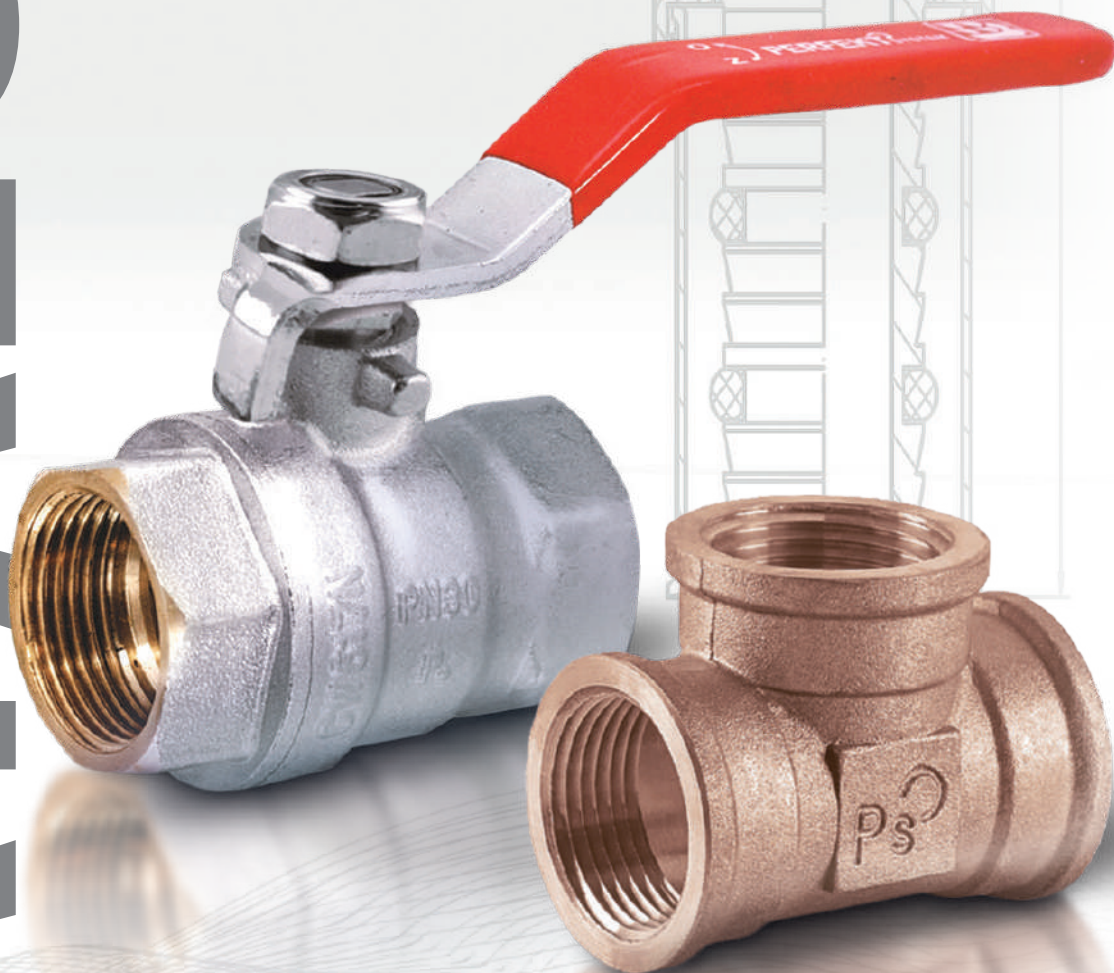


# CATALOGUE 2022

YEARS  
**30**  
ON MARKET



PERFEKT<sup>2</sup> SYSTEM

**PERFEXIM**

[www.perfexim.pl](http://www.perfexim.pl)

# PERFEXIM

## LEGEND



quality



central heating



year warranty



cooling systems



technical approval



glycol



durability



air



brass



hot and cold water



hygienic certificate



construction product mark



meets the requirements for CE marking



GOLDEN CONSUMER'S LAUREL

CONSUMER'S LAUREL - DISCOVER OF THE YEAR



# PRODUCT RANGE

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# PERFEXIM



Przedsiębiorstwo Produkcyjno – Usługowo – Handlowe PERFEXIM Ltd sp. z o.o., sp.k. is a Polish family company, which - for almost 30 years now - has been continuously operating on the market among **leading manufacturers of the plumbing, heating, bathroom and sanitaryware industry**. Our guiding principle is full control in the areas of technology, quality and durability - from the stage of design through testing to product implementation, primarily due to our in-house design team. Before implementation, relevant tests are carried out in our own laboratory with modern equipment, which allows us to conduct checks at every design stage. Additionally, we cooperate with research and scientific institutions, such as: Poznań University of Technology, Oil and Gas Institute (INiG) in Krakow, PALAB Research and Development Centre, Heating and Sanitary Technology Institute (OTGS) in Radom, Building Research Institute (ITB) in Poznań and Warsaw. We have also been involved in creating various standards that are currently in force in Poland.

Thanks to our in-house technical staff and collaboration with independent specialists, we pride ourselves on a **modern laboratory with advanced equipment**, e.g.:

- **ball valve testing station** - helps us check the durability, functional properties and parameters of ball valves and other products
- **test station** for checking hydraulic impact resistance and strength of flexible hoses
- **leak testing station** for taps
- test station for checking pressure resistance and leak-tightness of through-type fittings
- **spark spectrometer for metal testing** - purchased under the Measure 1.2. "Strengthening the innovative potential of Wielkopolska's enterprises" within the 2014-2020 Wielkopolska Regional Operational Programme
- **endurance testing device** - purchased under Measure 1.2. "Strengthening the innovative potential of Wielkopolska's enterprises" within the 2014-2020 Wielkopolska Regional Operational Programme
- **salt chamber** - purchased under Measure 1.2. "Strengthening the innovative potential of Wielkopolska's enterprises" within the 2014-2020 Wielkopolska Regional Operational Programme
- **3D printer** - purchased under Measure 1.2. "Strengthening the innovative potential of Wielkopolska's enterprises" within the 2014-2020 Wielkopolska Regional Operational Programme.

More than ten years ago, a panel radiator factory in Starogard Gdański was purchased, where we have made a number of investments over the years in order to streamline and accelerate production processes, while at the same time meeting rigorous technology and quality requirements.

The company's portfolio is present in free software for heating system designers, supplied by InsteelSoft and Sankom.

We also organize numerous product training sessions to improve the knowledge and awareness of our products, as well as the use of our products in plumbing systems.

## CONSUMER LAUREL TITLE

Thanks to the trust you placed in us in 2018, Przedsiębiorstwo Produkcyjno – Usługowo – Handlowe PERFEXIM Ltd sp. z o.o., sp.k. was awarded in a nationwide competition evaluating brand popularity as well as product and service quality in the context of Polish consumers' awareness.

- **Consumer Laurel - Discovery of the year 2018** in the category of Polish quality in the construction industry.

- **Golden Consumer Laurel 2019 and 2020** in the category of leading manufacturers of the plumbing, heating, bathroom and sanitaryware industry.

## PROPRIETARY BRANDS

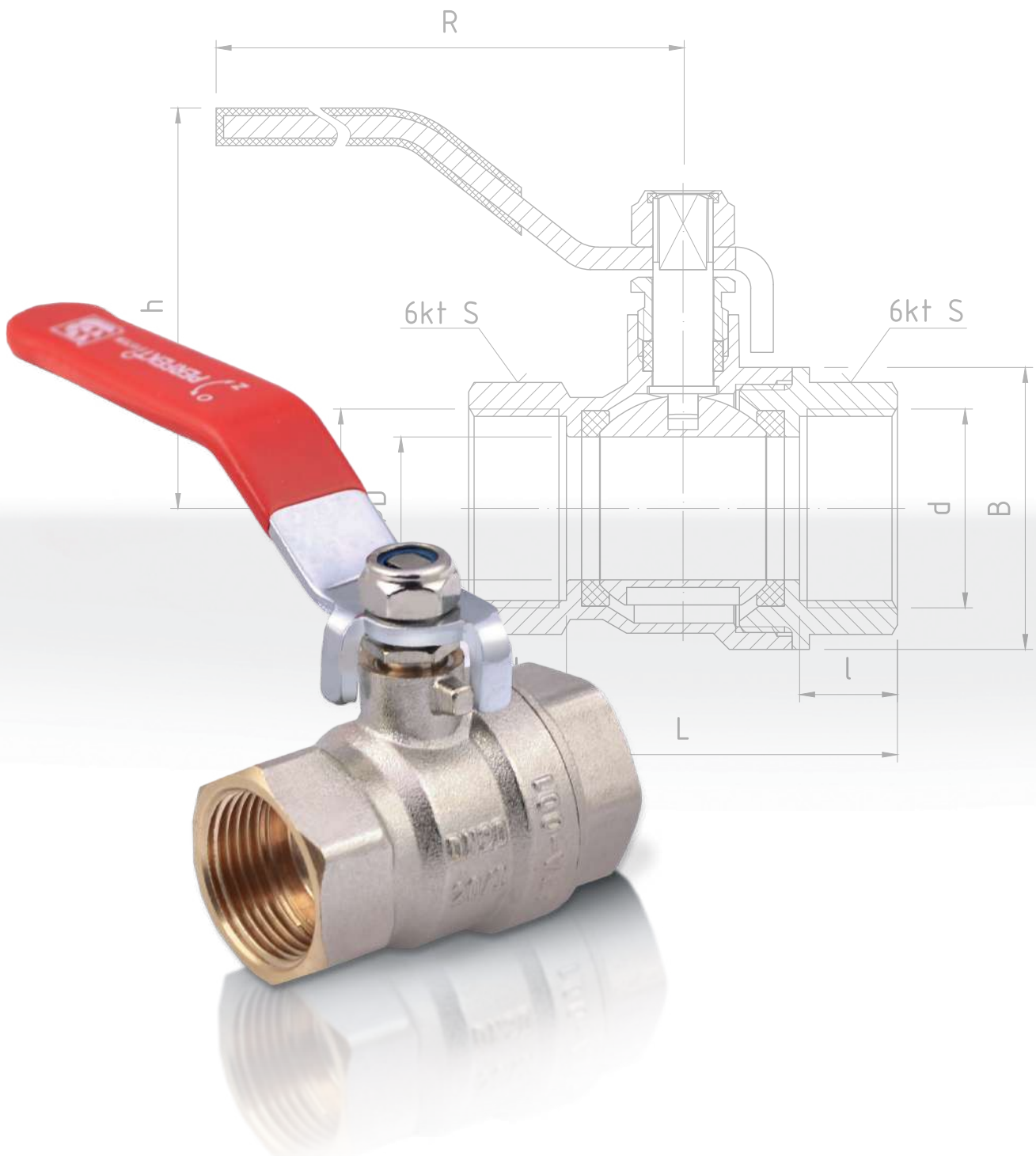
Every day we search for new inspirations as well as modern technological solutions in order to improve our products and create our own brands. Owing proprietary brands is a responsibility that we embrace in order to manufacture top quality products - this is how **PERFEKT<sup>SYSTEM</sup>**, **HUZAR**, **KROS** czy **NEXE<sup>NEW LINE</sup>** were created.

The best-developed brand is **PERFEKT<sup>SYSTEM</sup>** meeting Plumbers' expectations and combining such values as:

- **trust**
- **reliability**
- **high quality.**

The wide range of products representing this brand gives the pipefitter the confidence of being able to handle any investment - from steel radiators, ball valves or other plumbing products to the Pex-Al-Pe or Pert-Al-Pert multilayer pipe system, offering a consistent and comprehensive investment warranty. The brand guarantees reliability for years to come.





# WATER FITTINGS

**PERFEXIM**

**4-87**



Complete and wide range of water fittings

<b>Perfekt System ball valves - description</b>	5
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<b>Flexible connectors</b>	79

# TWO-WAY BALL VALVES PERFEKT<sup>SYSTEM</sup>

## APPLICATION

**PERFEKT<sup>SYSTEM</sup>** ball valves are designed for controlling the flow of:

- hot and cold water supply systems (including drinking water)
- central heating systems (water in the central heating system should meet the requirements of the PN-C-04607:1993 standard)
- cooling and solar systems filled with 50% glycol solution
- compressed air installations.

**PERFEKT<sup>SYSTEM</sup>** ball valves can be fitted in vertical, horizontal and inclined pipelines, at any position. Serving as shut-off valves, PERFEKT ball valves can operate either "fully opened" or "fully closed".

**PERFEKT<sup>SYSTEM</sup>** ball valves are products that meet their requirements. The basic range of **PERFEKT<sup>SYSTEM</sup>** ball valves are double-sided valves FF threaded: PHA-001, PHA-002 and WZ: PHA-003, PHA-004, solution with a union - PHA-005 and PHA-006 ball valve - fitted with a filter insert, which enables the mechanical extraction of contaminants (it should be installed in the direction of flow. Installation must allow free, gravitational separation of impurities in the filtering part; recommended position of the valve: "plug of the filter element pointing downwards"). The requirements of the installation market required a solution with a longer fitting screw joint, which resulted in the introduction of such a solution and extended the offer with PHA-007 and PHA-007A ball valves, which are characterized by elongated threads, allowing for convenient, trouble-free assembly in installations. Recently, the offer of **PERFEKT<sup>SYSTEM</sup>** ball valves has also been expanded by PHA-008 ball valves with a drain, which have an additional drain valve (the possibility of moving the drain to the convenient side of the valve), useful when creating a central heating installation and domestic hot water, where cyclical draining of the refrigerant from the system must be taken into account. Angle ball valves with screw connection PHA-010 and PHA-010A extend the possibilities of **PERFEKT<sup>SYSTEM</sup>** ball valves of the series by making connections at an angle, they are used when connecting manifold sets to the installation, angular installation allows to reduce the space needed for connection. In addition, solutions with self-sealing threads on the fittings in PHA-007A and PHA-010A valves accelerate and facilitate work, and the improvement of the aesthetics of the connection is another visual aspect.

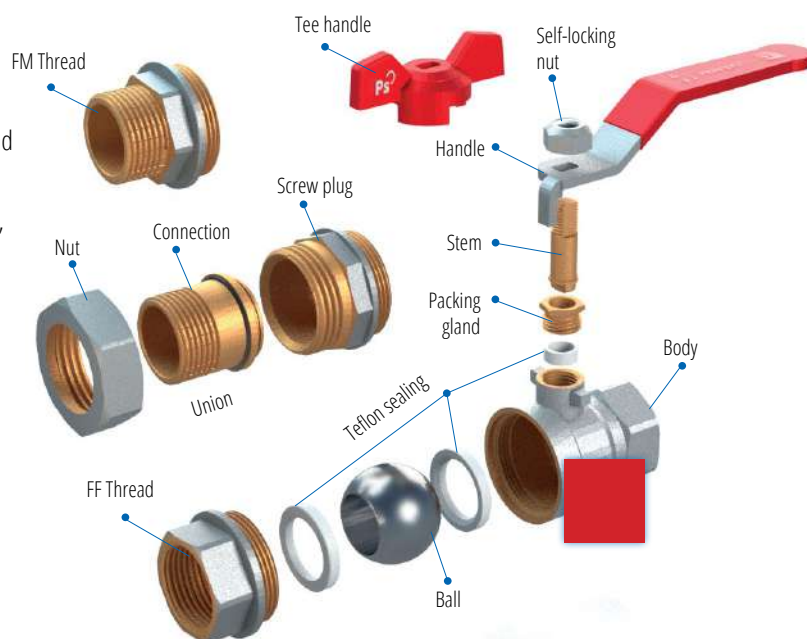
## ADVANTAGES

- High quality and wide range of applications
- Operating parameters and application supported by relevant tests and - as a result - Technical Approval
- Product performance verified by tests conducted by an independent, renowned, accredited laboratory
- Dependable plumbing equipment
- 100% of valves subject to leak testing
- Environmentally friendly, fully recyclable
- A self-locking nut securing against handle loosening (except PHA-010)
- Possibility to work in installations filled with 50% glycol solution /temperature +140°C / with 30 bar pressure

## CHARACTERISTIC FEATURES

- Knurled external threads to facilitate installation work
- **Ergonomic and durable** handles and tee handles
- Robust thickened walls **resistant to bending and torsion, increasing durability**, verified by in-house lab tests on a ball valve testing machine according to the PN-EN 13828 standard, as well as in additional tests in the Oil and Gas Institute in Krakow and the Technical Approval obtained from the Building Research Institute in Warsaw\*.
- Sturdy body with a **high safety factor**, resistant to internal pressure.
- **High capacity** - higher than the recommended standard, confirmed by INiG tests
- High-quality European brass: CW617N
- Protective outer coatings to protect the valve from adverse external factors. **Nickel-plated coating is NOT allowed inside** the valve due to contact with drinking water

\* Approval does not apply to PHA-007, PHA-008 and PHA-010 ball valves.





# TWO-WAY BALL VALVES PERFEKT<sup>SYSTEM</sup>

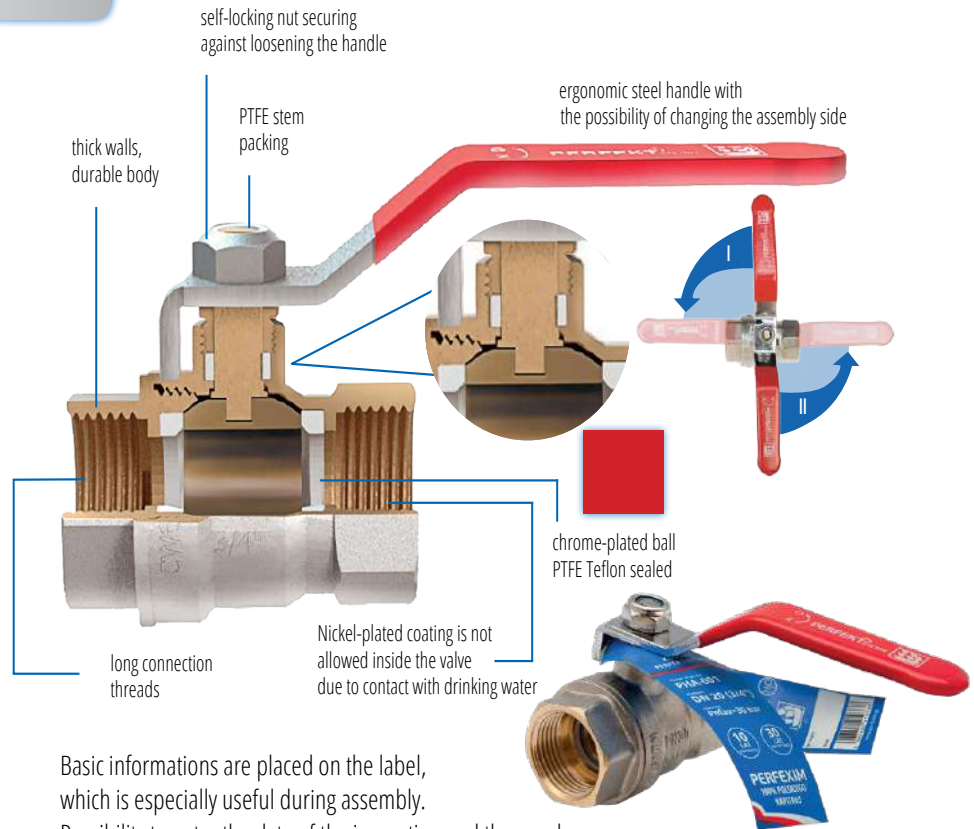
## BALL VALVE CROSS-SECTION - EXAMPLE

**PERFEKT<sup>SYSTEM</sup>** ball valves are characterized by increased durability due to the use of thicker walls, which is visible in the cross-section of the valve.

Construction of the stem and the extension housing a Teflon seal offers additional valve sealing (compensating for any play occurring during the operation of the valve) to extend product life. This solution allows for tightening the stem without the need to change the valve.

The more massive construction of the tap enables the use of longer connections stabilizing joints by using a larger number of thread lines compared with the standard, which is important during installation of the ball valve in the system, offering a high comfort of work for the Plumber.

Maintaining an appropriate "sealing angle" between the Teflon seals (PTFE) and the brass chrome-plated ball ensures tight operation of the ball valve, and thanks to the careful design the sealing angle is correctly maintained both in the



Basic informations are placed on the label, which is especially useful during assembly. Possibility to enter the date of the inspection and the number on the back of the label is an aid during periodic inspections.

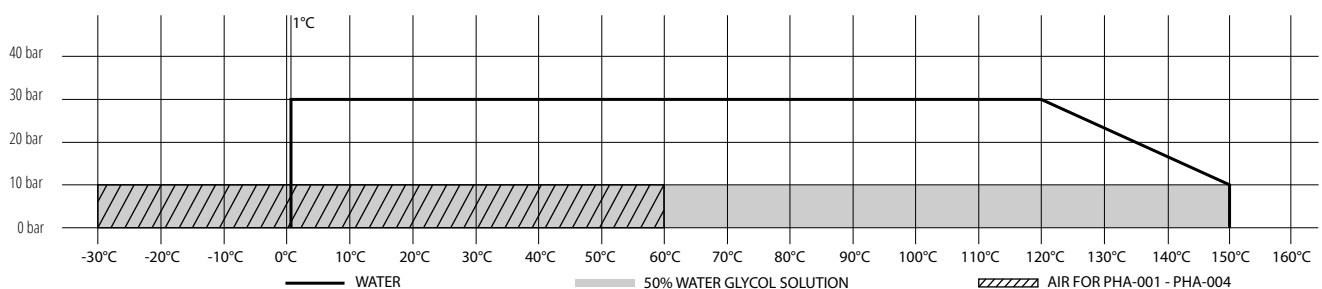
## MAXIMUM OPERATING PARAMETERS (PHA-001 - PHA-006)

- temperature: +150°C
- pressure: 3,0 MPa (30 bar)

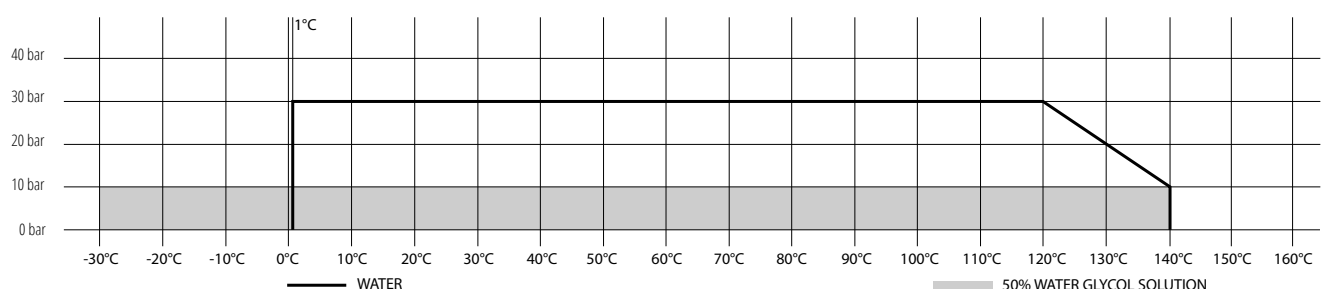
## OPERATING PARAMETERS (PHA-007, PHA-008, PHA-010)

- temperature: +140°C
- pressure: 3,0 MPa (30 bar)

## P-T CHART FOR PERFEKT<sup>SYSTEM</sup> BALL VALVES (PHA-001 - PHA-006)

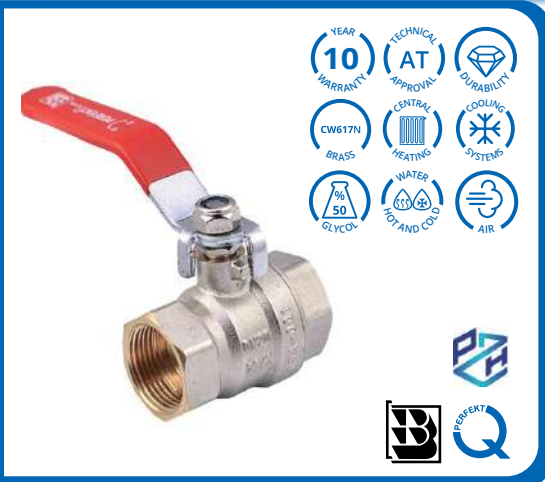


## P-T CHART FOR PERFEKT<sup>SYSTEM</sup> BALL VALVES (PHA-007, PHA-008, PHA-010)



# TWO-WAY BALL VALVES PERFEKT<sup>2</sup>SYSTEM

## MATERIALS



## PERFEKT<sup>2</sup>SYSTEM BALL VALVES

### PARAMETERS FOR ALL PRODUCTS IN SERIES:

- **BODY AND SCREW PLUG** - CW617N brass with external nickel-plated coating\*
- **BALL** - CW617N chrome-plated brass
- **STEM AND PACKING GLAND** - CW614N brass
- **BALL AND STEM SEALING** - PTFE (Teflon)
- **HANDLE** - carbon steel with red or blue PVC sleeve or aluminium with red or blue paint coating

\* PHA-006 completely nickel-free



### FOR PHA-002C

- **PLUG** - CW617N brass with outer nickel-plated coating
- **PLUG SEALING** - PTFE (Teflon)



### FOR PHA-006

- **FILTER PLUG** - CW617N brass
- **FILTERING ELEMENT (0,4 MM MESH)** - stainless steel
- **PLUG SEALING** - special-purpose fibre



### FOR PHA-008

- **DRAIN VALVE COMPONENTS : BODY, PLUG:** CW617N brass with nickel-plated coating
- **DRAIN VALVE COMPONENTS: STEM, PACKING GLAND, PLUG:** CW617N brass
- **WASHER :** CW617N brass
- **STEM SEALING OF DRAIN VALVE:** PTFE(Teflon)



### FOR PHA-005, PHA-007, PHA-007R, PHA-010

- **CONNECTOR** - CW617N brass
- **NUT** - CW617N brass with nickel-plated coating
- **CONNECTOR SEALING** - O-Ring - NBR

\* Only for PHA-005



### FOR PHA-007A, PHA-010A

- **G1 THREAD SEALING** - NBR
- **SUPPORTING RING FOR G1 THREAD SEALING** - CW617N

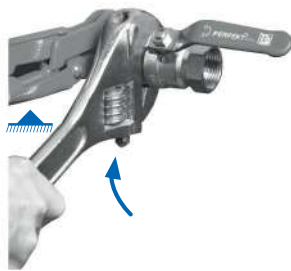
# INSTALLATION OF BALL VALVES FOR GAS AND WATER SYSTEMS - INSTRUCTION

Ball valves can be fitted in vertical, horizontal and inclined pipelines, operating in either "fully opened" or "fully closed" positions. Before installation, ensure that the elements to be connected are clean. Seal threaded connections to ensure durable, tight connection (examples of sealing solutions: Teflon tape, seal cord, thread sealing compound); apply the sealant to male-threaded elements. Install taps and valves in "fully opened" position, using non-locking spanner only on the threaded socket end into which the pipe is fitted. Tightening both threaded socket ends in two opposing directions may result in permanent valve damage (leakage). Do not fit valves with female-threaded ends on shelves at the thread edge. After installation, do not apply bending stress to the valve, and should the risk of bending stress occur, support the valve on both sides.

## BALL VALVES WITH FF THREAD



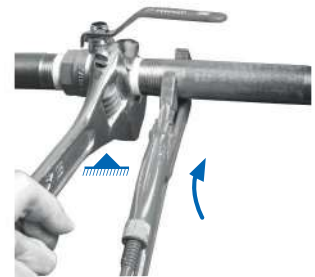
1. Before installation, verify thread correctness and seal the thread.



2. Fit the valve on the sealed thread - use a non-locking spanner on the threaded socket end. While tightening, hold the part of the piping on which the valve is fitted and on which the tightening torque is applied.



3. Valve fitted on a pipe (piping element).

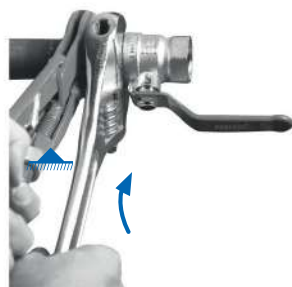


4. To proceed with installation, hold the threaded socket end with a non-locking spanner and tighten the pipe (piping element).

## BALL VALVES WITH FM THREAD



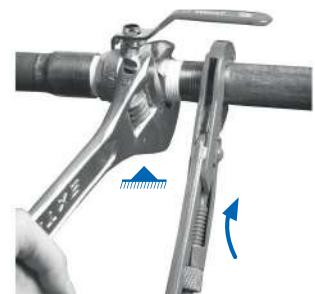
1. Before installation, verify thread correctness and seal the thread.



2. Screw the sealed threaded valve plug into the piping element with a female thread. While tightening, hold the part of the piping on which the valve is fitted and on which the tightening torque is applied.



3. Valve fitted on a pipe.



4. To proceed with installation, hold the threaded socket end with a non-locking spanner and tighten the pipe (piping element).



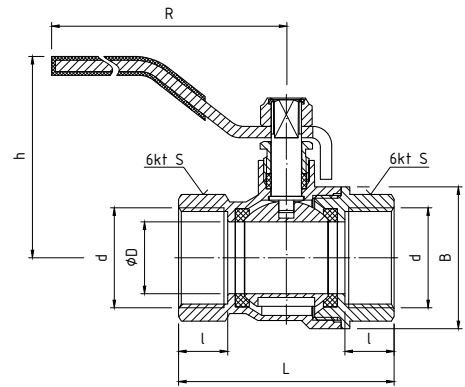
Torque direction



Fixed support

# PHA-001

**PERFEKT<sup>SYSTEM</sup>**  
**FULL PORT**  
**BALL VALVE 1)**  
**(FF THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

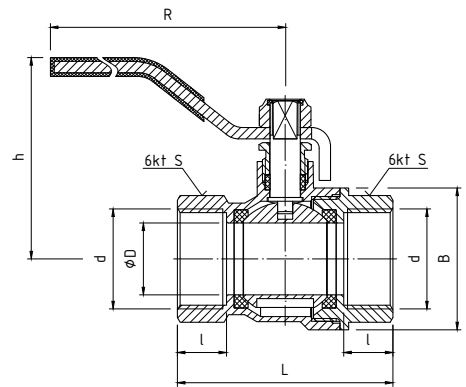


Dimensions in mm.  
 \*Kv factor calculation based on Q value.

index (red handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	h	B	S	R
00-001-0100-000	3/8"	10	1,31	4,14	G3/8	10,0	42,5	10,0	40,3	23,5	20,0	87,0
00-001-0150-000	1/2"	15	2,42	7,65	G1/2	14,0	48,6	11,5	50,8	29,8	25,0	98,0
00-001-0200-000	3/4"	20	4,94	15,62	G3/4	19,0	57,0	13,0	53,3	37,5	30,0	98,0
00-001-0250-000	1"	25	8,20	25,93	G1	23,0	65,0	15,0	60,8	43,8	37,5	115,0
00-001-0320-000	1 1/4"	32	14,65	46,33	G1 1/4	29,0	75,5	16,0	76,0	51,5	46,5	150,0
00-001-0400-000	1 1/2"	40	22,30	70,52	G1 1/2	36,0	87,9	18,0	82,5	63,0	53,5	150,0
00-001-0500-000	2"	50			G2	45,0	103,0	20,3	93,3	78,5	66,0	173,0
00-001-0650-000	2 1/2"	65			G2 1/2	61,0	140,0	27,0	111,5	101,0	81,0	216,5
00-001-0800-000	3" 2)	80			G3	71,0	152,5	28,0	122,5	119,5	97,3	216,5
00-001-1000-000	4" 2)	100			G4	86,0	176,0	29,0	133,5	144,0	124,5	265,0

# PHA-001

**PERFEKT<sup>SYSTEM</sup>**  
**FULL PORT**  
**BALL VALVE 1)**  
**(FF THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA



Dimensions in mm.  
 \*Kv factor calculation based on Q value.

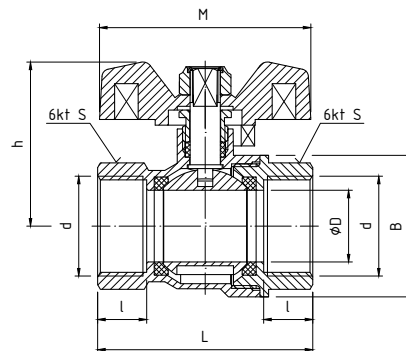
index (red handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	h	B	S	R
00-001-0100-001	3/8"	10	1,31	4,14	G3/8	10,0	42,5	10,0	40,3	23,5	20,0	87,0
00-001-0150-001	1/2"	15	2,42	7,65	G1/2	14,0	48,6	11,5	50,8	29,8	25,0	98,0
00-001-0200-001	3/4"	20	4,94	15,62	G3/4	19,0	57,0	13,0	53,3	37,5	30,0	98,0
00-001-0250-001	1"	25	8,20	25,93	G1	23,0	65,0	15,0	60,8	43,8	37,5	115,0
00-001-0320-001	1 1/4"	32	14,65	46,33	G1 1/4	29,0	75,5	16,0	76,0	51,5	46,5	150,0
00-001-0400-001	1 1/2"	40	22,30	70,52	G1 1/2	36,0	87,9	18,0	82,5	63,0	53,5	150,0
00-001-0500-001	2"	50			G2	45,0	103,0	20,3	93,3	78,5	66,0	173,0
00-001-0650-001	2 1/2"	65			G2 1/2	61,0	140,0	27,0	111,5	101,0	81,0	216,5
00-001-0800-001	3" 2)	80			G3	71,0	152,5	28,0	122,5	119,5	97,3	216,5
00-001-1000-001	4" 2)	100			G4	86,0	176,0	29,0	133,5	144,0	124,5	265,0

1) acc. to PN-EN 1074  
 2) Two-way ball valve



# PHA-002

**PERFEKT<sup>SYSTEM</sup>**  
**FULL PORT**  
**BALL VALVE 1)**  
**(FF THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA



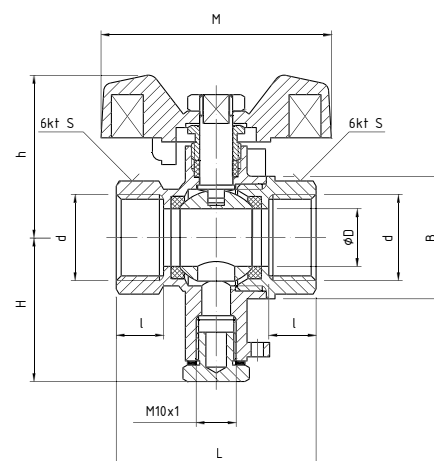
Dimensions in mm.  
 \*Kv factor calculation based on Q value.

index (red handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	h	B	S	M
00-002-0150-000	½"	15	2,42	7,65	G½	14,0	48,6	11,5	40,0	29,8	25,0	56
00-002-0200-000	¾"	20	4,94	15,62	G¾	19,0	57,0	13,0	43,5	37,5	30,0	56
00-002-0250-000	1"	25	8,20	25,93	G1	23,0	65,0	15,0	53,1	43,8	37,5	66,5

index (blue handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	h	B	S	M
00-002-0150-001	½"	15	2,42	7,65	G½	14,0	48,6	11,5	40,0	29,8	25,0	56
00-002-0200-001	¾"	20	4,94	15,62	G¾	19,0	57,0	13,0	43,5	37,5	30,0	56
00-002-0250-001	1"	25	8,20	25,93	G1	23,0	65,0	15,0	53,1	43,8	37,5	66,5

# PHA-002C

**PERFEKT<sup>SYSTEM</sup>**  
**FULL PORT**  
**BALL VALVE 1)**  
**SENSOR CONNECTION**  
**(FF THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA



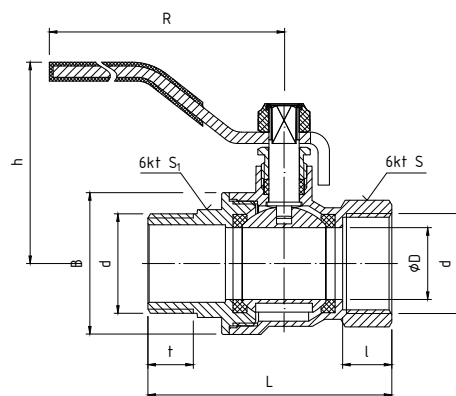
Dimensions in mm.  
 \*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	h	H	B	S	M
00-002-0150-003	½"	15	2,42	7,65	G½	14,0	48,6	11,5	39,5	35,0	30,0	25,0	56,0
00-002-0200-003	¾"	20	4,94	15,62	G¾	19,0	57,0	13,0	42,5	38,5	37,5	30,0	56,0

1) wg PN-EN 1074

# PHA-003

**PERFEKT<sup>SYSTEM</sup>**  
**FULL PORT**  
**BALL VALVE 1)**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA



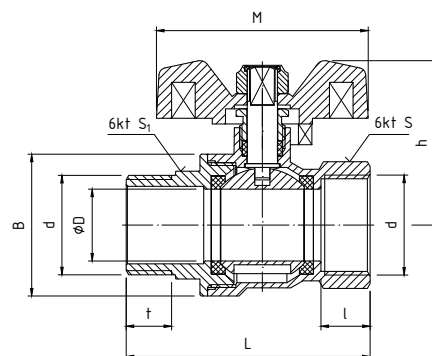
Dimensions in mm.  
 \*Kv factor calculation based on Q value.

index (red handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	t	h	B	S	S <sub>1</sub>	R
00-003-0150-000	½"	15	2,42	7,65	G½	14,0	55,0	11,5	11	50,8	29,8	25,0	23,5	98,0
00-003-0200-000	¾"	20	4,94	15,62	G¾	19,0	64,5	13,0	12	53,3	37,5	30,0	28,5	98,0
00-003-0250-000	1"	25	8,20	25,93	G1	23,0	73,5	15,0	13	60,8	43,8	37,5	37,5	115,0

index (blue handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	t	h	B	S	S <sub>1</sub>	R
00-003-0150-001	½"	15	2,42	7,65	G½	14,0	55,0	11,5	11	50,8	29,8	25,0	23,5	98,0
00-003-0200-001	¾"	20	4,94	15,62	G¾	19,0	64,5	13,0	12	53,3	37,5	30,0	28,5	98,0
00-003-0250-001	1"	25	8,20	25,93	G1	23,0	73,5	15,0	13	60,8	43,8	37,5	37,5	115,0

# PHA-004

**PERFEKT<sup>SYSTEM</sup>**  
**FULL PORT**  
**BALL VALVE 1)**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA



Dimensions in mm.  
 \*Kv factor calculation based on Q value.

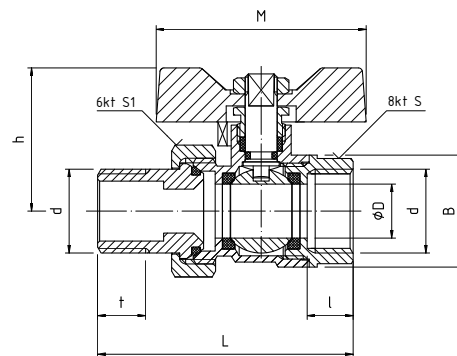
index (red handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	t	h	B	S	S <sub>1</sub>	M
00-004-0150-000	½"	15	2,42	7,65	G½	14,0	55,0	11,5	11	40,0	30,0	25,0	23,5	56
00-004-0200-000	¾"	20	4,94	15,62	G¾	19,0	64,5	13,0	12	42,5	37,5	29,8	28,5	56
00-004-0250-000	1"	25	8,20	25,93	G1	23,0	73,5	15,0	13	53,1	43,8	37,5	37,5	66

index (blue handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	t	h	B	S	S <sub>1</sub>	M
00-004-0150-001	½"	15	2,42	7,65	G½	14,0	55,0	11,5	11	40,0	30,0	25,0	23,5	56
00-004-0200-001	¾"	20	4,94	15,62	G¾	19,0	64,5	13,0	12	42,5	37,5	29,8	28,5	56
00-004-0250-001	1"	25	8,20	25,93	G1	23,0	73,5	15,0	13	53,1	43,8	37,5	37,5	66

1) wg PN-EN 1074

# PHA-005

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**BALL VALVE**  
**WITH UNION**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

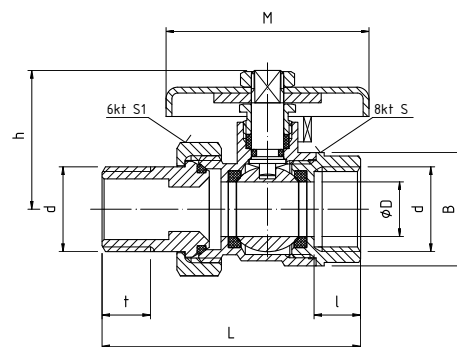


Dimensions in mm.  
 \*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	t	h	B	S	S <sub>1</sub>	M
00-005-0150-000	½"	15	2,30	7,27	G½	13,5	64	11,5	12,0	35,8	28,0	25,0	30	53
00-005-0200-000	¾"	20	4,32	13,66	G¾	17,5	73	13,0	13,0	38,8	33,7	30,0	36	53
00-005-0250-000	1"	25	7,16	22,64	G1	23,0	88	14,0	13,0	45,0	41,5	37,5	46	64
00-005-0320-000	1¼"	32	12,89	40,76	G1¼"	31,5	111	14,5	18,5	65,0	56,5	47,0	52	75

# PHA-005/SM

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**BALL VALVE**  
**WITH UNION**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

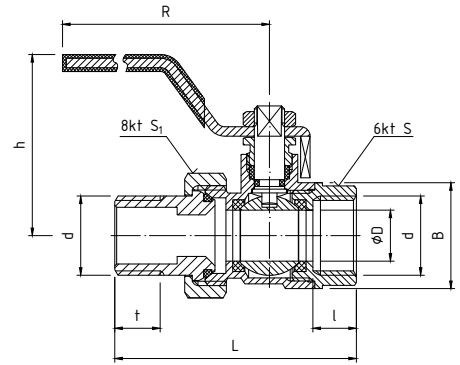


Dimensions in mm.  
 \*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	t	h	B	S	S <sub>1</sub>	M
00-005-0150-200	½"	15	2,30	7,27	G½	13,5	64,0	11,5	12,0	35,8	28,0	25,0	30	52
00-005-0200-200	¾"	20	4,32	13,66	G¾	17,5	73,0	13,0	13,0	35,8	33,7	30,7	36	52
00-005-0250-200	1"	25	7,16	22,64	G1	23,0	88,0	14,0	14,5	45,0	41,5	37,0	46	65

# PHA-005/R

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**BALL VALVE**  
**WITH UNION**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

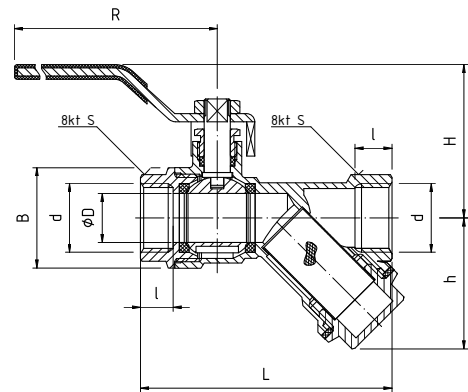


Dimensions in mm.  
 \*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	t	h	B	S	S <sub>1</sub>	R
00-005-0150-100	½"	15	2,30	7,27	G½	13,5	64	11,5	12,0	47	28,0	24,7	30,0	80
00-005-0200-100	¾"	20	4,32	13,66	G¾	17,5	73	13,0	13,0	50	33,7	30,7	36,0	80
00-005-0250-100	1"	25	7,16	22,64	G1	23,0	88	14,5	14,5	58	41,5	37,0	46,0	95

# PHA-006

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**BALL VALVE**  
**WITH WYE STRAINER**  
**(FF THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT ACC. TO
+150°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA



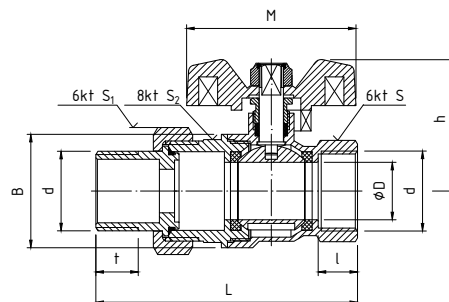
Dimensions in mm.  
 \*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	h	H	B	S	R
01-006-0150-000	½"	15	1,30	4,11	G½	15,0	77,0	10	40	47	30,8	25,0	85,0
01-006-0200-000	¾"	20	2,52	7,34	G¾	20,0	94,0	12	47	56	37,0	30,5	114,5
01-006-0250-000	1"	25	3,60	11,38	G1	25,0	111,5	13	56	60	45,0	37,0	114,5



# PHA-007

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**BALL VALVE**  
**WITH UNION**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+140°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

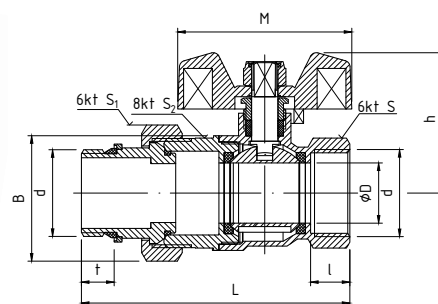


Dimensions in mm.

index	size	DN	d	øD	L	l	t	h	B	S	S <sub>1</sub>	S <sub>2</sub>	M
00-007-0150-002	½"	15	G½	14,0	76,8	11,5	14,0	40,0	29,8	25,0	30,0	27,0	56
00-007-0200-002	¾"	20	G¾	19,0	86,5	13,0	14,0	42,5	37,5	30,0	37,0	34,0	56
00-007-0250-002	1"	25	G1	23,0	102,5	15,0	16,0	53,1	42,0	37,5	45,5	42,0	66,5

# PHA-007A

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**BALL VALVE**  
**WITH UNION**  
**AND SELF-SEALING**  
**CONNECTION THREAD**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+140°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

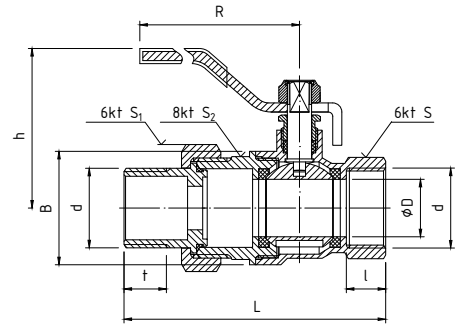


Dimensions in mm.

index	size	DN	d	øD	L	l	t	h	B	S	S <sub>1</sub>	S <sub>2</sub>	M
00-007-0250-003	1"	25	G1	23,0	102,5	15,0	6,0	53,1	43,8	37,5	45,5	42,0	66,5

# PHA-007/R

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**BALL VALVE**  
**WITH UNION**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+140°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

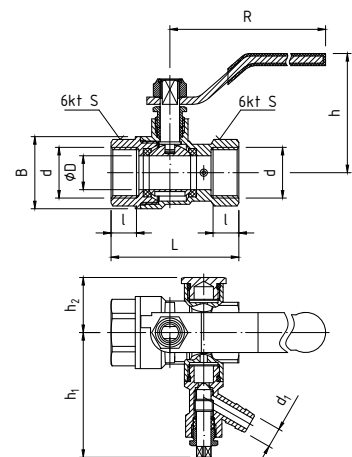


Dimensions in mm.

index	size	DN	d	øD	L	l	t	h	B	S	S <sub>1</sub>	S <sub>2</sub>	R
00-007-0150-102	½"	15	G½	14,0	76,8	11,5	14,0	40,0	30,0	25,0	30,0	27,0	98
00-007-0200-102	¾"	20	G¾	19,0	86,5	13,0	14,0	42,5	37,5	30,0	37,0	34,0	98
00-007-0250-102	1"	25	G1	23,0	102,5	15,0	16,0	53,1	42,0	37,5	45,5	42,0	115

# PHA-008

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**BALL VALVE**  
**WITH DRAIN**  
**(FF THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT ACC. TO
+140°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA



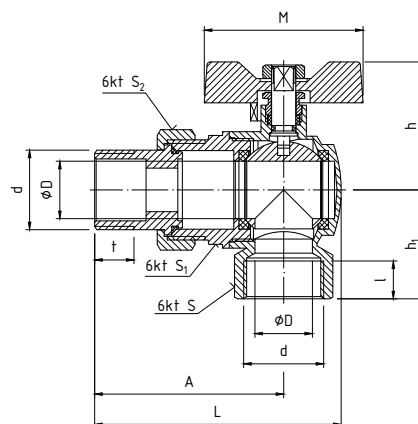
Dimensions in mm.

index	size	DN	d	øD	L	l	h	B	S	R	h <sub>1</sub>	h <sub>2</sub>	d <sub>1</sub>
00-008-0150-002	½"	15	G½	14,0	52,8	11,0	49,8	30,0	25,0	98	39,3	33,4	9,0
00-008-0200-002	¾"	20	G¾	19,0	61,0	13,0	53,2	37,5	30,0	98	53,5	25,2	9,0
00-008-0250-002	1"	25	G1	23,0	69,0	15,0	60,5	43,8	37,5	115	57,2	29,0	9,0

The installation of the drain valve side can be easily changed.

# PHA-010

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**ANGLE BALL VALVE**  
**WITH UNION**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+140°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

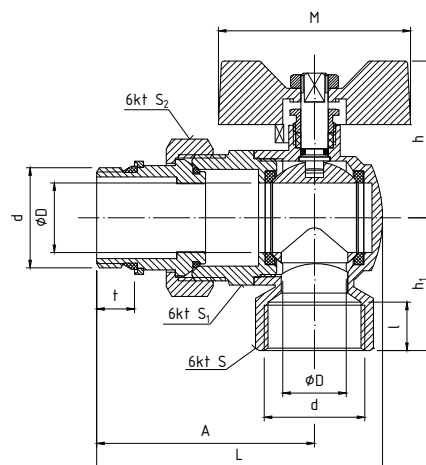


Dimensions in mm.

index	size	DN	d	øD	L	A	l	t	h	h <sub>1</sub>	M	S	S <sub>1</sub>	S <sub>2</sub>
00-010-0150-000	½"	15	G½	14,0	70,0	54,0	12,0	12,0	37,5	28,8	52,5	25,0	26,8	30
00-010-0200-000	¾"	20	G¾	19,0	81,5	62,5	13,5	13,0	42,3	36,0	52,5	30,5	33,7	36
00-010-0250-000	1"	25	G1	22,0	92,3	34,9	16,0	14,5	51,8	43,9	63,5	36,5	41,8	46

# PHA-010A

**PERFEKT<sup>SYSTEM</sup>**  
**TWO-WAY**  
**ANGLE BALL VALVE**  
**WITH UNION**  
**AND SELF-SEALING**  
**CONNECTION THREAD**  
**(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+140°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA



Dimensions in mm.

index	handle color	size	DN	d	øD	L	A	l	t	h	h <sub>1</sub>	M	S	S <sub>1</sub>	S <sub>2</sub>
00-010-0250-002	red	1"	25	G1	22,0	92,3	34,9	16,0	14,5	51,8	43,9	63,5	36,5	41,8	46,0
00-010-0250-003	blue	1"	25	G1	22,0	92,3	34,9	16,0	14,5	51,8	43,9	63,5	36,5	41,8	46,0

# HUZAR BALL VALVES

## DESCRIPTION

Huzar is a line of "super heavy" ball valves characterised by a safety factor far above the standard. HUZAR ball valves can be used as stop valves in cold and hot water systems as well as central heating systems. They are also suitable for cooling units filled with 50% glycol solution and compressed air. Wall thickness, connection length, stem packing and a wide range of applications will satisfy even the most demanding plumbers.

