **10 bar**
- Tmax = **95°C**

## Construction




| No | Name | Material |
|---|---|---|
| 1 | Chrome-plated exterior body | Brass CW617N |
| 2 | Closing pin | POM |
| 3 | Adapter 3/8" x 3/4" | Brass CW617N |
| 4 | Rosette | Stainless steel |
| 5 | Knob | ABS |
| 6 | Cap with seal | Brass/EPDM |

Valve compliant with PN-M-75002:2016-10 norm.
Product with NIZP-PZH Certificate (brass elements, which have contact with the water are not covered with a chrome layer).

PATENT
228217

PATENT
228235

5
YEARS
WARRANTY


# SOLID / ART

# Application

**Duro SOLID** and **ART** is a series of angle valves designed for installation in water supply systems**.**

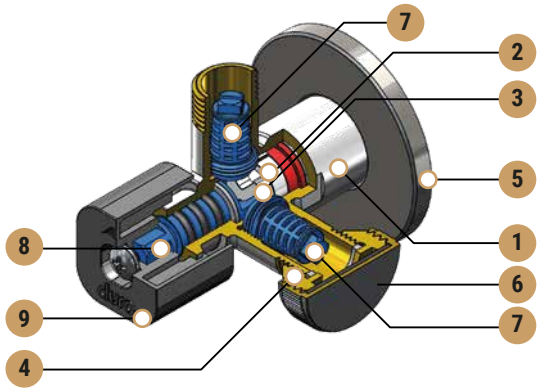
## Advantages

- body made of one element from CW617N brass - **guarantee of tightness, strength and long life service**;
- triple stem o-rings - **guaranteed tightness**;
- the entire series is equipped with a anti-lime filter - **protection of supplied devices**;
- internal valve element made in anti-lime technology - **no limescale accumulacion interrupting valve operation**;
- high flow ceramic head - **no noise in the installation**;
- two outlets in the Solid Bis, Solid Bis Vertical and Art Bis valves - **possibility of connecting a tap with washing machine/dishwasher at the same time**;
- 3/8"x3/4" interchangeable adapter in Solid Bis and Art Bis valve - **the ability to work as a "right" or "left"**.

## Parameters

- PN = **16 bar**
- Tmax = **100°C**

## Construction




**For ART valve**

| No | Name | Material |
|---|---|---|
| 1 | Exterior polished chrome plated body | Brass CW617N |
| 9 | Polished chrome plated knob | ABS |

**For SOLID valve**

| No | Name | Material |
|---|---|---|
| 1 | Externally chrome-plated blasted body | Brass CW617N |
| 2 | Ceramic Insert Fixed Plate Ceramics | Ceramics |
| 3 | ceramic insert swivel plate Ceramics | Ceramics |
| 4 | Adapter 3/8" x 3/4" | Brass CW617N |
| 5 | Rosette | Stainless steel |
| 6 | Cap with seal | Brass/EPDM |
| 7 | Filters | POM |
| 8 | Triple seal stem | POM |
| 9 | Externally chrome-plated knob | ZnAl |

**Solid**
1/2"x3/8", 1/2"x1/2", 1/2"x3/4"

**Solid Bis**
1/2"x3/4"x3/8"

**Solid Bis Vertical**
1/2"x3/4"x3/8"

**Art**
1/2"x3/8", 1/2"x1/2", 1/2"x3/4"

**Art Bis**
1/2"x3/4"x3/8"

Valves compliant with the requirements of the European Union Directive 2014/68/EU. Products with NIPH-PZH Certificate (brass, which have contact with water are not covered with chromium layer).

PATENT
232337


# MERCURIO

# Application

**CIRCULA MERCURIO** is a series of electronic pumps that are widely used in heating systems, air conditioning systems, solar thermal and heat pumps systems.