## MATERIALS

**BODY AND SCREW PLUG:** CW617N brass with outer nickel-plated coating

**BALL:** CW617N chrome-plated brass

**STEM:** brass CW617N

**PACKING GLAND:** brass CW614N

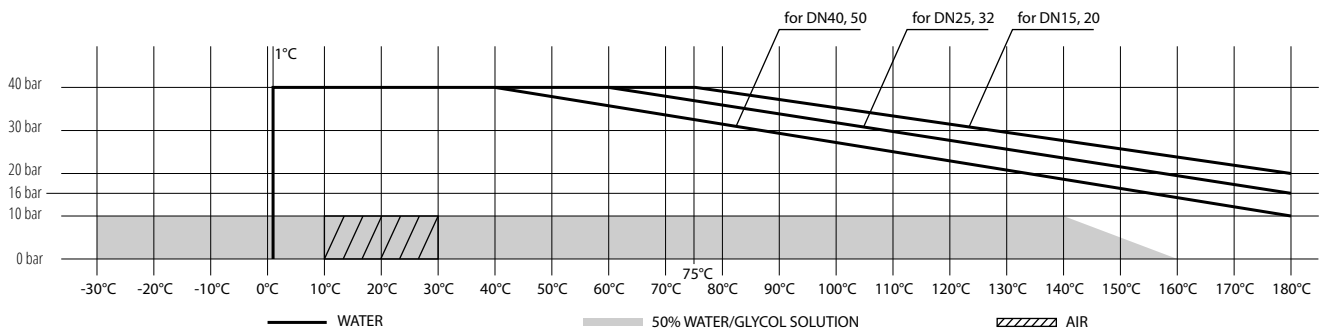
**BALL AND STEM SEALING:** PTFE (Teflon)

**HANDLE:** carbon steel with black PVC sleeve or aluminium with black paint coating

## ADVANTAGES

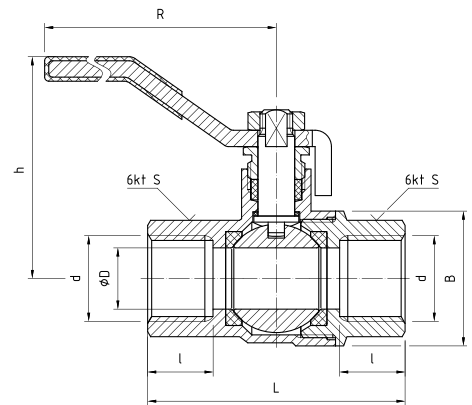
- Much higher safety factor
- Wide range of applications

## CHART



## PHA-200/1

**HUZAR  
FULL PORT  
BALL VALVE  
(FF THREAD)**



## PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	4,0 MPa	ISO 228

## TECHNICAL DATA



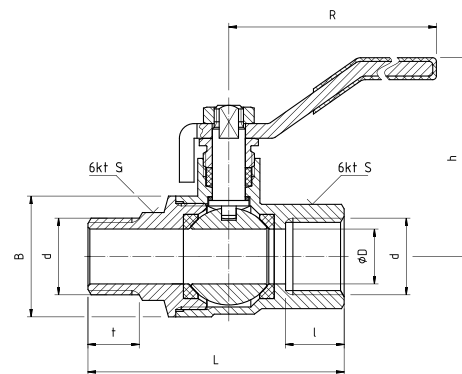
index	size	DN	Q[m³/h]	Kv*[m³/h]	d	øD	L	l	h	B	S	R
00-006-0150-000	½"	15	3,13	9,89	G½	15	63,0	16,0	54,0	33,0	26	104
00-006-0200-000	¾"	20	5,33	16,85	G¾	20	71,8	17,5	64,0	41,5	32	120
00-006-0250-000	1"	25	14,40	45,53	G1	25	84,6	20,0	70,5	49,5	40	140
00-006-0320-000	1¼"	32	23,50	74,31	G1¼	32	96,6	22,0	78,0	61,0	49	150
00-006-0400-000	1½"	40	37,50	118,58	G1½	40	109,0	24,0	83,5	72,8	60	150
00-006-0500-000	2"	50	63,00	199,22	G2	50	124,8	26,0	97,8	88,0	71	170

Dimensions in mm.  
\*Kv factor calculation based on Q value.



# PHA-200/2

**HUZAR  
FULL PORT  
BALL VALVE  
(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+180°C	-30°C	4,0 MPa	ISO 228

## TECHNICAL DATA

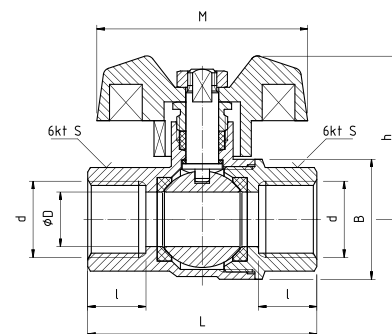


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	t	h	B	S	S <sub>1</sub>	R
00-007-0150-000	½"	15	3,20	10,11	G½	15	70	16,0	14	54,0	33,0	26	24	104
00-007-0200-000	¾"	20	5,34	16,88	G¾	20	78	17,5	16	64,0	41,5	32	30	120
00-007-0250-000	1"	25	14,30	45,22	G1	25	92	20,0	18	70,5	49,5	40	38	140

# PHA-200/3

**HUZAR  
FULL PORT  
BALL VALVE  
(FF THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	4,0 MPa	ISO 228

## TECHNICAL DATA

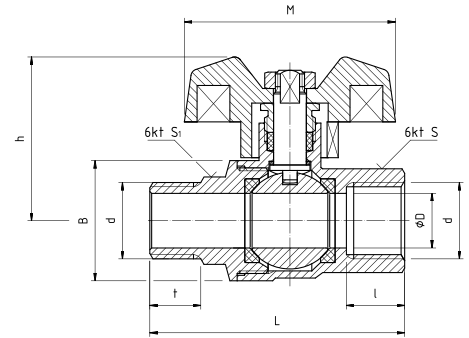


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	h	B	S	M
00-008-0150-000	½"	15	3,13	9,89	G½	15	63,0	16,0	45,0	33,0	26	58
00-008-0200-000	¾"	20	5,33	16,85	G¾	20	71,8	17,5	53,5	41,5	32	58
00-008-0250-000	1"	25	14,40	45,53	G1	25	84,6	20,0	66,8	49,5	40	67

# PHA-200/4

**HUZAR  
FULL PORT  
BALL VALVE  
(FM THREAD)**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+180°C	-30°C	4,0 MPa	ISO 228

## TECHNICAL DATA



Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	t	h	B	S	S <sub>1</sub>	M
00-009-0150-000	½"	15	3,20	10,11	G½	15	70	16	14,0	45,0	33,0	26	24	58
00-009-0200-000	¾"	20	5,34	16,88	G¾	20	78	17	16,0	53,5	41,5	32	30	58
00-009-0250-000	1"	25	14,3	45,22	G1	25	92	20	18,0	66,8	49,5	40	38	67

# KROS BALL VALVES

## DESCRIPTION

**KROS** ball valves - **KX01, KX02, KX03** and **KX04** - may be used as stop valves in cold and hot water supply systems, as well as in central heating and cooling systems filled with 50% glycol solution.

Unlike other ball valves available on the market, **KROS** ball valves have an ergonomic shape increasing the strength of the body and significantly facilitating installation. Moreover, **KROS** valves feature standard threaded connections with straight pipe threads (type G) and stem packing that significantly facilitates service and increases durability.

## MATERIALS

**BODY, SCREW PLUG:** CW617N brass with outer nickel-plated coating

**BALL:** CW617N chrome-plated brass

**STEM:** brass CW617N

**BALL AND STEM SEALING:** PTFE

**HANDLES:** scarbon steel with red plastic sleeve or aluminium with red paint coating

**FOR KX06**

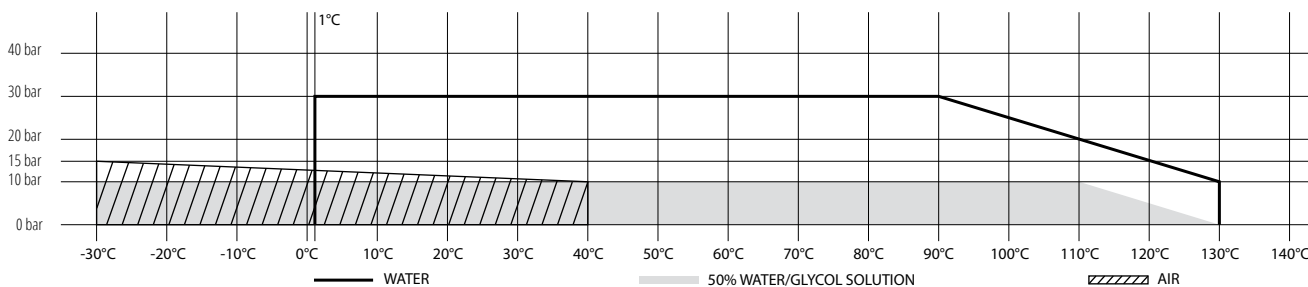
**BODY, SCREW PLUG, PLUG:** brass CW617N

**FILTERING ELEMENT:** stainless steel

## ADVANTAGES

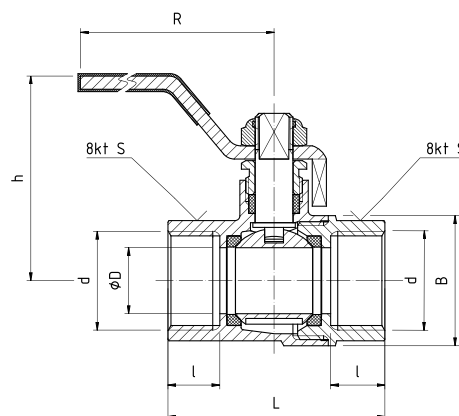
- Ergonomic shape for increased body durability
- Easy to assemble
- Increased service life

## CHART



## KX01

### KROS BALL VALVE (FF THREAD)



#### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+130°C	-30°C	3,0 MPa	ISO 228

## TECHNICAL DATA

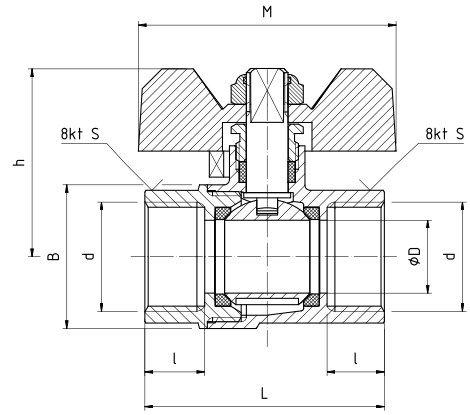


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	φD	L	l	h	B	S	R
<b>KX01-0150-000</b>	1/2"	15	2,47	7,81	G1/2	14	46,0	11,0	43,5	27,6	24,0	91,0
<b>KX01-0200-000</b>	3/4"	20	5,11	16,16	G3/4	18	53,6	13,0	47,0	33,0	30,0	91,0
<b>KX01-0250-000</b>	1"	25	7,94	25,11	G1	22	64,0	15,0	54,2	39,5	36,5	95,5
<b>KX01-0320-000</b>	1 1/4"	32	15,04	47,56	G1 1/4	30	73,0	15,5	60,2	52,0	46,5	95,5
<b>KX01-0400-000</b>	1 1/2"	40	19,25	60,87	G1 1/2	33	81,2	17,0	68,0	60,3	53,0	148,0
<b>KX01-0500-000</b>	2"	50			G2	45	101,0	20,0	76,2	76,0	65,0	148,0
<b>KX01-0650-000</b>	2 1/2"	65			G2 1/2	59	129,0	25,0	95,8	100,0	81,0	190,0

# KX02

## KROS BALL VALVE (FF THREAD)



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+130°C	-30°C	3,0 MPa	ISO 228

### TECHNICAL DATA

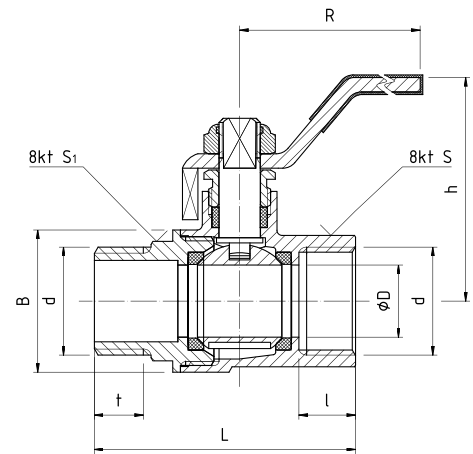


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m³/h]	Kv*[m³/h]	d	øD	L	l	h	B	S	M
KX02-0150-000	½"	15	2,47	7,81	G½	14	46,0	11,5	36,0	27,6	24,0	49,5
KX02-0200-000	¾"	20	5,11	16,16	G¾	18	53,6	13,0	39,0	33,0	30,0	49,5
KX02-0250-000	1"	25	7,94	25,11	G1	22	64,0	15,0	47,25	39,5	36,5	64,0

# KX03

## KROS BALL VALVE (FM THREAD)



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+130°C	-30°C	3,0 MPa	ISO 228

### TECHNICAL DATA

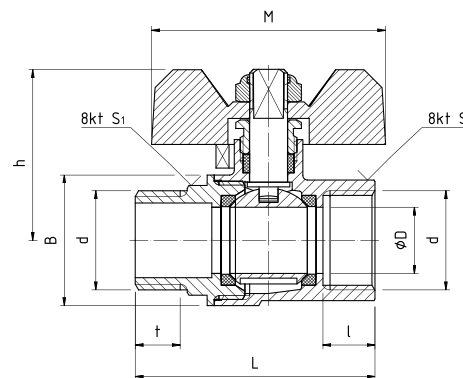


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m³/h]	Kv*[m³/h]	d	øD	L	l	t	h	B	S	S <sub>1</sub>	R
KX03-0150-000	½"	15	2,47	7,81	G½	14	50,2	11,5	11,0	43,4	27,6	24,0	22	91,0
KX03-0200-000	¾"	20	5,11	16,16	G¾	18	58,7	13,0	12,0	47,0	33,0	30,0	28	91,0
KX03-0250-000	1"	25	7,94	25,11	G1	22	69,0	15,0	13,5	54,2	39,5	36,5	35	95,5

# KX04

## KROS BALL VALVE (FM THREAD)



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+130°C	-30°C	3,0 MPa	ISO 228

### TECHNICAL DATA

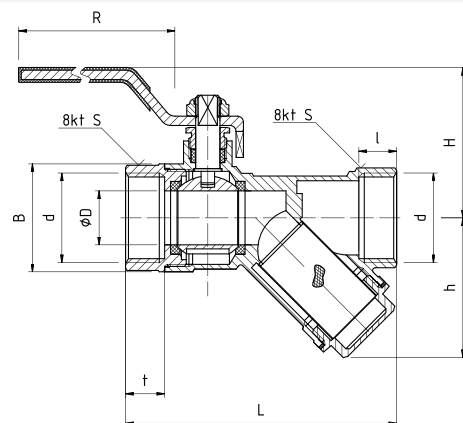


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	t	h	B	S	S <sub>1</sub>	M
KX04-0150-000	½"	15	2,47	7,81	G½	14	50,2	11,5	11,0	36,0	27,6	24,0	22	49,5
KX04-0200-000	¾"	20	5,11	16,16	G¾	18	58,7	13,0	12,0	39,0	33,0	30,0	28	49,5
KX04-0250-000	1"	25	7,94	25,11	G1	22	69,0	15,0	13,5	47,25	39,5	36,5	35	64,0

# KX06

## KROS BALL VALVE WITH WYE STRAINER



PARAMETERS (ACCORDING TO P-T CHART)

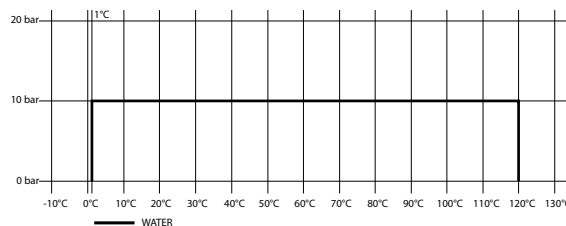
TMAX	TMIN	PMAX	FT ACC. TO
+120°C	+1°C	1,0 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

index	size	DN	d	øD	L	l	t	h	H	B	S	R
KX06-0250-000	1"	25	G1	20	100,5	14,5	14	51,5	55,7	40	37	114,5





# 1040 AND 1041 BALL VALVES

## DESCRIPTION

Type 1040 and 1041 ball valves make perfect valves for construction investments. Thanks to their parameters, they are excellent for water systems in single-family and multi-apartment buildings.

## ADVANTAGES

- Perfect investment ball valves
- Single-family and multi-unit construction

## MATERIALS

**BODY, SCREW PLUG:** CW617N brass with outer nickel-plated coating

**BALL:** CW617N chrome-plated brass

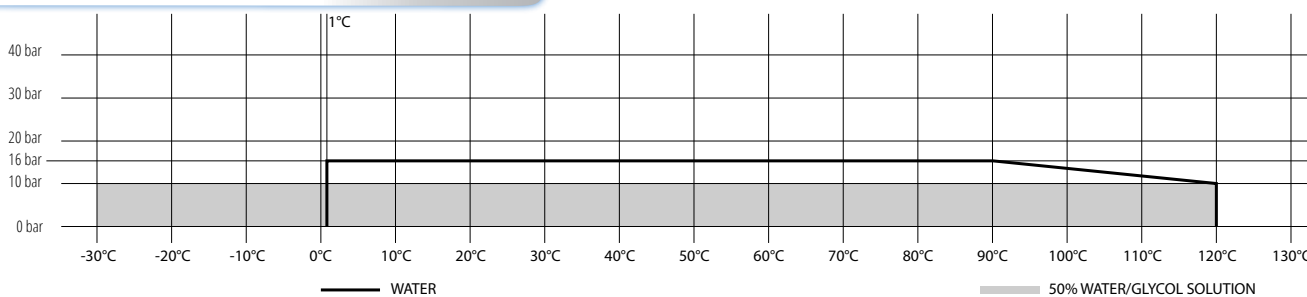
**STEM:** brass CW617N

**PACKING GLAND:** CW614N brass

**BALL AND STEM SEALING:** PTFE

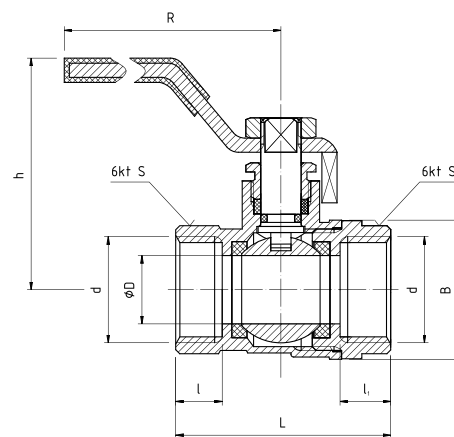
**HANDLE:** carbon steel with PVC sleeve or aluminium; red or blue paint coating

## CHART



## 1040WW

### BALL VALVE (FF THREAD)



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA

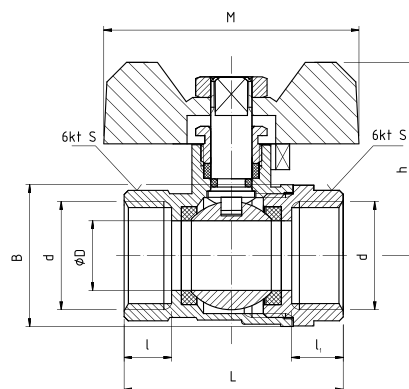


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	l <sub>1</sub>	h	B	S	R
00-200-0150-010	½"	15	2,52	7,97	G½	13,5	42,5	9,2	10,0	44,5	27,5	23,8	80,0
00-200-0200-010	¾"	20	4,86	15,37	G¾	17,0	50,2	11,0	11,0	48,0	33,0	29,5	80,0
00-200-0250-010	1"	25	7,60	24,03	G1	21,0	60,0	12,5	14,0	55,0	39,0	36,5	95,5
00-200-0320-010	1¼"	32	13,14	41,55	G1¼	27,0	68,0	13,0	13,5	60,0	49,8	45,8	126,5
00-200-0400-010	1½"	40	18,29	57,84	G1½	32,0	78,6	14,5	14,5	64,0	58,5	51,8	148,0
00-200-0500-010	2"	50			G2	45,0	94,0	14,0	16,0	73,5	76,5	63,8	148,0

# 1041WW

## BALL VALVE (FF THREAD)



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

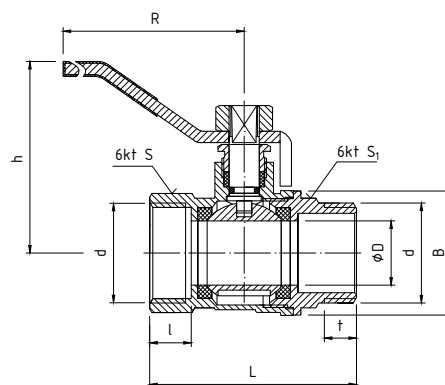


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	L <sub>1</sub>	h	B	S	M
00-220-0150-010	½"	15	2,52	7,97	G½	13,5	42,5	9,2	10	37,2	27,5	23,8	49,5
00-220-0200-010	¾"	20	4,86	15,37	G¾	17,0	50,2	11,0	11	39,5	33,0	29,5	49,5
00-220-0250-010	1"	25	7,60	24,03	G1	21,0	60,0	12,5	14	48,0	39,0	36,5	64,0

# 1040WZ

## BALL VALVE (FM THREAD)



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

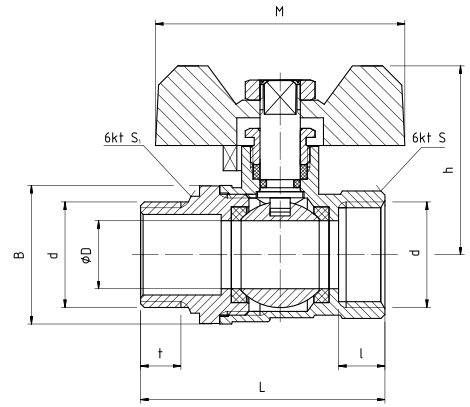


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	t	h	B	S	S <sub>1</sub>	R
00-202-0150-010	½"	15	2,52	7,97	G½	13,5	48,5	9,2	9,5	44,5	27,5	23,8	21,5	80,0
00-202-0200-010	¾"	20	4,86	15,37	G¾	17,0	54,7	11,0	10,0	48,0	33,0	29,5	27,0	80,0
00-202-0250-010	1"	25	7,60	24,03	G1	21,0	63,8	12,5	11,5	55,0	39,0	36,5	34,0	95,5

# 1041WZ

## BALL VALVE (FM THREAD)



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

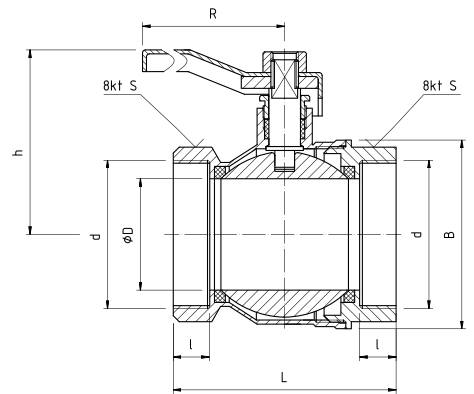


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m³/h]	Kv*[m³/h]	d	øD	L	l	t	h	B	S	S <sub>t</sub>	M
00-222-0150-010	½"	15	2,52	7,97	G½	13,5	48,5	9,2	9,5	37,2	27,5	23,8	21,5	49,5
00-222-0200-010	¾"	20	4,86	15,37	G¾	17,0	54,7	11,0	10,0	39,5	33,0	29,5	27,0	49,5
00-222-0250-010	1"	25	7,60	24,03	G1	21,0	63,8	12,5	11,5	48,0	39,0	36,5	34,0	64,0

# 1410WW

## BALL VALVE (FF THREAD)



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	+1°C	1,0 MPa	ISO 228

### TECHNICAL DATA

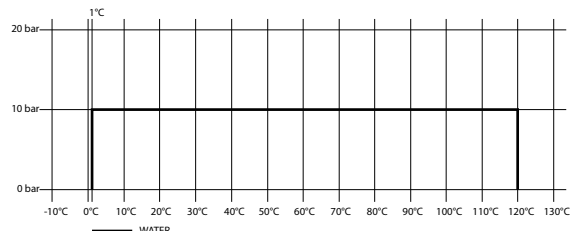


Dimensions in mm.

index	size	DN	d	øD	L	l	h	B	R	S
00-200-0650-000	2½"	65	G2½	56,5	113	18,5	89	96,0	190	82,5
00-200-0800-000	3"	80	G3	67,5	134	22,0	112	113,0	245	94,5
00-200-1000-000	4"	100	G4	83,5	158	25,0	124	138,0	245	120,0

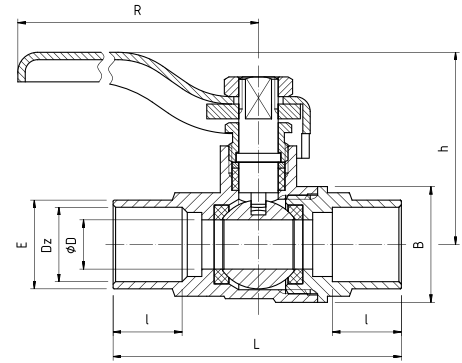
### MATERIALS

- BODY, SCREW PLUG:** brass with outer nickel-plated coating
- BALL:** chrome-plated brass
- STEM, PACKING GLAND:** brass
- BALL SEALING, BALL AND STEM SEALING:** PTFE (Teflon)
- HANDLE:** carbon steel with red coating



# 1504

## BALL VALVE FOR SOLDERING



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX
+120°C	+1°C	1,0 MPa

### TECHNICAL DATA

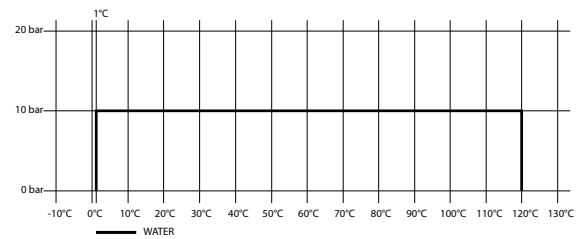


Dimensions in mm.

index	DN	Dz	øD	L	l	h	B	R	E
01-304-0150-000	10	15	10,0	58,5	14,0	39,0	23,5	86	18,0
01-304-0180-000	15	18	14,5	61,0	14,0	43,0	30,0	86	21,0
01-304-0220-000	20	22	19,0	63,0	14,0	53,5	35,5	104	25,5
01-304-0280-000	25	28	24,0	70,0	14,0	58,0	43,5	104	32,0

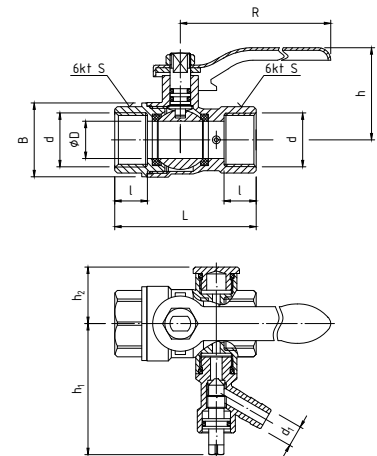
### MATERIALS

**BODY, SCREW PLUG, STEM:** brass  
**BALL:** chrome-plated brass  
**BALL SEALING, STEM SEALING:** PTFE (Teflon)  
**HANDLE:** carbon steel with red coating



# 65RU

## DRAIN BALL VALVE



### PARAMETERS (ACCORDING TO P-T CHART) FOR DN 15; 20; 25

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	-30°C	3,0 MPa	ISO 228

### PARAMETERS (ACCORDING TO P-T CHART) FOR DN 32; 40; 50

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	-30°C	2,5 MPa	ISO 228

### TECHNICAL DATA

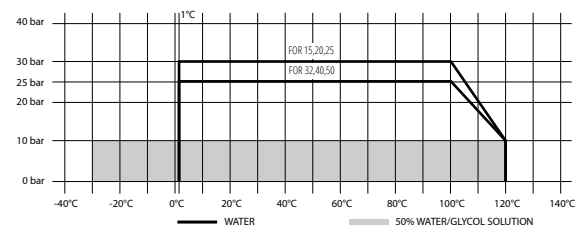


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m³/h]	Kv*[m³/h]	d	øD	L	l	h	h <sub>1MAX</sub>	h <sub>2MAX</sub>	B	d <sub>1</sub>	S	R
01-303-0150-000	1/2"	15	2,48	7,84	G1/2	14,5	55,0	12,5	44,0	51,5	22,0	29,0	9	24,5	85
01-303-0200-000	3/4"	20	5,18	16,38	G3/4	19,0	61,5	13,0	47,3	55,0	24,5	36,5	9	29,5	85
01-303-0250-000	1"	25	8,14	25,74	G1	24,0	70,0	14,5	53,0	56,0	28,0	42,7	9	36,5	110
01-303-0320-000	1 1/4"	32	14,72	46,55	G1 1/4	29,0	78,5	15,5	61,0	61,0	36,5	52,7	9	46,0	124
01-303-0400-000	1 1/2"	40	17,86	56,48	G1 1/2	32,0	88,5	16,5	69,0	67,0	40,0	56,8	9	52,0	144
01-303-0500-000	2"	50			G2	45,0	105,0	17,5	79,0	75,0	46,5	76,8	9	64,0	144

### MATERIALS

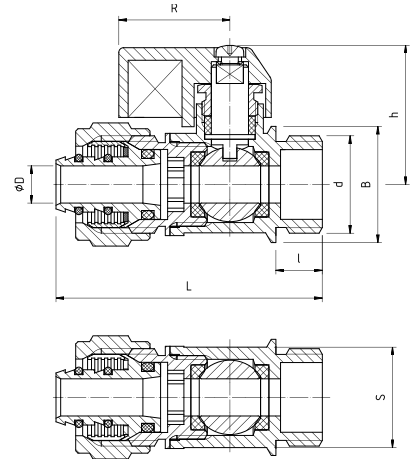
**BODY, SCREW PLUG, STEM, DRAIN VALVE BODY, SPINDLE, PLUG:** brass with outer nickel-plated coating  
**BALL:** chrome-plated brass  
**BALL SEALING:** PTFE (Teflon)  
**BALL AND STEM SEALING:** O-rings - NBR  
**HANDLE:** carbon steel with red coating



The installation of the drain valve side can be easily changed.

# PHA-019D

## BALL VALVE WITH PACKING GLAND



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+120°C	-20°C	1,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.  
\*Kv factor calculation based on Q value.

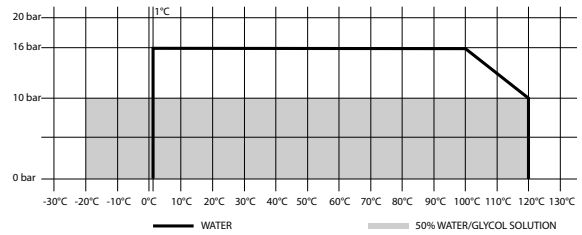
index (red handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	h	B	S	R
01-019-0000-001	1/2"	15	0,79	2,50	G1/2	8,0	57,0	10,0	30,0	25,0	20,8	23,9

index (blue handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	h	B	S	R
01-019-1000-001	1/2"	15	0,79	2,50	G1/2	8,0	57,0	10,0	30,0	25,0	20,8	23,9

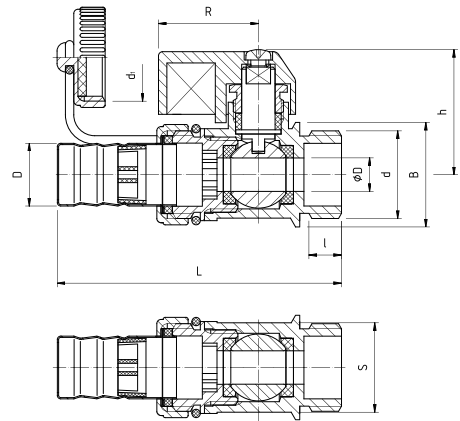
### MATERIALS

**BODY, SCREW PLUG, NUT, PIPE COUPLING:** nickel-plated brass  
**BALL:** nickel-plated brass  
**STEM, STEM SEALING, COMPRESSION SLEEVE, PACKING GLAND:** brass  
**BALL SEALING, WASHER:** PTFE (Teflon)  
**HANDLE:** aluminium alloy with red or blue coating



# PHA-019S

## DRAIN BALL VALVE WITH PACKING GLAND



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+120°C	-20°C	1,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.  
\*Kv factor calculation based on Q value.

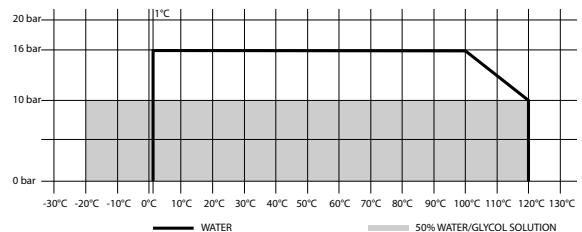
index (red handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	d <sub>1</sub>	ØD	D	L	l	h	B	S	R
01-019-0000-002	1/2"	15	0,79	2,5	G1/2	G1/2	8	15	68	10	30	25	20,8	23,9

index (blue handle)	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	d <sub>1</sub>	ØD	D	L	l	h	B	S	R
01-019-1000-002	1/2"	15	0,79	2,5	G1/2	G1/2	8	15	68	10	30	25	20,8	23,9

### MATERIALS

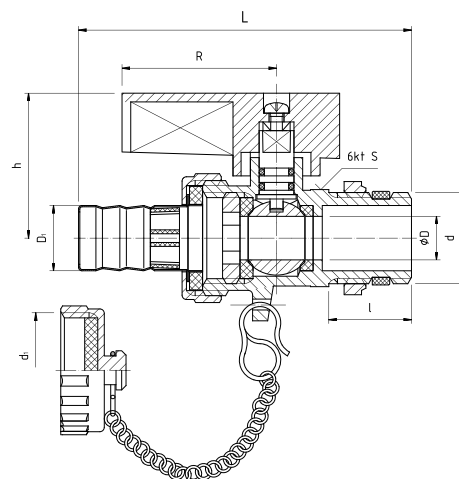
**BODY, SCREW PLUG, CONNECTOR NUT, BLANK NUT:** nickel-plated brass  
**BALL:** chrome-plated brass  
**STEM, PACKING GLAND:** brass  
**FLAT WASHERS, CONNECTOR WASHERS, BLANK NUT WASHERS:** NBR  
**HANDLE:** aluminium alloy with red or blue coating  
**HOSE END FITTING:** stainless steel





# 1809

## DRAIN BALL VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+150°C	-30°C	2,5 MPa	ISO 228

### TECHNICAL DATA

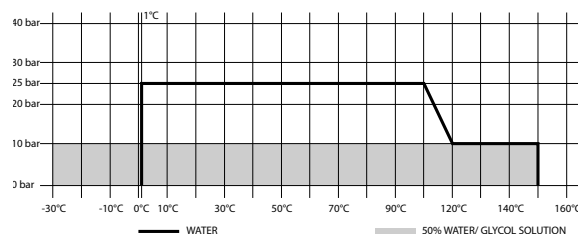


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	d <sub>1</sub>	øD	D <sub>1</sub>	L	l	h	S	R
20-205-0150-000	1/2"	15	1,08	3,42	G1/2	G3/4	10,0	15,0	74	19	33	22,3	35,5
20-205-0200-000	3/4"	20	1,62	5,12	G3/4	G1	14,5	20,0	77	13	33	29,0	21,4

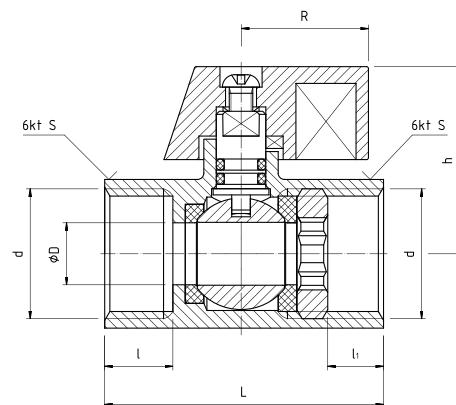
### MATERIALS

- BODY, SCREW PLUG, CONNECTOR NUT, BLANK NUT, CONNECTION NUT:** nickel-plated brass
- BALL:** chrome-plated brass
- STEM, SCREW PLUG:** brass
- BALL SEALING, CONNECTION SEALING:** PTFE (Teflon)
- STEM O-RING:** O-rings - NBR
- CONNECTOR WASHER, BLANK NUT WASHER:** NBR flat washers
- HANDLE:** aluminium alloy with red or blue coating
- HOSE END FITTING:** stainless steel



# 3021WW

## MINI BALL VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+120°C	+1°C	1,6 MPa	ISO 228

### TECHNICAL DATA

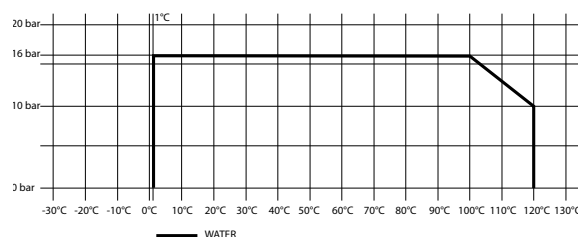


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	l <sub>1</sub>	h	S	R
01-301-0150-000	1/2"	15	1,40	4,43	G1/2	10	45	11	9	30	24	20,5

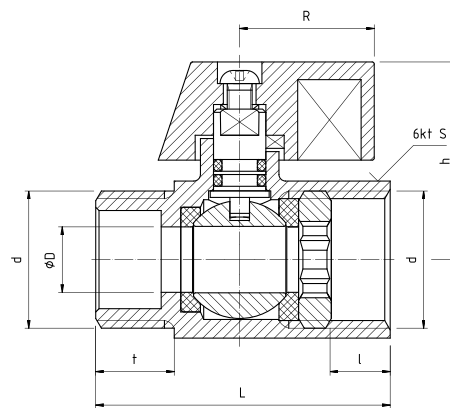
### MATERIALS

- BODY, BALL:** chrome-plated brass
- STEM, SCREW PLUG:** brass
- BALL SEALING:** PTFE (Teflon)
- STEM SEALING:** O-rings - NBR
- HANDLE:** aluminium alloy with red coating



# 3021WZ

## MINI BALL VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+120°C	+1°C	1,6 MPa	ISO 228

### TECHNICAL DATA

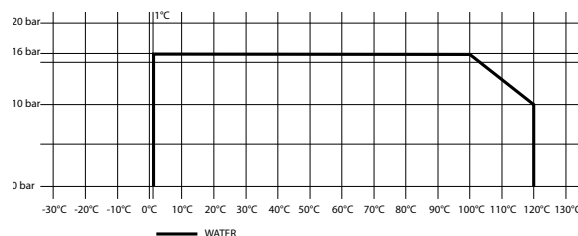


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m³/h]	Kv*[m³/h]	d	øD	L	l	t	h	S	R
01-302-0150-001	1/2"	15	1,40	4,43	G1/2	10	45	9	12	30	24	20,5

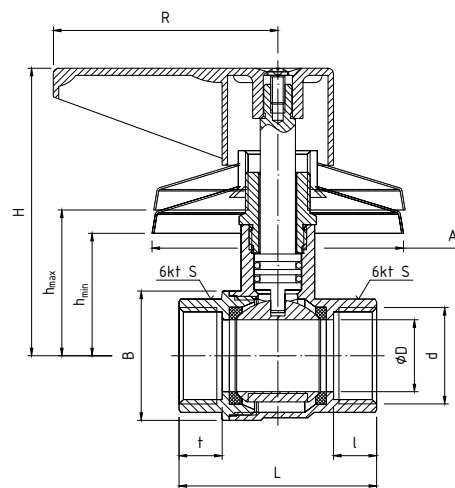
### MATERIALS

**BODY, BALL:** chrome-plated brass  
**STEM, SCREW PLUG:** brass  
**BALL SEALING:** PTFE (Teflon)  
**STEM SEALING:** O-rings - NBR  
**HANDLE:** aluminium alloy with red coating



# 428CH

## CONCEALED BALL VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	-30°C	3,0 MPa	ISO 228

### TECHNICAL DATA

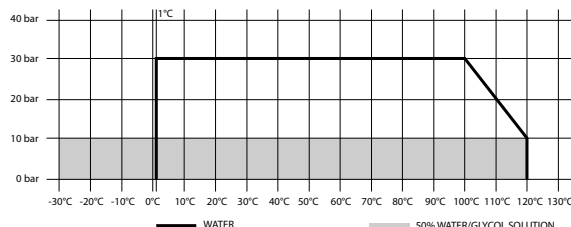


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m³/h]	Kv*[m³/h]	d	øD	L	l	t	H	h <sub>min</sub>	h <sub>max</sub>	B	S	R	A
01-305-0150-000	1/2"	15	2,45	7,75	G1/2	14,8	50,0	12,3	11,8	78,5	24,8	31,5	30,5	24,5	62,5	70
01-305-0200-000	3/4"	20	5,11	16,16	G3/4	20,0	54,5	11,8	11,8	85,0	28,3	35,1	36,0	30,0	62,5	70

### MATERIALS

**BODY, SCREW PLUG:** brass with outer nickel-plated coating  
**BALL:** chrome-plated brass  
**STEM:** brass  
**BALL SEALING:** PTFE (Teflon)  
**STEM SEALING:** O-rings - NBR  
**HANDLE:** zinc alloy



# PHA-060

## WYE STRAINER

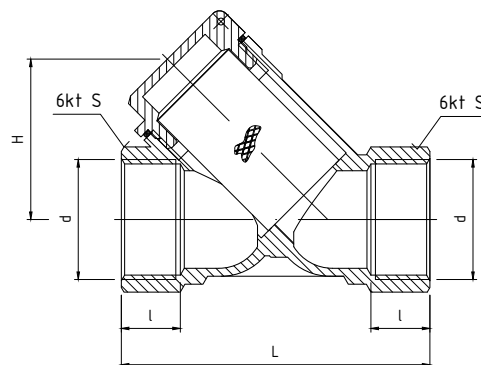


PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 15; 20; 25; 32; 40; 50

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+150°C	-30°C	2,5 MPa	ISO 228

PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 65; 80

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+150°C	-30°C	2,0 MPa	ISO 228



1) K - diameter of the hole inscribed in the mesh  
2) J - number of holes per cm<sup>2</sup>  
\*Kv factor calculation based on Q value.  
Dimensions in mm.