## Parameters

- liquid temperature: **from -10°C (without freezing) to 110°C**;
- acceptable working pressure: **10 bar**;
- acceptable ambient temperature: **40°C**;
- circulated liquid: **water that meets the standard PN-C-04607:1993** (free from particles, fibres and other contaminants) **and water solution with glycol with a concentration of up to 50%;**
- supply voltage: **220V - 230V (50Hz)**;
- protection class: **IP44**;
- insulation class: **F**;
- energy efficiency index: **EEI ≤ 0,20**.

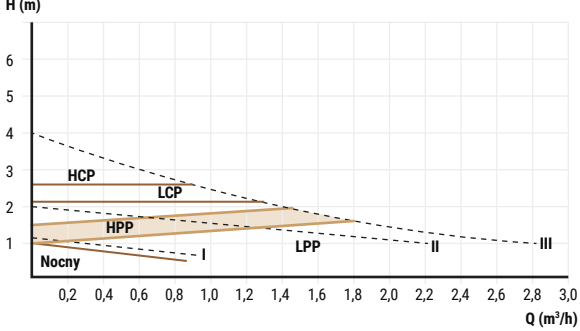
## Materials

- body - cast iron;
- motor housing - aluminium;
- rotor - plastic;
- shaft - ceramics;
- bearings - ceramics;
- insulation - biodegradable foam;
- the set includes two steel half-union with gaskets and an electric cable with a plug.

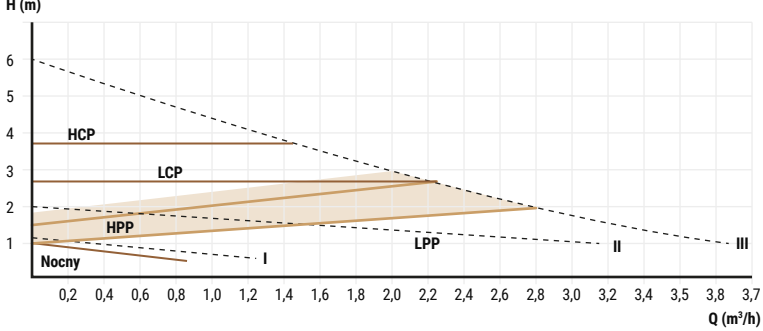
**The Mercurio pump, thanks to the innovative inspection sleeve located in the shaft axis, has the possibility of additional venting and rotor emergency start-up.**


Automatic pump venting is achieved by holding the "night mode performance" button for 5 seconds.

CI-PE-MERCURIO 25/40




CI-PE-MERCURIO 25/60



PATENT
244808

10
YEARS
WARRANTY

# KARBO

# Application

**Duro by Tucai KARBO** is a series of connection hoses designed for use in heating and water installations, including drinking water. This is possible thanks to the use of a PE-RT inner pipe and connections made of stainless steel. Use of corrugated inner pipe covered with polyester braid provides high flexibility, so that even in limited spaces, is possible to easily install hoses in, without the use of additional fittings or elbows.

## Advantages

- **application of PE-RT materials and stainless steel** – ensures safety in contact with drinking water and exceptional durability, which guarantees long life of products durability without risk of quality loss;
- **chemical corrosion resistant outer braid** – protects the hose against the harmful effects of chemicals used in bathrooms and kitchens, ensuring its long-lasting aesthetics and functionality;
- **corrugated inner pipe in combination with plastic braid** –ensures high flexibility of the hose without risk of the cable bending, which allows for easier installation and fitting hoses to different shapes and spaces.

## Connection types

Internal thread
3/8”

External thread
3/8”

Internal thread
1/2”

Faucet thread
M10x1-L50

## Parameters

- Nominal pressure: **10 bar**
- Flows: **29 l/min; 3 bar**
- Working temperature: **70°C**
- Minimum bend radius: **10 mm**

## Construction


| No | Name | Material |
|---|---|---|
| 1 | Connections | Stainless steel AISI304 |
| 2 | Outer collet | Stainless steel AISI304 |
| 3 | Seal | EPDM |
| 4 | Outer braid | PET |
| 5 | Inner pipe | PE-RT |

Valves compliant with PN-EN 13618:2017-01 norm. Product with NIPH-PZH Certificate.

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LEAFLET

CATALOG