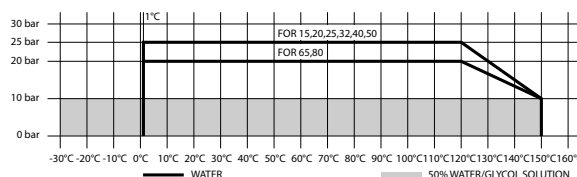
### TECHNICAL DATA



index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	L	l	H	S	K <sup>1</sup>	J <sup>2</sup>
03-060-0150-000	1/2"	15	0,92	2,91	G1/2	57,0	11,5	31,3	24,0	0,5	80
03-060-0200-000	3/4"	20	1,91	6,07	G3/4	68,0	13,0	37,0	30,0	0,5	80
03-060-0250-000	1"	25	2,45	7,75	G1	75,0	16,0	42,5	37,0	0,5	80
03-060-0320-000	1 1/4"	32	4,75	15,02	G1 1/4	93,0	17,0	56,2	48,5	0,5	80
03-060-0400-000	1 1/2"	40	8,50	26,88	G1 1/2	107,0	19,0	60,0	54,0	0,5	80
03-060-0500-000	2"	50	10,48	34,28	G2	126,0	22,0	72,5	67,0	0,5	80
03-060-0650-000	2 1/2"	65			G2 1/2	144,0	24,0	84,5	82,0	0,9	36
03-060-0800-000	3"	80			G3	158,0	26,0	101,0	95,0	0,9	36

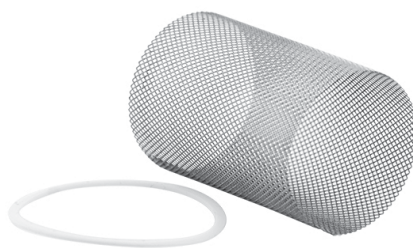
### MATERIALS

**BODY, COVER:** sandblasted brass  
**FILTERING ELEMENT (MESH):** stainless steel  
**COVER SEALING:** technical fi bre/PTFE



# US-060

## O-RING AND MESH SCREEN FOR WYE STRAINER PHA-060



### TECHNICAL DATA

index	size
03-200-0000-150	1/2"
03-200-0000-200	3/4"
03-200-0000-250	1"
03-200-0000-320	1 1/4"
03-200-0000-400	1 1/2"
03-200-0000-500	2"

# PHA-020

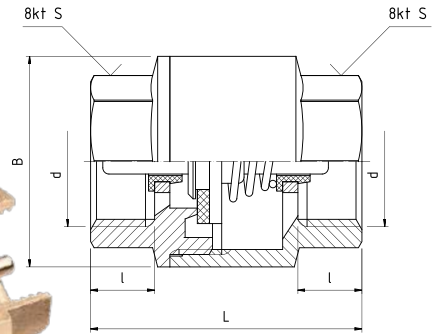
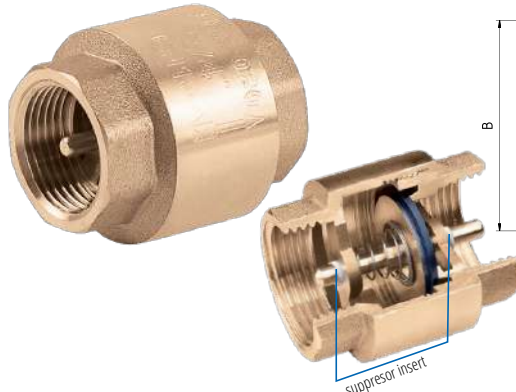
## CHECK VALVE WITH BRASS DISC

PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 15; 20; 25

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 32; 40; 50; 65; 80; 100;

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	+30°C	1,0 MPa	ISO 228



### TECHNICAL DATA

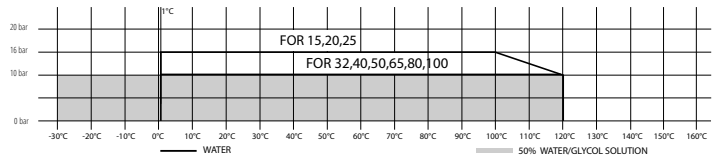


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	L	l	B	S
04-020-0150-000	1/2"	15	0,82	2,59	G1/2	44,5	10,5	34,0	26,0
04-020-0200-000	3/4"	20	1,84	5,82	G3/4	48,0	12,0	42,5	32,0
04-020-0250-000	1"	25	3,10	9,80	G1	55,5	13,5	47,5	38,0
04-020-0320-000	1 1/4"	32	5,11	16,16	G1 1/4	61,0	15,0	58,5	46,0
04-020-0400-000	1 1/2"	40	7,13	22,55	G1 1/2	68,0	16,0	66,5	52,0
04-020-0500-000	2"	50	11,74	37,13	G2	76,5	18,0	79,6	66,0
04-020-0650-000	2 1/2"	65			G2 1/2	104,0	24,0	93,0	81,0
04-020-0800-000	3"	80			G3	102,0	25,0	109,5	93,5
04-020-1000-000	4"	100			G4	112,0	26,0	139,0	121,5

### MATERIALS

BODY, SCREW PLUG, DISC: brass CW617N  
DISC SEALING: flat washer - NBR  
SPRĘŻYNA: stainless steel  
SUPPRESSOR INSERT: plastic (except DN65, DN80, DN100)



# 5503

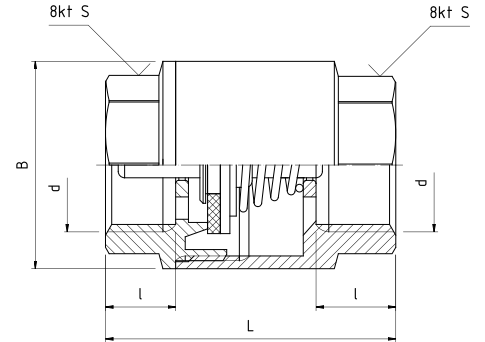
## CHECK VALVE WITH BRASS DISC

PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 15; 20; 25; 32; 40; 50

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	+1°C	1,0 MPa	ISO 228

PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 65

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	+1°C	0,8 MPa	ISO 228



### TECHNICAL DATA

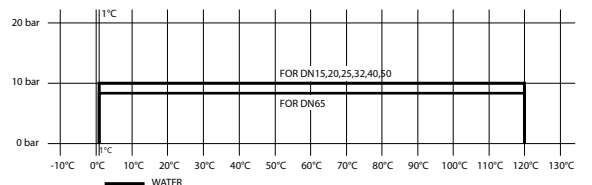


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	L	l	B	S
04-100-0150-000	1/2"	15	1,01	3,19	G1/2	45,5	11,0	32,5	26
04-100-0200-000	3/4"	20	1,73	5,47	G3/4	52,0	13,0	37,5	30
04-100-0250-000	1"	25	2,77	8,76	G1	54,0	13,5	44,0	37
04-100-0320-000	1 1/4"	32	4,93	15,59	G1 1/4	61,0	15,0	58,5	46
04-100-0400-000	1 1/2"	40	7,42	23,46	G1 1/2	70,0	16,5	66,5	52
04-100-0500-000	2"	50	10,12	32,00	G2	78,0	16,5	79,5	66
04-100-0650-000	2 1/2"	65			G2 1/2	104,0	24,0	93,0	81

### MATERIALS

BODY, SCREW PLUG, DISC: brass  
DISC SEALING: flat washer - NBR  
SPRING: stainless steel



# 5503/P

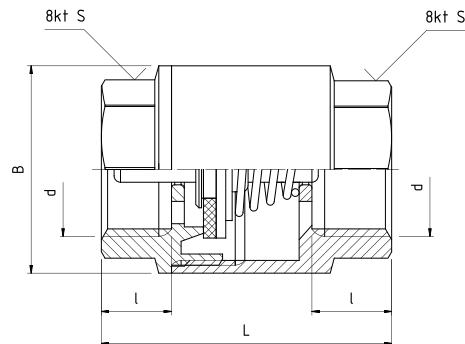
## CHECK VALVE WITH PLASTIC DISC

PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 15; 20; 25; 32; 40; 50

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+120°C	+1°C	1,0 MPa	ISO 228

PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 65

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+120°C	+1°C	0,8 MPa	ISO 228



### TECHNICAL DATA

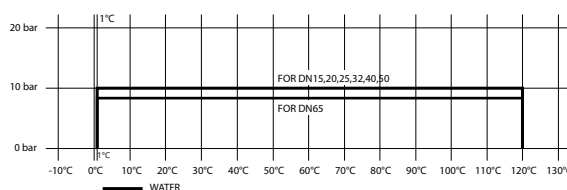


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	L	l	B	S
04-100-0150-100	1/2"	15	1,01	3,19	G1/2	45,5	11,0	32,5	26
04-100-0200-100	3/4"	20	1,73	5,47	G3/4	52,0	13,0	37,5	30
04-100-0250-100	1"	25	2,77	8,76	G1	54,0	13,5	44,0	37
04-100-0320-100	1 1/4"	32	4,93	15,59	G1 1/4	61,0	15,0	58,5	46
04-100-0400-100	1 1/2"	40	7,42	23,46	G1 1/2	70,0	16,5	66,5	52
04-100-0500-100	2"	50	10,12	32,00	G2	78,0	16,5	79,5	66
04-100-0650-100	2 1/2"	65			G2 1/2	104,0	24,0	93,0	81

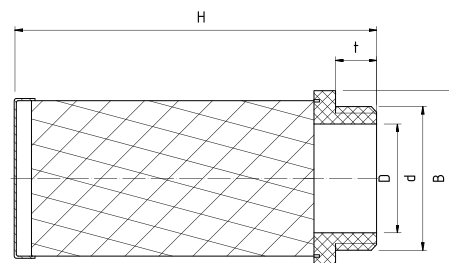
### MATERIALS

**BODY, SCREW PLUG:** brass  
**DISC:** polyamide  
**DISC SEALING:** flat washer  
**SPRING:** stainless steel



# PHA-KS1

## CHECK VALVE STRAINER ITEM PHA-020



### TECHNICAL DATA



Dimensions in mm.

index	size	DN	d	øD	t	H	B
04-901-0150-000	1/2"	15	G1/2	15,0	8,0	49,0	27,0
04-901-0200-000	3/4"	20	G3/4	19,0	7,0	58,0	34,0
04-901-0250-000	1"	25	G1	24,0	10,0	68,0	40,5
04-901-0320-000	1 1/4"	32	G1 1/4	34,5	10,0	68,0	48,0
04-901-0400-000	1 1/2"	40	G1 1/2	40,0	10,0	77,5	57,5
04-901-0500-000	2"	50	G2	49,5	11,5	95,0	68,0
04-901-0650-000	2 1/2"	65	G2 1/2	63,0	14,0	102,0	83,0
04-901-0800-000	3"	80	G3	76,0	12,5	106,0	98,0
04-901-1000-000	4"	100	G4	98,0	14,0	118,0	127,0

### MATERIALS

**STRAINER HOLDER:** plastic  
**STRAINER:** stainless steel



# PHA-021

## FLAP CHECK | VALVE

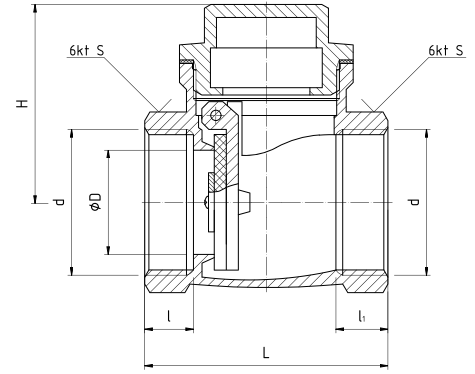


PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 15; 20; 25

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

PARAMETERS (ACCORDING TO P-T CHART)  
FOR DN 32; 40; 50; 65; 80

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	-30°C	1,0 MPa	ISO 228



### TECHNICAL DATA

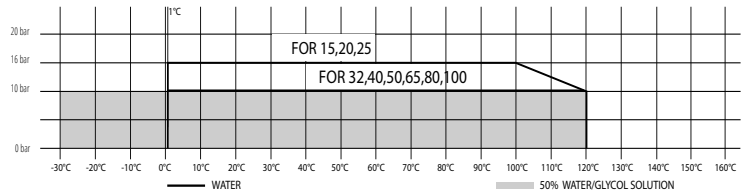


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	ØD	L	l	l <sub>1</sub>	H	S
04-021-0150-000	1/2"	15	1,87	5,91	G1/2	14,0	49,5	11,0	10,0	31,0	24,0
04-021-0200-000	3/4"	20	3,06	9,68	G3/4	17,0	57,5	12,0	11,0	35,0	30,5
04-021-0250-000	1"	25	5,22	16,51	G1	21,5	61,5	14,0	11,5	39,0	37,5
04-021-0320-000	1 1/4"	32	8,89	28,11	G1 1/4	27,0	77,0	17,5	15,0	49,0	47,0
04-021-0400-000	1 1/2"	40	11,70	37,00	G1 1/2	35,0	83,0	18,0	16,0	56,0	53,5
04-021-0500-000	2"	50	17,71	56,00	G2	47,0	90,0	19,0	16,0	59,0	65,0
04-021-0650-000	2 1/2"	65			G2 1/2	57,0	120,0	21,0	19,0	77,0	82,0
04-021-0800-000	3"	80			G3	68,0	134,0	23,0	22,0	84,0	96,0

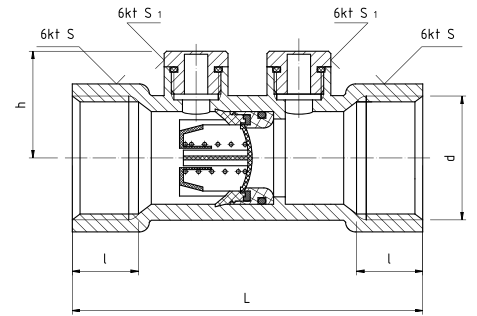
### MATERIALS

BODY, PLUG: CW617N brass  
WASHER: stainless steel  
SEALING: fibre  
FLAP SEALING: fl at washer - NBR



# PHA-013

## BACKFLOW PREVENTER VALVE TYPE "EA"



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+65°C	+1°C	1,0 MPa	ISO 228

\* and +90°C for 1 hour

### TECHNICAL DATA



Dimensions in mm.  
1) flow resistance coefficient

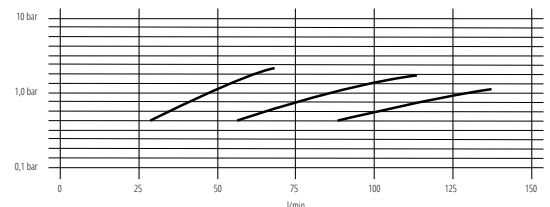
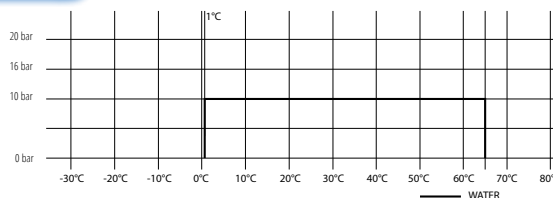
OPEN PRESSURE: 1000 Pa  
SUITABLE FOR LIQUIDS: Category 1 and 2  
SYMBOL OF PROTECTION UNIT:



index	size	DN	Q [m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	L	l	h	S	S <sub>1</sub>	ξ <sub>1</sub>
01-013-0150-000	1/2"	15	0,88	2,78	G1/2	65	12	23,5	25	16,8	4,48
01-013-0200-000	3/4"	20	1,64	5,2	G3/4	75	14	23,5	31	16,8	2,28
01-013-0250-000	1"	25	2,59	8,2	G1	90	17	27,0	38	16,8	1,91

### MATERIALS

BODY, PLUG: CW617N brass  
DISC, DISC SOCKET, DISC GUIDE: polyamide  
DISC SEALING, PLUG SEALING: O-ring - EPDM



# PHA-022

## BRASS SHUT-OFF GATE VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+100°C	+1°C	1,6 MPa	ISO 228

### TECHNICAL DATA



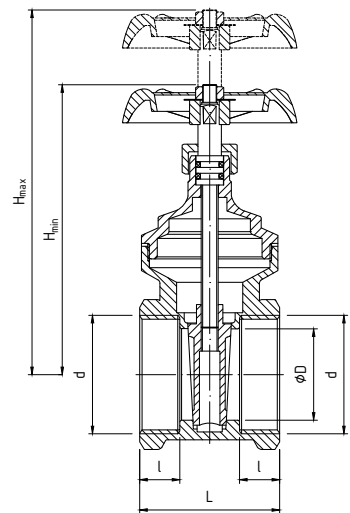
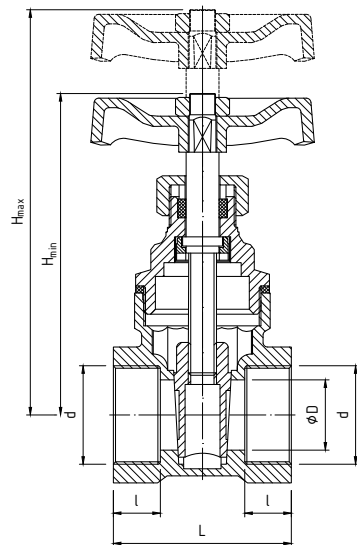
Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m <sup>3</sup> /h]	Kv*[m <sup>3</sup> /h]	d	øD	L	l	H	S
01-022-0150-000	½"	15	2,53	8,00	G½	15	38,0	10,0	68,0	26,0
01-022-0200-000	¾"	20	4,84	15,30	G¾	19	43,0	12,0	75,0	31,0
01-022-0250-000	1"	25	8,10	25,61	G1	24	47,5	13,0	85,0	38,0
01-022-0320-000	1¼"	32	14,71	46,52	G1¼	32	52,0	14,0	98,0	47,0
01-022-0400-000	1½"	40	22,47	71,06	G1½	39	57,0	15,0	115,0	53,0
01-022-0500-000	2"	50	26,94	85,19	G2	50	65,0	17,0	147,0	65,0
01-022-0650-000	2½"	65			G2½	60	66,0	17,0	159,0	84,5
01-022-0800-000	3"	80			G3	68	84,0	23,0	185,0	100,0
01-022-1000-000	4"	100			G4	93	80,0	18,5	227,0	127,0

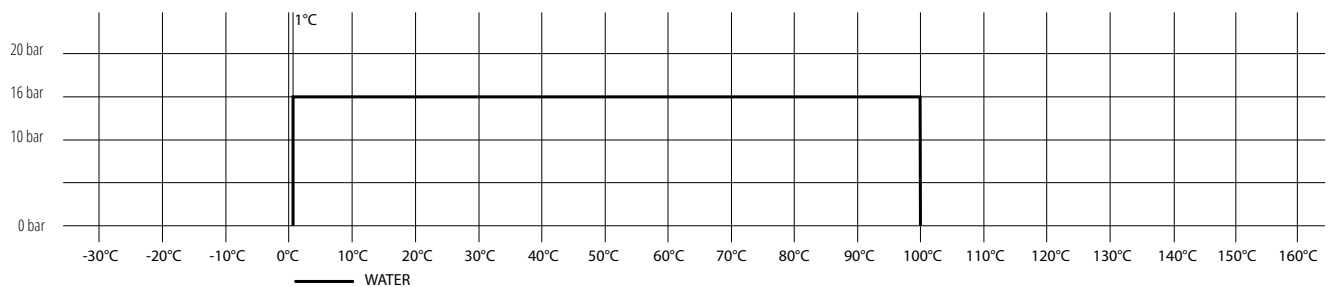
### MATERIALS

**BODY, COVER, STEM, WEDGE:** CW617N brass  
**PACKING NUT, STEM LOCKING NUT, PACKING SLEEVE, NUT:** brass  
**COVER SEALING, PACKING GLAND:** PTFE (Teflon)  
**HANDLE:** aluminium alloy with red coating

### TECHNICAL DRAWINGS



### CHART

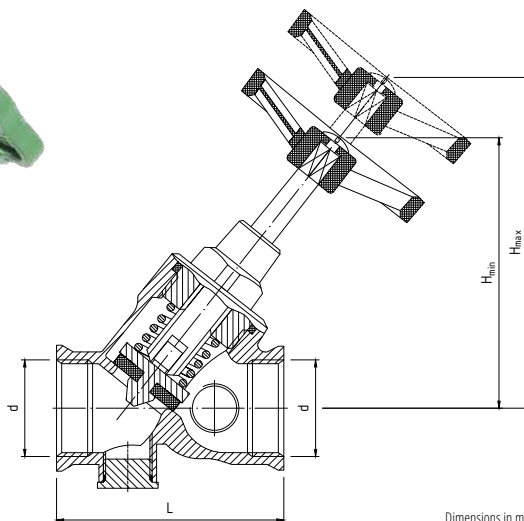


# 1620

## ANGLED BACKFLOW PREVENTER VALVE

### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228 / EN 10226



### TECHNICAL DATA

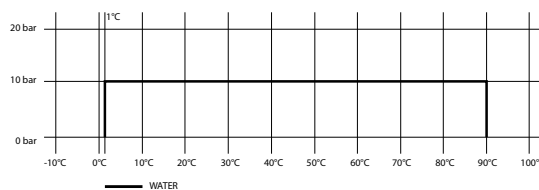


Dimensions in mm.  
\* Minimum flow compliant with DIN3546 Part 1.

index	size	DN	Q[m <sup>3</sup> /h]	d	L	H <sub>max</sub>	H <sub>min</sub>
01-402-0150-000	1/2"	15	1,8	RP1/2	65	84,3	69,5
01-402-0200-000	3/4"	20	3,6	RP 3/4	75	118,0	100,7
01-402-0250-000	1"	25	6,3	RP 1	90	132,0	106,4
01-402-0320-000	1 1/4"	32	10,8	G1 1/4	110	150,6	125
01-402-0400-000	1 1/2"	40	14,4	G1 1/2	120	160,2	125
01-402-0500-000	2"	50	24,3	G2	150	197,0	155,5

### MATERIALS

BODY, STEM: brass  
HEAD SEALING, STEM SEALING: EPDM  
HANDLE: plastic

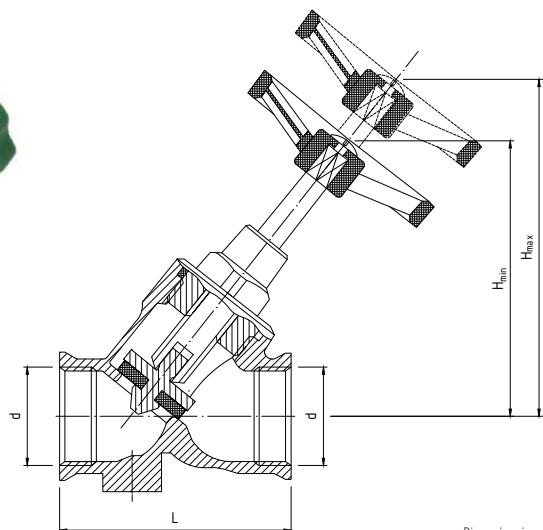


# 1505

## ANGLED STRAIGHT-RUN VALVE

### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228 / EN 10226



### TECHNICAL DATA

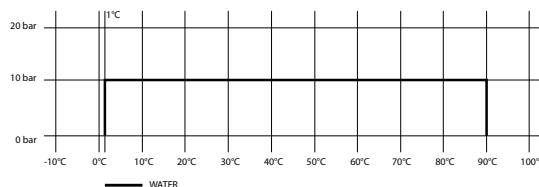


Dimensions in mm.  
\* Minimum flow compliant with DIN3546 Part 1.

index	size	DN	Q[m <sup>3</sup> /h]	d	L	H <sub>max</sub>	H <sub>min</sub>
01-401-0150-000	1/2"	15	1,8	RP1/2	65	84,3	69,5
01-401-0200-000	3/4"	20	3,6	RP 3/4	75	118,0	100,7
01-401-0250-000	1"	25	6,3	RP1	90	132,0	106,4
01-401-0320-000	1 1/4"	32	10,8	G1 1/4	110	150,6	125
01-401-0400-000	1 1/2"	40	14,4	G1 1/2	120	160,2	125
01-401-0500-000	2"	50	24,3	G2	150	197,0	155,5

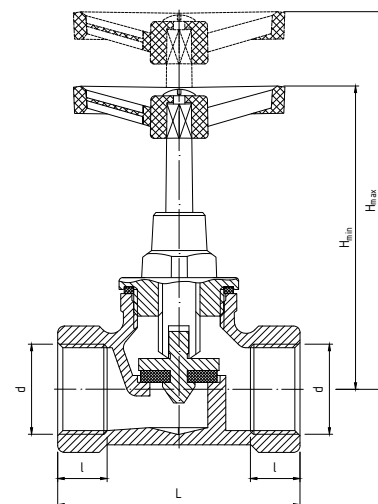
### MATERIALS

BODY, STEM: brass  
HEAD SEALING, STEM SEALING: EPDM  
HANDLE: plastic



# 1105

## STRAIGHT THROUGH MUSHROOM VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228 / EN 10226

### TECHNICAL DATA

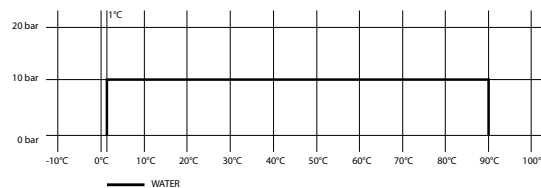


Dimensions in mm.  
\* Minimum flow compliant with DIN3546 Part 1.

index	size	DN	Q[m³/h]	d	L	H <sub>max</sub>	H <sub>min</sub>
01-400-0150-000	½"	15	1,8	RP½	65	70,0	65,0
01-400-0200-000	¾"	20	3,6	RP¾	74	82,7	77,7
01-400-0250-000	1"	25	6,3	RP1	85	103,5	96,5
01-400-0320-000	1¼"	32	10,8	G1¼	103	77,5	66,5
01-400-0400-000	1½"	40	14,4	G1½	115	85,0	73,0
01-400-0500-000	2"	50	24,3	G2	145	98,7	85,2

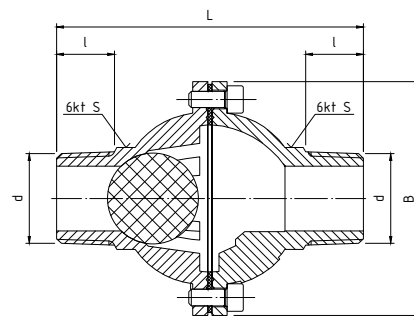
### MATERIALS

BODY, STEM: brass  
HEAD SEALING, STEM SEALING: EPDM  
HANDLE: plastic



# ZKR-111

## PRESSURE REGULATING BALL CHECK VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+120°C	+1°C	0,6 MPa	ISO 228

### TECHNICAL DATA

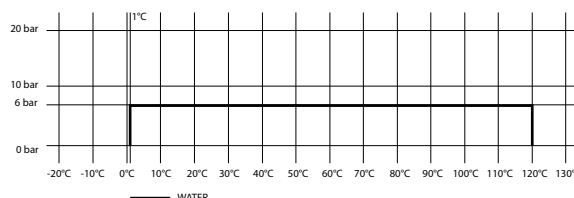


Dimensions in mm.

index	size	DN	d	L	l	B	S
04-101-0250-000	1"	25	G1	112	18	85	37,0
04-101-0320-000	1¼"	32	G1¼	118	22	92	47,5
04-101-0400-000	1½"	40	G1½	140	25	108	51,0
04-101-0500-000	2"	50	G2	150	28	120	63,0

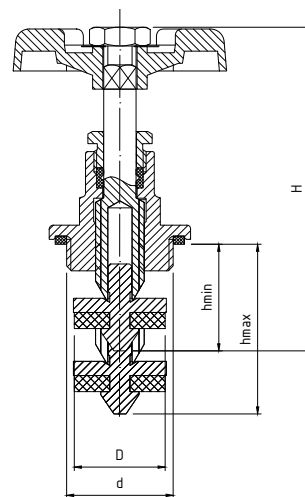
### MATERIALS

BODY: cast iron with paint coating  
BALL, BODY SEALING: NBR  
SCREWS: carbon steel with galvanic coating



# G02

## CAST IRON VALVE HEAD WITH FIBRE WASHER



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO 228

### TECHNICAL DATA

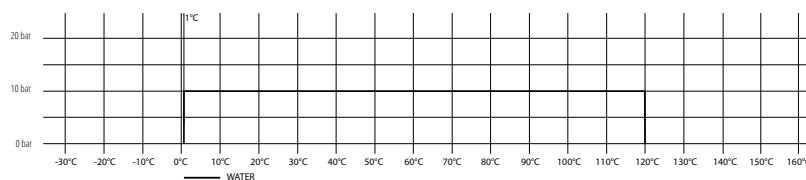


Dimensions in mm.

index	size	DN	d	D	H	h <sub>min</sub>	h <sub>max</sub>
01-500-0150-000	1/2"	15	G1/2	17	78	22	29,5
01-500-0200-000	3/4"	20	G3/4	23	83	23	36
01-500-0250-000	1"	25	G1	29	93	25	44,5
01-500-0320-000	1 1/4"	32	G1 1/4	35	107	27	52,8
01-500-0400-000	1 1/2"	40	G1 1/2	43	114	29	58
01-500-0500-000	2"	50	G2	55	129	29	58

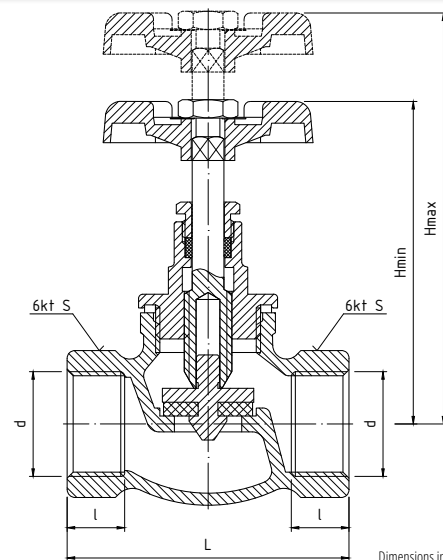
### MATERIALS

**HEAD BODY, STEM, PACKING NUT, ROTARY DISC:** CW617N brass  
**WASHER, NUT:** brass  
**DISC WASHER, PACKING WASHER:** NBR  
**HANDLE:** cast steel with blue coating  
**HEAD SEALING:** technical fi bre



# 3098

## GALVANISED CAST IRON STRAIGHT THROUGH VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+120°C	+1°C	1,0 MPa	ISO 228

### TECHNICAL DATA

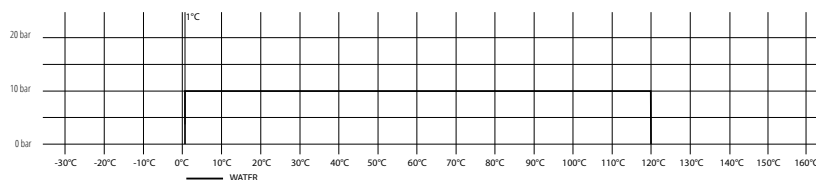


Dimensions in mm.

index	size	DN	d	L	l	H <sub>min</sub>	H <sub>max</sub>	S
01-400-0150-100	1/2"	15	G1/2	62,5	14,0	69,7	79,7	27,0
01-400-0200-100	3/4"	20	G3/4	72,0	14,0	81,7	93,7	31,0
01-400-0250-100	1"	25	G1	87,0	16,5	85,2	99,2	41,0
01-400-0320-100	1 1/4"	32	G1 1/4	102,5	19,0	110,25	124,25	49,5
01-400-0400-100	1 1/2"	40	G1 1/2	117,5	19,5	125,5	139,5	58,5
01-400-0500-100	2"	50	G2	143,0	22,5	148,0	168,0	71,5

### MATERIALS

**BODY:** cast iron  
**HEAD BODY, STEM, PACKING GLAND, DISC:** brass  
**HEAD SEALING:** technical fibre  
**DISC SEALING:** NBR  
**PACKING WASHER:** NBR for DN15, DN20, DN25, PTFE for DN32, DN40, DN50  
**HANDLE:** aluminium with black coating for DN15, DN20, DN25, cast iron with black coating for DN32, DN40, DN50.



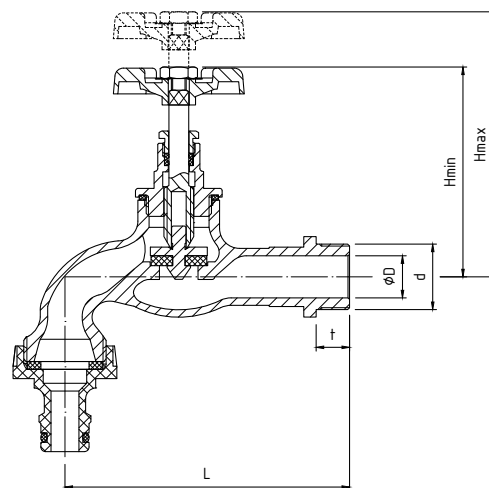


# 3099

## GALVANISED CAST IRON DRAW-OFF VALVE WITH QUICK-RELEASE HOSE CONNECTOR

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO 228



### TECHNICAL DATA

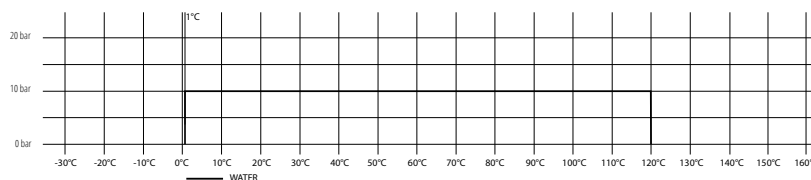


Dimensions in mm.

index	size	DN	d	øD	L	t	d <sub>1</sub>	H <sub>min</sub>	H <sub>max</sub>
01-009-0150-005	1/2"	15	G1/2	11	88,0	12,5	16	55,4	63,4
01-009-0200-005	3/4"	20	G3/4	16	110,5	14,0	16	74,5	80

### MATERIALS

**BODY:** cast iron  
**HEAD BODY, STEM, PACKING GLAND, DISC:** brass  
**HEAD SEALING:** technical fibre  
**USZCZELKA GRZYBKĄ:** NBR  
**PACKING WASHER:** PTFE (Teflon)  
**HANDLE:** aluminium with black paint coating



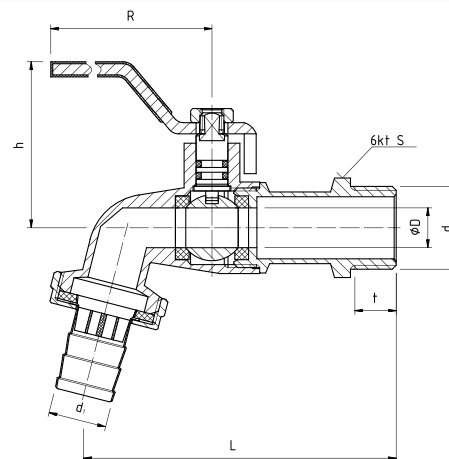
# 3102

## DRAW-OFF TAP WITH HOSE CONNECTION

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+65°C	+1°C	1,0 MPa	ISO 228

\* and +90°C for 1 hour



### TECHNICAL DATA

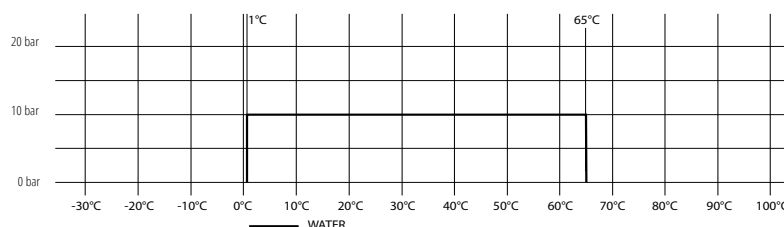


Dimensions in mm.

index	size	DN	d	d <sub>1</sub>	øD	L	t	h	S	R
01-009-0150-002	1/2"	15	G1/2	15	10	86	11	39	22,0	95
01-009-0200-002	3/4"	20	G3/4	20	12	94	12	40	27,5	95
01-009-0250-002	1"	25	G1	28	14	108	14	46	34,5	110

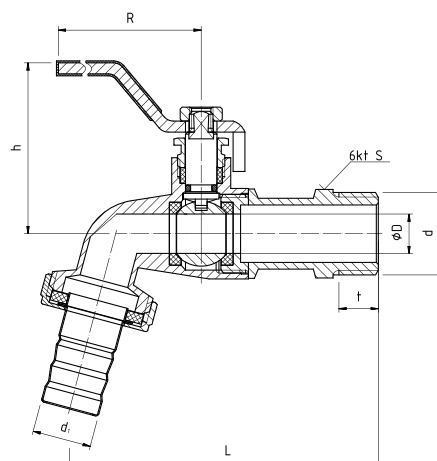
### MATERIALS

**BODY, SCREW PLUG, CONNECTOR NUT:** brass with outer nickel-plated coating  
**BALL:** chrome-plated brass  
**STEM:** brass  
**BALL SEALING:** PTFE (Teflon)  
**STEM SEALING:** O-rings - NBR  
**CONNECTOR SEALING:** fl at washer - NBR  
**HANDLE:** carbon steel with red sleeve  
**HOSE END FITTING:** stainless steel



# PHA-009

**RAW-OFF TAP WITH  
PACKING  
GLAND WITH HOSE  
CONNECTION**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA

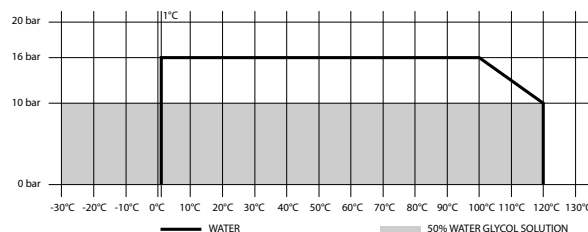


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m³/h]	Kv*[m³/h]	d	d <sub>1</sub>	ØD	L	t	h	S	R
01-009-0150-000	1/2"	15	0,82	2,59	G1/2	15	10,0	78,5	11,5	41,7	22,5	92
01-009-0200-000	3/4"	20	1,65	5,22	G3/4	20	12,0	84	12,0	43,0	28	95
01-009-0250-000	1"	25	2,70	8,54	G1	28	14,5	105,6	14,0	52,3	35	109

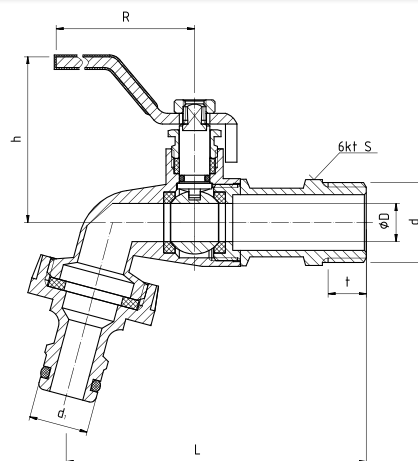
## MATERIALS

**BODY, SCREW PLUG, CONNECTOR NUT:** brass with outer nickel-plated coating  
**BALL:** chrome-plated brass CW617N  
**STEM, PACKING GLAND:** brass  
**BALL SEALING, STEM SEALING:** PTFE (Teflon)  
**CONNECTOR SEALING:** flat washer - NBR  
**HANDLE:** carbon steel with red sleeve  
**HOSE END FITTING:** stainless steel



# PHA-009S

**DRAW-OFF TAP WITH PACKING  
GLAND WITH  
QUICK-RELEASE  
HOSE CONNECTOR**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA

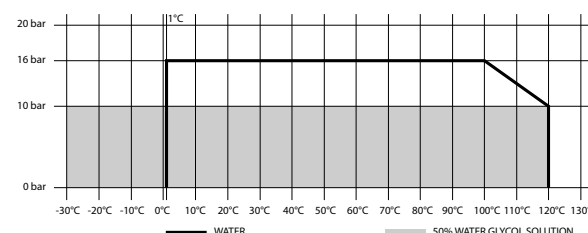


Dimensions in mm.  
\*Kv factor calculation based on Q value.

index	size	DN	Q[m³/h]	Kv*[m³/h]	d	d <sub>1</sub>	ØD	h	R	L	t	S
01-009-0150-001	1/2"	15	0,82	2,59	G1/2	15	10	41,7	92	78,5	11,5	22,5
01-009-0200-001	3/4"	20	1,65	5,22	G3/4	20	12	43,0	95	84,0	12,0	28

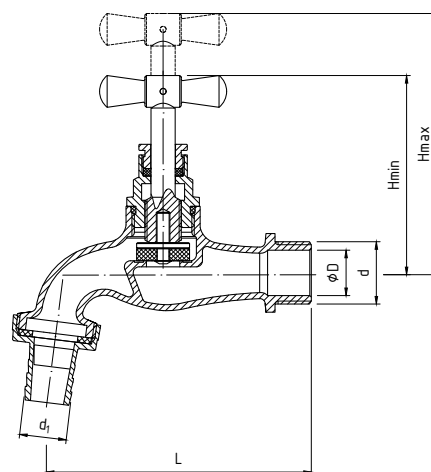
## MATERIALS

**BODY, SCREW PLUG:** CW617N brass with outer nickel-plated coating  
**BALL:** chrome-plated CW617N brass  
**BALL SEALING, STEM SEALING:** PTFE (Teflon)  
**CONNECTOR SEALING:** flat washer - NBR  
**HANDLE:** carbon steel with red sleeve  
**QUICK-RELEASE FITTING:** ABS



# PHA-015

**CHROME-PLATED  
BRASS  
DRAW-OFF  
MUSHROOM VALVE**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

## TECHNICAL DATA

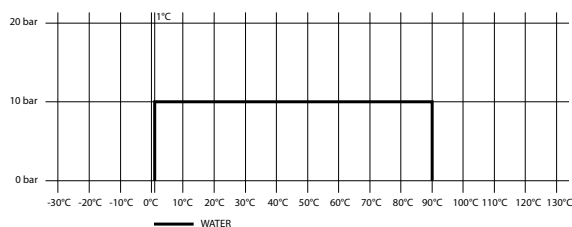


Dimensions in mm.

index	size	DN	d	d <sub>1</sub>	øD	L	t	H <sub>min</sub>	H <sub>max</sub>
01-015-0150-000	1/2"	15	G1/2	14	15	94	12	65	70
01-015-0200-000	3/4"	20	G3/4	17,5	20	110	14,5	74,5	80

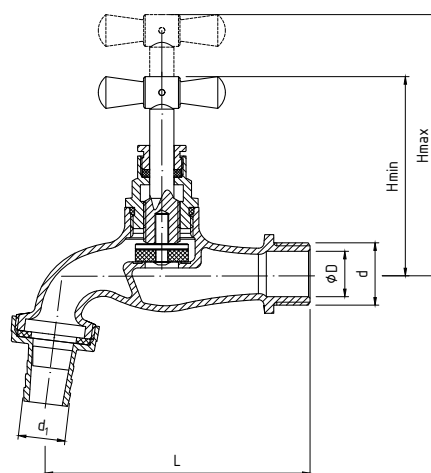
## MATERIALS

**BODY, STEM, COVER, HOSE END FITTING:** chrome-plated CW617N brass  
**ROTARY DISC INSERT:** CW617N brass  
**HANDLE:** chrome-plated brass  
**COVER SEALING:** O-ring – NBR  
**STEM SEALING :** PTFE (Teflon)  
**DISC SEALING, CONNECTOR SEALING:** NBR



# PHA-016

**BRASS  
DRAW-OFF  
MUSHROOM  
VALVE**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

## TECHNICAL DATA

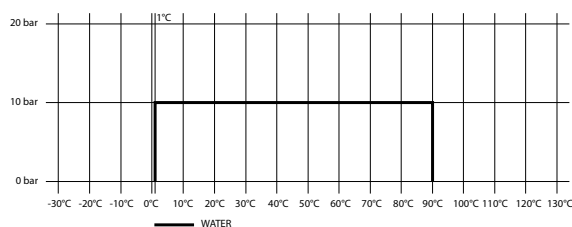


Dimensions in mm.

index	size	DN	d	d <sub>1</sub>	øD	L	t	H <sub>min</sub>	H <sub>max</sub>
01-016-0150-000	1/2"	15	G1/2	14	15	94	12	65	70

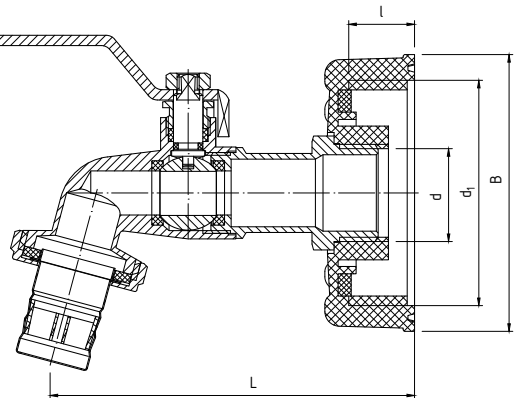
## MATERIALS

**BODY, STEM, COVER, HOSE END FITTING:** CW617N brass  
**ROTARY DISC INSERT:** CW617N brass  
**HANDLE:** brass  
**COVER SEALING:** O-ring – NBR  
**STEM SEALING :** PTFE (Teflon)  
**DISC SEALING, CONNECTOR SEALING:** NBR



## 09 - TAP WITH IBC ADAPTER

RAW-OFF TAP WITH IBC TANK ADAPTER (REDUCTION)



Dimensions in mm.

### TECHNICAL DATA



index	size	d	d <sub>1</sub>	L	l	B
01-009-0150-010	1/2"	G1/2	S60x6	89,3	18	73
01-009-0200-010	3/4"	G3/4	S60x6	99,4	18	75,3

### MATERIALS

**BODY, SCREW PLUG, CONNECTOR NUT:** brass with outer nickel-plated coating

**BALL:** chrome-plated brass CW617N

**STEM, PACKING GLAND:** brass

**BALL SEALING, STEM SEALING:** PTFE (Teflon)

**CONNECTOR SEALING:** flat washer - NBR

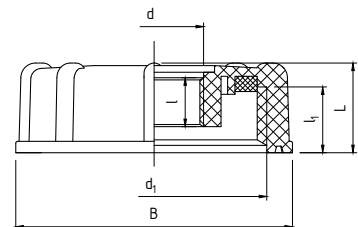
**HANDLE:** carbon steel with red sleeve

**HOSE END FITTING:** stainless steel

**ADAPTER:** polypropylene

## IBC ADAPTER

IBC TANK ADAPTER (REDUCTION)



Dimensions in mm.

### TECHNICAL DATA

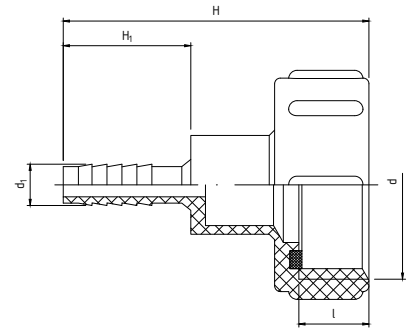
index	size	DN	d	d <sub>1</sub>	l	l <sub>1</sub>	L	B
01-009-0150-010	1/2"	15	G1/2	S60x6	13,3	17,9	24,4	73
01-009-0200-010	3/4"	20	G3/4	S60x6	13,3	17,9	24,4	75,3
01-009-0250-010	1"	25	G1	S60x6	13,3	17,9	24,4	75,3

### MATERIALS

**ADAPTER:** polypropylene

## ADAPTER WITH FITTING

IBC TANK ADAPTER  
(REDUCTION)  
WITH HOSE END FITTING



### TECHNICAL DATA



Dimensions in mm.

index	size	DN	d <sub>1</sub>	d	H	H <sub>1</sub>	L
01-009-0140-010	Φ 14	S60x6	S60x6	Ø 13.8	102,1	42,6	18

### MATERIALS

ADAPTER: polypropylene

# BRASS CONNECTORS

## APPLICATION

Brass and chrome-plated brass connectors are designed for connecting pipes and piping elements made of copper, copper alloys, steel or cast iron with threaded ends according to PN-EN ISO 228-1:2005

standard. They are used in:

- central heating systems
- hot and cold water supply systems (including drinking water)
- cooling and solar systems filled with 50% glycol solution (chilled water)

Brass connectors **can be fitted in vertical, horizontal and inclined pipelines, at any position**. In the case of connectors without sealing, sealing agents should be used to seal the connections, meeting the requirements of PN-EN 751-1:2005, PN-EN 751-2:2005, PN-EN 751-3:2005 standards.

## DESCRIPTION

Brass and chrome-plated brass connectors from Perfexim are supported by relevant documents:

- tests conducted by the Oil and Gas Institute - National Research Institute from Krakow.

Due to the positive test results - as a result of which the Technical Approval was issued - the use of brass connectors is much wider with the following operating parameters:

- minimum working temperature: -30°C
- maximum working pressure: 1,6MPa (16 bar)
- maximum working temperature: +180°C for connectors with uniform main body, and +120°C for threaded unions

## CHARACTERISTIC FEATURES

- robust **thickened walls to increase the strength** of connectors
- thread lengths designed in such a way so as to facilitate making **easy and reliable connections**
- **high-quality European brass**: CW617N and CW614N
- **wide range of applications** in terms of temperature (-30°C ÷ +180°C)
- applicable in **solar and cooling systems**

## ADVANTAGES

- wide range of applications of high quality products
- **10 year warranty for PERFEKT<sup>SYSTEM</sup>, 6 year warranty for other lines**
- product performance verified by tests conducted by an independent, renowned laboratory
- operating temperatures from -30°C up to even +180°C
- operating pressure up to 16 bar
- approved for **contact with drinking water** - certified by the National Institute of Hygiene
- approved for use in systems filled with 50% glycol solution

## MATERIALS

**BODY, CONNECTOR\*, NUT\***: CW617N brass  
(for chrome-plated connectors)

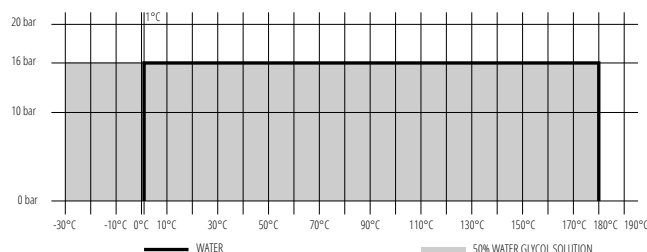
**CONNECTOR SEALING\***: O-ring – NBR

\* - threaded unions

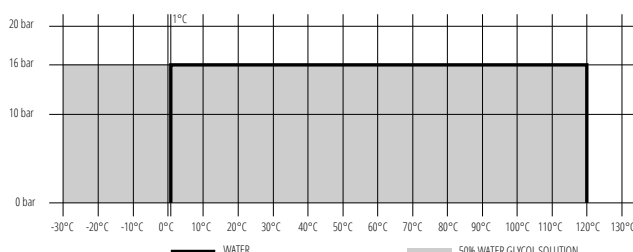


\* 10 year warranty **PERFEKT<sup>SYSTEM</sup>**,  
6 year warranty others

BRASS CONNECTORS WITH UNIFORM MAIN BODY



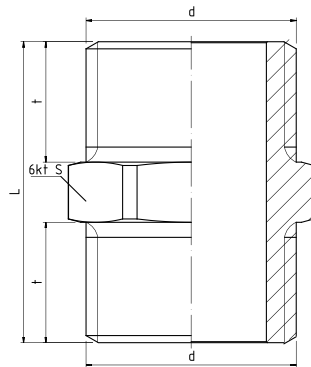
BRASS CONNECTORS - THREADED UNIONS





# PHA-304

## STRENGTHENED BRASS NIPPLE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

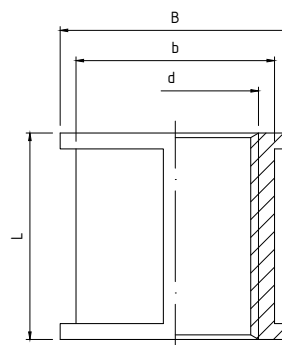


Dimensions in mm.

index	size	d	L	t	S
07-004-0100-000	3/8"	G3/8	24	10	18
07-004-0150-000	1/2"	G1/2	30	12	22
07-004-0200-000	3/4"	G3/4	32	13	28
07-004-0250-000	1"	G1	38	15	34
07-004-0320-000	1 1/4"	G1 1/4	40	16	42
07-004-0400-000	1 1/2"	G1 1/2	46	18	48
07-004-0500-000	2"	G2	52	20	60

# PHA-305

## STRENGTHENED BRASS SLEEVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

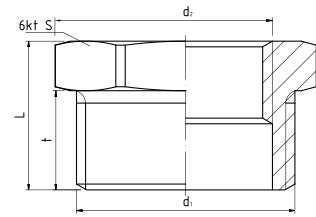


Dimensions in mm.

index	size	d	L	B	b
07-005-0100-000	3/8"	G3/8	22	22,5	20
07-005-0150-000	1/2"	G1/2	26	29,0	25
07-005-0200-000	3/4"	G3/4	28	35,0	31
07-005-0250-000	1"	G1	32	44,0	39
07-005-0320-000	1 1/4"	G1 1/4	36	54,0	49
07-005-0400-000	1 1/2"	G1 1/2	40	59,0	54
07-005-0500-000	2"	G2	44	71,0	66

# PHA-306

## STRENGTHENED BRASS BUSHING



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

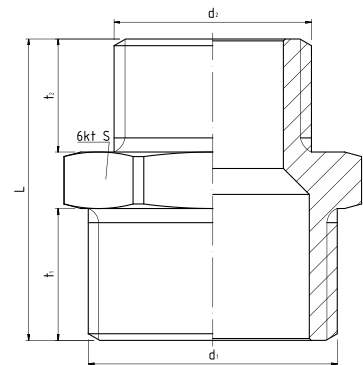


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t	S
07-006-1510-000	½"x¾"	G½	G¾	16	10	22
07-006-2015-000	¾"x½"	G¾	G½	18	12	28
07-006-2515-000	1"x½"	G1	G½	20	12	34
07-006-2520-000	1"x¾"	G1	G¾	20	12	34
07-006-3220-000	1¼"x¾"	G1¼	G¾	24	16	42
07-006-3225-000	1¼"x1"	G1¼	G1	24	16	42
07-006-4025-000	1½"x1"	G1½	G1	30	20	48
07-006-4032-000	1½"x1¼"	G1½	G1¼	30	20	48
07-006-5025-000	2"x1"	G2	G1	34	22	60
07-006-5032-000	2"x1¼"	G2	G1¼	34	22	60
07-006-5040-000	2"x1½"	G2	G1½	34	22	60

# PHA-307

## STRENGTHENED BRASS REDUCING NIPPLE



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

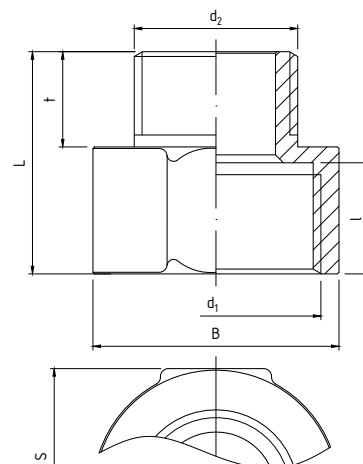


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t <sub>1</sub>	t <sub>2</sub>	S
07-007-1510-000	½"x¾"	G½	G¾	28	12	10	22
07-007-2015-000	¾"x½"	G¾	G½	32	14	12	28
07-007-2515-000	1"x½"	G1	G½	35	15	12	34
07-007-2520-000	1"x¾"	G1	G¾	36	15	13	34
07-007-3225-000	1¼"x1"	G1¼	G1	39	16	15	42
07-007-4025-000	1½"x1"	G1½	G1	43	18	15	48
07-007-5025-000	2"x1"	G2	G1	47	20	15	60
07-007-5032-000	2"x1¼"	G2	G1¼	48	20	16	60
07-007-5040-000	2"x1½"	G2	G1½	50	20	18	60

# PHA-308

**STRENGTHENED  
BRASS REDUCING  
SLEEVE-NIPPLE  
BUSHING**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA

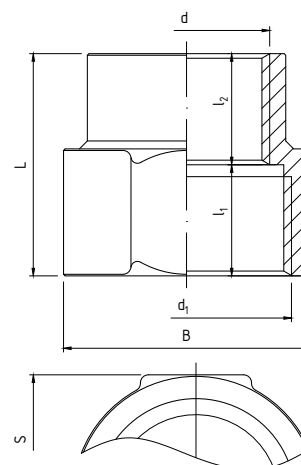


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t	l	B	S
07-008-1510-000	1/2"x3/8"	G1/2	G3/8	24	10	12	25,0	25
07-008-2015-000	3/4"x1/2"	G3/4	G1/2	28	12	14	31,0	31
07-008-2520-000	1"x3/4"	G1	G3/4	31	13	15	39,0	39

# PHA-309

**STRENGTHENED  
BRASS  
REDUCTION MUFF**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA

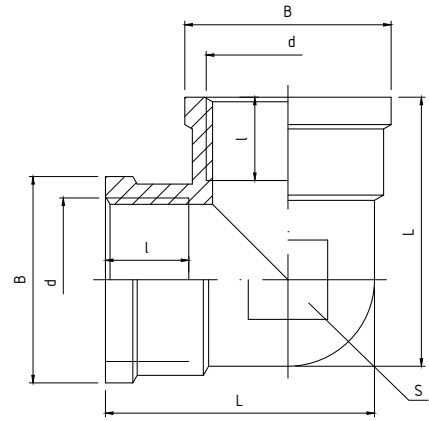


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	l <sub>1</sub>	l <sub>2</sub>	B	S
07-009-1510-000	1/2"x3/8"	G1/2	G3/8	24	12	12	25	25
07-009-2015-000	3/4"x1/2"	G3/4	G1/2	28	14	14	31	31
07-009-2520-000	1"x3/4"	G1	G3/4	31	15	16	39	39

# PHA-310

## TRENGTHENED BRASS ELBOW



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

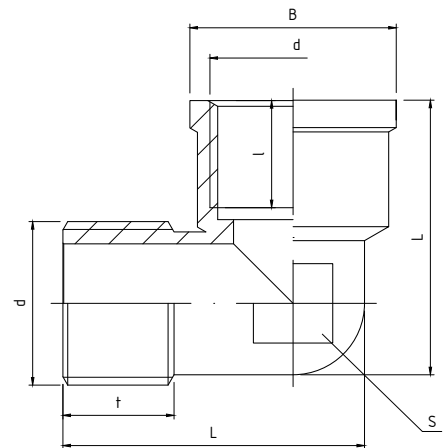


Dimensions in mm.

index	size	d	L	l	B	S
07-010-0100-000	3/8"	G3/8	28,8	9,0	22,5	17,8
07-010-0150-000	1/2"	G1/2	33,9	10,5	26,0	21,8
07-010-0200-000	3/4"	G3/4	41,4	11,5	33,5	27,8
07-010-0250-000	1"	G1	51,0	13,5	42,0	35
07-010-0320-000	1 1/4"	G1 1/4	60,0	14,5	50,5	44
07-010-0400-000	1 1/2"	G1 1/2	70,0	16,5	57,0	51
07-010-0500-000	2"	G2	83,4	18,5	69,0	62,8

# PHA-311

## STRENGTHENED BRASS ELBOW - FM



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	GZ/FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

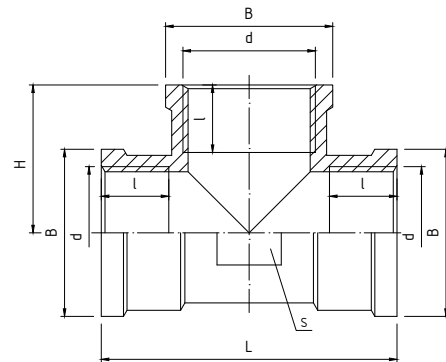


Dimensions in mm.

index	size	d	L	t	l	H	B	S
07-011-0100-000	3/8"	G3/8	28,5	10	9,0	27,2	22,5	14,5
07-011-0150-000	1/2"	G1/2	38	14	13,5	34,6	26,0	18,0
07-011-0200-000	3/4"	G3/4	43,8	15	13,5	41,5	33,5	24,0
07-011-0250-000	1"	G1	52,7	16	15	48,5	42,0	30,0
07-011-0320-000	1 1/4"	G1 1/4	60,5	16	14,5	58,5	50,5	38,5
07-011-0400-000	1 1/2"	G1 1/2	68,8	18	16,5	66,8	57,0	44,6
07-011-0500-000	2"	G2	82,5	20	18,5	80,0	69,0	56,0

# PHA-312

## TRENGTHENED BRASS TEE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

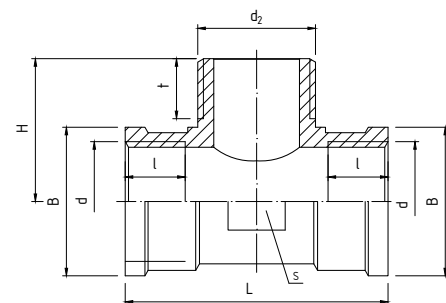


Dimensions in mm.

index	size	d	L	l	H	B	S
07-012-0100-000	3/8"	G3/8	39,8	9,0	20,0	22,5	17,8
07-012-0150-000	1/2"	G1/2	46	10,5	23,0	26,0	21,8
07-012-0200-000	3/4"	G3/4	55	11,5	27,5	33,5	27,8
07-012-0250-000	1"	G1	67	13,5	33,5	42,0	35
07-012-0320-000	1 1/4"	G1 1/4	76	14,5	38,0	50,5	44
07-012-0400-000	1 1/2"	G1 1/2	89	16,5	44,5	57,0	51
07-012-0500-000	2"	G2	104	18,5	52,0	69,0	62,8

# PHA-313

## STRENGTHENED BRASS TEE - FM



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	GZ/FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

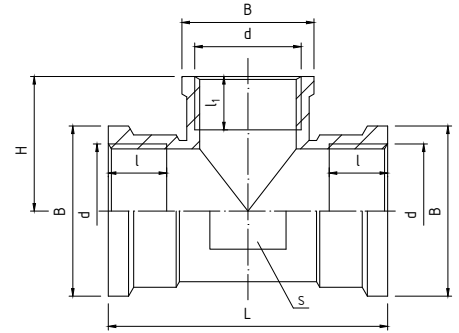


Dimensions in mm.

index	size	d	L	t	l	H	B	S
07-013-0100-000	3/8"	G3/8	39,8	10	9,0	21,2	22,5	17,8
07-013-0150-000	1/2"	G1/2	46	12	10,5	25,0	26,0	21,8
07-013-0200-000	3/4"	G3/4	55	13	11,5	30,3	33,5	27,8
07-013-0250-000	1"	G1	67	15	13,5	36,0	42,0	35

# PHA-314

**STRENGTHENED  
BRASS TEE - FM**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA

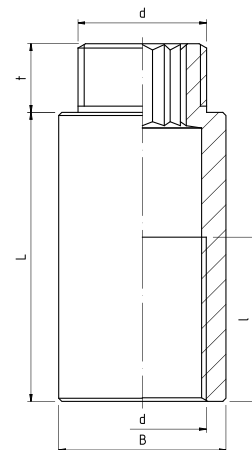


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	l	l <sub>1</sub>	H	B <sub>1</sub>	B <sub>2</sub>	S
07-014-2015-000	¾"x½"	G¾	G½	55	11,5	10,5	26,5	33,5	26,0	27,8
07-014-2515-000	1"x½"	G1	G½	67	13,5	10,5	29,8	42,0	26,0	35
07-014-2520-000	1"x¾"	G1	G¾	67	13,5	11,5	30,0	42,0	33,5	35

# PHA-315

**STRENGTHENED  
BRASS  
EXTENSION - FM**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	GZ/FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA



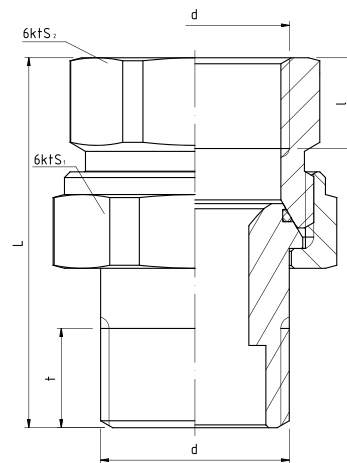
Dimensions in mm.

index	size	d	L	l	t	B
07-015-1015-000	½"x10	G½	11	8,1	10,8	26,6
07-015-1515-000	½"x15	G½	15	11,5	10,8	26,6
07-015-2015-000	½"x20	G½	20	16,0	10,8	26,6
07-015-2515-000	½"x25	G½	25	22,5	10,8	26,6
07-015-3015-000	½"x30	G½	30	27,5	10,8	26,6
07-015-4015-000	½"x40	G½	40	37,5	10,8	26,6
07-015-5015-000	½"x50	G½	50	47,5	10,8	26,6



# PHA-300

**STRENGTHENED  
BRASS STRAIGHT  
UNION - O-RING**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	GZ/FT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA

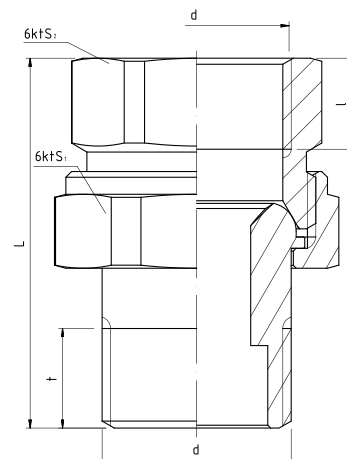


Dimensions in mm.

index	size	d	L	t	l	S <sub>1</sub>	S <sub>2</sub>
07-000-0150-000	½"	G½	54	13,0	12,0	30	26
07-000-0200-000	¾"	G¾	59,5	14,5	13,5	38	32
07-000-0250-000	1"	G1	65	17,5	15,0	46	40

# PHA-301

**STRENGTHENED  
BRASS STRAIGHT  
UNION - CONE**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	GZ/FT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA



Dimensions in mm.

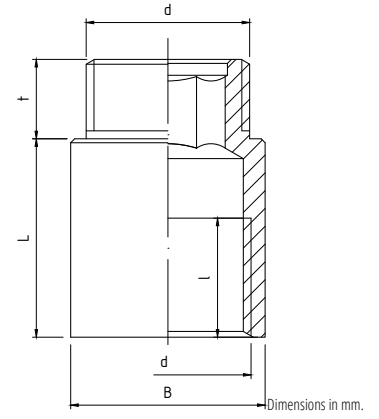
index	size	d	L	t	l	S <sub>1</sub>	S <sub>2</sub>
07-001-0150-000	½"	G½	55	13,0	12,0	30	26
07-001-0200-000	¾"	G¾	60	13,5	14,5	38	32
07-001-0250-000	1"	G1	65	15,0	17,5	46	40

# 502G

## BRASS EXTENSION - FM

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	GZ/FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228



### TECHNICAL DATA



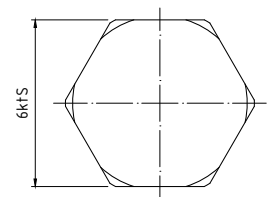
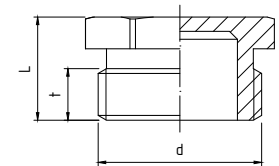
index	size	d	L	t	l	B
07-220-1510-000	1/2"x10	G1/2	10,5	10	8,0	24,5
07-220-1515-000	1/2"x15	G1/2	15,0	10	11,0	24,5
07-220-1520-000	1/2"x20	G1/2	20,0	10	15,0	24,5
07-220-1525-000	1/2"x25	G1/2	25,0	10	15,0	24,5
07-220-1530-000	1/2"x30	G1/2	30,0	10	20,0	24,5
07-220-1540-000	1/2"x40	G1/2	40,0	10	26,0	24,5
07-220-1550-000	1/2"x50	G1/2	50,0	10	26,0	24,5
07-220-1560-000	1/2"x60	G1/2	60,0	10	26,0	24,5
07-220-1580-000	1/2"x80	G1/2	80,0	10	26,0	24,5
07-220-1599-000	1/2"x100	G1/2	100,0	10	26,0	24,5
07-220-2010-000	3/4"x10	G3/4	10,0	10	7,5	29,8
07-220-2015-000	3/4"x15	G3/4	25,0	10	12,0	29,8
07-220-2020-000	3/4"x20	G3/4	20,0	10	17,0	29,8
07-220-2030-000	3/4"x30	G3/4	30,0	10	27,0	29,8
07-220-2040-000	3/4"x40	G3/4	40,0	10	30,0	29,8
07-220-2050-000	3/4"x50	G3/4	50,0	10	30,0	29,8

# 5101

## BRASS PLUG - MALE THREAD

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228



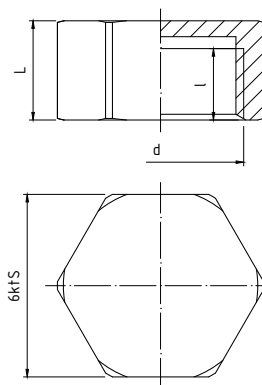
### TECHNICAL DATA



index	size	d	L	t	S
07-201-0100-000	3/8"	G3/8	11,0	5,5	17
07-201-0150-000	1/2"	G1/2	13,0	6,5	21
07-201-0200-000	3/4"	G3/4	14,5	7,5	27
07-201-0250-000	1"	G1	16,0	8,5	33

# 5102

## BRASS END CAP - FEMALE THREAD



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

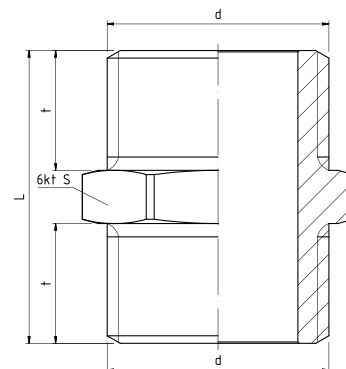


Dimensions in mm.

index	size	d	L	l	S
07-202-0100-000	3/8"	G3/8	12,0	10,0	19,0
07-202-0150-000	1/2"	G1/2	12,5	10,5	23,0
07-202-0200-000	3/4"	G3/4	14,0	12,0	29,0
07-202-0250-000	1"	G1	15,0	13,0	36,0
07-202-0320-000	1 1/4"	G1 1/4	15,0	12,0	46,5

# 5105

## BRASS NIPPLE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

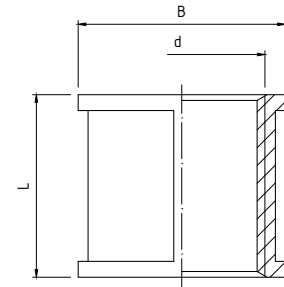


Dimensions in mm.

index	size	d	L	t	S
07-205-0100-000	3/8"	G3/8	22,0	9,0	18
07-205-0150-000	1/2"	G1/2	25,0	10,5	22
07-205-0200-000	3/4"	G3/4	29,0	12,0	28
07-205-0250-000	1"	G1	31,5	13,0	34
07-205-0320-000	1 1/4"	G1 1/4	32,0	13,0	42

# 5108

## BRASS SLEEVE



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

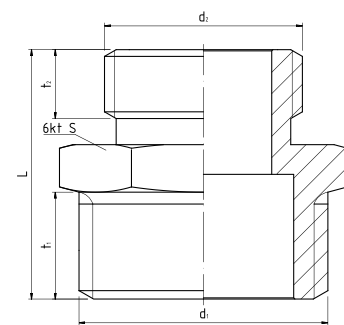


Dimensions in mm.

index	size	d	L
07-208-0150-000	1/2"	G1/2	23,0
07-208-0200-000	3/4"	G3/4	26,0
07-208-0250-000	1"	G1	29,5
07-208-0320-000	1 1/4"	G1 1/4	34,0

# 5109

## BRASS REDUCING NIPPLE



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

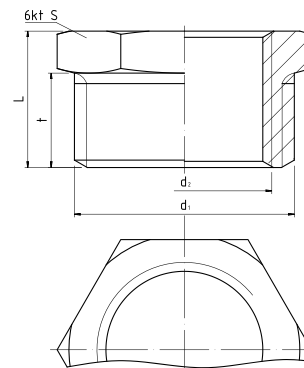


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t <sub>1</sub>	t <sub>2</sub>	S
07-209-1510-000	1/2"x3/8"	G1/2	G3/8	21,0	9	5,8	21
07-209-1520-000	3/4"x1/2"	G3/4	G1/2	23,5	10	6,8	26
07-209-2025-000	1"x3/4"	G1	G3/4	27,0	12	7,8	33

# 5110

## BRASS BUSHING



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	GZ/FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

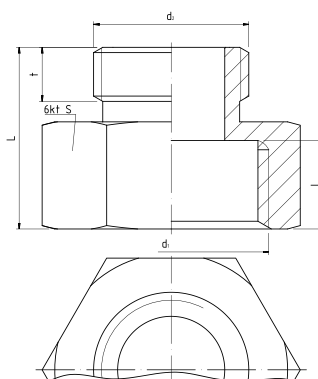


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t	S
07-210-1008-000	3/8"x1/4"	G 1/4	G 3/8	14,5	9,5	17,5
07-210-1508-000	1/2"x1/4"	G 1/4	G 1/2	17,0	11,0	21,0
07-210-1510-000	1/2"x3/8"	G 1/2	G 3/8	13,0	9,0	21,0
07-210-2015-000	3/4"x1/2"	G 3/4	G 1/2	15,0	10,0	26,0
07-210-1525-000	1"x1/2"	G1	G 1/2	17,5	11,8	33,0
07-210-2025-000	1"x3/4"	G1	G 3/4	17,5	11,8	33,0
07-210-2532-000	1 1/4"x1"	G1 1/4	G1	20,0	13,0	42,0

# 5111

## BRASS REDUCING SLEEVE-NIPPLE BUSHING



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	GZ/FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

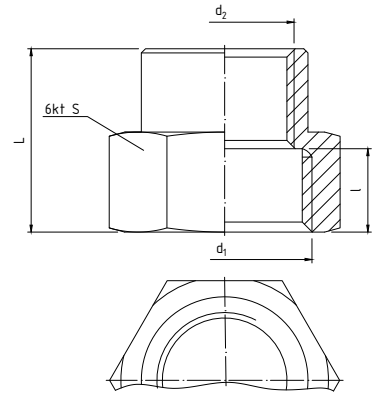


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t	l	S
07-211-1510-000	1/2"x3/8"	G 1/2	G 3/8	19,5	5,8	9,5	24
07-211-2015-000	3/4"x1/2"	G 3/4	G 1/2	21,5	6,8	10,5	29
07-211-1525-000	1"x1/2"	G1	G 1/2	25,0	7,8	12,5	36
07-211-2025-000	1"x3/4"	G1	G 3/4	25,0	7,8	12,5	36
07-211-3225-000	1 1/4"x1"	G1 1/4	G1	29,0	9,6	14,0	45

# 5112

## BRASS REDUCING SLEEVE



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	GZ/FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

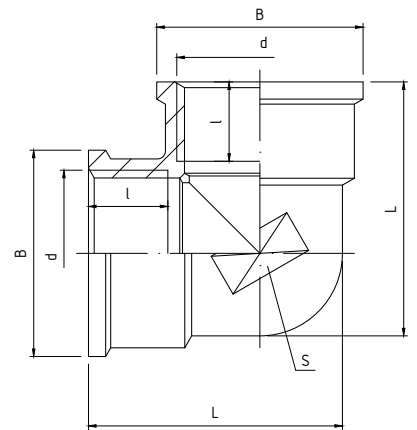


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	l	S
07-212-1510-000	1/2"x3/8"	G1/2	G3/8	22,0	10,3	24
07-212-2015-000	3/4"x1/2"	G3/4	G1/2	23,0	11,3	30
07-212-2515-000	1"x1/2"	G1	G1/2	25,5	13,5	37
07-212-2520-000	1"x3/4"	G1	G3/4	26,5	13,5	37

# 5113

## BRASS ELBOW



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA



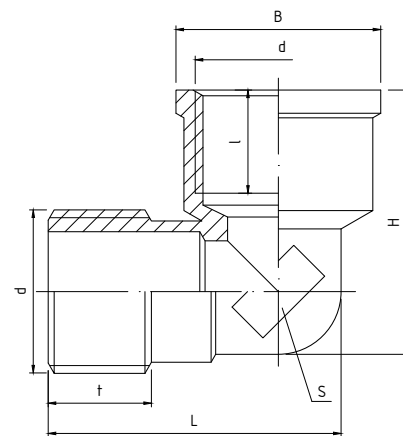
Dimensions in mm.

index	size	d	L	l	B	S
07-213-0100-000	3/8"	G3/8	28	10,0	22	17
07-213-0150-000	1/2"	G1/2	32	11,5	26	21
07-213-0200-000	3/4"	G3/4	39	13,0	32	27
07-213-0250-000	1"	G1	49	15,0	39	33



# 5114

## BRASS ELBOW - FM



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

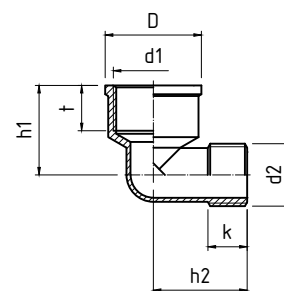


Dimensions in mm.

index	size	d	L	t	l	H	B	S
07-214-0100-000	3/8"	G3/8	30,9	10	12	29,9	21,5	13,3
07-214-0150-000	1/2"	G1/2	36,9	13	14,5	33,3	25,8	16,3
07-214-0200-000	3/4"	G3/4	42,9	14	16	39,9	31,8	23,3
07-214-0250-000	1"	G1	51,9	15	16	44,4	38,8	27,2

# 5115

## BRASS REDUCING ELBOW - FM



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

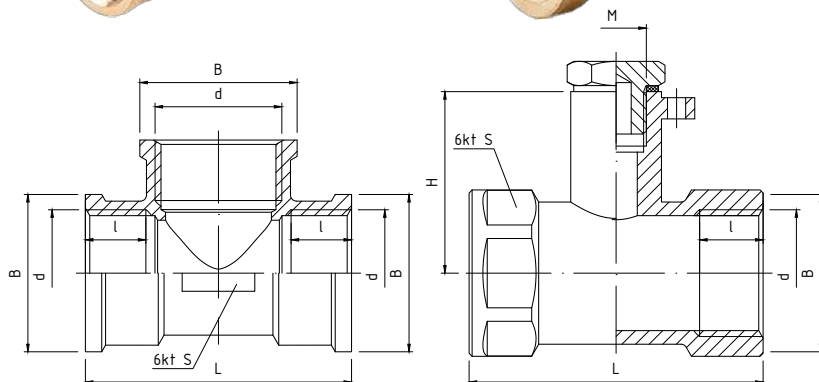
index	size	d <sub>1</sub>	d <sub>2</sub>	h <sub>1</sub>	h <sub>2</sub>	t	k	D
07-215-2015-000	1/2" x 3/4"	3/4"	1/2"	29,6	31	15	13	31,8
07-215-2520-000	3/4" x 1"	1"	3/4"	31	35	15	14	38,8

# 5116

## BRASS TEE

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228



### TECHNICAL DATA



Item 5116 1/2"xM10 has ø3 hole to enable seal installation  
Dimensions in mm.

index	size	d	M	L	l	H	B	S
07-216-0150-000	1/2"	G1/2	x	44,0	11,5	22	26,0	21
07-216-0200-000	3/4"	G3/4	x	52,0	13,5	26	32,0	27
07-216-0250-000	1"	G1	x	66,0	16,5	34	39,0	32
07-216-1510-000	1/2"xM10	G1/2	M10x1	48,6	10,5	30	27,5	25

# 5116/CZ

## M10 PLUG

### TECHNICAL DATA

index	size
07-216-1510-001	M10x1

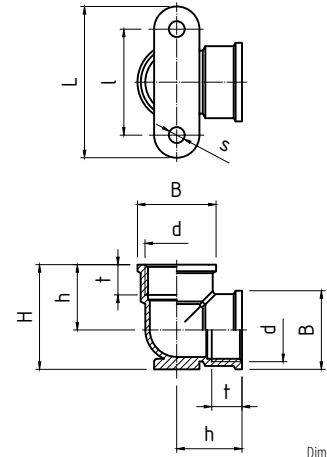


### MATERIALS

**BODY:** brass  
**SEALING:** PTFE

# 5118

## BRASS ELBOW WITH MOUNTING - FF



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA



index	size	d	B	t	h	H	l	L	s
07-218-0150-000	1/2"	1/2"	26	10	31	34,6	35	50	5
07-218-0200-000	3/4"	3/4"	31	11,5	35	42	40	55	5

# 5100

## PRESSURE GAUGE BUSHING

### TECHNICAL DATA

index	size
20-402-0002-000	1/2" x 1/4"

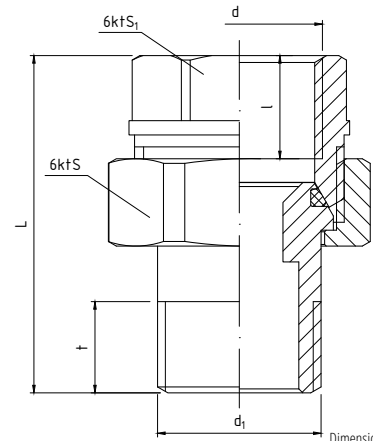


### MATERIALS

**BODY:** brass

# 1046

## BRASS STRAIGHT UNION - O-RING



Dimensions in mm.

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

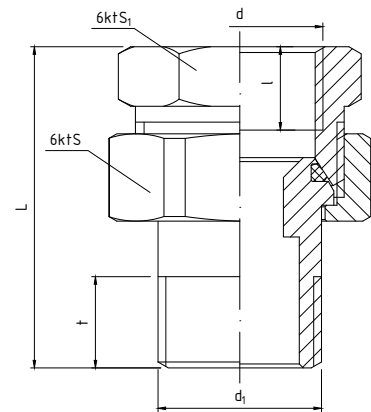
### TECHNICAL DATA



index	size	d	L	t	l	S	S <sub>1</sub>
07-146-0100-000	3/8"	G3/8	39,0	13,0	10,5	26	20,0
07-146-0150-000	1/2"	G1/2	42,0	11,5	13,0	30	24,0
07-146-0200-000	3/4"	G3/4	46,5	13,0	13,0	36	30,0
07-146-0250-000	1"	G1	55,0	16,0	14,5	46	37,0
07-146-0320-000	1 1/4"	G1 1/4	61,0	19,0	14,0	53	46,5
07-146-0400-000	1 1/2"	G1 1/2	65,7	16,5	18,0	64	54,0
07-146-0500-000	2"	G2	78,7	21,0	20,0	82	68,0

# 1046S

## BRASS STRAIGHT UNION - O-RING



Dimensions in mm.

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA



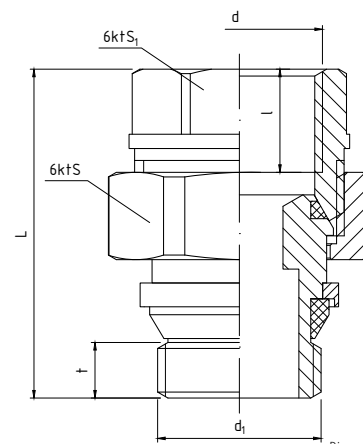
index	size	d	L	t	l	S	S <sub>1</sub>
07-146-0150-002	1/2"	G1/2	39,5	11,5	10,5	30,0	26,5
07-146-0200-002	3/4"	G3/4	46,8	13,0	13,0	36,0	33,0
07-146-0250-002	1"	G1	49,8	16,0	15,0	46,0	42,0

# 1046A

## BRASS STRAIGHT UNION - O-RING WITH SELF-SEALING

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228



Dimensions in mm.

### TECHNICAL DATA



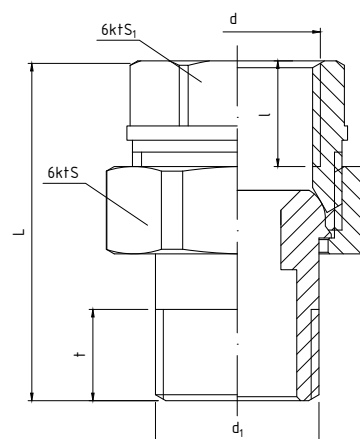
index	size	d	L	t	l	s	S <sub>1</sub>
07-146-0150-001	1/2"	G1/2	42	11,5	13,0	30	24
07-146-0200-001	3/4"	G3/4	47	11,5	13,0	36	30
07-146-0250-001	1"	G1	55	12,5	14,5	46	37

# 1047

## BRASS STRAIGHT UNION - CONE

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228



Dimensions in mm.

### TECHNICAL DATA



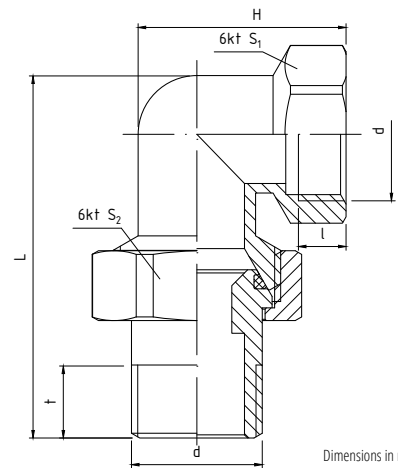
index	size	d	L	t	l	s	S <sub>1</sub>
07-147-0100-000	3/8"	G3/8	40,0	13,0	10,5	26	20,0
07-147-0150-000	1/2"	G1/2	42,5	11,5	13,0	30	24,0
07-147-0200-000	3/4"	G3/4	47,5	13,0	13,0	36	30,0
07-147-0250-000	1"	G1	55,0	16,0	14,5	46	37,0
07-147-0320-000	1 1/4"	G1 1/4	62,0	19,0	14,0	53	46,5

# 1048

## BRASS ANGLED UNION - O-RING

### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228



Dimensions in mm.

### TECHNICAL DATA



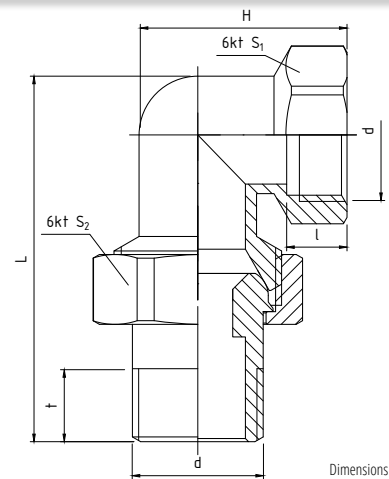
index	size	d	L	t	l	H	S <sub>1</sub>	S <sub>2</sub>
07-148-0100-000	3/8"	G3/8	52,0	13,0	9,0	28,0	20,5	26
07-148-0150-000	1/2"	G1/2	57,0	11,5	9,5	33,0	25,0	30
07-148-0200-000	3/4"	G3/4	68,7	13,0	10,0	37,0	30,5	36
07-148-0250-000	1"	G1	82,0	16,0	11,5	51,0	36,5	46
07-148-0320-000	1 1/4"	G1 1/4	98,0	19,0	14,0	64,5	46,0	53

# 1049

## BRASS ANGLED UNION - CONE

### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228



Dimensions in mm.

### TECHNICAL DATA



index	size	d	L	t	l	H	S <sub>1</sub>	S <sub>2</sub>
07-149-0150-000	1/2"	G1/2	57,0	11,5	9,5	33	25,0	30
07-149-0200-000	3/4"	G3/4	68,7	13,0	10,0	37	30,5	36
07-149-0250-000	1"	G1	82,0	16,0	11,5	51	36,5	46

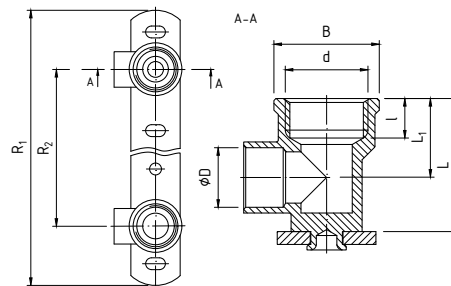


# 5119

## MIXER TAP MOUNTING PANEL

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+110°C	+1°C	1,6 MPa	ISO 228



### TECHNICAL DATA

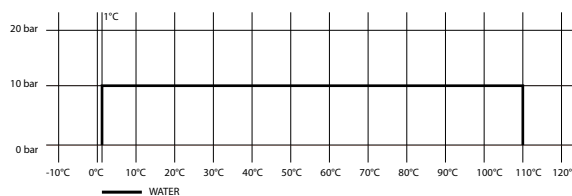


Dimensions in mm.

index	size	d	øD	L	L <sub>1</sub>	l	B	R <sub>1</sub>	R <sub>2</sub>
07-221-0100-000	15x1/2x100	G1/2	15	33,7	20	10	26,7	100	160
07-221-0150-000	15x1/2x150	G1/2	15	33,7	20	10	26,7	150	210

### MATERIALS

ELBOWS: CW617N brass  
MOUNTING PANEL: galvanised carbon steel

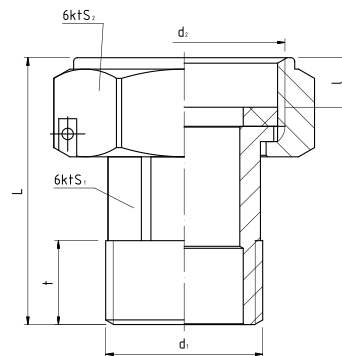


# 5120

## BRASS WATER METER UNION

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+90°C	+1°C	1,6 MPa	ISO 228



### TECHNICAL DATA



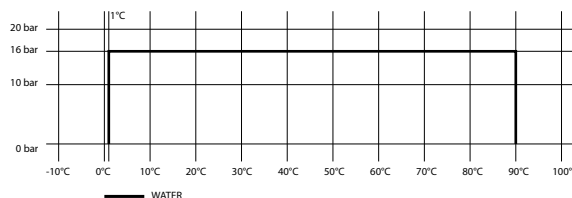
Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t	l	S <sub>1</sub>	S <sub>2</sub>
07-190-0150-000	1/2"	G1/2	G3/4	47,0	13,5	9,5	18,7	30,0
07-190-0200-000	3/4"	G3/4	G1	54,0	12,5	9,5	22,0	36,5
07-190-0250-000	1"	G1	G1 1/4	65,0	16,0	10,6	30,0	45,0

### MATERIALS

CONNECTOR, NUT: CW617N brass  
WASHER: technical fi bre

Union nuts have special holes enabling seal installation.

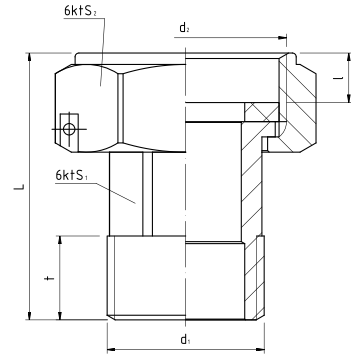
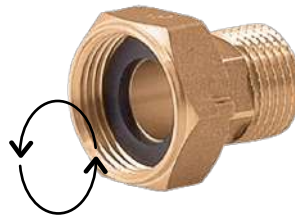


# 5120S

## BRASS WATER METER UNION

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+90°C	+1°C	1,6 MPa	ISO 228



Dimensions in mm.

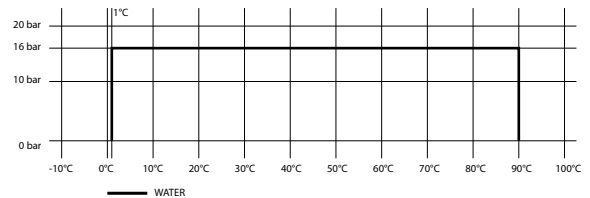
### TECHNICAL DATA

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t	l	S <sub>1</sub>	S <sub>2</sub>
07-190-0151-000	1/2"	G1/2	G3/4	35	11,5	9	18	30

### MATERIALS

CONNECTOR, NUT: CW617N brass  
WASHER: NBR/EPDM

Union nuts have special holes enabling seal installation.

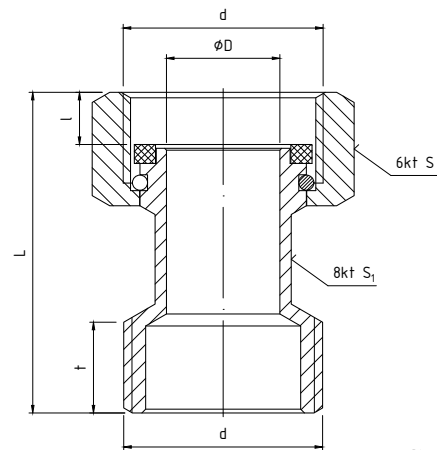


# 5122

## STRAIGHT UNION WITH SWIVEL NUT

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+90°C	+1°C	1,6 MPa	ISO 228



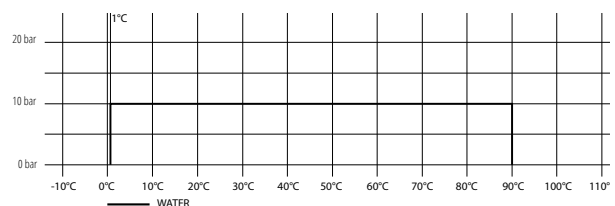
Dimensions in mm.

### TECHNICAL DATA

index	size	d	D	L	l	t	S	S <sub>1</sub>
07-150-0150-000	1/2"	G1/2	10	40,4	7,4	12	24	13
07-150-0200-000	3/4"	G3/4	15	42,4	7,4	12	30	18
07-150-0250-000	1"	G1	20	46,9	8,9	12	36	24

### MATERIALS

CONNECTOR, NUT: CW617N brass  
SUPPORTING RING: stainless steel AISI304  
SEALING: NBR or technical fibre

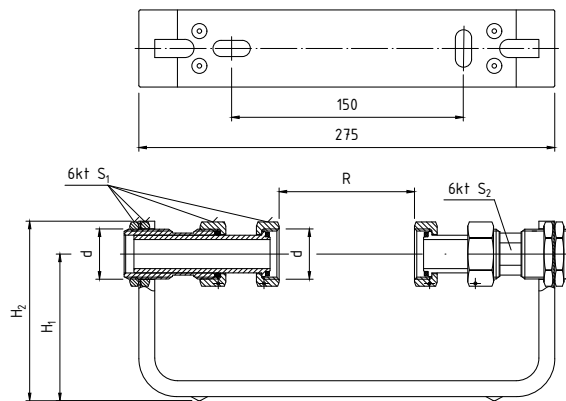
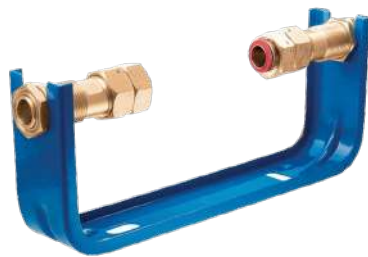


# 5000

## WATER METER MOUNTING BRACKET, WITH PAINT COATING

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+90°C	+1°C	1,6 MPa	ISO 228



Dimensions in mm.

### TECHNICAL DATA

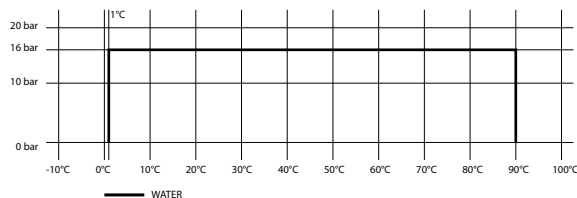


index	size	d	H <sub>1</sub>	H <sub>2</sub>	R	S <sub>1</sub>	S <sub>2</sub>
07-195-0150-000	1/2"	G1/2	98,4	119	50÷150	30	21,8
07-195-0200-000	3/4"	G3/4	97,2	119	50÷150	37	27,8

### MATERIALS

- BODY, CONNECTOR, NUT: CW617N brass
- O-RING: EPDM/NBR
- WASHER: technical fibre
- MOUNTING BRACKET: carbon steel with paint coating

Union nuts have special holes enabling seal installation; mounting kit included in the set.

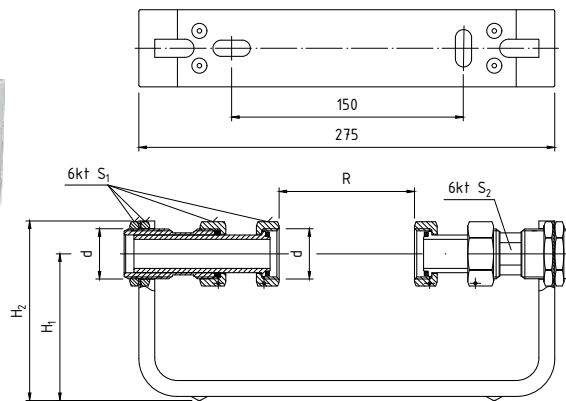


# 5000N

## STAINLESS STEEL WATER METER MOUNTING BRACKET

### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+90°C	+1°C	1,6 MPa	ISO 228



Dimensions in mm.

### TECHNICAL DATA

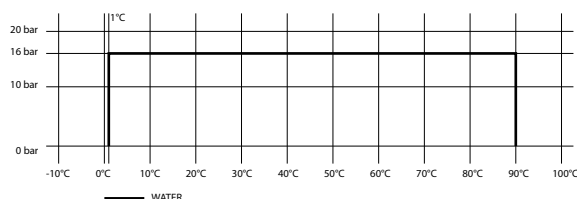


index	size	d	H <sub>1</sub>	H <sub>2</sub>	R	S <sub>1</sub>	S <sub>2</sub>
07-195-0150-001	1/2"	G1/2	98,4	119	50÷150	30	21,8
07-195-0200-001	3/4"	G3/4	97,2	119	50÷150	37	27,8

### MATERIALS

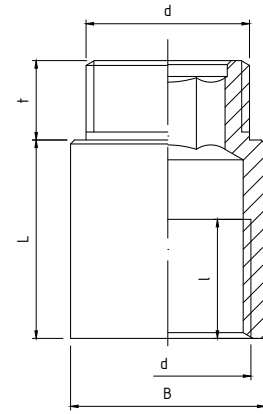
- BODY, CONNECTOR, NUT: CW617N brass
- O-ring: EPDM/NBR
- WASHER: technical fibre
- MOUNTING BRACKET: stainless steel

Union nuts have special holes enabling seal installation; mounting kit included in the set.



# 502

## CHROME-PLATED BRASS EXTENSION - FM



PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

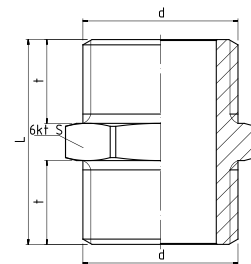


Dimensions in mm.

index	size	d	L	t	l	B
07-521-1510-000	½"x10	G½	10,5	10	8,0	24,5
07-521-1515-000	½"x15	G½	15	10	12,0	24,5
07-521-1520-000	½"x20	G½	20	10	17,0	24,5
07-521-1525-000	½"x25	G½	25	10	22,0	24,5
07-521-1530-000	½"x30	G½	30	10	22,0	24,5
07-521-1540-000	½"x40	G½	40	10	26,0	24,5
07-521-1550-000	½"x50	G½	50	10	26,0	24,5
07-521-1560-000	½"x60	G½	60	10	30,0	24,5
07-521-1580-000	½"x80	G½	80	10	30,0	24,5
07-521-1599-000	½"x100	G½	100	10	30,0	24,5
07-521-2010-000	¾"x10	G¾	10	10	7,5	29,5
07-521-2020-000	¾"x20	G¾	20	10	17,0	29,5
07-521-2030-000	¾"x30	G¾	30	10	27,0	29,5
07-521-2040-000	¾"x40	G¾	40	10	30,0	29,5
07-521-2050-000	¾"x50	G¾	50	10	30,0	29,5

# 520

## CHROME-PLATED BRASS NIPPLE



PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

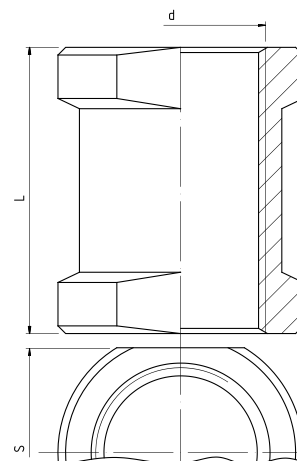


Dimensions in mm.

index	size	d	L	t	S
07-520-0100-000	¾"	G¾	22,7	9	17
07-520-0150-000	½"	G½	27,0	11	22
07-520-0200-000	¾"	G¾	30,0	12	26

# 454

## CHROME-PLATED BRASS SLEEVE



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

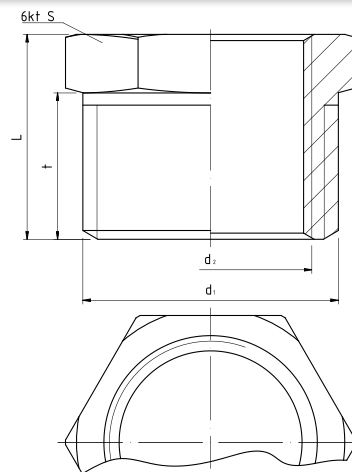
### TECHNICAL DATA



index	size	d	L	S
07-454-0100-000	3/8"	G3/8	28	20,5
07-454-0150-000	1/2"	G1/2	28	24,5
07-454-0200-000	3/4"	G3/4	33	30,8

# 511

## CHROME-PLATED BRASS BUSHING



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

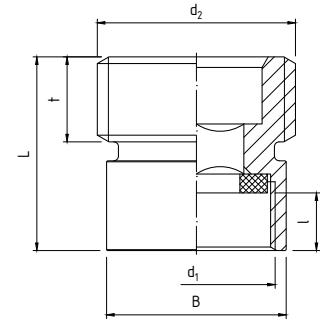
### TECHNICAL DATA



index	size	d <sub>1</sub>	d <sub>2</sub>	L	t	S
07-511-1015-000	1/2"x3/8"	G1/2	G3/8	16,8	12	21
07-511-1520-000	3/4"x1/2"	G3/4	G1/2	18,5	13	26

# 512

## CHROME-PLATED BRASS BUSHING WITH SEALING



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

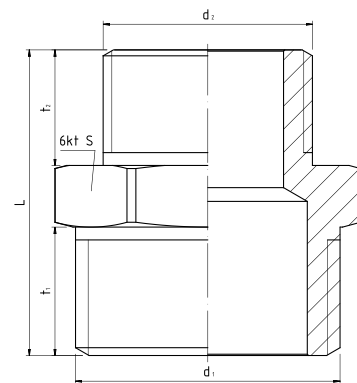
index	size	d <sub>1</sub>	d <sub>2</sub>	L	l	t	B
07-512-1015-000	3/8"x1/2"	G3/8	G1/2	20,5	6,1	9	19

### DESCRIPTION

Product 512 is used for change the size of thread from G3/8 to G1/2 for connection valves.

# 515

## CHROME-PLATED BRASS REDUCING NIPPLE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA



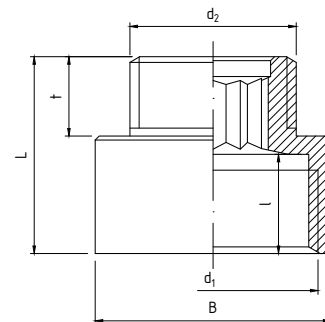
Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t <sub>1</sub>	t <sub>2</sub>	S
07-515-1015-000	1/2"x3/8"	G1/2	G3/8	23,8	10	9	21
07-515-1520-000	3/4"x1/2"	G3/4	G1/2	26,0	11	10	27



# 506

## CHROME-PLATED BRASS REDUCING SLEEVE-NIPPLE BUSHING



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

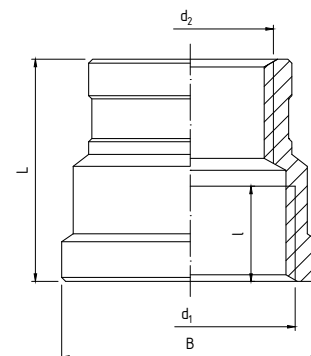


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	t	l	B	S
07-506-1015-000	1/2"x3/8"	G1/2	G3/8	22,7	9	12,0	24,0	10
07-506-1520-000	3/4"x1/2"	G3/4	G1/2	24,8	10	12,5	29,7	12

# 510

## CHROME-PLATED BRASS REDUCING SLEEVE



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

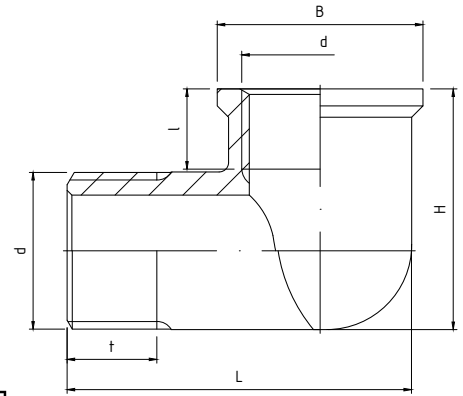


Dimensions in mm.

index	size	d <sub>1</sub>	d <sub>2</sub>	L	l	B
07-510-1015-000	1/2"x3/8"	G1/2	G3/8	27	13,5	26,0
07-510-1520-000	3/4"x1/2"	G3/4	G1/2	28	14,0	32,4

# 451

## CHROME-PLATED BRASS ELBOW - FM



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

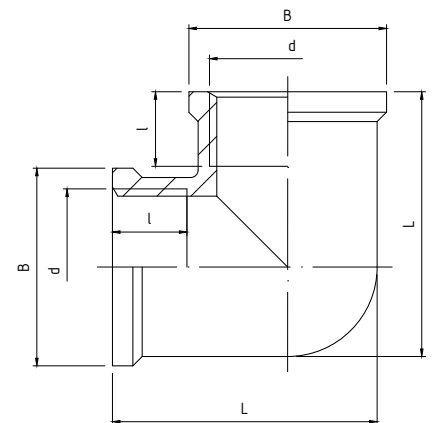


Dimensions in mm.

index	size	d	L	t	l	H	B
07-451-0100-000	3/8"	G3/8	36,0	9,5	8	25,5	21,8
07-451-0150-000	1/2"	G1/2	42,5	10,0	12	31,0	26,5
07-451-0200-000	3/4"	G3/4	50,5	10,0	15	38,5	32,5

# 452

## CHROME-PLATED BRASS ELBOW - FF



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

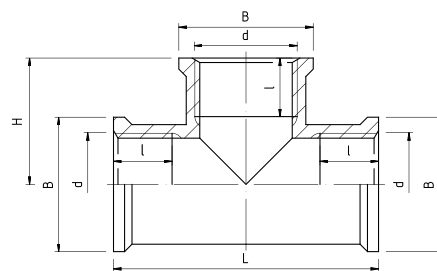


Dimensions in mm.

index	size	d	L	l	B
07-452-0100-000	3/8"	G3/8	30,5	11,0	21,8
07-452-0150-000	1/2"	G1/2	35,5	11,5	26,5
07-452-0200-000	3/4"	G3/4	42,5	12,5	32,5

# 453

## CHROME-PLATED BRASS TEE



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

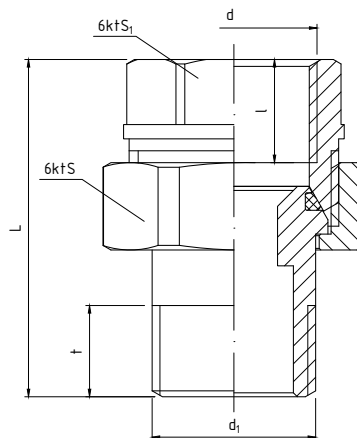


Dimensions in mm.

index	size	d	L	l	H	B
07-453-0100-000	3/8"	G3/8	43,0	9,5	20,5	21,8
07-453-0150-000	1/2"	G1/2	45,8	10,0	22,7	26,5
07-453-0200-000	3/4"	G3/4	54,5	14,5	27,0	32,5

# 1046CH

## CHROME-PLATED BRASS STRAIGHT UNION - O-RING



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

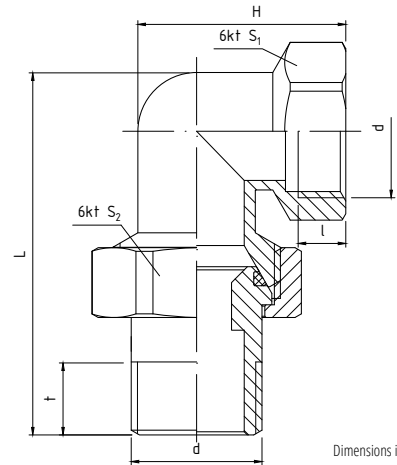


Dimensions in mm.

index	size	d	L	t	l	S	S <sub>1</sub>
07-450-0100-000	3/8"	G3/8	39	13,0	10,5	26	20
07-450-0150-000	1/2"	G1/2	42	11,5	13,0	30	24

# 1048CH

## CHROME-PLATED BRASS STRAIGHT UNION - O-RING



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+120°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

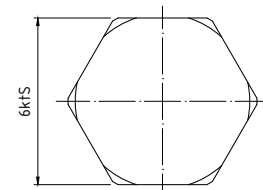
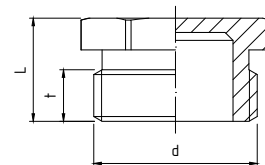


index	size	d	L	t	l	H	S <sub>1</sub>	S <sub>2</sub>
07-449-0150-000	1/2"	G1/2	57,0	11,5	9,5	33	25,0	30
07-449-0200-000	3/4"	G3/4	68,7	13,0	10,0	37	30,5	36

Dimensions in mm.

# 5101CH

## CHROME-PLATED BRASS PLUG - MALE THREAD



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

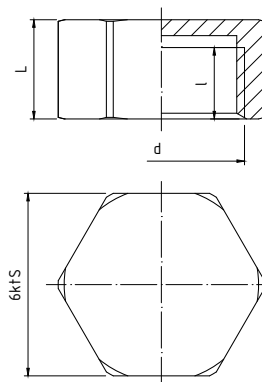


index	size	d	L	t	S
07-456-0150-000	1/2"	G1/2	13,0	6,5	21
07-456-0200-000	3/4"	G3/4	14,5	7,5	27

Dimensions in mm.

# 5102CH

## CHROME-PLATED BRASS END CAP - FEMALE THREAD



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

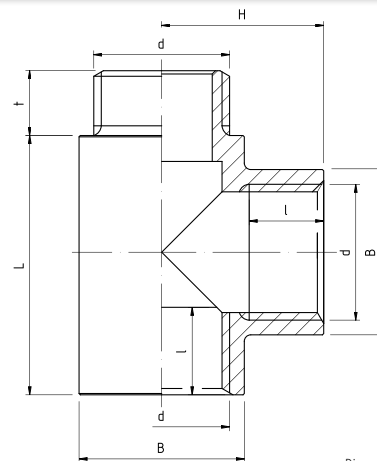


Dimensions in mm.

index	size	d	L	l	S
07-457-0150-000	1/2"	G1/2	12,5	10,5	23
07-457-0200-000	3/4"	G3/4	14,0	12,0	29

# 453WWZ

## CHROME-PLATED BRASS TEE - FFM



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

### TECHNICAL DATA

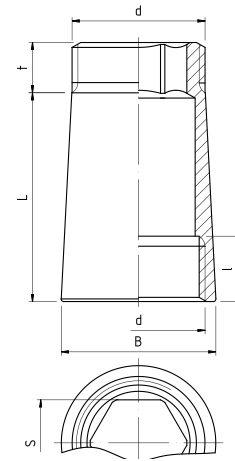


Dimensions in mm.

index	size	d	L	t	l	H	B
07-453-0150-001	1/2"	G1/2	40	10	11,5	25	25,5

# PHA-351

**BRASS EXTENSION FOR WALL-MOUNTED MIXER TAP - FM**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+180°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA

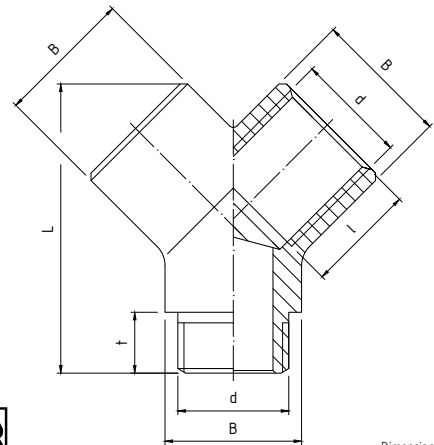


index	size	d	L	t	l	B	S
07-351-0200-000	3/4"	G3/4	41,5	10	13	30,7	17

Dimensions in mm.

# PHA-352

**BRASS Y-TEE**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	GW/GZ wg
+180°C	-30°C	1,6 MPa	ISO 228

## TECHNICAL DATA



index	size	d	L	l	t	B
07-352-0150-000	1/2"	G1/2	54,6	23	11,5	25,8

Dimensions in mm.



# PHA-011 AND PHA-012 CONNECTION BALL VALVES

## DESCRIPTION

PHA-011 and PHA-012 **PERFEKT**<sup>2</sup> SYSTEM connection ball valves make a perfect solution for the installation of such devices as washing machines, mixer taps, toilet cisterns and dishwashers.

The main advantages of these valves include:

- compact and durable construction
- built-in mesh filter, easy to maintain
- long connection assemblies
- metal handles and knobs

Due to their special properties, the PHA-011 and PHA-012 connection ball valves are an ideal solution in every kitchen and bathroom.

## MATERIALS

**BODY, FILTER SCREW PLUG, BALL:** CW617N brass, chrome-plated

**STEM, SCREW PLUG:** brass

**SEALING OF THE STEM, SCREW PLUG AND FILTER**

**SCREW PLUG:** O-rings - NBR

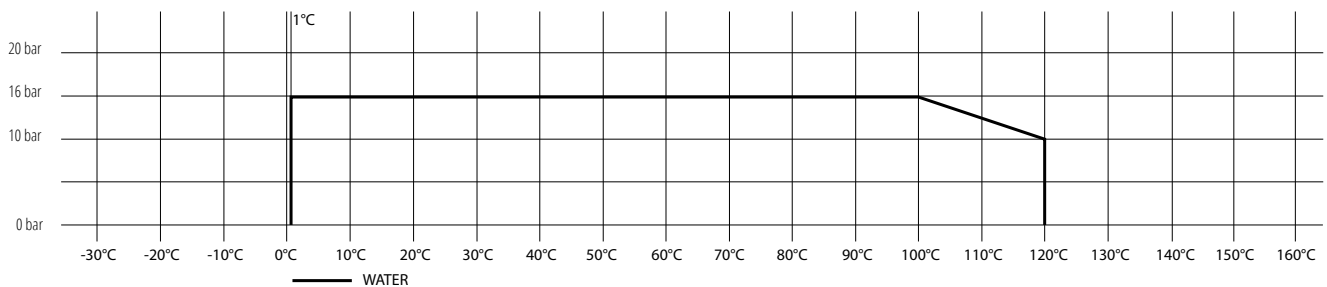
**BALL SEALING:** PTFE

**FILTERING ELEMENT:** stainless steel

**HANDLE:** chrome-plated zinc alloy

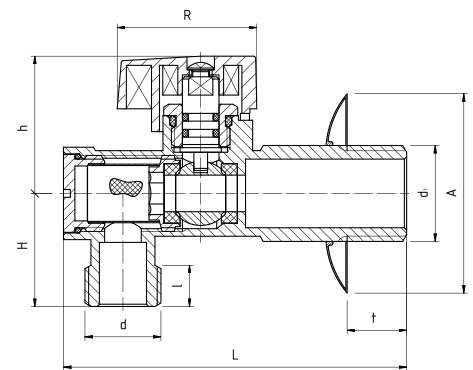
**ROSETTE:** stainless steel, chrome-plated

## CHART



## PHA-011

**CONNECTION BALL VALVE WITH FILTER AND METAL KNOB**



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,6 MPa	ISO 228

## TECHNICAL DATA

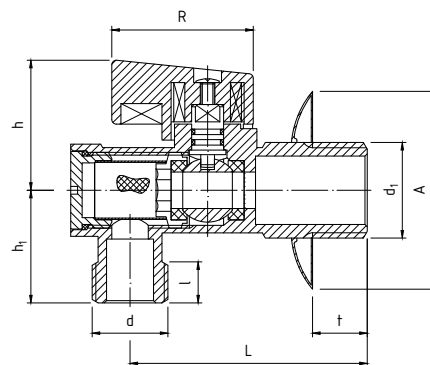


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	l	t	h	H	R	A
02-011-1510-000	1/2"x3/8"	G3/8	G1/2	75	9,0	14	30	24,7	30,4	54
02-011-1515-000	1/2"x1/2"	G1/2	G1/2	75	9,0	14	30	24,7	30,4	54
02-011-1520-000	1/2"x3/4"	G3/4	G1/2	75	9,5	14	30	24,7	30,4	54

# PHA-012

**SHORT CONNECTION BALL VALVE WITH FILTER AND METAL KNOB**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	MT ACC. TO
+120°C	+1°C	1,6 MPa	ISO 228

## TECHNICAL DATA

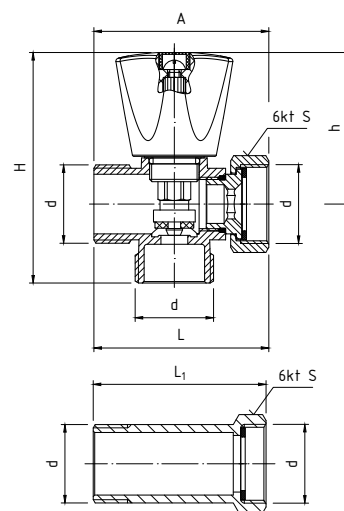


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	l	t	h	h <sub>1</sub>	R	A
02-012-1510-000	1/2"x3/8"	G3/8	G1/2"	65	9,0	12	28,5	24,7	31	54
02-012-1515-000	1/2"x1/2"	G1/2	G1/2"	65	9,0	12	28,5	24,7	31	54
02-012-1520-000	1/2"x3/4"	G3/4	G1/2"	65	9,5	12	28,5	24,7	31	54

# PHA-0140

**PROLUNGA - CONNECTION MUSHROOM VALVE WITH ROTATING NUT AND EXTENSION**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

## TECHNICAL DATA

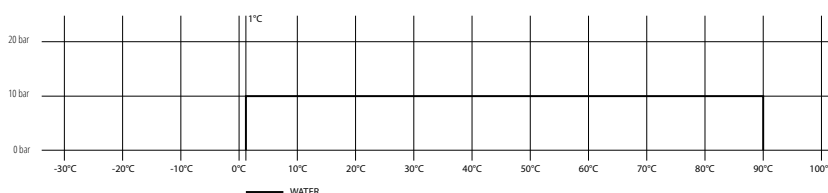


Dimensions in mm.

index	size	d	L	L <sub>1</sub>	h	H	A
02-014-0200-001	3/4"x3/4"x3/4"	G3/4	62	58,0	50,8	77,4	51,2

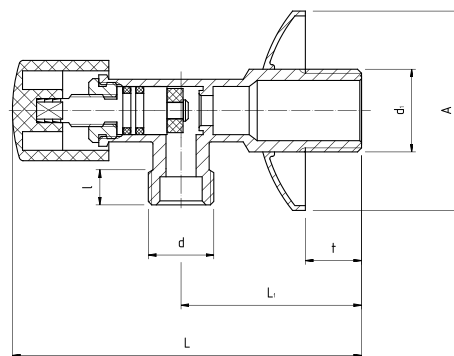
## MATERIALS

**BODY, EXTENSION:** CW617N chrome-plated brass  
**NUT, SCREW PLUG:** only for PHA-0140 - chrome-plated brass  
**STEM, DISC, HEAD:** brass  
**DISC SEALING:** NBR  
**SCREW PLUG AND STEM SEALING:** O-rings - NBR  
**HEAD SEALING:**  
 for PHA-014 - fibre,  
 for PHA-0140 - O-rings - NBR  
**HANDLE:** chrome-plated plastic



# PHA-018

## CONNECTION MUSHROOM VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+120°C	+1°C	1,6 MPa	ISO 228

### TECHNICAL DATA

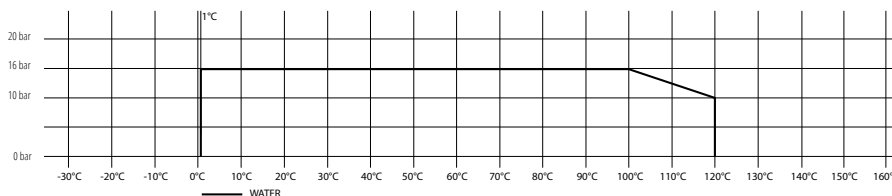


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	L <sub>1</sub>	l	t	A
02-018-1510-000	1/2"x3/8"	G3/8	G1/2	82-87	45	8,0	16	ø54
02-018-1515-000	1/2"x1/2"	G1/2	G1/2	82-87	45	7,5	16	ø54
02-018-1520-000	1/2"x3/4"	G3/4	G1/2	82-87	45	10,0	16	ø54

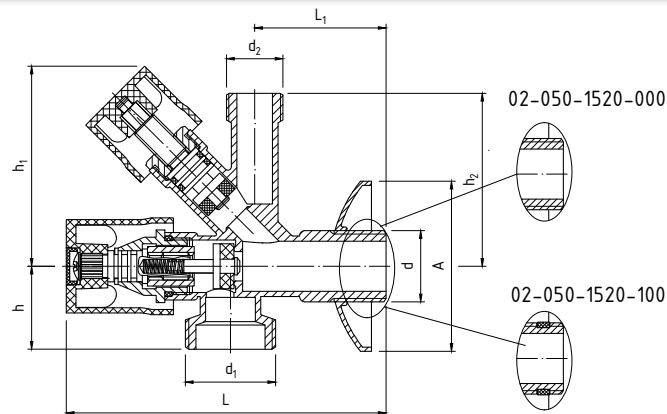
### MATERIALS

**KORPUS:** mosiądz CW617N z powłoką chromowaną  
**TRZPIEŃ, GŁOWICA:** mosiądz  
**USZCZELNIENIE GRZYBKÓW:** NBR  
**USZCZELNIENIE TRZPIENIA:** pierścienie uszczelniające typu "O" - NBR  
**POKRĘTŁO:** tworzywo sztuczne z powłoką chromowaną  
**ROZETA:** stal nierdzewna z powłoką chromowaną



# PHA-050

## COMBINED CONNECTION VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

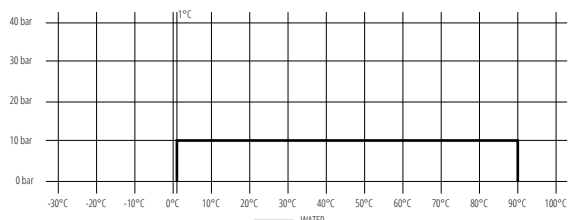
index	size	d	d <sub>1</sub>	d <sub>2</sub>	L	L <sub>1</sub>	h	h <sub>1</sub>	h <sub>2</sub>	A
02-050-1520-000	1/2"x3/8"x3/4"	G1/2	G3/4	G3/8	92,5	38	24	45-58	50	ø55

### MATERIALS

**BODY:** CW617N chrome-plated brass  
**STEM, DISC, HEAD:** brass  
**STEM SEALING:** O-ring - NBR  
**DISC SEALING:** flat washer - NBR  
**THREAD SEALING:** PTFE  
**SPRING:** stainless steel  
**HANDLE:** chrome-plated plastic  
**ROSETTE:** stainless steel, chrome-plated

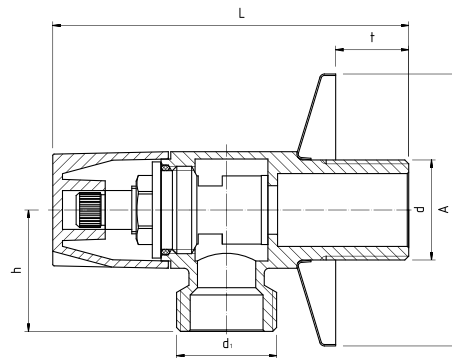
### DESCRIPTION

Check valve combined with the closing element on the 3/4" hose end protects against ingress of used chemicals in washing machines / dishwashers (protection against recontamination of utility water). The valve is available in two versions: with a seal.



# PHA-051

**ANGLED CONNECTION VALVE WITH CERAMIC HEAD**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

## TECHNICAL DATA

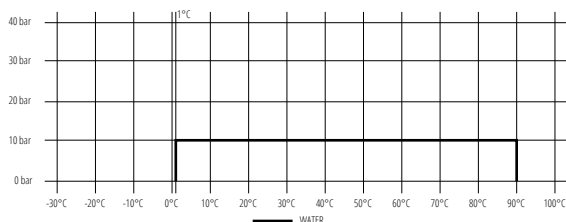


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	t	h	A
02-051-1510-000	1/2"x3/8"	G1/2	G3/8	76	16	25,0	ø50
02-051-1515-000	1/2"x1/2"	G1/2"	G1/2"	76	16	26,0	ø50
02-051-1520-000	1/2"x3/4"	G1/2"	G3/4	76	13	26,0	ø50

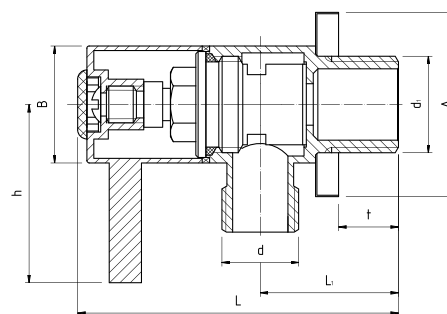
## MATERIALS

**BODY:** CW617N chrome-plated brass  
**CERAMIC HEAD:** brass and ceramics  
**HEAD SEALING:** O-rings - NBR  
**HANDLE:** chrome-plated zinc alloy  
**ROSETTE:** stainless steel, chrome-plated



# PHA-052

**ANGLED VALVE WITH CERAMIC HEAD**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

## TECHNICAL DATA

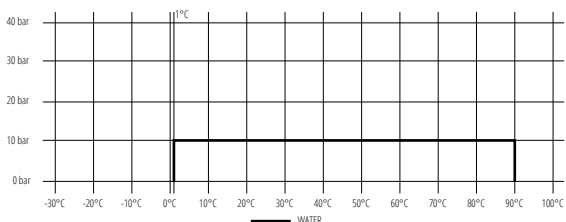


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	L <sub>1</sub>	t	h	B	A
02-052-1510-000	1/2"x3/8"	G3/8	G1/2	70	31	13	38	ø25,4	ø40
02-052-1515-000	1/2"x1/2"	G1/2"	G1/2"	71	33	13	38	ø25,4	ø40
02-052-1520-000	1/2"x3/4"	G3/4	G1/2	74	36	13	38	ø25,4	ø40

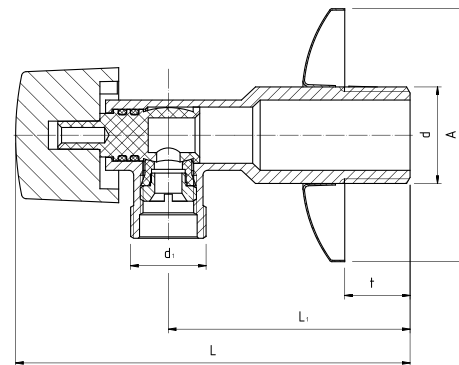
## MATERIALS

**BODY:** CW617N chrome-plated brass  
**CERAMIC HEAD:** brass and ceramics  
**HEAD SEALING:** O-rings - NBR  
**HANDLE:** chrome-plated zinc alloy  
**WASHER, BLANKING PLUG:** ABS  
**ROSETTE:** stainless steel, chrome-plated



# PHA-055

## ANTI-LIMESCALE CONNECTION BALL VALVE, METAL KNOB



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

### TECHNICAL DATA

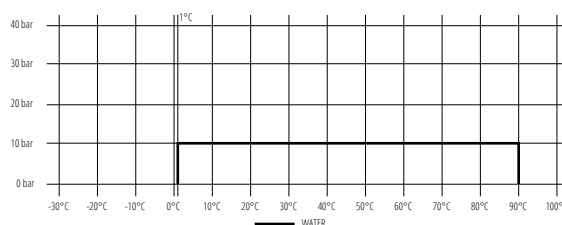


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	L <sub>1</sub>	t	A
02-055-1510-000	1/2"x3/8"	G1/2	G3/8	84,5	51,6	14	ø54
02-055-1515-000	1/2"x1/2"	G1/2	G1/2	84,5	51,6	14	ø54
02-055-1520-000	1/2"x3/4"	G1/2	G3/4	84,5	51,6	14	ø54

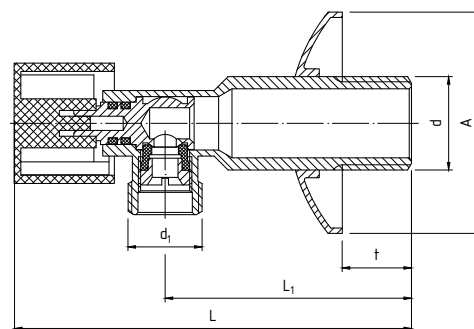
### MATERIALS

**BODY:** chrome-plated brass  
**STEM, BALL:** POM  
**HEAD SEALING:** O-rings - NBR  
**HANDLE:** chrome-plated zinc alloy  
**FILTER, ROSETTE:** stainless steel



# 3003

## ANGLED CONNECTION BALL VALVE



### PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+120°C	+1°C	1,6 MPa	ISO 228

### TECHNICAL DATA

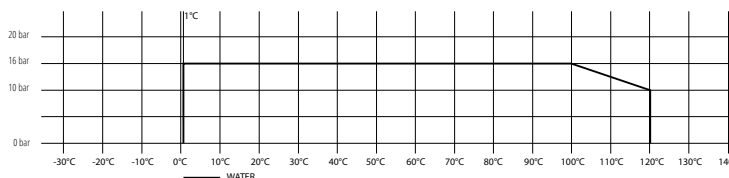


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	L <sub>1</sub>	l	t	h	A
02-200-1510-000	1/2"x3/8"	G1/2	G3/8	80	47	9,5	12	20,5	ø54
02-200-1515-000	1/2"x1/2"	G1/2	G1/2	80	47	9,5	12	24,5	ø54
02-200-1520-000	1/2"x3/4"	G1/2	G3/4	80	47	9,5	12	25,5	ø54

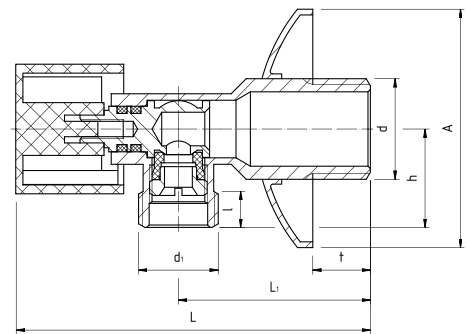
### MATERIALS

**BODY, SCREW PLUG:** chrome-plated brass  
**STEM WITH BALL:** brass  
**STEM SEALING:** O-rings - NBR  
**BALL SEALING:** NBR  
**HANDLE:** chrome-plated plastic  
**ROSETTE:** stainless steel, chrome-plated



# 3003S

## SHORT ANGLED CONNECTION BALL VALVE



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

### TECHNICAL DATA

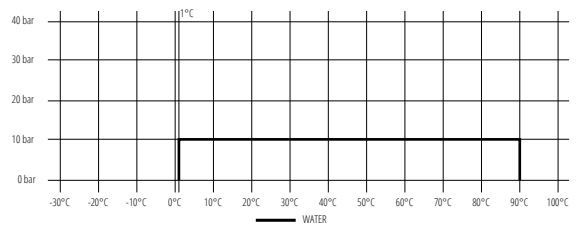


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	L <sub>1</sub>	t	l	h	A
02-204-1510-000	1/2"x3/8"	G1/2	G3/8	74,0	40	14	7,5	20,5	ø54

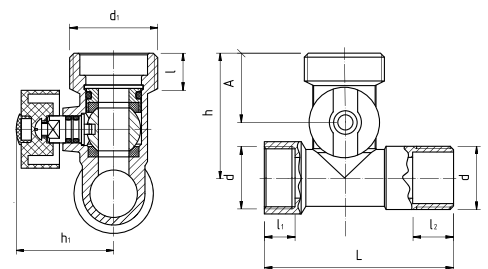
### MATERIALS

**BODY, SCREW PLUG:** chrome-plated brass  
**STEM WITH BALL:** brass  
**STEM SEALING:** O-rings - NBR  
**BALL SEALING:** NBR  
**HANDLE:** chrome-plated plastic  
**ROSETTE:** stainless steel, chrome-plated



# 3026

## THREE-WAY ANGLED CONNECTION BALL VALVE



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+90°C	+1°C	1,0 MPa	ISO 228

### TECHNICAL DATA

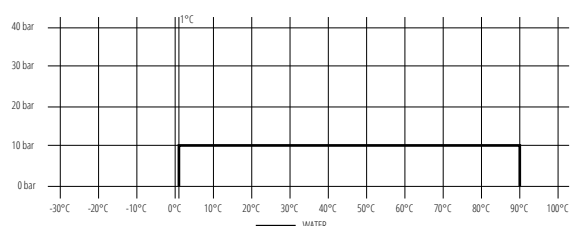


Dimensions in mm.

index	size	d	d <sub>1</sub>	L	l	l <sub>1</sub>	l <sub>2</sub>	h	h <sub>1</sub>	A
02-302-1515-000	1/2"x1/2"x3/4"	G1/2	G3/4	61,5	10,5	11,5	12	40,5	29	22,5

### MATERIALS

**BODY, BALL:** chrome-plated brass  
**STEM, SCREW PLUG:** brass  
**BALL SEALING:** NBR  
**STEM SEALING:** O-rings - NBR  
**HANDLE:** chrome-plated plastic





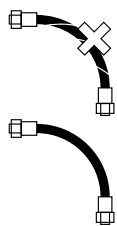
# PERFEKT SYSTEM - CORROSION-RESISTANT STEEL FLEXIBLE BRAIDED STEEL CONNECTION HOSES

## APPLICATION

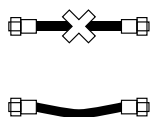
**PERFEKT<sup>SYSTEM</sup>** flexible connection hoses are designed for connecting fittings and plumbing devices in: central heating systems, hot and cold water supply systems (including drinking water) and cooling systems filled with 30% glycol solution.

**PERFEKT<sup>SYSTEM</sup>** flexible connection hoses are available in a wide range of types - from M10 to G1¼ - with straight pieces with male and female threads, as well as with an elbow with a nut and female thread. This allows for a wide scope of configuration and selection of the right connection hose. The connection hoses can be fitted in vertical, horizontal and inclined systems, in any position; however, it is important to observe several principles during installation. In order to avoid errors, please bear the following in mind:

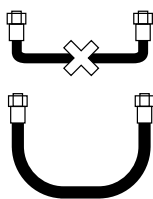
10  
YEAR  
WARRANTY



do not allow the connection to be axially twisted during and after installation



do not apply tensile force (by using a connection that is too short)



no folds/creases may occur along the connection path (ensure smooth radii during hose routing)

Due to the requirements relating to corrosion resistance, flexible **PERFEKT<sup>SYSTEM</sup>** hoses can be used indoors and outdoors, in environments with atmospheric corrosion category 1÷3 according to the PN-EN 1456:2009 standard (TEST: 5% concentration of sodium chloride at 35°C for 96h - no signs of corrosion on metal parts of the hoses after the test).

## PARAMETERS

**PERFEKT<sup>SYSTEM</sup>** connection hoses can be launched on the Polish market in accordance with the PN-EN 13618 standard (the standard provides for the use of products in contact with drinking water at a maximum working pressure of 1.0 MPa and a maximum working temperature of up to +70°C) - Perfexim has increased the performance of connection hoses thanks to conducting extensive strength tests (with positive results). In effect, **PERFEKT<sup>SYSTEM</sup>** braided connection hoses made of corrosion-resistant steel are marketed in Poland on the basis of:

- tests conducted by the Oil and Gas Institute - National Research Institute from Krakow, and on the basis of positive results of tests conducted in the context of Technical Approval issued by the Building Research Institute from Warsaw.

Maximum operating parameters of **PERFEKT<sup>SYSTEM</sup>** connection hoses with **DN8, DN13 and DN18** nominal diameters are as follows:

- temperature: + 110°C
- pressure: 1,2MPa (12 bar)

Maximum operating parameters of **PERFEKT<sup>SYSTEM</sup>** connection hoses with **DN25 and DN32** nominal diameters are as follows:

- temperature: + 110°C
- pressure: 1,0MPa (10 bar)



## MATERIALS

- **NUT:** CW614N nickel-plated brass
- **NUT END FITTING:** CW617N brass
- **MALE THREAD END FITTING:** CW617N brass with outer nickel-plated coating
- **90° ELBOW:** CW602N or CW609L brass with outer nickel-plated coating
- **HOSE BRAIDING:** 1.4301 corrosion-resistant steel
- **COMPRESSION SLEEVE:** 1.4301 corrosion-resistant steel
- **HOSE (PIPING):** EPDM rubber compound
- **WASHERS AND O-RINGS:** EPDM rubber compound

## ADVANTAGES

- wide range of applications
- 10 year warranty
- operating parameters and application supported by Technical Approval AT-15-9600/2016
- product performance verified by tests conducted by an independent, renowned, accredited laboratory
- operating temperatures from up to +110°C
- operating pressure up to 12 bar
- approved for contact with drinking water - certified by the National Institute of Hygiene
- approved for use in systems filled with 30% glycol solution
- top quality workmanship

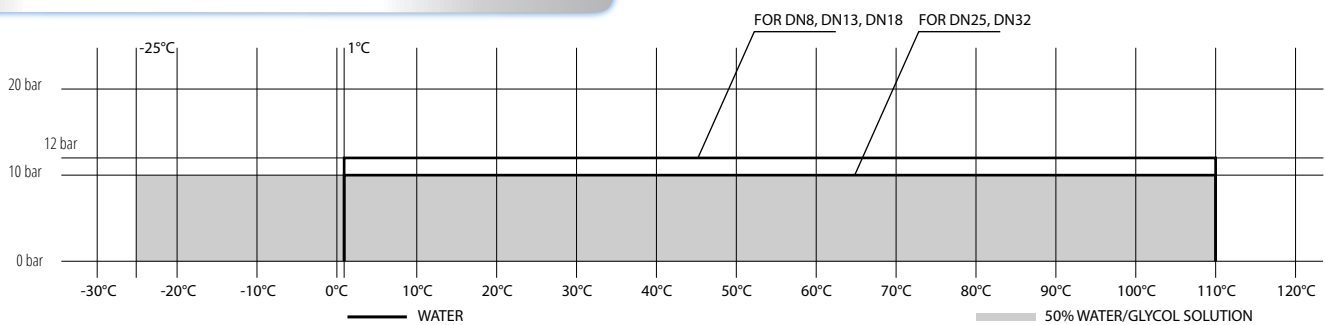
AT

# PERFEKT SYSTEM - CORROSION-RESISTANT STEEL FLEXIBLE BRAIDED STEEL CONNECTION HOSES

## CHARACTERISTIC FEATURES

- The connection hoses are characterized by very high resistance to hydraulic surge. During pressure tests - involving 200 cycles from 5 to 50 bar - they do not exhibit any deformation, cracks or other undesired damage, and they maintain leak-tightness requirements.
- Subjected to a maximum pressure test of 150 bar under laboratory conditions, the hoses exhibited excellent strength and remained leak-tight.
- Due to the use of 1.4301 stainless steel braiding, the hoses are corrosion resistant, which allows for their free use outdoors or in cooling systems, even when steam precipitates and the dew point is exceeded.
- Sealing elements are made of high quality EPDM material resistant to extreme weather conditions or mechanical factors.
- End fittings and nuts are made of high quality brass: CW617N, CW614N, CW602N and CW609L
- End fittings are characterized by high durability thanks to the use of thickened walls.
- Compression couplings are made on 1.4301 stainless steel sleeves to ensure maximum reliability for hose to nozzle connection, as verified in strength tests.
- Flexible solutions make it possible to choose from a wide range of connection combinations.

## P-T CHART FOR CONNECTION HOSES



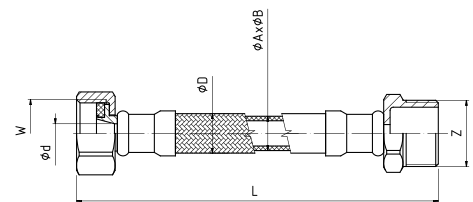
## PHA-9105

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE BRAIDED**  
**CONNECTION HOSE - FM**



### PARAMETERS (ACCORDING TO P-T CHART)

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+110°C	-25°C	1,2 MPa	ISO 228



## TECHNICAL DATA

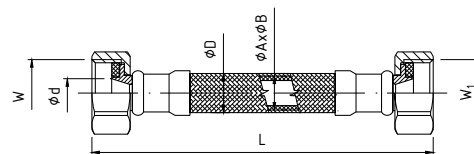


Dimensions in mm.

index	size	L [cm]	DN	ød	øD	A	B	W	Z
06-000-1010-030	3/8" x 3/8"	30	8	5,5	12	8,1	11,6	G3/8	G3/8
06-000-1010-040	3/8" x 3/8"	40	8	5,5	12	8,1	11,6	G3/8	G3/8
06-000-1010-050	3/8" x 3/8"	50	8	5,5	12	8,1	11,6	G3/8	G3/8
06-000-1515-020	1/2" x 1/2"	20	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-025	1/2" x 1/2"	25	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-030	1/2" x 1/2"	30	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-040	1/2" x 1/2"	40	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-045	1/2" x 1/2"	45	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-050	1/2" x 1/2"	50	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-060	1/2" x 1/2"	60	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-070	1/2" x 1/2"	70	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-080	1/2" x 1/2"	80	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-090	1/2" x 1/2"	90	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-100	1/2" x 1/2"	100	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-120	1/2" x 1/2"	120	8	5,5	12	8,1	11,6	G1/2	G1/2
06-000-1515-150	1/2" x 1/2"	150	8	5,5	12	8,1	11,6	G1/2	G1/2

# PHA-9110

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE BRAIDED**  
**CONNECTION HOSE - FF**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT ACC. TO
+110°C	-25°C	1,2 MPa	ISO 228

## TECHNICAL DATA

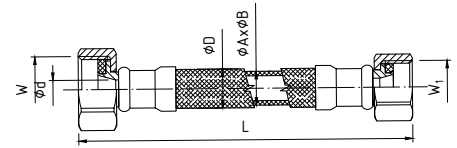


Dimensions in mm.

index	size	L [cm]	DN	ød	øD	A	B	W	W <sub>1</sub>
06-001-1010-020	3/8" x 3/8"	20	8	5,5	12	8,1	11,6	G3/8	G3/8
06-001-1010-030	3/8" x 3/8"	30	8	5,5	12	8,1	11,6	G3/8	G3/8
06-001-1010-040	3/8" x 3/8"	40	8	5,5	12	8,1	11,6	G3/8	G3/8
06-001-1010-050	3/8" x 3/8"	50	8	5,5	12	8,1	11,6	G3/8	G3/8
06-001-1010-060	3/8" x 3/8"	60	8	5,5	12	8,1	11,6	G3/8	G3/8
06-001-1510-020	1/2" x 3/8"	20	8	5,5	12	8,1	11,6	G1/2	G3/8
06-001-1510-030	1/2" x 3/8"	30	8	5,5	12	8,1	11,6	G1/2	G3/8
06-001-1510-040	1/2" x 3/8"	40	8	5,5	12	8,1	11,6	G1/2	G3/8
06-001-1510-050	1/2" x 3/8"	50	8	5,5	12	8,1	11,6	G1/2	G3/8
06-001-1510-060	1/2" x 3/8"	60	8	5,5	12	8,1	11,6	G1/2	G3/8
06-001-1515-020	1/2" x 1/2"	20	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-025	1/2" x 1/2"	25	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-030	1/2" x 1/2"	30	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-035	1/2" x 1/2"	35	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-040	1/2" x 1/2"	40	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-045	1/2" x 1/2"	45	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-050	1/2" x 1/2"	50	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-055	1/2" x 1/2"	55	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-060	1/2" x 1/2"	60	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-070	1/2" x 1/2"	70	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-080	1/2" x 1/2"	80	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-090	1/2" x 1/2"	90	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-100	1/2" x 1/2"	100	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-120	1/2" x 1/2"	120	8	5,5	12	8,1	11,6	G1/2	G1/2
06-001-1515-150	1/2" x 1/2"	150	8	5,5	12	8,1	11,6	G1/2	G1/2

# PHA-9125

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE BRAIDED**  
**CONNECTION HOSE - FF**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+110°C	-25°C	1,2 MPa	ISO 228

## TECHNICAL DATA

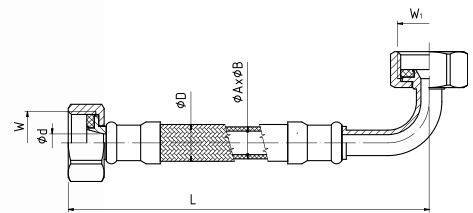


Dimensions in mm.

index	size	L [cm]	DN	ød	øD	A	B	W	W <sub>1</sub>
06-002-1520-030	1/2"x3/4"	30	8	5,5	12	8,1	11,6	G1/2	G3/4
06-002-1520-040	1/2"x3/4"	40	8	5,5	12	8,1	11,6	G1/2	G3/4
06-002-1520-050	1/2"x3/4"	50	8	5,5	12	8,1	11,6	G1/2	G3/4
06-002-2020-030	3/4"x3/4"	30	8	5,5	12	8,1	11,6	G3/4	G3/4
06-002-2020-040	3/4"x3/4"	40	8	5,5	12	8,1	11,6	G3/4	G3/4
06-002-2020-050	3/4"x3/4"	50	8	5,5	12	8,1	11,6	G3/4	G3/4

# PHA-9126

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE BRAIDED CONNECTION**  
**HOSE WITH ELBOW - FF**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+110°C	-25°C	1,2 MPa	ISO 228

## TECHNICAL DATA

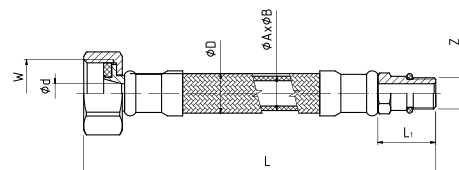


Dimensions in mm.

index	size	L [cm]	DN	ød	øD	A	B	W
06-005-1515-040	1/2"x1/2"	40	8	5,5	12	8,1	11,6	G1/2
06-005-1515-050	1/2"x1/2"	50	8	5,5	12	8,1	11,6	G1/2
06-005-1515-080	1/2"x1/2"	80	8	5,5	12	8,1	11,6	G1/2
06-005-1515-100	1/2"x1/2"	100	8	5,5	12	8,1	11,6	G1/2
06-005-1515-120	1/2"x1/2"	120	8	5,5	12	8,1	11,6	G1/2
06-005-1515-150	1/2"x1/2"	150	8	5,5	12	8,1	11,6	G1/2

# PHA-9145/C

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE BRAIDED MIXER**  
**TAP CONNECTION HOSE**  
**(SHORT)**



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+110°C	-25°C	1,2 MPa	ISO 228   ISO 724   ISO 965-1   ISO 965-3

## TECHNICAL DATA

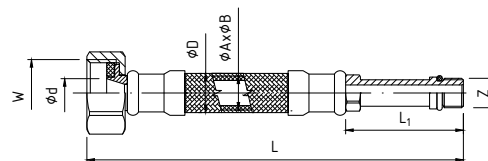


Dimensions in mm.

index	size	L [cm]	DN	ød	øD	L <sub>1</sub>	A	B	W	Z
06-003-1010-030	M10x1x3/8"	30	8	5,5	12	18	8,1	11,6	G3/8	M10x1
06-003-1010-040	M10x1x3/8"	40	8	5,5	12	18	8,1	11,6	G3/8	M10x1
06-003-1010-050	M10x1x3/8"	50	8	5,5	12	18	8,1	11,6	G3/8	M10x1
06-003-1010-060	M10x1x3/8"	60	8	5,5	12	18	8,1	11,6	G3/8	M10x1
06-003-1010-080	M10x1x3/8"	80	8	5,5	12	18	8,1	11,6	G3/8	M10x1
06-003-1510-030	M10x1x1/2"	30	8	5,5	12	18	8,1	11,6	G1/2	M10x1
06-003-1510-035	M10x1x1/2"	35	8	5,5	12	18	8,1	11,6	G1/2	M10x1
06-003-1510-040	M10x1x1/2"	40	8	5,5	12	18	8,1	11,6	G1/2	M10x1
06-003-1510-050	M10x1x1/2"	50	8	5,5	12	18	8,1	11,6	G1/2	M10x1
06-003-1510-060	M10x1x1/2"	60	8	5,5	12	18	8,1	11,6	G1/2	M10x1
06-003-1510-080	M10x1x1/2"	80	8	5,5	12	18	8,1	11,6	G1/2	M10x1

# PHA-9145/L

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE BRAIDED MIXER**  
**TAP CONNECTION HOSE**  
**(LONG)**



PARAMETERS (ACCORDING TO P-T CHART)

TMAX	TMIN	PMAX	FT/MT ACC. TO
+110°C	-25°C	1,2 MPa	ISO 228   ISO 724   ISO 965-1   ISO 965-3

## TECHNICAL DATA

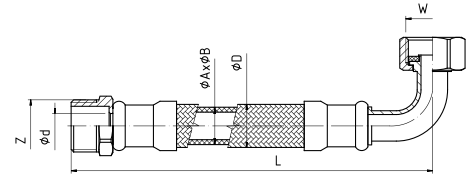


Dimensions in mm.

index	size	L [cm]	DN	ød	øD	L <sub>1</sub>	A	B	W	Z
06-004-1010-030	M10x1x3/8"	30	8	5,5	12	33	8,1	11,6	G3/8	M10x1
06-004-1010-040	M10x1x3/8"	40	8	5,5	12	33	8,1	11,6	G3/8	M10x1
06-004-1010-050	M10x1x3/8"	50	8	5,5	12	33	8,1	11,6	G3/8	M10x1
06-004-1010-060	M10x1x3/8"	60	8	5,5	12	33	8,1	11,6	G3/8	M10x1
06-004-1010-080	M10x1x3/8"	80	8	5,5	12	33	8,1	11,6	G3/8	M10x1
06-004-1510-030	M10x1x1/2"	30	8	5,5	12	33	8,1	11,6	G1/2	M10x1
06-004-1510-040	M10x1x1/2"	40	8	5,5	12	33	8,1	11,6	G1/2	M10x1
06-004-1510-050	M10x1x1/2"	50	8	5,5	12	33	8,1	11,6	G1/2	M10x1
06-004-1510-060	M10x1x1/2"	60	8	5,5	12	33	8,1	11,6	G1/2	M10x1
06-004-1510-070	M10x1x1/2"	70	8	5,5	12	33	8,1	11,6	G1/2	M10x1
06-004-1510-080	M10x1x1/2"	80	8	5,5	12	33	8,1	11,6	G1/2	M10x1

# PHA-9156

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE BRAIDED**  
**CONNECTION HOSE WITH**  
**ELBOW - FM**



**PARAMETERS (ACCORDING TO P-T CHART)**

TMAX	TMIN	PMAX	FT/MT ACC. TO
+110°C	-25°C	1,0 MPa	ISO 228

## TECHNICAL DATA



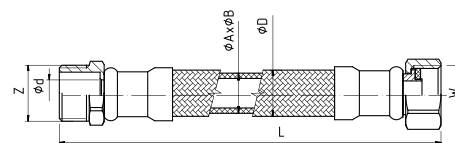
Dimensions in mm.

index	size	L [cm]	DN	ød	øD	A	B	Z	W
06-012-0250-040	1"x1"	40	25	20,5	32,5	25	31,5	G1	G1
06-012-0250-050	1"x1"	50	25	20,5	32,5	25	31,5	G1	G1
06-012-0250-060	1"x1"	60	25	20,5	32,5	25	31,5	G1	G1
06-012-0250-070	1"x1"	70	25	20,5	32,5	25	31,5	G1	G1
06-012-0250-080	1"x1"	80	25	20,5	32,5	25	31,5	G1	G1
06-012-0250-090	1"x1"	90	25	20,5	32,5	25	31,5	G1	G1
06-012-0250-100	1"x1"	100	25	20,5	32,5	25	31,5	G1	G1
06-012-0250-120	1"x1"	120	25	20,5	32,5	25	31,5	G1	G1
06-012-0250-150	1"x1"	150	25	20,5	32,5	25	31,5	G1	G1



# PHA-9150

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE**  
**BRAIDED CONNECTION**  
**HOSE - FM**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	GZ/FT ACC. TO
+110°C	-25°C	1,2 MPa	ISO 228

**FOR DN 13, 18**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	GZ/FT ACC. TO
+110°C	-25°C	1,0 MPa	ISO 228

**FOR DN 25, 32**

## TECHNICAL DATA

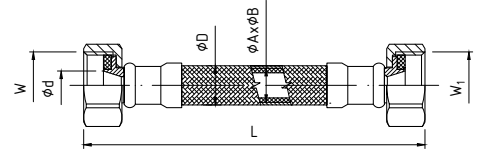


Dimensions in mm.

index	size	L [cm]	DN	ød	øD	A	B	W	Z
06-010-0150-030	1/2"x1/2"	30	13	9,9	18	12,8	17,8	G1/2	G1/2
06-010-0150-040	1/2"x1/2"	40	13	9,9	18	12,8	17,8	G1/2	G1/2
06-010-0150-050	1/2"x1/2"	50	13	9,9	18	12,8	17,8	G1/2	G1/2
06-010-0150-060	1/2"x1/2"	60	13	9,9	18	12,8	17,8	G1/2	G1/2
06-010-0200-030	3/4"x3/4"	30	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-040	3/4"x3/4"	40	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-050	3/4"x3/4"	50	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-060	3/4"x3/4"	60	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-070	3/4"x3/4"	70	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-080	3/4"x3/4"	80	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-090	3/4"x3/4"	90	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-100	3/4"x3/4"	100	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-120	3/4"x3/4"	120	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0200-150	3/4"x3/4"	150	18	14,5	25	18,5	25,2	G3/4	G3/4
06-010-0250-030	1"x1"	30	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-040	1"x1"	40	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-050	1"x1"	50	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-060	1"x1"	60	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-070	1"x1"	70	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-080	1"x1"	80	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-090	1"x1"	90	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-100	1"x1"	100	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-120	1"x1"	120	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0250-150	1"x1"	150	25	20,5	32,5	25,0	31,5	G1	G1
06-010-0320-030	1 1/4"x1 1/4"	30	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-010-0320-040	1 1/4"x1 1/4"	40	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-010-0320-050	1 1/4"x1 1/4"	50	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-010-0320-060	1 1/4"x1 1/4"	60	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-010-0320-070	1 1/4"x1 1/4"	70	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-010-0320-080	1 1/4"x1 1/4"	80	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4

# PHA-9155

**PERFEKT<sup>SYSTEM</sup>**  
**STAINLESS STEEL**  
**FLEXIBLE BRAIDED**  
**CONNECTION HOSE - FF**



**PARAMETERS (ACCORDING TO P-T CHART)**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	GZ/FT ACC. TO
+110°C	-25°C	1,2 MPa	ISO 228

**FOR DN 13, 18**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	GZ/FT ACC. TO
+110°C	-25°C	1,0 MPa	ISO 228

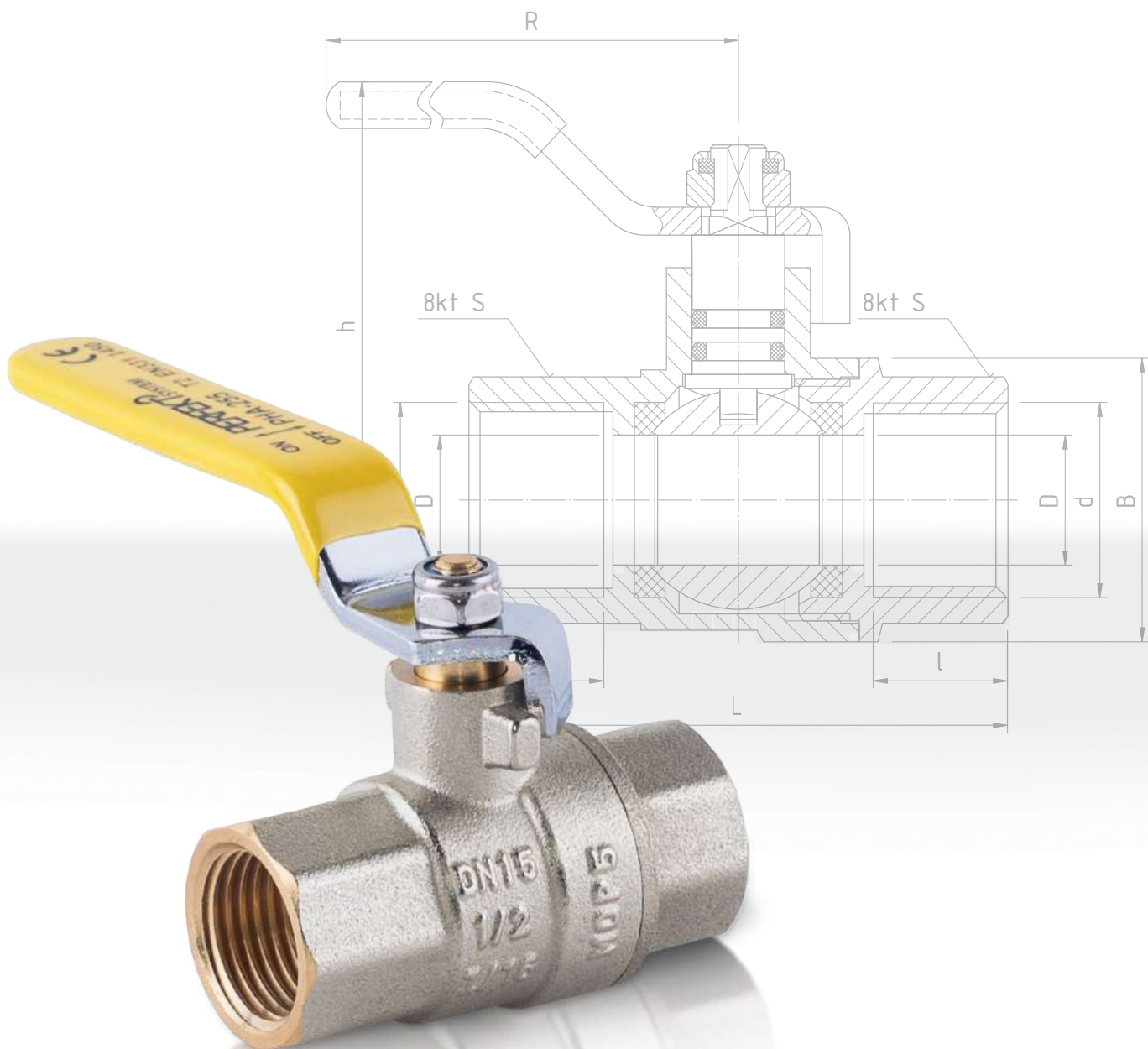
**FOR DN 25, 32**

## TECHNICAL DATA



Dimensions in mm.

index	size	L [cm]	DN	ød	øD	A	B	W	W <sub>1</sub>
06-011-0150-030	1/2"x1/2"	30	13	9,9	18	12,8	17,8	G1/2	G1/2
06-011-0150-040	1/2"x1/2"	40	13	9,9	18	12,8	17,8	G1/2	G1/2
06-011-0150-050	1/2"x1/2"	50	13	9,9	18	12,8	17,8	G1/2	G1/2
06-011-0150-060	1/2"x1/2"	60	13	9,9	18	12,8	17,8	G1/2	G1/2
06-011-0200-030	3/4"x3/4"	30	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-040	3/4"x3/4"	40	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-050	3/4"x3/4"	50	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-060	3/4"x3/4"	60	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-070	3/4"x3/4"	70	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-080	3/4"x3/4"	80	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-090	3/4"x3/4"	90	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-100	3/4"x3/4"	100	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-120	3/4"x3/4"	120	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0200-150	3/4"x3/4"	150	18	14,5	25	18,5	25,2	G3/4	G3/4
06-011-0250-030	1"x1"	30	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-040	1"x1"	40	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-050	1"x1"	50	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-060	1"x1"	60	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-070	1"x1"	70	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-080	1"x1"	80	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-090	1"x1"	90	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-100	1"x1"	100	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-120	1"x1"	120	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0250-150	1"x1"	150	25	20,5	32,5	25,0	31,5	G1	G1
06-011-0320-030	1 1/4"x1 1/4"	30	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-011-0320-040	1 1/4"x1 1/4"	40	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-011-0320-050	1 1/4"x1 1/4"	50	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-011-0320-060	1 1/4"x1 1/4"	60	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-011-0320-070	1 1/4"x1 1/4"	70	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4
06-011-0320-080	1 1/4"x1 1/4"	80	32	26,0	43,0	32,0	42,0	G1 1/4	G1 1/4



# GAS FITTINGS

**PERFEXIM**

**88-92**

<b>Ball valves</b>	89
<b>Filters</b>	90
<b>Connector assemblies</b>	90



Products that meet the strict requirements intended for gas installations

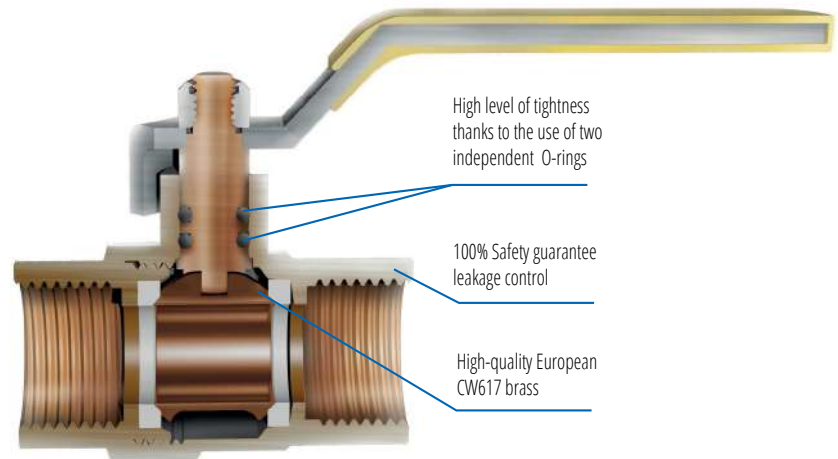
# GAS FITTINGS

## APPLICATION OF GAS BALL VALVE PHA-255

PHA-255 ball valves for gas systems, with nominal diameters DN15, DN20, DN25, DN32, DN40, DN50 are designed for closing and opening medium flow in gas systems of buildings supplied with first, second and third family gases according to PN-EN 437 standard, characterised by the following operating parameters:

- maximum operating pressure 0.5 MPa (pressure class: MOP 5)
- T2 temperature class (operating temperature range from -20°C to + 60°C)

PHA-255 valves may be installed inside and outside residential and commercial buildings (excluding systems laid directly in the ground).



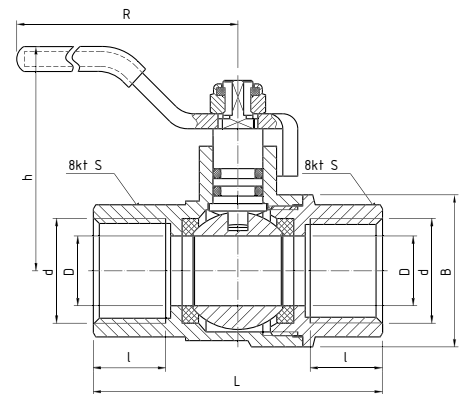
## PHA-255

**PERFEKT<sup>SYSTEM</sup>**  
**GAS BALL VALVE FF, MOP5 T2**



### PARAMETERS

Temperature class	FT ACC. TO
T2 (OD -20°C DO +60°C)	EN10226-1



### TECHNICAL DATA



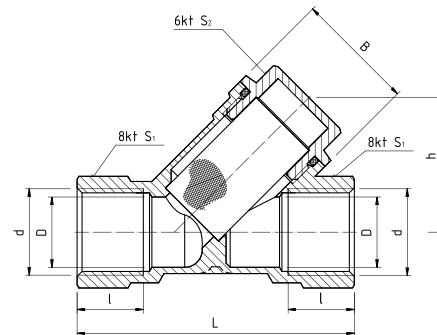
index	size	d	D	L	B	l	h	R	S
10-255-0150-000	15	Rp1/2	14	58,0	30,5	14,5	43,5	87,5	25
10-255-0200-000	20	Rp3/4	19	72,0	38,0	19,5	50,5	104,0	31
10-255-0250-000	25	Rp1	24	87,0	46,5	23,0	75,5	104,0	38
10-255-0320-000	32	Rp1 1/4	29	93,4	54,0	23,0	66,9	131,0	48
10-255-0400-000	40	Rp1 1/2	38	103,2	67,0	23,0	73,0	131,0	55
10-255-0500-000	50	Rp2	45	117,0	82,0	25,0	84,0	159,5	84

### MATERIALS

**BODY, SCREW PLUG:** CW617N nickel-plated brass  
**BALL:** CW617N chrome-plated brass  
**STEM:** CW617N brass  
**BALL SEALING:** PTFE  
**STEM SEALING:** O-rings - NBR  
**HANDLE:** galvanised carbon steel with yellow PVC sleeve

# PHA-260

**PERFEKT<sup>SYSTEM</sup>**  
**WYE STRAINER**  
**FOR GAS**  
**SYSTEMS, MOP5**  
**T2**



## PARAMETERS

<b>Temperature class</b>	<b>FT ACC. TO</b>
T2 (OD -20°C DO +60°C)	EN10226-1

## TECHNICAL DATA



Dimensions in mm.

index	size	d	D	L	B	l	S <sub>1</sub>	S <sub>2</sub>	h
10-260-0150-000	15	Rp1/2	17,0	67	29,0	16,0	25,5	21	33,2
10-260-0200-000	20	R3/4	23,0	80	35,0	16,0	31,5	24	37,5
10-260-0250-000	25	Rp1	27,5	85	39,0	18,0	38,0	27	45,6
10-260-0320-000	32	Rp1 1/4	36,0	98	48,0	21,5	48,0	36	54,8
10-260-0400-000	40	Rp1 1/2	41,0	116	57,0	21,5	54,0	43	58,7
10-260-0500-000	50	Rp2	48,0	136	69,5	26,0	66,0	52	70,7

## MATERIALS

**BODY, PLUG:** CW617N brass  
**FILTERING ELEMENT:** stainless steel AISI304  
**PLUG SEALING:** O-rings - NBR

## APPLICATION

PHA-260 strainers are designed for protecting control valves against contamination with particulate matter (with grain size exceeding 0.2 mm) in gas systems carrying gases according to PN- C-04750:2011 standard. The strainers operate at the T2 temperature range (from -20°C to +60°C) and MOP5 operating pressure (5 bar).

# PHA-250/2

**PERFEKT<sup>SYSTEM</sup>**  
**FLEXIBLE GAS**  
**CONNECTOR**  
**HOSE FF**



## PARAMETERS

<b>T<sub>MAX</sub></b>	<b>P<sub>MAX</sub></b>	<b>FT ACC. TO</b>
+60°C	0,5 MPa	ISO 228

## TECHNICAL DATA



Dimensions in mm.

index	size
11-016-0500-000	500
11-016-0750-000	750
11-016-1000-000	1000
11-016-1250-000	1250
11-016-1500-000	1500
11-016-2000-000	2000

## MATERIALS

**CORRUGATED HOSE CORE:** stainless steel AISI 304L (1,4307)  
**BRAID:** stainless steel AISI304 (1,4301)  
**OUTER COVER:** PVC  
**CONNECTOR HOSE ASSEMBLIES:** G3/4 female thread, AISI303 stainless steel (1,4305), with NBR washer - turnkey size 24

## DESCRIPTION

Rotating end connectors made of stainless steel (for easier installation). PVC cover - aesthetic looks, easier cleaning, additional protection. Stainless steel braiding - hose reinforcement and additional protection against mechanical damage. Flexible hose made of high-quality acid-resistant steel - high strength, durability and flexibility, allowing more freedom as to the location of the installed device. The set includes washers for rotating end connectors. System 1 certification - production under special supervision.

## PARAMETERS

**Bend radius:** unlimited (recommended minimum bend radius during use: 50 mm).  
**Flow capacity:** 1,75 m<sup>3</sup>/h  
**Fire resistance:** 650°C for 30 min  
**Gas types:** gaseous fuels representing 1st, 2nd and 3rd family gases according to EN437 (e.g. P, B, P/B, nitrogenated NG, high-nitrogen NG, etc.)  
**Reaction to fire:** B - s1, d0

# PHA-251/2

## PERFEKT<sup>SYSTEM</sup> FLEXIBLE GAS CONNECTOR HOSE FM



### PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+60°C	0,5 MPa	ISO 228 / EN10226-1

### TECHNICAL DATA



Dimensions in mm.

index	size
11-017-0500-000	500
11-017-0750-000	750
11-017-1000-000	1000
11-017-1250-000	1250
11-017-1500-000	1500
11-017-2000-000	2000

### DESCRIPTION

Rotating end connectors made of stainless steel (for easier installation), PVC cover - aesthetic looks, easier cleaning, additional protection. Stainless steel braiding - hose reinforcement and additional protection against mechanical damage. Flexible hose made of high-quality acid-resistant steel - high strength, durability and flexibility, allowing more freedom as to the location of the installed device. The set includes washers for rotating end connectors. System 1 certification - production under special supervision.

### MATERIALS

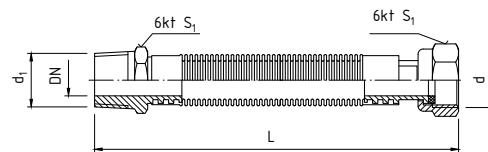
**CORRUGATED HOSE CORE:** stainless steel AISI 304L (1,4307)  
**BRAID:** stainless steel AISI304 (1,4301)  
**OUTER COVER:** PVC  
**CONNECTOR HOSE ASSEMBLIES:**  
 - G<sup>1/2</sup> female thread, AISI303 stainless steel (1,4305), with NBR washer - turnkey size 24  
 - with R<sup>1/2</sup> male thread, stainless steel AISI303 (1,4305) - turnkey size 22

**Bend radius:** unlimited (recommended minimum bend radius during use: 50 mm).  
**Flow capacity:** 1,75 m<sup>3</sup>/h  
**Fire resistance:** 650°C for 30 min  
**Gas types:** gaseous fuels representing 1st, 2nd and 3rd family gases according to EN437 (e.g. P, B, P/B, nitrogenated NG, high-nitrogen NG, etc.)  
**Reaction to fire:** B - s1, d0

### PARAMETERS

# EXTENSIBLE GAS HOSE

## EXTENSIBLE GAS HOSE FM



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+120°C	-20°C	0,5 MPa	ISO 228 / EN10225-1

### TECHNICAL DATA



Dimensions in mm.

index	size	d	d <sub>1</sub>	DN	S	S <sub>1</sub>
11-012-0130-000	130-220	G <sup>1/2</sup>	Rp <sup>1/2</sup>	12	24,0	24
11-012-0220-000	220-420	G <sup>1/2</sup>	Rp <sup>1/2</sup>	12	24,0	24
11-012-0300-000	300-600	G <sup>1/2</sup>	Rp <sup>1/2</sup>	12	24,0	24
11-012-0500-000	500-1000	G <sup>1/2</sup>	Rp <sup>1/2</sup>	12	24,0	24
11-012-0750-000	750-1500	G <sup>1/2</sup>	Rp <sup>1/2</sup>	12	24,0	30
11-013-0130-000	130-220	G <sup>3/4</sup>	Rp <sup>3/4</sup>	16	27,0	30
11-013-0220-000	220-420	G <sup>3/4</sup>	Rp <sup>3/4</sup>	16	27,0	30
11-013-0300-000	300-600	G <sup>3/4</sup>	Rp <sup>3/4</sup>	16	27,0	30
11-013-0500-000	500-1000	G <sup>3/4</sup>	Rp <sup>3/4</sup>	16	27,0	30
11-013-0750-000	750-1500	G <sup>3/4</sup>	Rp <sup>3/4</sup>	16	27,0	30
11-013-1000-000	1000-2000	G <sup>3/4</sup>	Rp <sup>3/4</sup>	16	27,0	30

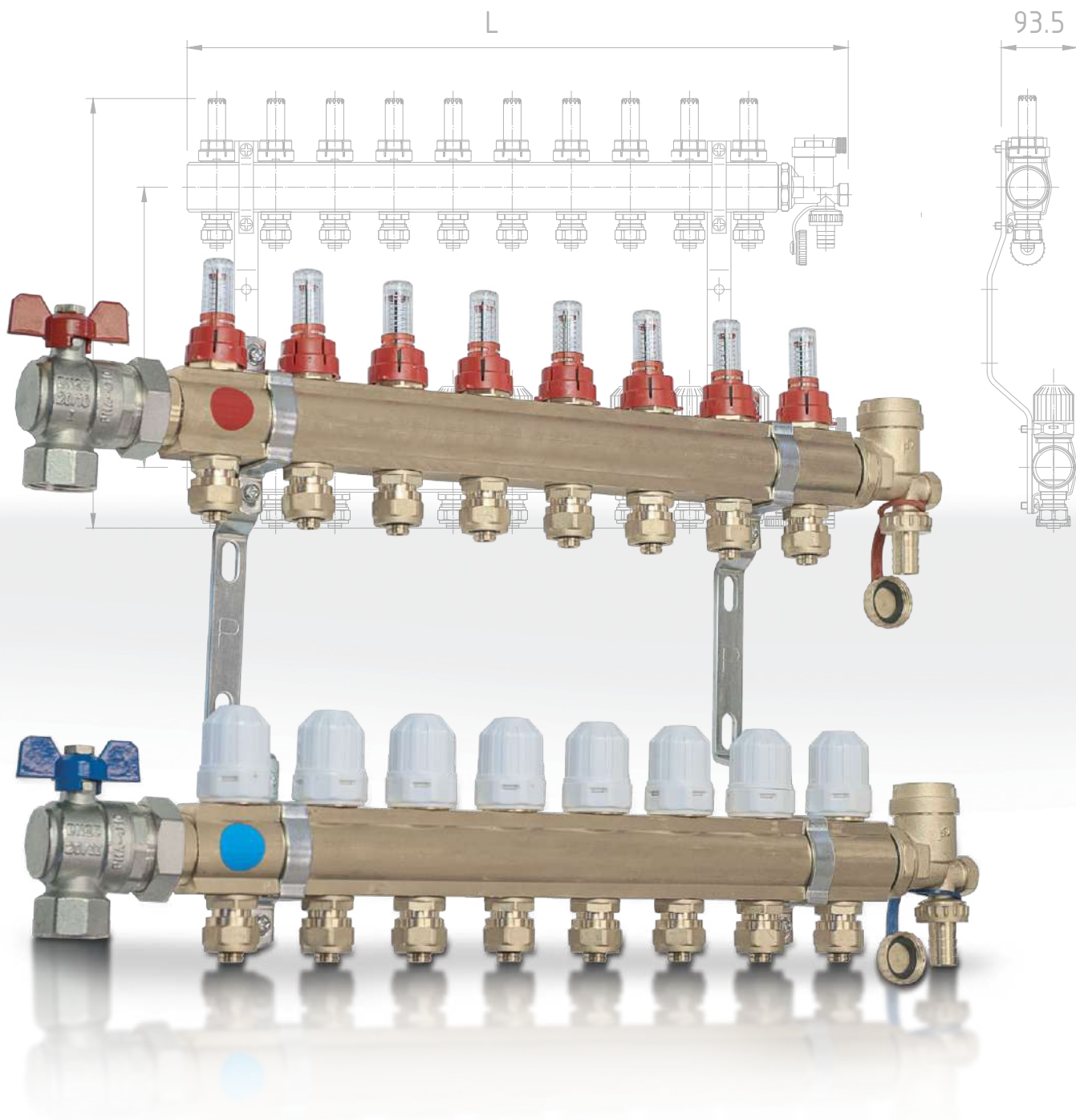
### MATERIALS

**CORRUGATED HOSE CORE:** stainless steel AISI 304L (1,4307)  
**OUTER COVER:** PVC  
**CONNECTOR HOSE ASSEMBLIES:** stainless steel AISI303 (1,4305)  
**SWIVEL NUT:** CW617N  
**SEALING:** NBR

# NOTES

A series of horizontal dotted lines for writing notes.





# CENTRAL HEATING FITTINGS

Sets i thermostatic heads	94
Radiator valves	103
Safety valves	115
Circulation pumps	117
Manifolds, manifold equipment	123
Air release valves	137
Heating automation	142
Handles	144

**PERFIXIM**

**93-144**



Professional heat distribution

# PHA-024 / PHA-024W

## STRAIGHT THERMOSTATIC VALVE SET FOR RADIATOR CONNECTION



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

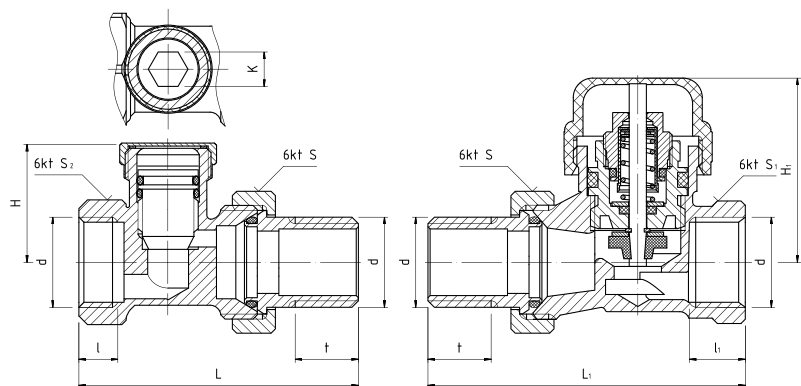


Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	l	l <sub>1</sub>	t	H	H <sub>1</sub>	S	S <sub>1</sub>	S <sub>2</sub>	K
20-024-0000-000 (chrome)	1/2"	15	G1/2	65	73,8	10	11	13	27,2	47	30	26,5	26	8
20-024-0000-001 (white)	1/2"	15	G1/2	65	73,8	10	11	13	27,2	47	30	26,5	26	8

### MATERIALS

**THERMOSTATIC VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT:** application chrome-plated brass/brass with white coating  
**DISC, HEAD BODY:** brass  
**STEM, SPRING, SUPPORTING RING:** stainless steel  
**PROTECTIVE CAP:** plastic  
**DISC SEALING (PROFILED WASHER):** NBR  
**CONNECTOR SEAL, HEAD SEALS, STEM SEAL:** O-ring – NBR  
**SHUT-OFF VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT, PROTECTIVE CAP:** chrome-plated brass/brass with white coating  
**DISC:** brass  
**CONNECTOR SEAL, DISC SEAL (O-RING):** NBR  
**PROTECTIVE CAP SEAL:** technical fibre  
**THE SET COMPRISES:** thermostatic valve, shut-off valve, thermostatic head



# PHA-025 / PHA-025W

## ANGLED THERMOSTATIC VALVE SET FOR RADIATOR CONNECTION



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

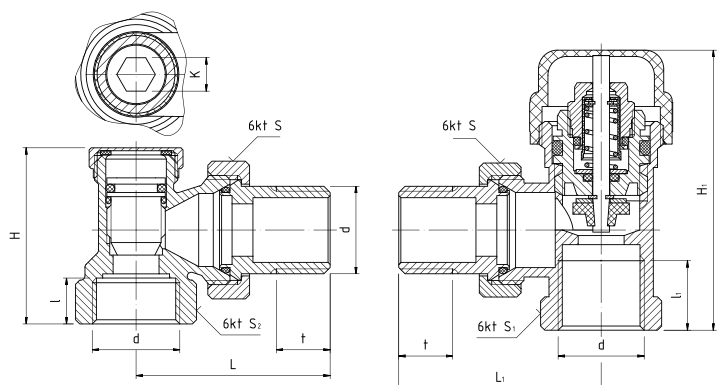


Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	l	l <sub>1</sub>	t	H	H <sub>1</sub>	S	S <sub>1</sub>	S <sub>2</sub>	K
20-025-0000-000 (chrome)	1/2"	15	G1/2	48,5	46,5	10	16	13	67,0	42,5	30	26,5	26	8
20-025-0000-001 (white)	1/2"	15	G1/2	46,5	48,5	16	16	13	67,0	42,5	30	26,5	26	8

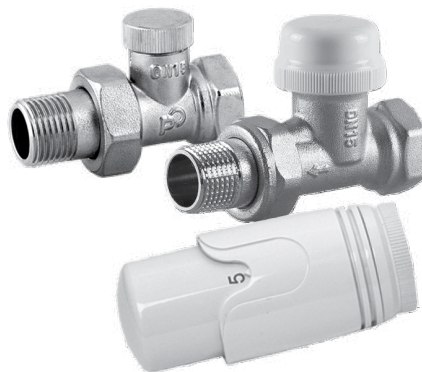
### MATERIALS

**THERMOSTATIC VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT:** application chrome-plated brass/brass with white coating  
**DISC, HEAD BODY:** brass  
**STEM, SPRING, SUPPORTING RING:** stainless steel  
**PROTECTIVE CAP:** plastic  
**DISC SEALING (PROFILED WASHER):** NBR  
**CONNECTOR SEAL, HEAD SEALS, STEM SEAL:** O-ring – NBR  
**SHUT-OFF VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT, PROTECTIVE CAP:** chrome-plated brass/brass with white coating  
**DISC:** brass  
**CONNECTOR SEAL, DISC SEAL (O-RING):** NBR  
**PROTECTIVE CAP SEAL:** technical fibre  
**THE SET COMPRISES:** thermostatic valve, shut-off valve, thermostatic head



# PHA-026

## STRAIGHT THERMOSTATIC VALVE SET WITH PRESETTING



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



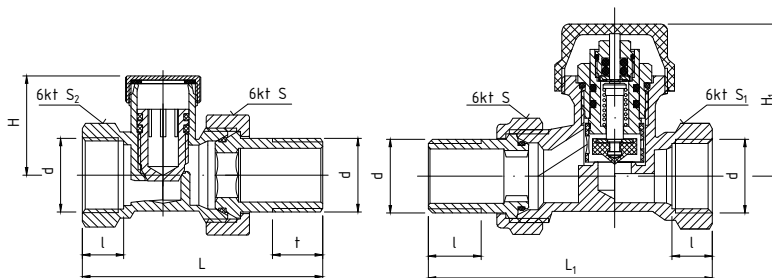
Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	l	l <sub>1</sub>	t	H	H <sub>1</sub>	S	S <sub>1</sub>	S <sub>2</sub>
20-026-0000-000	½"	15	G½	67	81	11,5	10,5	14	27,7	43	30	27	26

### MATERIALS

**THERMOSTATIC VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT:** CW617N nickel-plated brass  
**HEAD BODY, HEAD SCREW PLUG, DISC:** CW614N brass  
**PROTECTIVE CAP, PRE-SET INSERT:** plastic  
**STEM, SPRING:** stainless steel  
**DISC SEALING (PROFILED WASHER):** NBR  
**CONNECTOR SEAL, HEAD SEALS, STEM SEAL:** O-ring – NBR

**SHUT-OFF VALVE:**  
**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC:** brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**PROTECTIVE CAP SEAL:** technical fibre / NBR



# PHA-027

## ANGLED THERMOSTATIC VALVE SET WITH PRESETTING



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



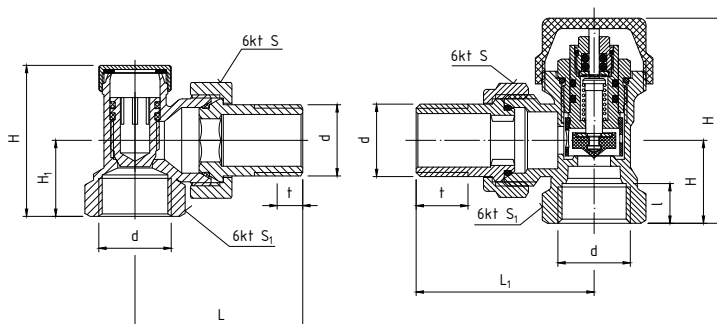
Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	l	l <sub>1</sub>	t	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	S	S <sub>1</sub>	S <sub>2</sub>
20-027-0000-000	½"	15	G½	48,5	51,5	12	10,5	15	22	43,7	60	24	30	27	26

### MATERIALS

**THERMOSTATIC VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT:** CW617N nickel-plated brass  
**HEAD BODY, HEAD SCREW PLUG, DISC:** CW614N brass  
**PROTECTIVE CAP, PRE-SET INSERT:** plastic  
**STEM, SPRING:** stainless steel  
**DISC SEALING (PROFILED WASHER):** NBR  
**CONNECTOR SEAL, HEAD SEALS, STEM SEAL:** O-ring – NBR

**SHUT-OFF VALVE:**  
**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC:** brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**PROTECTIVE CAP SEAL:** technical fibre / NBR



# PHA-036 / PHA-036W / PHA-036CM / PHA-036G / PHA-036CS

## ANGLED INTEGRATED VALVE SET WITH PRESETTING



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

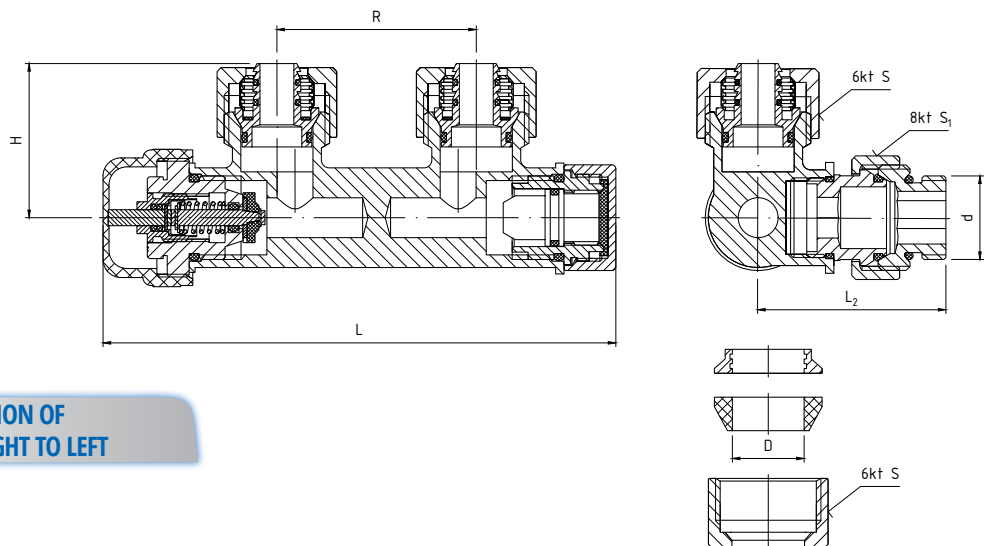
index	size	DN	d	D	L	L <sub>2</sub>	H	R	S	S <sub>1</sub>
20-036-0000-000 (chrome)	½"	15	G½	15	129,5	47,1	39,5	50	27	29,5
20-036-0000-001 (white)	½"	15	G½	15	129,5	47,1	39,5	50	27	29,5
20-036-0000-002 (graphite)	½"	15	G½	15	129,5	47,1	39,5	50	27	29,5
20-036-0000-003 (black mat)	½"	15	G½	15	129,5	47,1	39,5	50	27	29,5
20-036-0000-004 (black structure)	½"	15	G½	15	129,5	47,1	39,5	50	27	29,5

### MATERIALS

**BODY, PROTECTIVE CAP, CONNECTOR NUTS, CONNECTORS, PEX PIPE INSTALLATION NUTS, COPPER PIPE INSTALLATION NUTS, NIPPLES:** chrome-plated brass/brass with coating  
**DISC, PEX COMPRESSION RING, PEX PIPE CONNECTOR, COPPER PIPE COMPRESSION RING, HEAD BODY, HEAD DISC:** brass  
**DISC, STEM, CONNECTOR, PEX CONNECTOR AND NIPPLE SEALING:** O-ring – NBR  
**COPPER PIPE HEAD DISC SEALING (PROFILED WASHER):** NBR  
**PROTECTIVE CAP SEALING:** technical fibre  
**PROTECTIVE CAP:** plastic  
**STEM, SPRING, SUPPORTING RING:** stainless steel  
**THE SET COMPRISES:** integrated valve, thermostatic head.

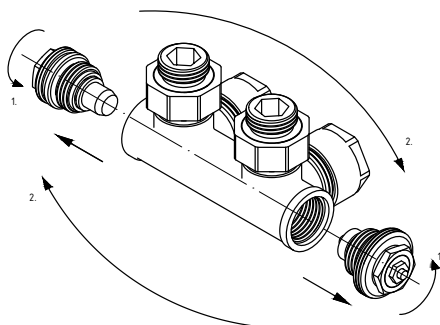
Possibility of connecting to ø16 x 2 multi-layer pipe or ø15 copper pipe.

### TECHNICAL DRAWINGS

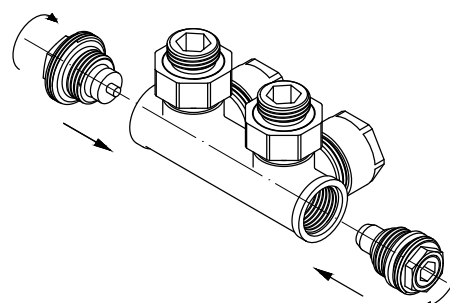


### POSSIBILITY OF CHANGING THE POSITION OF THE THERMOSTATIC INSERT FROM RIGHT TO LEFT

1. Unscrew the thermostatic and shut-off inserts
2. Swap the thermostatic and shut-off inserts



3. Tighten the thermostatic and shut-off insert



**NOTE:** Install the thermostatic insert on the flow side.

# PHA-037 / PHA-037W / PHA-037CM / PHA-037G / PHA-037CS

**THERMOSTATIC  
VALVE SET  
WITH PRESETTING  
"LEFT"**



**PARAMETERS**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

**TECHNICAL DATA**



Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	t	H	H <sub>1</sub>	A	B	S	S <sub>1</sub>
20-037-0000-000 (chrome)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0
20-037-0000-001 (white)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0
20-037-0000-002 (graphite)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0
20-037-0000-003 (black mat)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0
20-037-0000-004 (black structure)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0

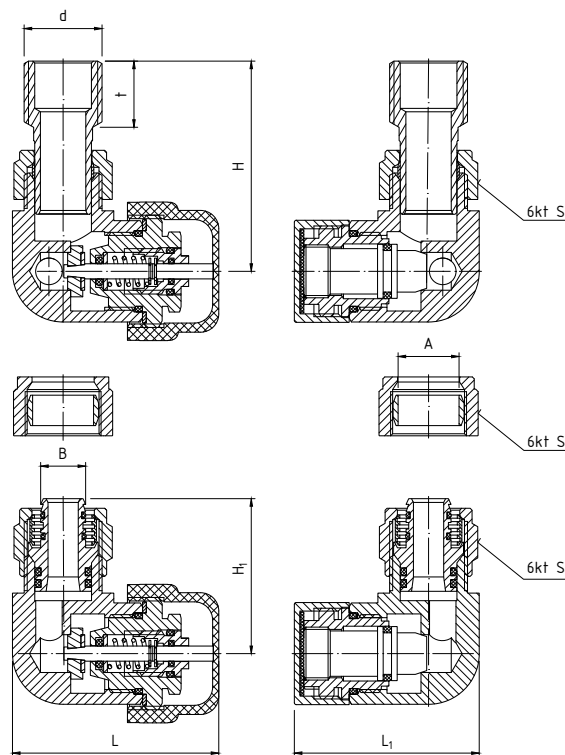
**MATERIALS**

**THERMOSTATIC VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT, PEX PIPE INSTALLATION NUT, COPPER PIPE**  
**INSteel**LATINO NUT: chrome-plated brass/brass with coating  
 DISC, HEAD BODY, PEX PIPE CONNECTOR: brass  
 STEM, SPRING, SUPPORTING RING: stainless steel  
 CONNECTOR SEAL, COPPER PIPE SEAL: bronze ring  
 PROTECTIVE CAP: plastic  
 DISC SEALING (PROFILED WASHER): NBR  
 HEAD, STEM AND PEX PIPE CONNECTOR SEALING: O-ring – NBR

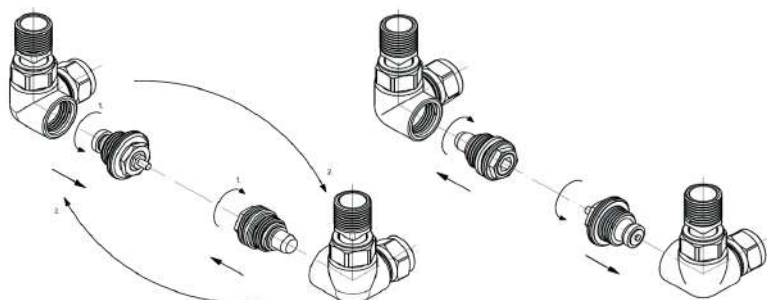
**SHUT-OFF VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT, PEX PIPE INSTALLATION NUT, COPPER PIPE**  
 INSTALLATION NUT, PROTECTIVE CAP: chrome-plated brass/brass with coating  
 DISC, HEAD BODY, PEX PIPE CONNECTOR: brass  
 CONNECTOR SEAL, COPPER PIPE SEAL: bronze ring  
 PROTECTIVE CAP SEAL: technical fibre  
 HEAD, STEM AND PEX PIPE CONNECTOR SEALING: O-ring – NBR  
**THE SET COMPRISES:** thermostatic valve, shut-off valve, thermostatic head

Possibility of connecting to ø16 x 2 multi-layer pipe or ø15 copper pipe.

**TECHNICAL DRAWINGS**



**POSSIBILITY OF CHANGING THE POSITION OF THE THERMOSTATIC INSERT**



In extreme cases, you can unscrew the thermostatic insert (from the thermostatic valve) and the closing head (from the shut-off valve) and swap them.



# PHA-038 / PHA-038W / PHA-038CM / PHA-038G / PHA-038CS

**THERMOSTATIC VALVE SET WITH PRESETTING "RIGHT"**



**PARAMETERS**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

**TECHNICAL DATA**



Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	t	H	H <sub>1</sub>	A	B	S	S <sub>1</sub>
20-038-0000-000 (chrom)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0
20-038-0000-001 (biały)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0
20-038-0000-002 (grafit)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0
20-038-0000-003 (czarny mat)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0
20-038-0000-004 (czarny struktura)	½"	15	G½	55,5	47	15,2	49,25	37,85	15	12	23,5	23,0

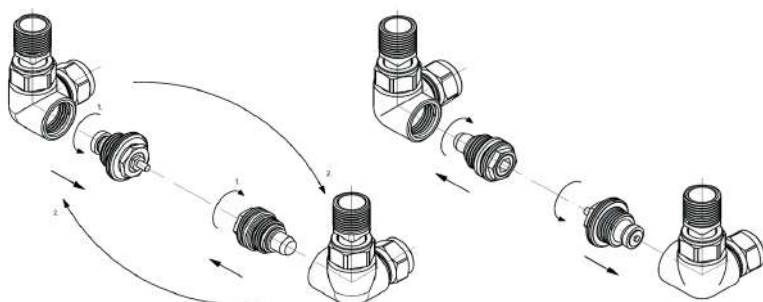
**MATERIALS**

**THERMOSTATIC VALVE:**  
 BODY, CONNECTOR, CONNECTOR NUT, PEX PIPE INSTALATION NUT, COPPER PIPE  
 INSTeelATINO NUT: chrome-plated brass/brass with coating  
 DISC, HEAD BODY, PEX PIPE CONNECTOR: brass  
 STEM, SPRING, SUPPORTING RING: stainless steel  
 CONNECTOR SEAL, COPPER PIPE SEAL: bronze ring  
 PROTECTIVE CAP: plastic  
 DISC SEALING (PROFILED WASHER): NBR  
 HEAD, STEM AND PEX PIPE CONNECTOR SEALING: O-ring – NBR

**SHUT-OFF VALVE:**  
 BODY, CONNECTOR, CONNECTOR NUT, PEX PIPE INSTALATION NUT, COPPER PIPE  
 INSTALATION NUT, PROTECTIVE CAP: chrome-plated brass/brass with coating  
 DISC, HEAD BODY, PEX PIPE CONNECTOR: brass  
 CONNECTOR SEAL, COPPER PIPE SEAL: bronze ring  
 PROTECTIVE CAP SEAL: technical fibre  
 HEAD, STEM AND PEX PIPE CONNECTOR SEALING: O-ring – NBR  
**THE SET COMPRISES:** thermostatic valve, shut-off valve, thermostatic head

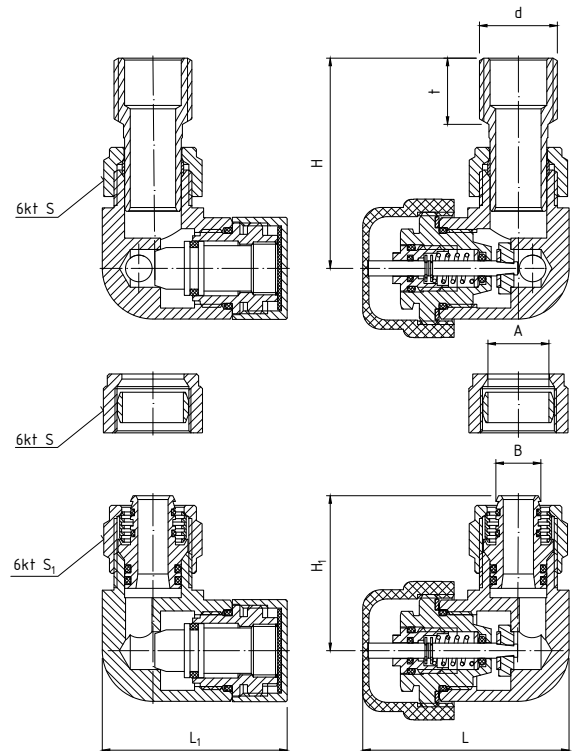
Possibility of connecting to ø16 x 2 multi-layer pipe or ø15 copper pipe.

**POSSIBILITY OF CHANGING THE POSITION OF THE THERMOSTATIC INSERT**



In extreme cases, you can unscrew the thermostatic insert (from the thermostatic valve) and the closing head (from the shut-off valve) and swap them.

**TECHNICAL DRAWINGS**



# 7024

## STRAIGHT THERMOSTATIC VALVE SET

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### TECHNICAL DATA



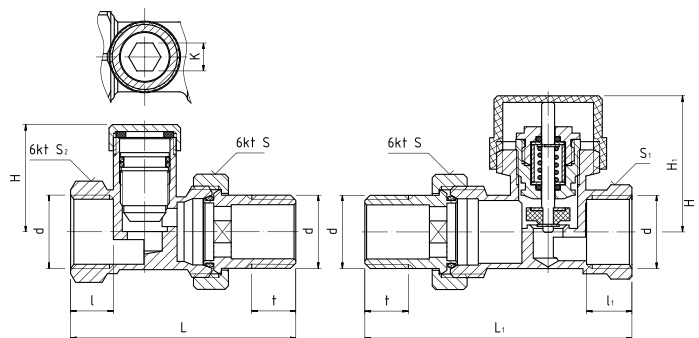
Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	l	l <sub>1</sub>	t	H	H <sub>1</sub>	S	S <sub>1</sub>	S <sub>2</sub>	K
20-107-0200-000	1/2"	15	G1/2	67,5	78	10,5	13	12,5	26	39,5	30	24,5	26,00	8,00

### MATERIALS

**THERMOSTATIC VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT:** nickel-plated brass  
**DISC, HEAD BODY:** brass  
**STEM, SPRING, SUPPORTING RING:** stainless steel  
**PROTECTIVE CAP:** plastic  
**DISC SEALING (PROFILED WASHER):** NBR  
**CONNECTOR SEAL, HEAD SEALS, STEM SEAL:** O-ring – NBR

**SHUT-OFF VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT, PROTECTIVE CAP:** nickel-plated brass  
**DISC:** brass  
**CONNECTOR SEAL, DISC SEAL (O-RING):** NBR  
**PROTECTIVE CAP SEAL:** technical fibre  
**THE SET COMPRISES:** thermostatic valve, shut-off valve, thermostatic head



# 7025

## ANGLED THERMOSTATIC VALVE SET

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### TECHNICAL DATA



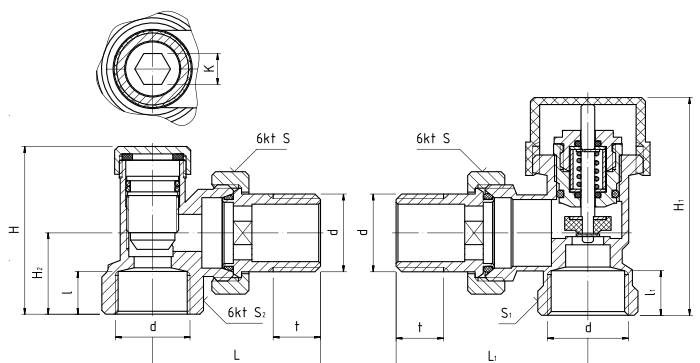
Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	l	l <sub>1</sub>	t	H	H <sub>2</sub>	H <sub>1</sub>	S	S <sub>1</sub>	S <sub>2</sub>	K
20-107-0200-010	1/2"	15	G1/2	48,5	55	11,5	10,5	12,5	44	21	60	30	24,5	24,5	8

### MATERIALS

**THERMOSTATIC VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT:** nickel-plated brass  
**DISC, HEAD BODY:** brass  
**STEM, SPRING, SUPPORTING RING:** stainless steel  
**PROTECTIVE CAP:** plastic  
**DISC SEALING (PROFILED WASHER):** NBR  
**CONNECTOR SEAL, HEAD SEALS, STEM SEAL:** O-ring – NBR

**SHUT-OFF VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT, PROTECTIVE CAP:** nickel-plated brass  
**DISC:** brass  
**CONNECTOR SEAL, DISC SEAL (O-RING):** NBR  
**PROTECTIVE CAP SEAL:** technical fibre  
**THE SET COMPRISES:** thermostatic valve, shut-off valve, thermostatic head





# 7030 / 7031 / 7032G / 7032CM / 7032CS

## ANGLED SET FOR RADIATOR CONNECTION



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

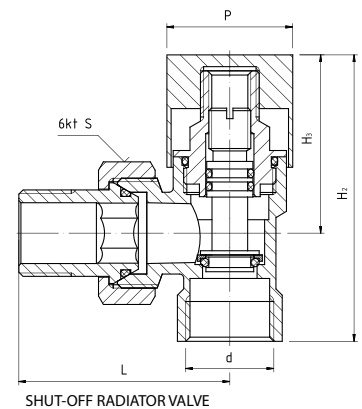
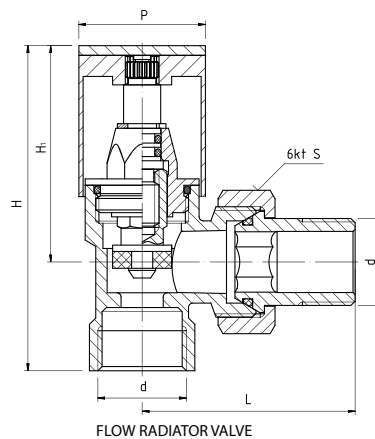
index	size	DN	d	L	H	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	S	P
20-108-0100-000 (chrome)	½"	15	G½	50,5	77,0	51,0	68,3	42,5	30	ø30
20-108-0100-101 (white)	½"	15	G½	50,5	77,0	51,0	68,3	42,5	30	ø30
20-108-0100-002 (graphite)	½"	15	G½	50,5	77,0	51,0	68,3	42,5	30	ø30
20-108-0100-003 (black mat)	½"	15	G½	50,5	77,0	51,0	68,3	42,5	30	ø30
20-108-0100-004 (black structure)	½"	15	G½	50,5	77,0	51,0	68,3	42,5	30	ø30

### MATERIALS

**FLOW VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT:** chrome-plated brass /brass with paint coating  
**STEM, DISC, HEAD BODY:** brass  
**HANDGRIP, PROTECTIVE CAP:** chrome-plated brass /brass with paint coating  
**SUPPORTING RING:** stainless steel  
**DISC SEALING:** flat washer - NBR  
**CONNECTOR WASHER, HEAD WASHER, STEM WASHER:** O-ring - NBR

**SHUT-OFF VALVE:**  
**BODY, CONNECTOR, CONNECTOR NUT:** chrome-plated brass /brass with paint coating  
**STEM, HEAD BODY:** brass  
**PROTECTIVE CAP:** chrome-plated brass /brass with paint coating  
**CONNECTOR WASHER, HEAD WASHER, STEM WASHER:** O-ring - NBR

### TECHNICAL DRAWING

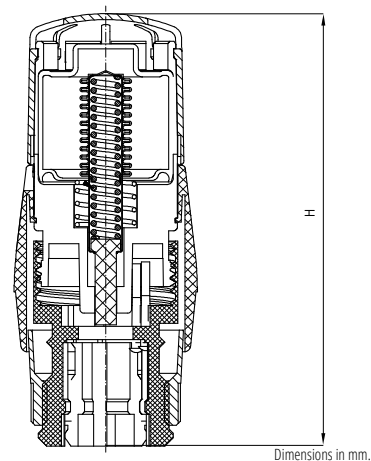


### DESCRIPTION

This set of angled radiator valves is designed for installing radiators in central heating systems (including bathroom radiators). Included in the set, the flow valve allows to control the flow of the heating medium, while the shut-off valve is designed for closing the flow of the heating medium through the radiator.  
 Connection threads: ½"

# GS.07

## THERMOSTATIC LIQUID-FILLED VALVE HEAD WITH RA-N CONNECTION



### PARAMETERS

T<sub>MAX</sub>  
+50°C

### TECHNICAL DATA



index  
20-300-0005-000

H  
100,5

### MATERIALS

REGULATOR BODY, BODY, NUT M30, 5x2: polyamide  
SENSOR UNIT: steel, brass  
LOCKING PIN, SPRING: steel  
HANDLE, SLEEVE: ABS  
LIQUID SENSOR: ethyl octane  
PUSHER UNIT: brass, steel, polyamide

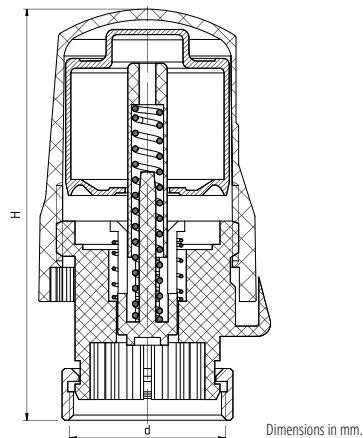
### PARAMETERS

MAX. WORKING TEMPERATURE: +50°C;  
TEMPERATURE SETTING RANGE: +8°C to +30°C;  
FROST PROTECTION AT: +8°C (marked with a star \*\*\*)

TEMPERATURE SETTINGS:  
\* - +8°C  
1 - +12°C  
2 - +16°C  
3 - +20°C  
4 - +24°C  
5 - +28°C  
6 - +30°C

# TRCD15

## THERMOSTATIC LIQUID-FILLED VALVE HEAD M30X1,5



### PARAMETERS

T <sub>MAX</sub>	FT ACC. TO
+50°C	ISO724   ISO965-1   ISO965-3

### TECHNICAL DATA



index  
20-107-0300-000

size  
M30x1,5

d  
M30x1,5

H  
79

### MATERIALS

LIQUID SENSOR: ethyl octane  
BODY, REGULATOR BODY WITH SENSOR COVER: ABS  
EXPANSION SPRING: stainless steel - guarantees smooth operation of the handle, eliminating play on the regulator thread, and preventing the head from moving back from a selected setting  
LOCKING SLEEVE: ABS  
HEAD SPRING: stainless steel  
PUSHER: plastic

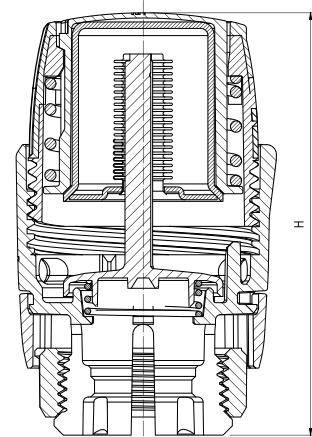
### PARAMETERS

MAX. WORKING TEMPERATURE: +50°C  
TEMPERATURE SETTING RANGE: +8°C to +28°C  
('0' - allows the thermostatic valve to be completely closed)  
FROST PROTECTION AT: +8°C (marked with a star \*\*\*)

TEMPERATURE SETTINGS:  
0 - 0°C  
\* - +6°C  
1 - +12°C  
2 - +16°C  
3 - +20°C  
4 - +24°C  
5 - +28°C

# RAS-C2

**THERMOSTATIC  
LIQUID-FILLED  
VALVE HEAD WITH  
DANFOSS RA-N  
CONNECTION**



## PARAMETERS

**T<sub>MAX</sub>**

+50°C

## TECHNICAL DATA



Dimensions in mm.

**index**  
20-300-0004-000

**H**  
84

## MATERIALS

**LIQUID SENSOR:** ethyl octane  
**BODY, REGULATOR BODY WITH SENSOR COVER:** ABS  
**EXPANSION SPRING:** stainless steel - guarantees smooth operation of the handle, eliminating play on the regulator thread, and preventing the head from moving back from a selected setting  
**LOCKING SLEEVE:** ABS  
**HEAD SPRING:** stainless steel  
**PUSHER:** plastic

**MAX. WORKING TEMPERATURE:** +50°C  
**TEMPERATURE SETTING RANGE:** +8°C to +28°C  
 (\*0\* - allows the thermostatic valve to be completely closed)  
**FROST PROTECTION AT:** +8°C (marked with a star \*\*\*)

**TEMPERATURE SETTINGS:**  
 0 - 0°C  
 \* - +8°C  
 I - +12°C  
 II - +16°C  
 III - +20°C  
 IIII - +24°C  
 >I - +28°C

## PARAMETERS

# TRCD10C / TRCD10W / TRCD10G / TRCD10CM / TRCD10CS

## THERMOSTATIC LIQUID-FILLED VALVE HEAD M30X1,5



TRCD10C -chrome



TRCD10W -white



TRCD10G -graphite



TRCD10CM -black mat



TRCD10CS -black structure

### PARAMETERS

T <sub>MAX</sub>	FT ACC. TO
+50°C	ISO724   ISO965-1   ISO965-3

### TECHNICAL DATA



Dimensions in mm.

index	size	d	H
20-107-0400-000 (chrome)	M30x1,5	M30x1,5	86
20-107-0400-100 (white)	M30x1,5	M30x1,5	86
20-107-0400-200 (graphite)	M30x1,5	M30x1,5	86
20-107-0400-003 (black mat)	M30x1,5	M30x1,5	86
20-107-0400-004 (black structure)	M30x1,5	M30x1,5	86

### MATERIALS

LIQUID SENSOR: ethyl octane  
 BODY, REGULATOR BODY WITH SENSOR COVER: ABS  
 EXPANSION SPRING: stainless steel - guarantees smooth operation of the handle, eliminating play on the regulator thread, and preventing the head from moving back from a selected setting  
 LOCKING SLEEVE: ABS  
 HEAD SPRING: stainless steel  
 PUSHER: plastic

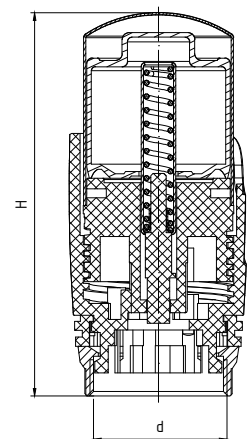
### PARAMETERS

MAX. WORKING TEMPERATURE: +50°C  
 TEMPERATURE SETTING RANGE: +6°C to +28°C  
 FROST PROTECTION AT: +6°C (marked with a star\*\*\*);

#### TEMPERATURE SETTINGS:

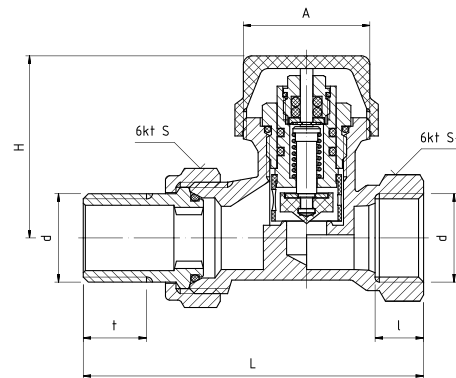
- \* - +6°C
- 1 - +12°C
- 2 - +16°C
- 3 - +20°C
- 4 - +24°C
- 5 - +28°C

### TECHNICAL DRAWING



# PHA-028

## STRAIGHT THERMOSTATIC RADIATOR VALVE WITH PRESETTING



Dimensions in mm.

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228 ISO724 ISO965-1

### TECHNICAL DATA



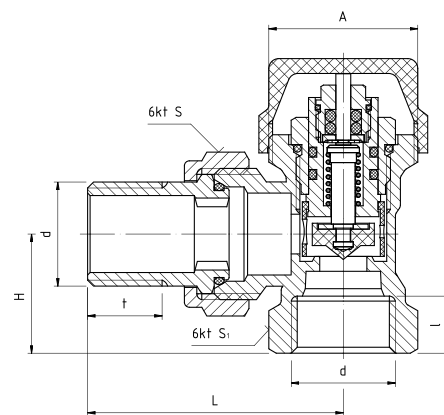
index	size	DN	d	L	l	t	H	S	S <sub>1</sub>	A
20-028-0000-000	1/2"	15	G1/2	81	10,5	15	43	30	27	M30x1,5

### MATERIALS

**BODY, CONNECTOR, CONNECTOR NUT:** CW617N nickel-plated brass  
**HEAD BODY, HEAD SCREW PLUG, DISC:** CW614N brass  
**PROTECTIVE CAP, PRE-SET INSERT:** plastic  
**STEM, SPRING:** stainless steel  
**DISC SEALING:** profiled washer - NBR  
**CONNECTOR WASHER, HEAD WASHER, STEM WASHER:** O-ring - NBR

# PHA-029

## ANGLED THERMOSTATIC RADIATOR VALVE WITH PRESETTING



Dimensions in mm.

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



index	size	DN	d	L	l	t	H	S	S <sub>1</sub>	A
20-029-0000-000	1/2"	15	G1/2	51,5	10,5	15	24	30	27	M30x1,5

### MATERIALS

**BODY, CONNECTOR, CONNECTOR NUT:** CW617N nickel-plated brass  
**HEAD BODY, HEAD SCREW PLUG, DISC:** CW614N brass  
**PROTECTIVE CAP, PRE-SET INSERT:** plastic  
**STEM, SPRING:** stainless steel  
**DISC SEALING:** profiled washer - NBR  
**CONNECTOR WASHER, HEAD WASHER, STEM WASHER:** O-ring - NBR

# PHA-030

## STRAIGHT RADIATOR VALVE



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228 ISO724 ISO965-1

### TECHNICAL DATA



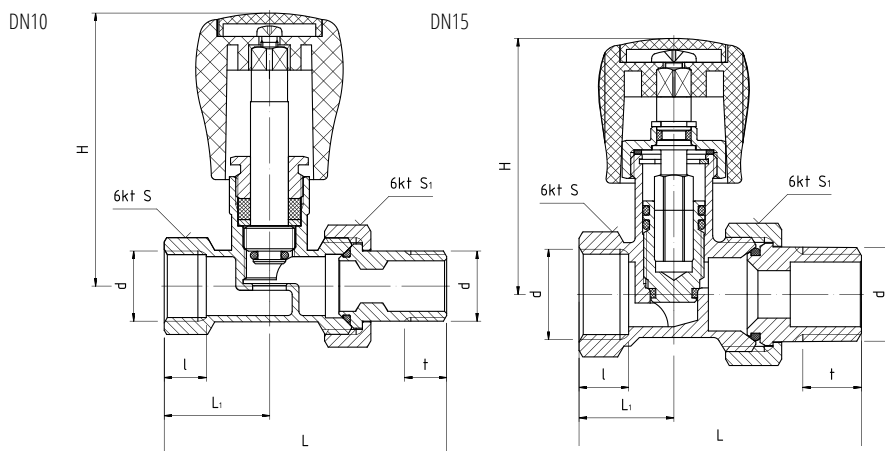
Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	l	t	H	S	S <sub>1</sub>
20-030-0000-300	3/8"	10	G3/8	67	25	10,0	8,5	65,0	21	26
20-030-0000-000	1/2"	15	G1/2	67	22	11,5	12,0	60,0	26	30

### MATERIALS

**FOR DN10:**  
**BODY, CONNECTOR:** CW617N nickel-plated brass  
**STEM, PACKING GLAND, WASHER:** CW614N brass  
**CONNECTOR NUT:** CW614N nickel-plated brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**STEM SEALING:** PTFE (Teflon)  
**HANDLE:** ABS

**FOR DN15:**  
**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM:** CW614N brass  
**CONNECTOR NUT, STEM NUT:** CW614N nickel-plated brass  
**DISC, STEM AND CONNECTOR SEALING:** O-ring – NBR  
**STEM NUT SEALING:** technical fibre  
**SUPPORTING RING:** spring steel  
**HANDLE:** plastic ABS



# PHA-032

## ANGLED RADIATOR VALVE



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	F1/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



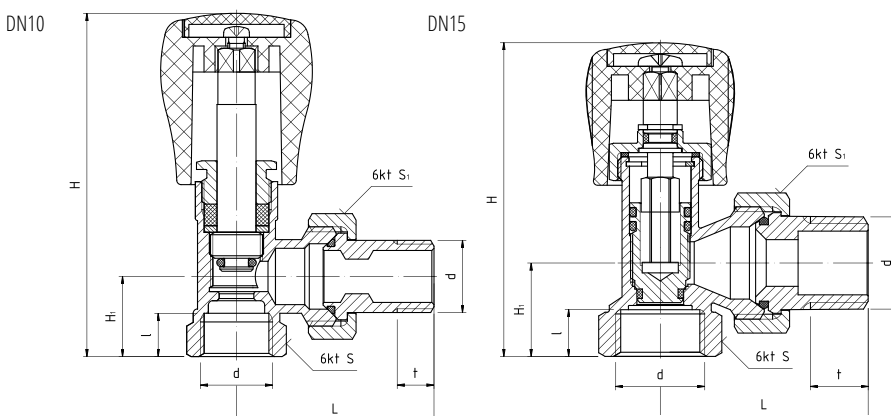
Dimensions in mm.

index	size	DN	d	L	l	t	H	H <sub>1</sub>	S	S <sub>1</sub>
20-032-0100-300	3/8"	10	G3/8	45,5	10	8,5	79,3	18,5	21	26
20-032-0100-000	1/2"	15	G1/2	51,0	11	12,0	75,0	22,0	26	30

### MATERIALS

**FOR DN10:**  
**BODY, CONNECTOR:** CW617N nickel-plated brass  
**STEM, PACKING GLAND, WASHER:** CW614N brass  
**CONNECTOR NUT:** CW614N nickel-plated brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**STEM SEALING:** PTFE (Teflon)  
**HANDLE:** ABS

**FOR DN15:**  
**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM:** CW614N brass  
**CONNECTOR NUT, STEM NUT:** CW614N nickel-plated brass  
**DISC, STEM AND CONNECTOR SEALING:** O-ring – NBR  
**STEM NUT SEALING:** technical fibre  
**SUPPORTING RING:** spring steel  
**HANDLE:** plastic ABS



# PHA-031

## STRAIGHT RADIATOR SHUT-OFF VALVE



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### TECHNICAL DATA



Dimensions in mm.

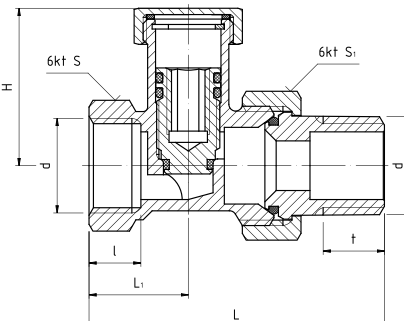
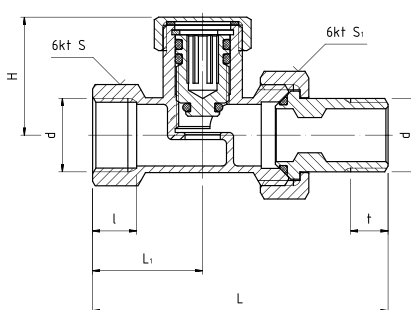
index	size	DN	d	L	L <sub>1</sub>	l	t	H	S	S <sub>1</sub>
20-031-0001-300	3/8"	10	G3/8	67	25	10,0	8,5	26,8	21	26
20-031-0001-000	1/2"	15	G1/2	67	22	11,5	12,0	35,0	26	30

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC:** CW614N brass  
**CONNECTOR NUT, PROTECTIVE CAP:** CW614N nickel-plated brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**PROTECTIVE CAP SEALING:** technical fibre  
**SUPPORTING RING:** spring steel

DN10

DN15



# PHA-033

## ANGLED RADIATOR SHUT-OFF VALVE



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### TECHNICAL DATA



Dimensions in mm.

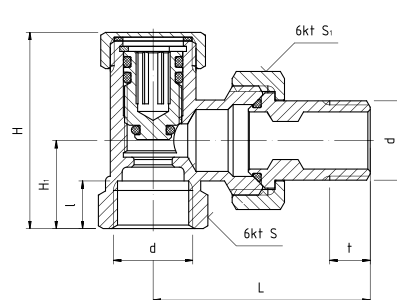
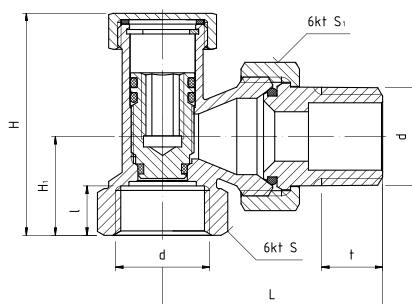
index	size	DN	d	L	l	t	H	H <sub>1</sub>	S	S <sub>1</sub>
20-033-0101-300	3/8"	10	G3/8	45,5	10	8,5	42	18,5	21	26
20-033-0101-000	1/2"	15	G1/2	50,5	11	12,0	49	22,0	26	30

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC:** CW614N brass  
**CONNECTOR NUT, PROTECTIVE CAP:** CW614N nickel-plated brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**PROTECTIVE CAP SEALING:** technical fibre  
**SUPPORTING RING:** spring steel

DN10

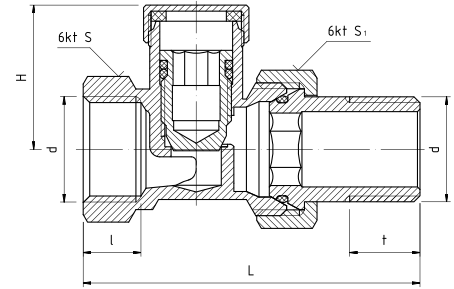
DN15





# TRV02

## STRAIGHT RADIATOR SHUT-OFF VALVE



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

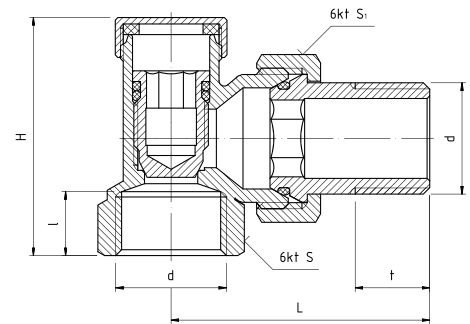
index	size	DN	d	L	H	l	t	S	S <sub>1</sub>
20-107-0300-001	1/2"	15	G1/2	67,0	27,7	11,5	14	26	30

### MATERIALS

**BODY, CONNECTOR, CONNECTOR NUT, PROTECTIVE CAP:** nickel-plated brass  
**DISC:** brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**PROTECTIVE CAP SEALING:** technical fibre

# TRV04

## ANGLED RADIATOR SHUT-OFF VALVE



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

index	size	DN	d	L	l	t	H	S <sub>1</sub>	S
20-107-0300-002	1/2"	15	G1/2	48,5	12	14	43,7	30	26

### MATERIALS

**BODY, CONNECTOR, CONNECTOR NUT, PROTECTIVE CAP:** nickel-plated brass  
**DISC:** brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**PROTECTIVE CAP SEALING:** technical fibre

# PHA-030A

## STRAIGHT RADIATOR VALVE WITH SELF-SEALING THREAD



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	F1/M1 ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### TECHNICAL DATA

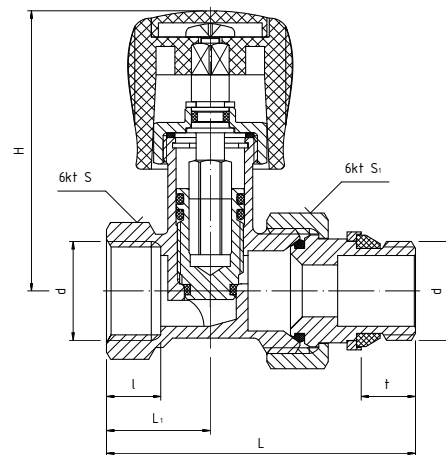


Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	L	t	H	S	S <sub>1</sub>
20-030-0000-100	½"	15	G1/2	65	22	11,5	11,5	60	26	30

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM:** CW614N brass  
**CONNECTOR NUT, STEM NUT, SUPPORTING RING:** CW614N nickel-plated brass  
**DISC, STEM AND CONNECTOR SEALING:** O-ring – NBR  
**THREAD SEALING:** profiled washer - NBR  
**STEM NUT SEALING:** technical fibre  
**HANDLE:** ABS  
**SUPPORTING RINGS:** spring steel



# PHA-032A

## ANGLED RADIATOR VALVE WITH SELF-SEALING THREAD



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	F1/M1 ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### ADDITIONAL INFORMATION

The control valve can be changed over to a shut-off valve. Sealing rings can be replaced when worn. Multi-level leakage protection on the disc and stem. Disc lock to prevent accidental loosening.

### TECHNICAL DATA

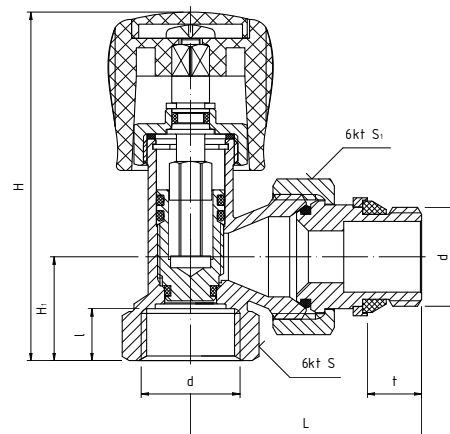


Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	L	t	H	H <sub>1</sub>	S	S <sub>1</sub>
20-032-0100-100	½"	15	G½	49	11	11,5	11,5	73	22	26	30

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM:** CW614N brass  
**CONNECTOR NUT, STEM NUT, SUPPORTING RING:** CW614N nickel-plated brass  
**DISC, STEM AND CONNECTOR SEALING:** O-ring – NBR  
**THREAD SEALING:** profiled washer - NBR  
**STEM NUT SEALING:** technical fibre  
**HANDLE:** ABS  
**SUPPORTING RINGS:** spring steel



# PHA-031A

**STRAIGHT RADIATOR SHUT-OFF VALVE WITH SELF-SEALING THREAD**



**PARAMETERS**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

## TECHNICAL DATA

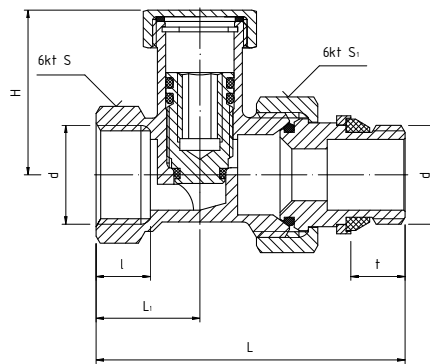


Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	l	t	H	S	S <sub>1</sub>
20-031-0001-100	1/2"	15	G1/2	65,5	22	11,5	11,5	35	26	30

## MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM:** CW614N brass  
**CONNECTOR NUT, STEM NUT, SUPPORTING RING:** CW614N nickel-plated brass  
**DISC, STEM AND CONNECTOR SEALING:** O-ring – NBR  
**THREAD SEALING:** profiled washer - NBR  
**STEM NUT SEALING:** technical fibre  
**HANDLE:** ABS  
**SUPPORTING RINGS:** spring steel



# PHA-033A

**STRAIGHT RADIATOR SHUT-OFF VALVE WITH SELF-SEALING THREAD**



**PARAMETERS**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

## TECHNICAL DATA

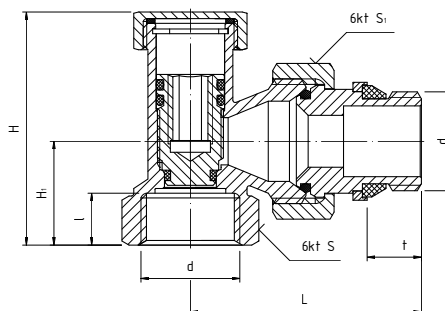


Dimensions in mm.

index	size	DN	d	L	l	t	H	H <sub>1</sub>	S	S <sub>1</sub>
20-033-0101-100	1/2"	15	G1/2	49	11	11,5	49	22	26	30

## MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC:** CW614N brass (CuZn39Pb3)  
**CONNECTOR NUT, PROTECTIVE CAP, SUPPORTING RING:** CW614N nickel-plated brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**THREAD SEALING:** profiled washer - NBR  
**PROTECTIVE CAP SEALING:** technical fibre  
**SUPPORTING RING:** spring steel



### ADDITIONAL INFORMATION

The shut-off valve can be changed over to a control valve. Sealing rings can be replaced when worn. Multi-level leakage protection on the disc and stem. Disc lock to prevent accidental loosening.

# PHA-030/L

## STRAIGHT RADIATOR VALVE FOR SOLDERING

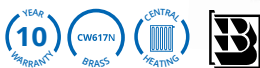


### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### TECHNICAL DATA

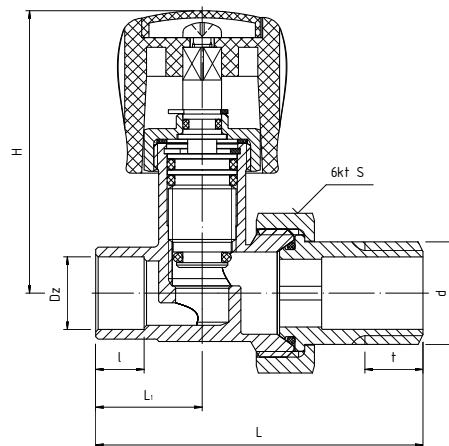


Dimensions in mm.

index	size	DN	d	Dz	L	L <sub>1</sub>	l	t	H	S
20-030-0000-200	1/2"	15	G1/2	ø15	67	22	10	12	58,5	30

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM:** CW614N brass  
**CONNECTOR NUT, STEM NUT, SUPPORTING RING:** CW614N nickel-plated brass  
**DISC, STEM AND CONNECTOR SEALING:** O-ring – NBR  
**THREAD SEALING:** profiled washer – NBR  
**STEM NUT SEALING:** technical fibre  
**HANDLE:** ABS  
**SUPPORTING RINGS:** spring steel



# PHA-032/L

## ANGLED RADIATOR VALVE FOR SOLDERING



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### TECHNICAL DATA

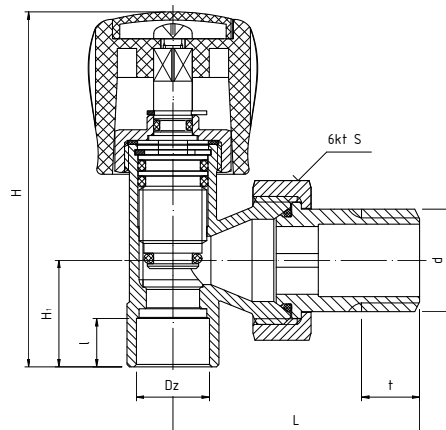


Dimensions in mm.

index	size	DN	d	Dz	L	l	t	H	H <sub>1</sub>	S
20-032-0100-200	1/2"	15	G1/2	ø15	51	10	12	73	22	30

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM:** CW614N brass  
**CONNECTOR NUT, STEM NUT, SUPPORTING RING:** CW614N nickel-plated brass  
**DISC, STEM AND CONNECTOR SEALING:** O-ring – NBR  
**THREAD SEALING:** profiled washer – NBR  
**STEM NUT SEALING:** technical fibre  
**HANDLE:** ABS  
**SUPPORTING RINGS:** spring steel



# PHA-031/L

**STRAIGHT RADIATOR  
SHUT-OFF  
VALVE FOR SOLDERING**



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

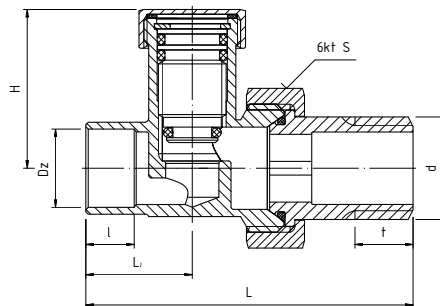


Dimensions in mm.

index	size	DN	d	Dz	L	L <sub>2</sub>	l	t	H	S
20-031-0001-200	1/2"	15	G1/2	ø15	67	22	10	12	32,5	30

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC:** CW614N brass  
**CONNECTOR NUT, PROTECTIVE CAP:** CW614N nickel-plated brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**PROTECTIVE CAP SEALING:** technical fibre  
**SUPPORTING RING:** spring steel



# PHA-033/L

**ANGLED RADIATOR  
SHUT-OFF  
VALVE FOR SOLDERING**



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

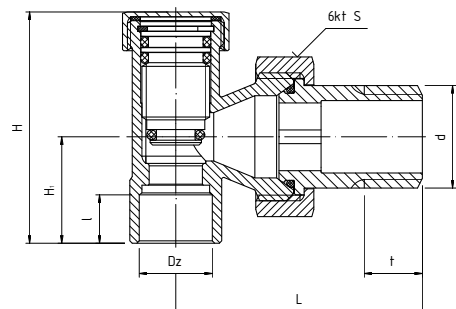


Dimensions in mm.

index	size	DN	d	Dz	L	l	t	H	H <sub>1</sub>	S
20-033-0101-200	1/2"	15	G1/2	ø15	51	10	12	45,5	22	30

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC:** CW614N brass  
**CONNECTOR NUT, PROTECTIVE CAP:** CW614N nickel-plated brass  
**DISC SEALING, CONNECTOR SEALING:** O-ring – NBR  
**PROTECTIVE CAP SEALING:** technical fibre  
**SUPPORTING RING:** spring steel



## PHA-030 PEX

**STRAIGHT RADIATOR VALVE WITH COUPLING FOR MULTILAYER PIPE CONNECTION 16X2**



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### ADDITIONAL INFORMATION

The control valve can be changed over to a shut-off valve. Multi-level leakage protection on the disc and stem. Disc lock to prevent accidental loosening. Sealing rings can be replaced when worn.

### TECHNICAL DATA

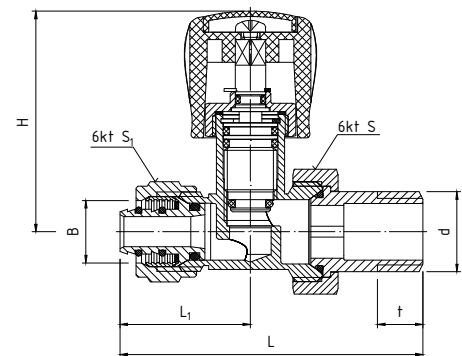


Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	t	H	S	S <sub>1</sub>	B
20-030-0000-003	1/2"	15	G1/2	80	34,5	12	58,5	30	24	ø16

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM, COMPRESSION SLEEVE, PIPE CONNECTOR:** CW614N brass  
**CONNECTOR NUT, STEM NUT, PEX NUT:** CW614N nickel-plated brass  
**DISC, STEM, CONNECTOR AND PIPE CONNECTOR SEALING:** O-ring – NBR  
**STEM NUT SEALING:** technical fibre  
**HANDLE:** ABS  
**SUPPORTING RINGS:** spring steel



## PHA-032 PEX

**ANGLED RADIATOR VALVE WITH COUPLING FOR MULTILAYER PIPE CONNECTION 16X2**



### PARAMETERS

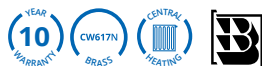
T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228



### ADDITIONAL INFORMATION

The control valve can be changed over to a shut-off valve. Multi-level leakage protection on the disc and stem. Disc lock to prevent accidental loosening. Sealing rings can be replaced when worn.

### TECHNICAL DATA

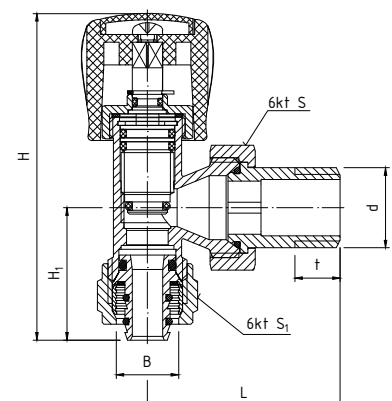


Dimensions in mm.

index	size	DN	d	L	t	H	H <sub>1</sub>	S	S <sub>1</sub>	B
20-032-0100-003	1/2"	15	G1/2	51	12	86	35	30	24	ø16

### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, STEM, COMPRESSION SLEEVE, PIPE CONNECTOR:** CW614N brass  
**CONNECTOR NUT, STEM NUT, PEX NUT:** CW614N nickel-plated brass  
**DISC, STEM, CONNECTOR AND PIPE CONNECTOR SEALING:** O-ring – NBR  
**STEM NUT SEALING:** technical fibre  
**HANDLE:** ABS  
**SUPPORTING RINGS:** spring steel



## PHA-031 PEX

**STRAIGHT RADIATOR  
SHUT-OFF VALVE  
WITH COUPLING  
FOR MULTILAYER  
PIPE CONNECTION 16X2**



### ADDITIONAL INFORMATION

The control valve can be changed over to a shut-off valve. Multi-level leakage protection on the disc and stem. Disc lock to prevent accidental loosening. Sealing rings can be replaced when worn.

#### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

#### TECHNICAL DATA

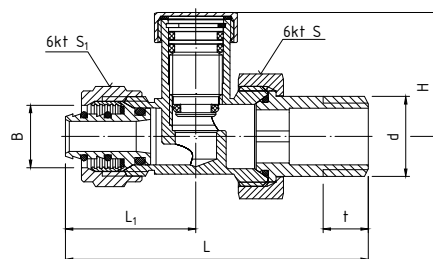


Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	t	H	S	S <sub>1</sub>	B
20-031-0001-003	1/2"	15	G1/2	80	34,5	12	32,5	30	24	ø16

#### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, COMPRESSION SLEEVE, PIPE CONNECTOR:** CW614N brass  
**CONNECTOR NUT, STEM NUT, PROTECTIVE CAP, PEX NUT:** CW614N nickel-plated brass  
**DISC, CONNECTOR AND PIPE CONNECTOR SEALING:** O-ring – NBR  
**STEM NUT SEALING:** technical fibre  
**SUPPORTING RINGS:** spring steel



## PHA-033 PEX

**STRAIGHT RADIATOR  
SHUT-OFF VALVE  
WITH COUPLING  
FOR MULTILAYER  
PIPE CONNECTION 16X2**



### ADDITIONAL INFORMATION

The control valve can be changed over to a shut-off valve. Multi-level leakage protection on the disc and stem. Disc lock to prevent accidental loosening. Sealing rings can be replaced when worn.

#### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

#### TECHNICAL DATA

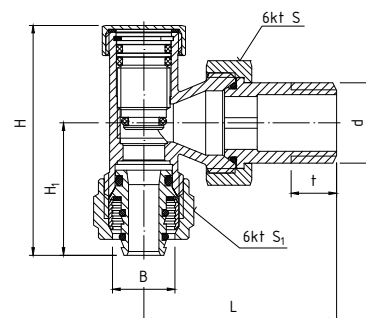


Dimensions in mm.

index	size	DN	d	L	t	H	H <sub>1</sub>	S	S	B
20-033-0101-003	1/2"	15	G1/2	51	12	60,8	35	30	30	ø16

#### MATERIALS

**BODY, CONNECTOR:** CW617N nickel-plated brass  
**DISC, COMPRESSION SLEEVE, PIPE CONNECTOR:** CW614N brass  
**CONNECTOR NUT, STEM NUT, PROTECTIVE CAP, PEX NUT:** CW614N nickel-plated brass  
**DISC, CONNECTOR AND PIPE CONNECTOR SEALING:** O-ring – NBR  
**STEM NUT SEALING:** technical fibre  
**SUPPORTING RINGS:** spring steel





# PHA-034

## STRAIGHT DOUBLE RADIATOR SHUT-OFF MUSHROOM VALVE WITH NIPPLES



### ADDITIONAL INFORMATION

For connecting radiators with G $\frac{3}{4}$  male and G $\frac{1}{2}$  female threads. The set includes: set of angled valves and reducing couplings (reducing joints). A special conical end enables installation of the set on bottom-supply radiators with G $\frac{3}{4}$  male threads, while the joints are used for installing the set on bottom-supply radiators with G $\frac{1}{2}$  female threads. The set can be installed in a system using suitable compression couplings - PHA-090, 215E.

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

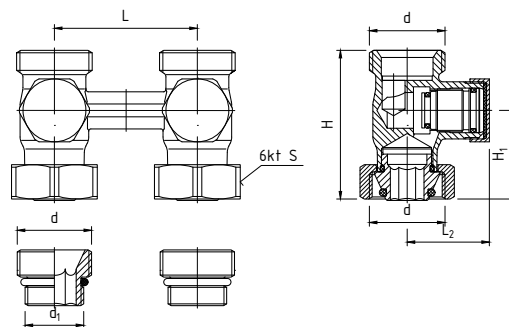


Dimensions in mm.

index	size	DN	d	d <sub>1</sub>	L	L <sub>2</sub>	H	S	H <sub>1</sub>
20-034-0000-000	1/2"x3/4"	15	G $\frac{3}{4}$	G $\frac{1}{2}$	50	28	50	30	30

### MATERIALS

**BODY, CONNECTION NUTS, PROTECTIVE CAPS:** nickel-plated brass  
**PROTECTIVE CAP SEALING:** technical fibre  
**STEM, NIPPLE AND CONE CONNECTION SEALING:** O-rings - NBR  
**NIPPLES, STEMS, CONE CONNECTIONS:** brass



# PHA-035

## ANGLED DOUBLE RADIATOR SHUT-OFF MUSHROOM VALVE WITH NIPPLES



### ADDITIONAL INFORMATION

For connecting radiators with G $\frac{3}{4}$  male and G $\frac{1}{2}$  female threads. The set includes: set of angled valves and reducing couplings (reducing joints). A special conical end enables installation of the set on bottom-supply radiators with G $\frac{3}{4}$  male threads, while the joints are used for installing the set on bottom-supply radiators with G $\frac{1}{2}$  female threads. The set can be installed in a system using suitable compression couplings - PHA-090, 215E.

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

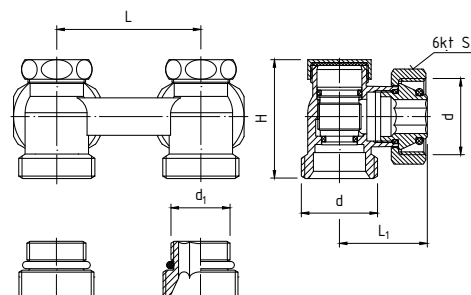


Dimensions in mm.

index	size	DN	d	d <sub>1</sub>	L	L <sub>1</sub>	H	S
20-035-0000-000	1/2"x3/4"	15	G $\frac{3}{4}$	G $\frac{1}{2}$	50	28,3	46	30

### MATERIALS

**BODY, CONNECTION NUTS, PROTECTIVE CAPS:** nickel-plated brass  
**PROTECTIVE CAP SEALING:** technical fibre  
**STEM, NIPPLE AND CONE CONNECTION SEALING:** O-rings - NBR  
**NIPPLES, STEMS, CONE CONNECTIONS:** brass



# PHA-035/1

## ANGLED DOUBLE RADIATOR SHUT-OFF MUSHROOM VALVE WITH NIPPLES



### ADDITIONAL INFORMATION

For connecting radiators with G $\frac{3}{4}$  male threads. The set includes: set of angled valves. A special conical end enables installation of the set on bottom-supply radiators with G $\frac{3}{4}$  male threads. The set can be installed in a system using suitable compression couplings - PHA-090, 215E.

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

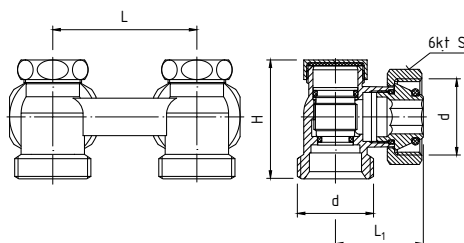


Dimensions in mm.

index	size	DN	d	L	L <sub>1</sub>	H	S
20-035-0000-001	¾"	15	G $\frac{3}{4}$	50	28,3	46	30

### MATERIALS

**BODY, CONNECTION NUTS, PROTECTIVE CAPS:** nickel-plated brass  
**PROTECTIVE CAP SEALING:** technical fibre  
**STEM, NIPPLE AND CONE CONNECTION SEALING:** O-rings - NBR  
**NIPPLES, STEMS, CONE CONNECTIONS:** brass



# 7006+8021

## STRAIGHT DOUBLE RADIATOR SHUT-OFF BALL VALVE WITH NIPPLES



### ADDITIONAL INFORMATION

For radiators with G $\frac{1}{2}$  connections. The set includes: straight shut-off unit (7006) and two nipples (8021). Installed in the system using clamps PHA-090, 215E.

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

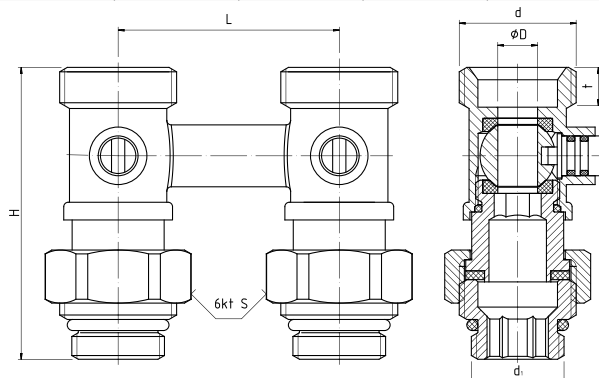


Dimensions in mm.

index	size	DN	d	d <sub>1</sub>	øD	L	t	H	S
20-104-0002-000	½"x¾"	15	G $\frac{3}{4}$	G $\frac{1}{2}$	9	50	9	66	30

### MATERIALS

**BODY, CONNECTION NUTS, STEMS, SCREW PLUGS:** nickel-plated brass  
**BALLS:** chrome-plated brass  
**BALL SEALING:** PTFE (Teflon)  
**STEM SEALING, NIPPLE SEALING:** O-rings - NBR  
**NIPPLES:** brass  
**CONNECTION SEALING:** flat washer - NBR



# 7005+8021

## ANGLED DOUBLE RADIATOR SHUT-OFF BALL VALVE WITH NIPPLES



### ADDITIONAL INFORMATION

For radiators with G½ connections. The set includes: straight shut-off unit (7005) and two nipples (8021). Installed in the system using clamps PHA-090, 215E.

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

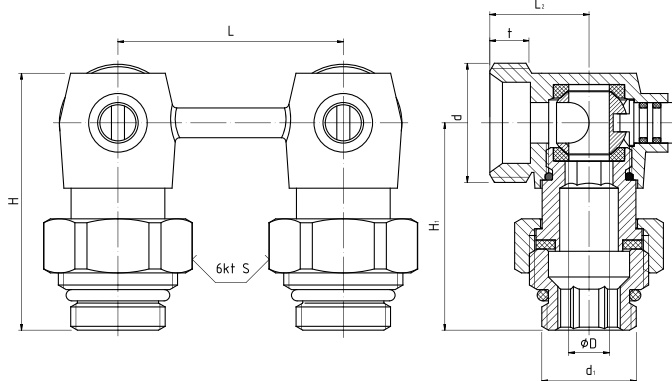


Dimensions in mm.

index	size	DN	d	d <sub>1</sub>	øD	L	t	H	H <sub>1</sub>	S
20-104-0001-000	½"×¾"	15	G¾	G½	9	50	9	54,5	45,8	30

### MATERIALS

**BODY, CONNECTION NUTS, STEMS, SCREW PLUGS:** nickel-plated brass  
**BALLS:** chrome-plated brass  
**BALL SEALING:** PTFE (Teflon)  
**STEM SEALING, NIPPLE SEALING:** O-rings - NBR  
**NIPPLES:** brass  
**CONNECTION SEALING:** flat washer - NBR



# 7036B

## SAFETY VALVE WITH CHECK VALVE AND RELIEF



### PARAMETERS

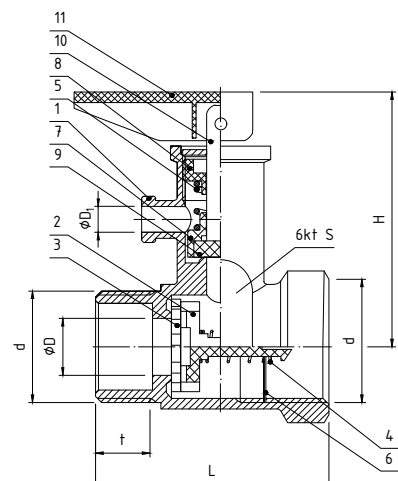
T <sub>MAX</sub>	T <sub>MIN</sub>	FT/MT ACC. TO
+95°C	+1°C	ISO228

### TECHNICAL DATA



Dimensions in mm.

index	size	set pressure	DN	d	øD	øD <sub>1</sub>	L	t	H	S
20-202-0150-000	½"	7,0 bar	15	G½	10,5	9	43	10	61	25,0
20-202-0200-000	¾"	7,0 bar	20	G¾	10,5	4,8	53	11	70	



### MATERIALS

**BODY (1):** nickel-plated brass  
**CHECK VALVE DISC, STEM (10), LEVER (11):** plastic  
**CHECK VALVE WASHER (3):** NBR rubber compound  
**CHECK VALVE SPRING (4), SAFETY VALVE SPRING (5):** acid-resistant steel  
**SECURING NUT (6):** acid-resistant steel  
**SAFETY VALVE DISC (7), SETTING NUT (8):** plastic  
**SAFETY VALVE WASHER (9):** rubber - NBR

### ADDITIONAL INFORMATION

The safety valve with check valve and relief is designed to protect against excessive pressure increase and to maintain one direction of flow in systems with an electric water heater with a maximum operating temperature of +95°C. When the working pressure exceeds permissible value (p<sub>n</sub> = 0,7 MPa), fluid is released through the drain piece. Safety valves with a check valve must be properly fitted in line with the direction of medium flow, as marked on the body. Set (open) pressure of the safety valve (p<sub>n</sub> = 0,7 MPa) is permanently pre-set by the manufacturer, without the possibility of adjustment. In order to prevent the adherence of safety valve disc washer (9) to the seat in the body, e.g. due to scale accumulation, the disc (7) should be lifted periodically (every 10 days) using the lever (11).

# 111-1/111-3

## SAFETY VALVE WITH CHECK VALVE AND RELIEF

### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	FT ACC. TO
+100°C	+1°C	ISO228

### TECHNICAL DATA

index	size	set pressure	DN	d	øD	øD <sub>1</sub>	L	t	H	S
20-201-0150-000	½"	7,0 bar	15	G½	11	9	45	9	65	25
20-201-0200-000	¾"	7,0 bar	20	G¾	15	9	57	14	80	32

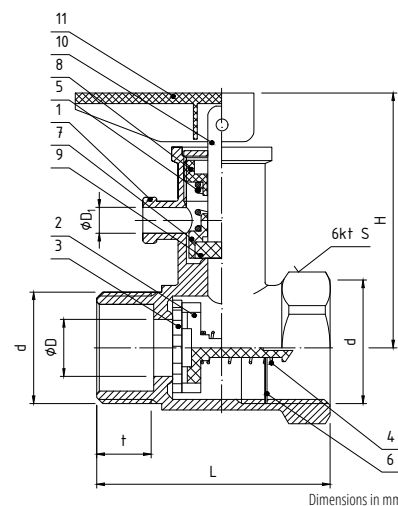
### MATERIALS

- BODY (1):** CW617N nickel-plated brass
- CHECK VALVE DISC, STEM (10), LEVER (11):** plastic (Nylon 6)
- CHECK VALVE WASHER (3):** EPDM rubber compound
- CHECK VALVE SPRING (4), SAFETY VALVE SPRING (5):** acid-resistant steel 1H18N9(AISI 302)
- SECURING NUT (6):** CW617N brass (CuZn40Pb2)
- SAFETY VALVE DISC (7), SETTING NUT(8):** plastic (Polyamide 66)
- SAFETY VALVE WASHER (9):** EPDT rubber compound1)
- STEM (10):** zinc alloy

1) rubber compound with increased resistance to adhesion to the seat

### ADDITIONAL INFORMATION

The safety valve with check valve and relief prevents excessive pressure build-up and helps maintain uniform flow of water in heating systems with a maximum working temperature up to +100 °C. When the working pressure exceeds permissible value ( $p_n = 0,7$  MPa), fl uid is released through the drain piece. Safety valves with check valve must be properly fitted in line with the direction of medium flow, as marked on the body. Set (open) pressure of the safety valve ( $p_n = 0,7$  MPa) is permanently pre-set by the manufacturer, without the possibility of adjustment. In order to prevent the adherence of safety valve disc washer (9) to the seat in the body, e.g. due to scale accumulation, the disc (7) should be lifted periodically (every 10 days) using the lever (11).



Dimensions in mm.

### PARAMETERS

#### SAFETY VALVE:

**SET PRESSURE "pn" (FACTORY SETTING):**  $p_n=0,7$  MPa

**OPEN START PRESSURE "po":**  $100\% \pm 10\%$  set pressure "pn"

**WATER DISCHARGE COEFFICIENT RANGE "AC":**

$\alpha_c=0,003-0,017$  - for pressure increase by 10% compared with "ppo" pressure

$\alpha_c=0,02-0,037$  - for pressure increase by 25% compared with "ppo" pressure

**FLOW CAPACITY "Q" FOR WATER WITH A TEMP. OF 20°C**

**(OPEN START PRESSURE ppo=0,7MPa):**

DN15 Q=21,5 kg/h for pressure increase by 10% compared with

"ppo" Q=153,0 kg/h for pressure increase by 25% compared with "ppo"

DN20 Q=31,6 kg/h for pressure increase by 10% compared with

"ppo" Q=214,2 kg/h for pressure increase by 25% compared with "ppo"

#### CHECK VALVE:

**OPEN START PRESSURE "ppo":**  $p_{po}=0,060+15$ MPa

**FLOW CAPACITY "Q" FOR WATER WITH A TEMP. 20°C WITH PRESSURE DROP AT**

**VALVE BY 0,1 MPa:**

DN15 Q=1580 kg/h

DN20 Q=2600 kg/h

# 8021

## NIPPLE FOR DOUBLE RADIATOR BALL VALVE

### PARAMETERS

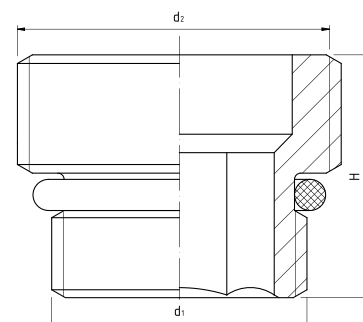
T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA

index	size	d <sub>1</sub>	d <sub>2</sub>	H
20-104-2000-000	½" x ¾"	G½	G¾	18

### MATERIALS

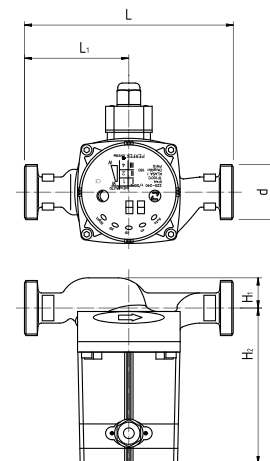
- NIPPLE:** brass
- WASHER:** O-ring – NBR



Dimensions in mm.

# PHA-402

## CENTRAL HEATING CIRCULATION PUMP, ELECTRONICALLY -CONTROLLED



Dimensions in mm.

### PARAMETERS

Maximum delivery head	Nominal flow rate	Maximum operating pressure	Connection size	Power consumption
4 m	1,6 m³	1,0 MPa	G1½	5÷22 W

### TECHNICAL DATA



index	d	L	L <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>
31-402-0000-000	G1½	180	90	26	134

### DESCRIPTION

**PERFEKT<sup>SYSTEM</sup>** pumps comply with the requirements of (EC) Regulation 641/2009 valid from 1 August 2015 (EEI<0,23). The application of electronically-controlled **PERFEKT<sup>SYSTEM</sup>** pumps allows to achieve energy savings up to 80% compared with previous-generation pumps. The pumps retain memory settings of the most recent operating mode, there is no need for adjusting pump settings after power supply is disconnected, e.g. due to power failure. The pumps offer a night mode that helps additionally cut power costs thanks to the built-in temperature sensor that leads to idle work reduction after detecting temperature drop.

Several operating modes are available:

**PP1** - lowest proportional pressure curve. Delivery head is reduced in the case of lower flow demand, and increased in the case of higher demand, design point on PP1 curve.

**PP3** - highest proportional pressure curve. Delivery head is reduced in the case of lower flow demand, and increased in the case of higher demand, design point on PP3 curve.

**CP1** - lowest constant delivery head curve. Constant delivery head maintained irrespective of changes in flow characteristics, design point on CP1 curve.

**CP3** - highest constant delivery head curve. Constant delivery head maintained irrespective of changes in flow characteristics, design point on CP3 curve.

**PP1, PP2, PP3 modes** - recommended for radiators systems.

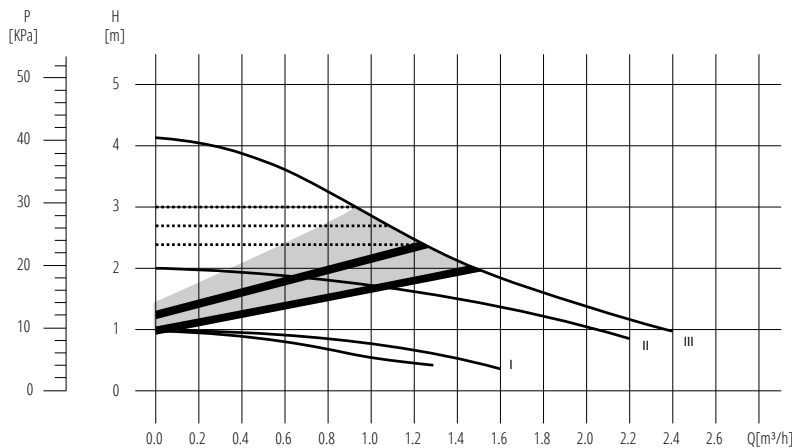
**CP1, CP2, CP3 modes** - recommended for underfloor heating systems.

**I, II, III** - manual operating modes, design point on curves I, II, III respectively (setting III designed for fast pump venting). At each of those settings the operates at a constant rotor speed.

**AUTO** - the pump automatically adjusts its rate and head of delivery in accordance with system demand. Design point marked on the curve in AUTO area.

**Night mode** - this operating mode is activated when AUTO modes are active. It helps reduce power consumption when the temperature of the heating medium drops by 10°C ÷ 15°C within 2 hours. When the temperature sensor detects an increase of medium temperature by 10°C, the pump automatically returns to the selected operating mode. For proper night-time operation, the pump should be installed on the system's supply side and the system with the stove/boiler must be equipped with an automatic temperature control system.

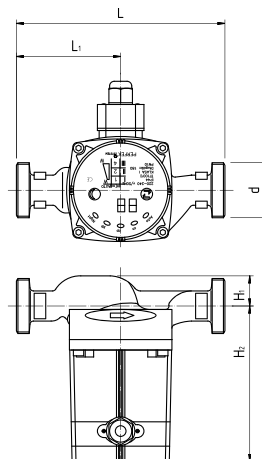
### CHART



- AU - AUTOMATIC OPERATION MODE
- CONSTANT SPEED, n1 - lowest first gear, n2 - middle second gear, n3 - highest third gear
- ..... CP1, CP2, CP3 - OPERATION ACCORDING TO CONSTANT PRESSURE CHARACTERISTICS
- PP1, PP2, PP3 - OPERATION ACCORDING TO PROPORTIONAL PRESSURE CHARACTERISTICS

# PHA-602

## PERFEKT CENTRAL HEATING CIRCULATION PUMP, ELECTRONICALLY -CONTROLLED



### PARAMETERS

Maximum delivery head	Nominal flow rate	Maximum operating pressure	Connection size	Power consumption
6 m	1,8 m³	1,0 MPa	G1½	5÷45 W

### TECHNICAL DATA



index	d	L	L <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>
31-602-0000-000	G1½	180	90	26	134

Dimensions in mm.

### DESCRIPTION

**PERFEKT<sup>SYSTEM</sup>** pumps comply with the requirements of (EC) Regulation 641/2009 valid from 1 August 2015 (EEI<0,23). The application of electronically-controlled **PERFEKT<sup>SYSTEM</sup>** pumps allows to achieve energy savings up to 80% compared with previous-generation pumps. The pumps retain memory settings of the most recent operating mode, there is no need for adjusting pump settings after power supply is disconnected, e.g. due to power failure. The pumps offer a night mode that helps additionally cut power costs thanks to the built-in temperature sensor that leads to idle work reduction after detecting temperature drop.

Several operating modes are available:

**PP1** - lowest proportional pressure curve. Delivery head is reduced in the case of lower flow demand, and increased in the case of higher demand, design point on PP1 curve.

**PP3** - highest proportional pressure curve. Delivery head is reduced in the case of lower flow demand, and increased in the case of higher demand, design point on PP3 curve.

**CP1** - lowest constant delivery head curve. Constant delivery head maintained irrespective of changes in flow characteristics, design point on CP1 curve.

**CP3** - highest constant delivery head curve. Constant delivery head maintained irrespective of changes in flow characteristics, design point on CP3 curve.

**PP1, PP2, PP3 modes** - recommended for radiator systems.

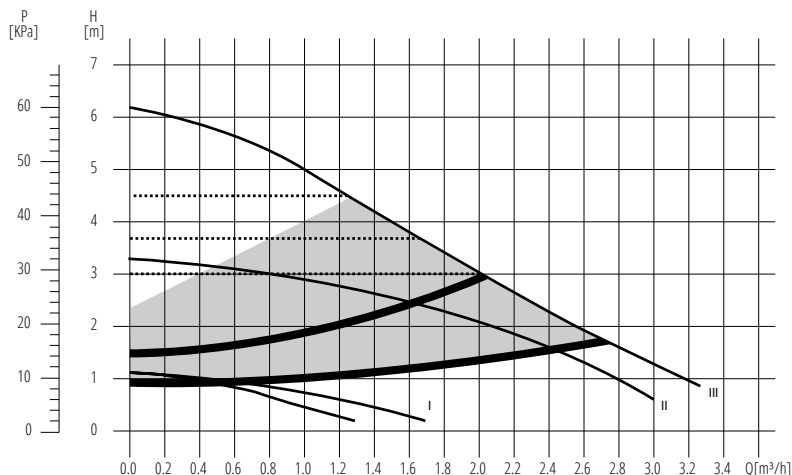
**CP1, CP2, CP3 modes** - recommended for underfloor heating systems.

**I, II, III** - manual operating modes, design point on curves I, II, III respectively (setting III designed for fast pump venting). At each of those settings the pump operates at a constant rotor speed.

**AUTO** - the pump automatically adjusts its rate and head of delivery in accordance with system demand. Design point marked on the curve in AUTO area.

**Night mode** - this operating mode is activated when AUTO modes are active. It helps reduce power consumption when the temperature of the heating medium drops by 10°C ÷ 15°C within 2 hours. When the temperature sensor detects an increase of medium temperature by 10°C, the pump automatically returns to the selected operating mode. For proper night-time operation, the pump should be installed on the system's supply side and the system with the stove/boiler must be equipped with an automatic temperature control system.

### CHART

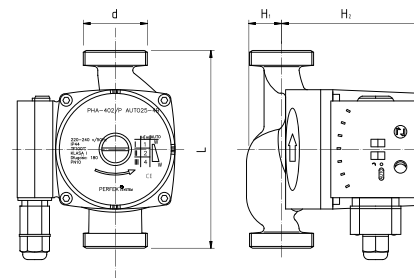


- AU - AUTOMATIC OPERATION MODE
- CONSTANT SPEED, n1 - lowest first gear, n2 - middle second gear, n3 - highest third gear
- ..... CP1, CP2, CP3 - OPERATION ACCORDING TO CONSTANT PRESSURE
- PP1, PP2, PP3 - OPERATION ACCORDING TO PROPORTIONAL PRESSURE CHARACTERISTICS



# PHA-402/P

## CENTRAL HEATING CIRCULATION PUMP FOR UNDERFLOOR HEATING, ELECTRONICALLY-CONTROLLED



### PARAMETERS

Maximum delivery head	Nominal flow rate	Maximum operating pressure	Connection size	Power consumption
4 m	1,6 m³	1,0 MPa	G1½	5±22W

### TECHNICAL DATA



Dimensions in mm.

index	d	L	H <sub>1</sub>	H <sub>2</sub>
31-402-0001-000	G1½	130	26	104

### DESCRIPTION

**PERFEKT<sup>SYSTEM</sup>** pumps comply with the requirements of (EC) Regulation 641/2009 valid from 1 August 2015 (EEI<0,23). The application of electronically-controlled **PERFEKT<sup>SYSTEM</sup>** pumps allows to achieve energy savings up to 80% compared with previous-generation pumps. The pumps retain memory settings of the most recent operating mode, there is no need for adjusting pump settings after power supply is disconnected, e.g. due to power failure. The pumps offer a night mode that helps additionally cut power costs thanks to the built-in temperature sensor that leads to idle work reduction after detecting temperature drop.

Several operating modes are available:

**PP1** - lowest proportional pressure curve. Delivery head is reduced in the case of lower flow demand, and increased in the case of higher demand, design point on PP1 curve.

**PP3** - highest proportional pressure curve. Delivery head is reduced in the case of lower flow demand, and increased in the case of higher demand, design point on PP3 curve.

**CP1** - lowest constant delivery head curve. Constant delivery head maintained irrespective of changes in flow characteristics, design point on CP1 curve.

**CP3** - highest constant delivery head curve. Constant delivery head maintained irrespective of changes in flow characteristics, design point on CP3 curve.

**PP1, PP2, PP3 modes** - recommended for radiators systems.

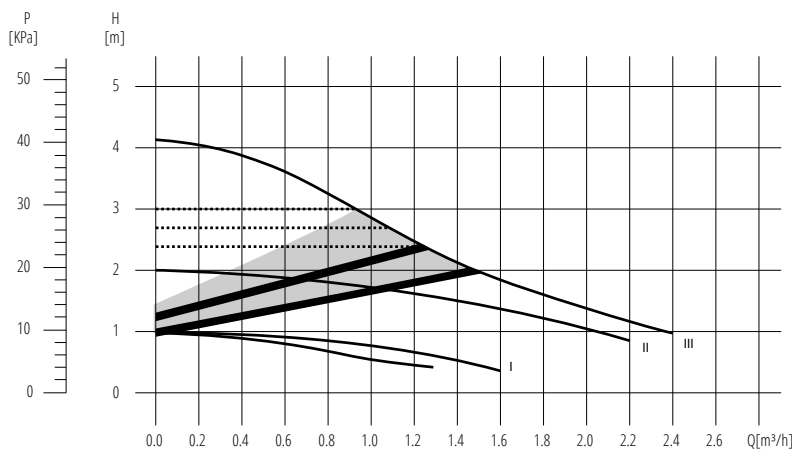
**CP1, CP2, CP3 modes** - recommended for underfloor heating systems.

**I, II, III** - manual operating modes, design point on curves I, II, III respectively (setting III designed for fast pump venting). At each of those settings the operates at a constant rotor speed.

**AUTO** - the pump automatically adjusts its rate and head of delivery in accordance with system demand. Design point marked on the curve in AUTO area.

**Night mode** - this operating mode is activated when AUTO modes are active. It helps reduce power consumption when the temperature of the heating medium drops by 10°C ÷ 15°C within 2 hours. When the temperature sensor detects an increase of medium temperature by 10°C, the pump automatically returns to the selected operating mode. For proper night-time operation, the pump should be installed on the system's supply side and the system with the stove/boiler must be equipped with an automatic temperature control system.

### CHART

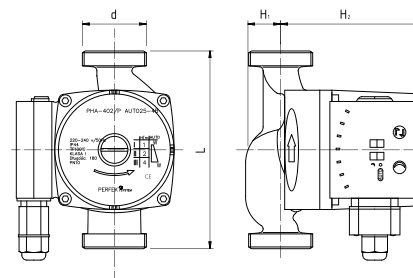


- AU - AUTOMATIC OPERATION MODE
- CONSTANT SPEED, n1 - lowest first gear, n2 - middle second gear, n3 - highest third gear
- ..... CP1, CP2, CP3 - OPERATION ACCORDING TO CONSTANT PRESSURE
- PP1, PP2, PP3 - OPERATION ACCORDING TO PROPORTIONAL PRESSURE



# PHA-602/P

## CENTRAL HEATING CIRCULATION PUMP FOR UNDERFLOOR HEATING, ELECTRONICALLY-CONTROLLED



### PARAMETERS

Maximum delivery head	Nominal flow rate	Maximum operating pressure	Connection size	Power consumption
6 m	1,8 m³	1,0 MPa	G1½	5÷45W

### TECHNICAL DATA



Dimensions in mm.

index	d	L	L <sub>1</sub>	H <sub>1</sub>	H <sub>2</sub>
31-602-0001-000	G1½	130	90	26	134

### DESCRIPTION

**PERFEKT<sup>SYSTEM</sup>** pumps comply with the requirements of (EC) Regulation 641/2009 valid from 1 August 2015 (EEI<0,23). The application of electronically-controlled **PERFEKT<sup>SYSTEM</sup>** pumps allows to achieve energy savings up to 80% compared with previous-generation pumps. The pumps retain memory settings of the most recent operating mode, there is no need for adjusting pump settings after power supply is disconnected, e.g. due to power failure. The pumps offer a night mode that helps additionally cut power costs thanks to the built-in temperature sensor that leads to idle work reduction after detecting temperature drop.

Several operating modes are available:

**PP1** - lowest proportional pressure curve. Delivery head is reduced in the case of lower flow demand, and increased in the case of higher demand, design point on PP1 curve.

**PP3** - highest proportional pressure curve. Delivery head is reduced in the case of lower flow demand, and increased in the case of higher demand, design point on PP3 curve.

**CP1** - lowest constant delivery head curve. Constant delivery head maintained irrespective of changes in flow characteristics, design point on CP1 curve.

**CP3** - highest constant delivery head curve. Constant delivery head maintained irrespective of changes in flow characteristics, design point on CP3 curve.

**PP1, PP2, PP3 modes** - recommended for radiators systems.

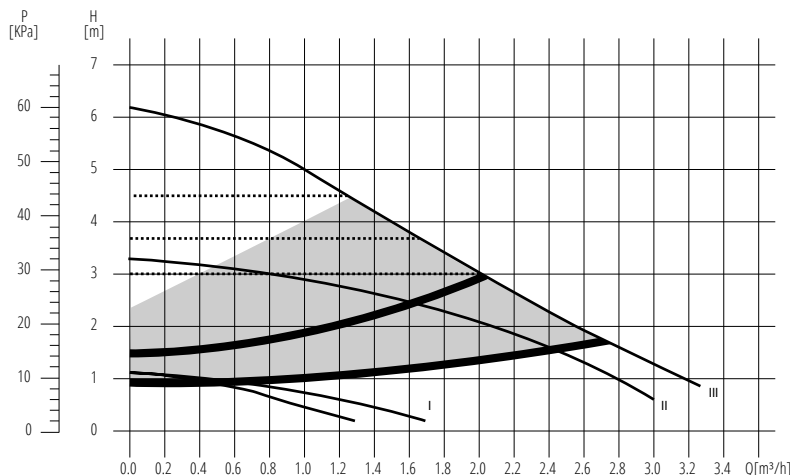
**CP1, CP2, CP3 modes** - recommended for underfloor heating systems.

**I, II, III** - manual operating modes, design point on curves I, II, III respectively (setting III designed for fast pump venting). At each of those settings the operates at a constant rotor speed.

**AUTO** - the pump automatically adjusts its rate and head of delivery in accordance with system demand. Design point marked on the curve in AUTO area.

**Night mode** - this operating mode is activated when AUTO modes are active. It helps reduce power consumption when the temperature of the heating medium drops by 10°C ÷ 15°C within 2 hours. When the temperature sensor detects an increase of medium temperature by 10°C, the pump automatically returns to the selected operating mode. For proper night-time operation, the pump should be installed on the system's supply side and the system with the stove/boiler must be equipped with an automatic temperature control system.

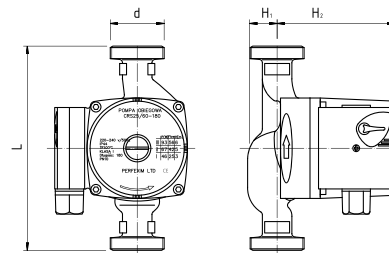
### CHART



- AU - AUTOMATIC OPERATION MODE
- CONSTANT SPEED, n1 - lowest first gear, n2 - middle second gear, n3 - highest third gear
- ..... CP1, CP2, CP3 - OPERATION ACCORDING TO CONSTANT PRESSURE
- PP1, PP2, PP3 - OPERATION ACCORDING TO PROPORTIONAL PRESSURE CHARACTERISTICS

# CRS25/40

## DRINKING WATER CIRCULATION PUMP



### PARAMETERS

Maximum delivery head	Maximum operating pressure	Connection size	Power consumption
4m	1,0 MPa	G1½	35÷71 W

### TECHNICAL DATA

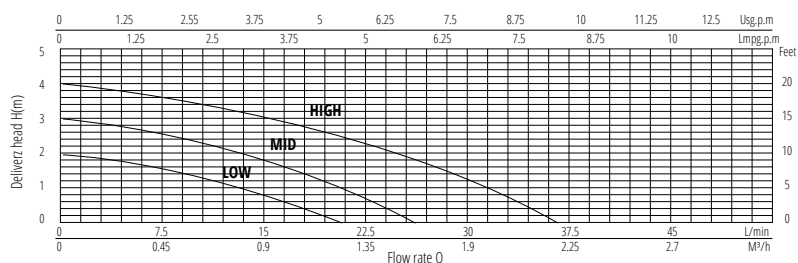


Dimensions in mm.

index	d	L	H <sub>1</sub>	H <sub>2</sub>
31-254-0000-000	G1½	180	26	104

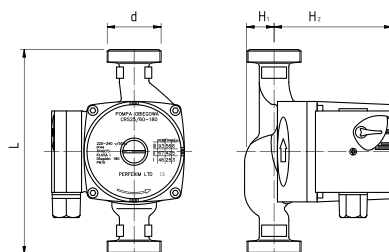
### PARAMETERS

index	P(W)	Flow (L/min)	H(M)
III	71	50	4
II	50	36	3
I	35	20	2



# CRS25/60

## DRINKING WATER CIRCULATION PUMP



### PARAMETERS

Maximum delivery head	Maximum operating pressure	Connection size	Power consumption
6m	1,0 MPa	G1½	46÷93 W

### TECHNICAL DATA

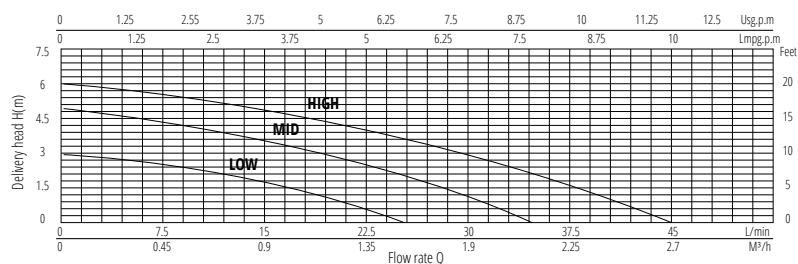


Dimensions in mm.

index	d	L	H <sub>1</sub>	H <sub>2</sub>
31-256-0000-000	G1½	180	26	104

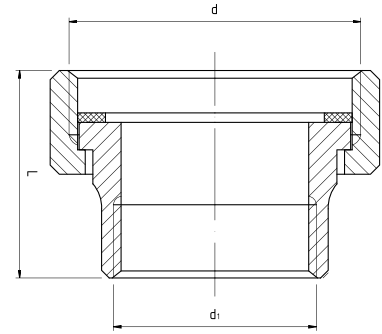
### PARAMETERS

index	P(W)	Flow (L/min)	H(M)
III	93	56	6
II	67	42	5
I	46	25	3



# SP

## PUMP UNION WITH WASHER



### PARAMETERS

P <sub>MAX</sub>	T <sub>MAX</sub>	FT/MT ACC. TO
1,0 MPa	+100°C	ISO228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	d <sub>1</sub>	L
31-900-0002-000	1"x1½"	G1 ½	G1	35

### MATERIALS

**UNION, NUT:** steel with black coating  
**WASHER:** EPDM

# NOTES

A series of horizontal dotted lines for writing notes.

# BRASS AND STEEL MANIFOLDS FOR RADIATOR HEATING, SURFACE HEATING AND TAP WATER SYSTEMS

## APPLICATION

**PERFEKT<sup>SYSTEM</sup>** brass and steel manifolds are designed for radiator heating, surface heating and tap water installations. The manifolds can be used in systems with water or water-glycol mixture (up to 50%) as the working medium. All manifold bars have connection threads on both sides, which enables connection of the supply source from a convenient side. Manifold sets consist of two bars: flow bar and return bar, mounted on steel mounting brackets. The bars are made of CW617N brass sections or corrosion-resistant steel (1.4301 grade). The manifolds allow to connect from 2 to 12 system circuits. Depending on the type and purpose of the manifold, bars are fitted with connectors, plugs, vents (manual or automatic), tees, flow meters, drain valves, inserts of control and shut-off valves, thermostatic valves with heads, as well as ball valves and pump arms.

The manifolds included in our portfolio can be used for separating:

- Heating circuits for radiators when the heat source has a temperature of up to 95°C, allowing for the connection of a homogeneous heating system
- Surface heating circuits with direct medium flow from the supply source, if the heat source reaches a temperature of ≤55°C, allowing for the connection of a homogeneous heating system
- Surface heating circuits, if the heat source reaches temperatures >50°C, allowing for the surface heating system to be connected to a high-temperature system (connection of underfloor systems to a system involving standard radiators)
- Hot and cold water connections. According to the Hygienic Approval issued by the National Institute of Hygiene, the manifolds meet relevant hygienic requirements and can be used in water systems carrying water intended for human consumption.

10  
YEAR  
WARRANTY

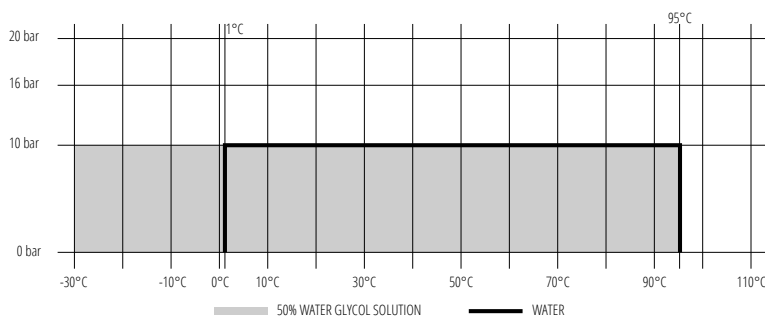
AT

TECHNICAL APPROVAL  
AT-15-9597/2015

## PARAMETERS

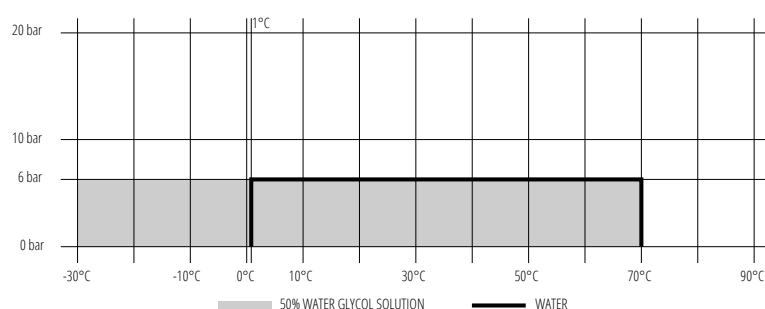
### Parameters of manifolds without flow meters:

- maximum working temperature: +95°C
- maximum working pressure: 1,0 MPa (10 bar)



### Parameters of manifolds with flow meters:

- maximum working temperature: +70°C
- maximum working pressure: 0,6 MPa (6 bar)



**PERFEKT<sup>SYSTEM</sup>** Manifolds for heating systems should be used in accordance with a technical design developed in accordance with the requirements of PN-EN12828+A1:2014

The manifolds have appropriate documentation that makes them ready for the market in line with applicable regulations. The documents referred to are the Technical Approval (from 10.01.2017, the equivalent of a Technical Approval has been a National Technical Assessment) and relevant tests:

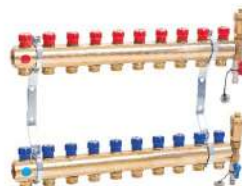
- conducted by the Building Elements Laboratory of the Building Research Institute (ITB), Poznań Branch
- based on which the Technical Approval was issued by the Warsaw-based Building Research Institute.

The above-mentioned documents confirm that the manifolds may be used in installations in accordance with Polish legislation.

# BRASS AND STEEL MANIFOLDS FOR RADIATOR HEATING, SURFACE HEATING AND TAP WATER SYSTEMS

## CHARACTERISTIC FEATURES

- robust components included in the manifold sets for increased strength and service life
- easy installation in a system due to the use of connectors from bars terminated with Eurokonus fittings, compatible with PHA-090 products for multilayer pipes or 215E for copper pipes
- use of high-quality materials such as: European brass (CW617N) for brass bars or corrosion-resistant steel (1.4301) for steel bars
- wide range of applications in terms of suitability for different types of installations depending on the selected option
- possibility of use in installations filled with water-glycol mixture up to 50%

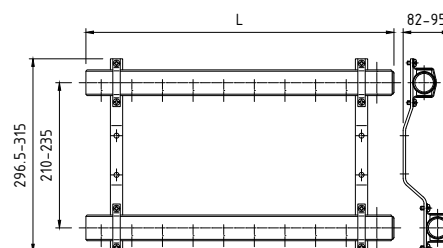


## ADVANTAGES

- wide range of applications
- 10 year warranty
- operating parameters and application supported by Technical Approval
- product performance verified by tests conducted by an independent, renowned, accredited laboratory
- approved for contact with drinking water - certified by the National Institute of Hygiene
- approved for use in systems filled with 50% glycol solution

## PHA-100

### BRASS MANIFOLD



## PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT ACC. TO
+95°C	1,0 MPa	ISO 228

## TECHNICAL DATA



index (spacing 45 mm)	L	index (spacing 50 mm)	L	number of circuits [n]
30-100-0202-000	98	30-100-0200-000	103	2
30-100-0302-000	143	30-100-0300-000	153	3
30-100-0402-000	188	30-100-0400-000	203	4
30-100-0502-000	233	30-100-0500-000	253	5
30-100-0602-000	278	30-100-0600-000	303	6
30-100-0702-000	323	30-100-0700-000	353	7
30-100-0802-000	368	30-100-0800-000	403	8
30-100-0902-000	413	30-100-0900-000	453	9
30-100-1002-000	458	30-100-1000-000	503	10
30-100-1102-000	503	30-100-1100-000	553	11
30-100-1202-000	548	30-100-1200-000	603	12

Dimensions in mm.

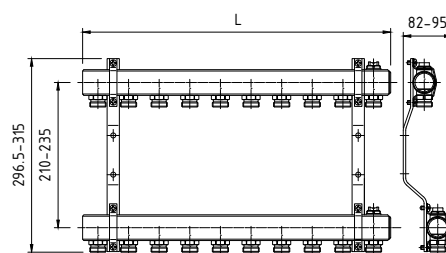
## DESCRIPTION

PHA-100 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating, surface heating and tap water systems.

The set comprises:  
 - bars - 2 items  
 - brackets - 2 items  
 - plugs - 2 items

# PHA-102

**BRASS  
MANIFOLD  
WITH NIPPLES**



## PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+95°C	1,0 MPa	ISO 228

## TECHNICAL DATA



index (spacing 45 mm)	L	index (spacing 50 mm)	L	number of circuits [n]
30-102-0202-000	98	30-102-0200-001	103	2
30-102-0302-000	143	30-102-0300-001	153	3
30-102-0402-000	188	30-102-0400-001	203	4
30-102-0502-000	233	30-102-0500-001	253	5
30-102-0602-000	278	30-102-0600-001	303	6
30-102-0702-000	323	30-102-0700-001	353	7
30-102-0802-000	368	30-102-0800-001	403	8
30-102-0902-000	413	30-102-0900-001	453	9
30-102-1002-000	458	30-102-1000-001	503	10
30-102-1102-000	503	30-102-1100-001	553	11
30-102-1202-000	548	30-102-1200-001	603	12

## DESCRIPTION

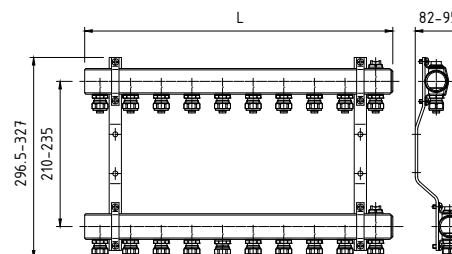
PHA-102 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating, surface heating and tap water systems.

- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - plugs - 2 items
  - manual air vents - 2 items
  - nipples - 2 x n

Dimensions in mm.

# PHA-102/Z

**BRASS  
MANIFOLD  
WITH FITTINGS  
FOR MULTI-LAYER  
PIPE SYSTEM**



## PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+95°C	1,0 MPa	ISO 228

## TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-102-0200-004	103	2
30-102-0300-004	153	3
30-102-0400-004	203	4
30-102-0500-004	253	5
30-102-0600-004	303	6
30-102-0700-004	353	7
30-102-0800-004	403	8
30-102-0900-004	453	9
30-102-1000-004	503	10
30-102-1100-004	553	11
30-102-1200-004	603	12

## DESCRIPTION

PHA-102/Z manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating, surface heating and tap water systems.

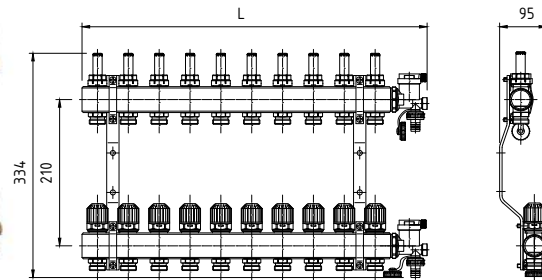
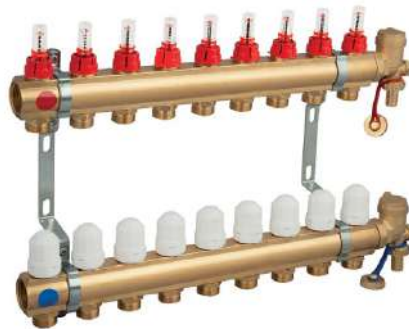
- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - plugs - 2 items
  - manual air vents - 2 items
  - compression fittings for connecting the PEX pipe  $\Phi 16.2 \times n$  items

Dimensions in mm.



# PHA-107

## BRASS MANIFOLD WITH TACONOVA ROTAMETER - SET



### PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+70 °C	0,6 MPa	ISO 228

### TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-107-0200-000	159	2
30-107-0300-000	209	3
30-107-0400-000	259	4
30-107-0500-000	309	5
30-107-0600-000	359	6
30-107-0700-000	409	7
30-107-0800-000	459	8
30-107-0900-000	509	9
30-107-1000-000	559	10
30-107-1100-000	609	11
30-107-1200-000	659	12

Dimensions in mm.

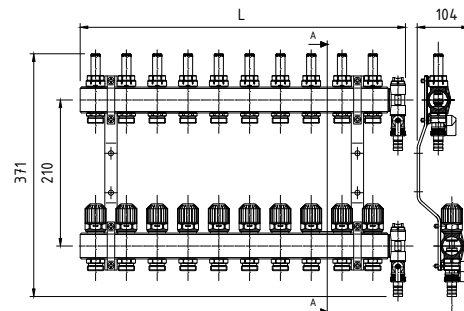
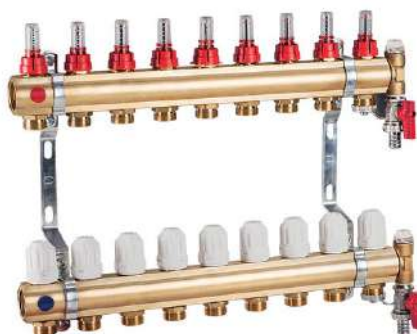
### DESCRIPTION

PHA-107 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - bleeding and venting unit - 2 items
  - flow meters - n items
  - control valve inserts - n items

# PHA-107/1

## BRASS MANIFOLD WITH TACONOVA ROTAMETER - SET



### PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+70 °C	0,6 MPa	ISO 228

### TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-107-0200-010	128	2
30-107-0300-010	178	3
30-107-0400-010	228	4
30-107-0500-010	278	5
30-107-0600-010	328	6
30-107-0700-010	378	7
30-107-0800-010	428	8
30-107-0900-010	478	9
30-107-1000-010	528	10
30-107-1100-010	578	11
30-107-1200-010	628	12

Dimensions in mm.

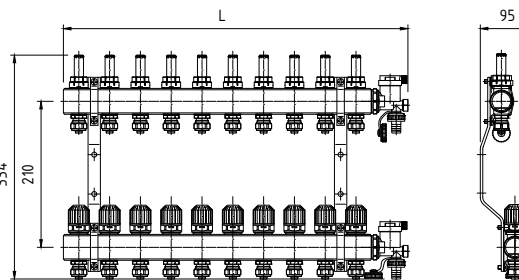
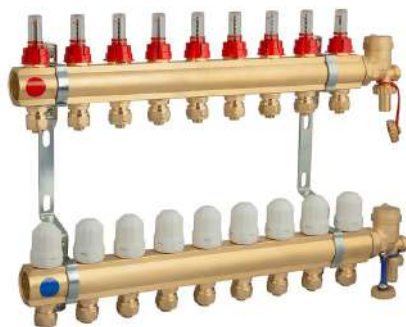
### DESCRIPTION

PHA-107/1 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - bar tees - 2 items
  - manual air vents - 2 items
  - drain taps - 2 items
  - flow meters - n items
  - control valve inserts - n items

# PHA-107/Z

**BRASS MANIFOLD WITH TACONOVA ROTAMETER WITH FITTINGS FOR MULTI-LAYER PIPE SYSTEM - SET**



### PARAMETERS

TMAX	PMAX	FT ACC. TO
+70°C	0,6 MPa	ISO 228

### TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-107-0200-004	159	2
30-107-0300-004	209	3
30-107-0400-004	259	4
30-107-0500-004	309	5
30-107-0600-004	359	6
30-107-0700-004	409	7
30-107-0800-004	459	8
30-107-0900-004	509	9
30-107-1000-004	559	10
30-107-1100-004	609	11
30-107-1200-004	659	12

Dimensions in mm.

### DESCRIPTION

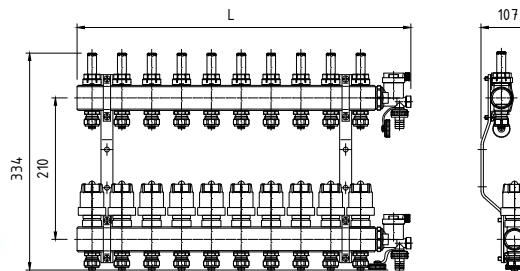
PHA-107/Z manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

The set comprises:

- bars - 2 items
- brackets - 2 items
- bleeding and venting unit - 2 items
- flow meters - n items
- control valve inserts - n items
- compression fittings for connecting the PEX pipe  $\Phi 16.2 \times n$  items

# PHA-107/E

**BRASS MANIFOLD WITH TACONOVA ROTAMETER, THERMAL ACTUATOR WITH FITTINGS FOR MULTI-LAYER PIPE SYSTEM**



### PARAMETERS

TMAX	PMAX	FT ACC. TO
+70°C	0,6 MPa	ISO 228

### TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-107-0200-005	159	2
30-107-0300-005	209	3
30-107-0400-005	259	4
30-107-0500-005	309	5
30-107-0600-005	359	6
30-107-0700-005	409	7
30-107-0800-005	459	8
30-107-0900-005	509	9
30-107-1000-005	559	10
30-107-1100-005	609	11
30-107-1200-005	659	12

Dimensions in mm.

### DESCRIPTION

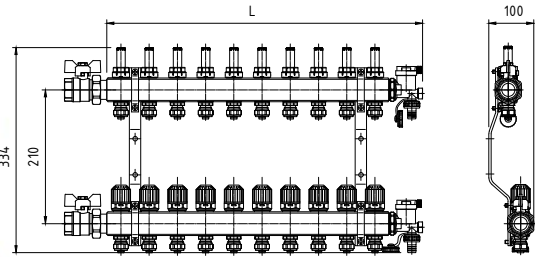
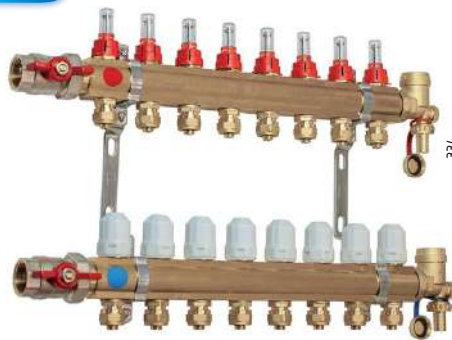
PHA-107/E manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

The set comprises:

- bars - 2 items
- brackets - 2 items
- control-shut-off valve inserts - n items
- compression fittings for connecting the PEX pipe  $\Phi 16.2 \times n$  items
- flow meters - n items
- thermal actuator n items
- bleeding and venting unit - 2 items

## PHA-107/Z+PHA-005

**BRASS MANIFOLD WITH TACONOVA ROTAMETER, WITH FITTINGS FOR MULTI-LAYER PIPE SYSTEM + BALL VALVES WITH UNION - SET**



### PARAMETERS

TMAX	PMAX	FT ACC. TO
+70°C	0,6 MPa	ISO 228

### TECHNICAL DATA



index	number of circuits [n]
30-107-0200-006	2
30-107-0300-006	3
30-107-0400-006	4
30-107-0500-006	5
30-107-0600-006	6
30-107-0700-006	7
30-107-0800-006	8
30-107-0900-006	9
30-107-1000-006	10
30-107-1100-006	11
30-107-1200-006	12

### DESCRIPTION

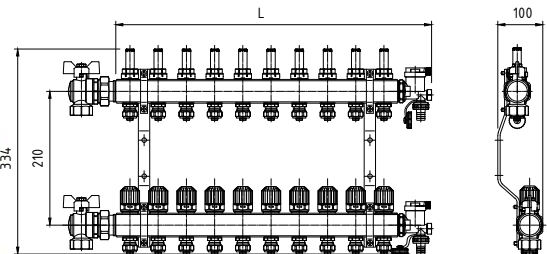
PHA-107/Z + PHA-005 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

The set comprises:

- bars - 2 items
- brackets - 2 items
- bleeding and venting unit - 2 items
- flow meters - n items
- control valve inserts - n items
- compression fittings for connecting the PEX pipe  $\Phi 16.2 \times n$  items
- ball valves PHA-005 2 items

## PHA-107/Z+PHA-010A

**BRASS MANIFOLD WITH TACONOVA ROTAMETER, WITH FITTINGS FOR MULTI-LAYER PIPE SYSTEM + ANGLE BALL VALVES WITH UNION - SET**



### PARAMETERS

TMAX	PMAX	FT ACC. TO
+70°C	0,6 MPa	ISO 228

### TECHNICAL DATA



index	number of circuits [n]
30-107-0200-007	2
30-107-0300-007	3
30-107-0400-007	4
30-107-0500-007	5
30-107-0600-007	6
30-107-0700-007	7
30-107-0800-007	8
30-107-0900-007	9
30-107-1000-007	10
30-107-1100-007	11
30-107-1200-007	12

### DESCRIPTION

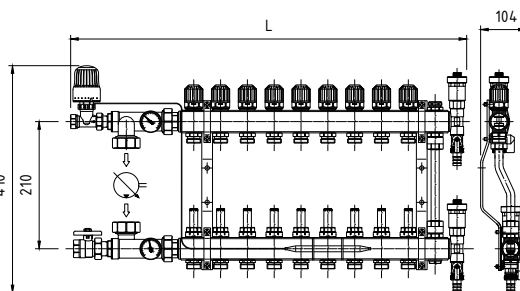
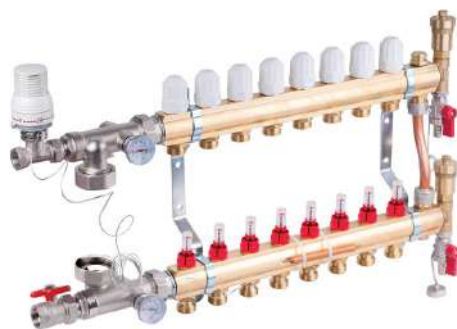
PHA-107/Z + PHA-005 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

The set comprises:

- bars - 2 items
- brackets - 2 items
- bleeding and venting unit - 2 items
- flow meters - n items
- control valve inserts - n items
- compression fittings for connecting the PEX pipe  $\Phi 16.2 \times n$  items
- ball valves PHA-010A 2 items

# PHA-108

**BRASS  
MANIFOLD WITH  
TACONOVA  
ROTAMETER  
- SET**



**PARAMETERS**

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+70°C	0,6 MPa	ISO 228

## TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-108-0200-000	340	2
30-108-0300-000	390	3
30-108-0400-000	440	4
30-108-0500-000	490	5
30-108-0600-000	540	6
30-108-0700-000	590	7
30-108-0800-000	640	8
30-108-0900-000	690	9
30-108-1000-000	740	10
30-108-1100-000	790	11
30-108-1200-000	840	12

Dimensions in mm.

## DESCRIPTION

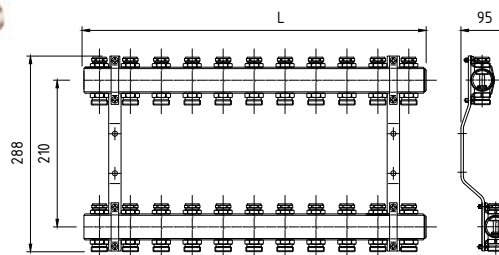
PHA-108 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator surface heating systems.

The set comprises:

- bars - 2 items, - nipples - 1 item
- brackets - 2 items, blanking plug - 1 item
- bar tees - 2 items, drain taps - 2 items
- automatic air vents - 2 items
- flow meters - n items
- control valve inserts - n items
- shut-off ball tap: 1 item, thermostatic valve - 1 item
- thermostatic valve head with capillary sensor - 1 item
- pump arms: 1 set, by-pass - 1 item
- shut-off valve insert - 1 item
- compression fittings for copper pipes - 2 items

# PHA-109

**BRASS  
MANIFOLD  
WITH SHUT-OFF  
VALVE INSERTS**



**PARAMETERS**

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+95°C	1,0 MPa	ISO 228

## TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-108-0200-000	340	2
30-109-0300-000	153	3
30-109-0400-000	203	4
30-109-0500-000	253	5
30-109-0600-000	303	6
30-109-0700-000	353	7
30-109-0800-000	403	8
30-109-0900-000	453	9
30-109-1000-000	503	10
30-109-1100-000	553	11
30-109-1200-000	603	12

Dimensions in mm.

## DESCRIPTION

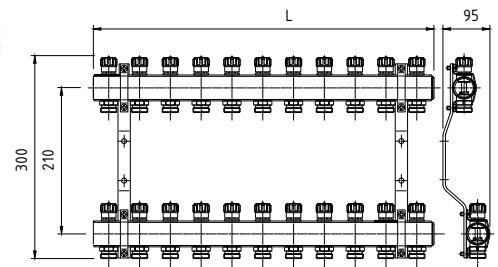
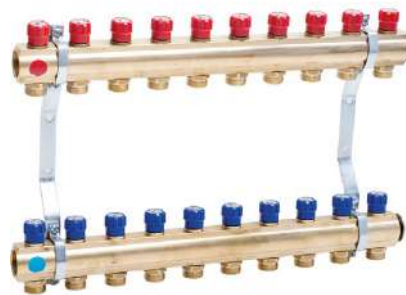
PHA-109 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

The set comprises:

- bars - 2 items
- brackets - 2 items
- plugs - 2 items
- shut-off valve insert - 2 x n items

# PHA-109A

## BRASS MANIFOLD - SET



### PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+95°C	1,0 MPa	ISO 228

### TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-109-0200-002	103	2
30-109-0300-002	153	3
30-109-0400-002	203	4
30-109-0500-002	253	5
30-109-0600-002	303	6
30-109-0700-002	353	7
30-109-0800-002	403	8
30-109-0900-002	453	9
30-109-1000-002	503	10
30-109-1100-002	553	11
30-109-1200-002	603	12

### DESCRIPTION

PHA-109Amanifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

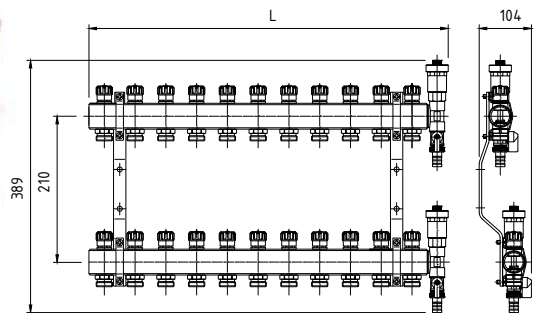
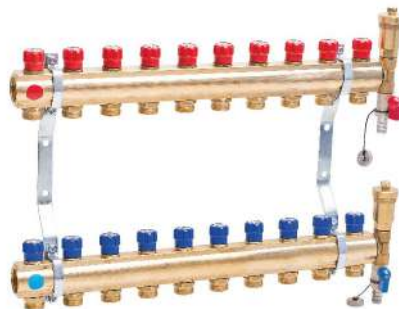
The set comprises:

- bars - 2 items
- brackets - 2 items
- plugs - 2 items
- shut-off valve insert - 2 x n items

Dimensions in mm.

# PHA-109A/1

## BRASS MANIFOLD - SET



### PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+95°C	1,0 MPa	ISO 228

### TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-109-0200-001	135	2
30-109-0300-001	185	3
30-109-0400-001	235	4
30-109-0500-001	285	5
30-109-0600-001	335	6
30-109-0700-001	385	7
30-109-0800-001	435	8
30-109-0900-001	485	9
30-109-1000-001	535	10
30-109-1100-001	585	11
30-109-1200-001	635	12

### DESCRIPTION

PHA-109A/1 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

The set comprises:

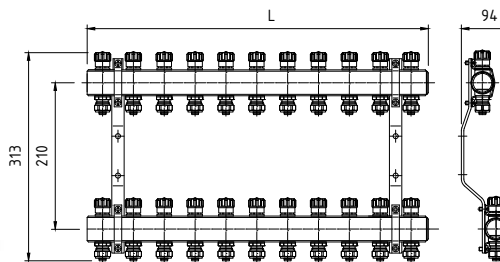
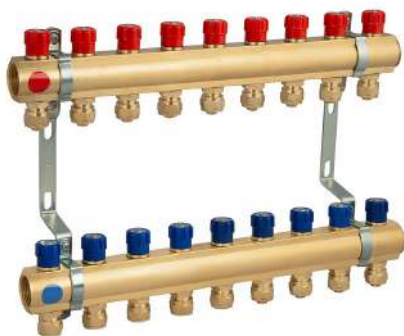
- bars - 2 items
- brackets - 2 items
- bar tees - 2 items
- automatic air vents - 2 items
- drain taps - 2 items
- control/shut-off valve inserts - n items

Dimensions in mm.



# PHA-109A/Z

**BRASS MANIFOLD WITH SHUT-OFF VALVE INSERTS WITH FITTINGS FOR MULTI-LAYER PIPE SYSTEM - SET**



## PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT ACC. TO
+95°C	1,0 MPa	ISO 228

## TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-109-0200-004	103	2
30-109-0300-004	153	3
30-109-0400-004	203	4
30-109-0500-004	253	5
30-109-0600-004	303	6
30-109-0700-004	353	7
30-109-0800-004	403	8
30-109-0900-004	453	9
30-109-1000-004	503	10
30-109-1100-004	553	11
30-109-1200-004	603	12

## DESCRIPTION

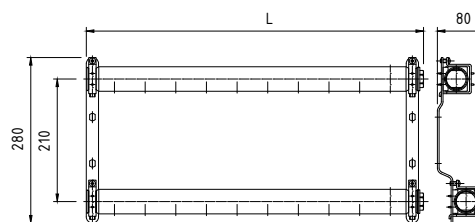
PHA-109A/Z manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - control/shut-off valve inserts - n items
  - compression fittings for connecting the PEX pipe  $\Phi 16$  2 x n items

Dimensions in mm.

# PHA-120

**STAINLESS STEEL MANIFOLD**



## PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT ACC. TO
+95°C	1,0 MPa	ISO 228

## TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-120-0200-001	145	2
30-120-0300-001	195	3
30-120-0400-001	245	4
30-120-0500-001	295	5
30-120-0600-001	345	6
30-120-0700-001	395	7
30-120-0800-001	445	8
30-120-0900-001	495	9
30-120-1000-001	545	10
30-120-1100-001	595	11
30-120-1200-001	645	12

## DESCRIPTION

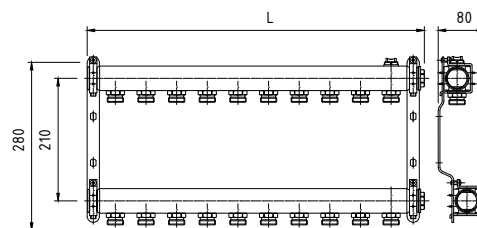
PHA-120 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - plugs - 2 items

Dimensions in mm.

# PHA-122

## STAINLESS STEEL MANIFOLD WITH NIPPLES



### PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+95°C	1,0 MPa	ISO 228

### TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-122-0200-001	145	2
30-122-0300-001	195	3
30-122-0400-001	245	4
30-122-0500-001	295	5
30-122-0600-001	345	6
30-122-0700-001	395	7
30-122-0800-001	445	8
30-122-0900-001	495	9
30-122-1000-001	545	10
30-122-1100-001	595	11
30-122-1200-001	645	12

### DESCRIPTION

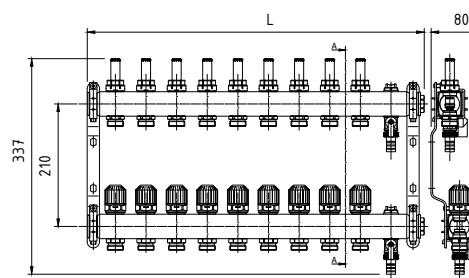
PHA-122 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - plugs - 2 items
  - manual air vents - 2 items
  - nipples - 2 x n

Dimensions in mm.

# PHA-127

## STAINLESS STEEL MANIFOLD WITH TACONOVA ROTAMETER - SET



### PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+70°C	0,6 MPa	ISO 228

### TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-127-0200-001	145	2
30-127-0300-001	195	3
30-127-0400-001	245	4
30-127-0500-001	295	5
30-127-0600-001	345	6
30-127-0700-001	395	7
30-127-0800-001	445	8
30-127-0900-001	495	9
30-127-1000-001	545	10
30-127-1100-001	595	11
30-127-1200-001	645	12

### DESCRIPTION

PHA-127 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

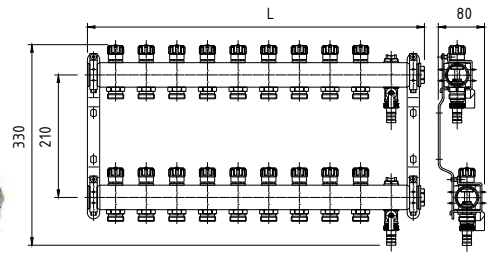
- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - plugs - 2 items
  - manual air vents - 2 items
  - drain taps - 2 items
  - flow meters - n items
  - control valve inserts - n items

Dimensions in mm.



# PHA-129A/1

**STAINLESS STEEL  
MANIFOLD**  
- SET



## PARAMETERS

T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+95°C	1,0 MPa	ISO 228

## TECHNICAL DATA



index (spacing 50 mm)	L	number of circuits [n]
30-129-0200-001	145	2
30-129-0300-001	195	3
30-129-0400-001	245	4
30-129-0500-001	295	5
30-129-0600-001	345	6
30-129-0700-001	395	7
30-129-0800-001	445	8
30-129-0900-001	495	9
30-129-1000-001	545	10
30-129-1100-001	595	11
30-129-1200-001	645	12

## DESCRIPTION

PHA-129A/1 manifolds are designed for distribution of the heating medium, e.g.: water, water-glycol solution (up to 50%), in radiator heating and surface heating systems.

- The set comprises:
- bars - 2 items
  - brackets - 2 items
  - plugs - 2 items
  - manual air vents - 2 items
  - drain taps - 2 items
  - control/shut-off valve inserts - 2x n items

Dimensions in mm.

# MIXING UNIT PHA-130

## SET INCLUDES:

1. Three-way thermostatic mixing valve Barberi art. no. V07M25NBA;
2. GRUNDFOS UPM3S AUTO 25/60 130 pump with supply cable.
3. Connecting elements for the pump and manifold bar.
4. Dial thermometers.
5. Manual air vent.



## PUMP OPERATING MODES UPM3S AUTO :

In systems with relatively low pressure losses in distribution pipes.

- Underfloor heating with thermostatic valves
- Single-pipe heating systems with thermostatic valves or riser valves

The pump can be manually set to maximum or minimum performance, as is the case with an unregulated pump. However:

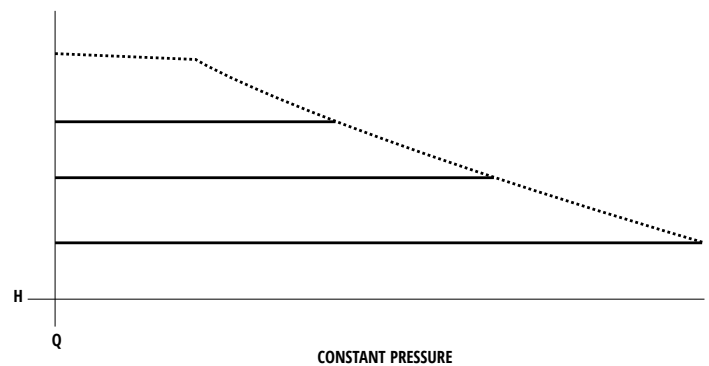
- The maximum characteristics can be used during periods when maximum flow is required.  
This operating mode is suitable e.g. for hot water priority.
- Minimum operating characteristics can be used in periods when a minimum flow is required.

This operating mode is recommended for most heating systems, especially ones with relatively high pressure losses in distribution pipes.

- Dual-pipe heating systems with thermostatic valves, as well as:
  - very long distribution pipes
  - strongly throttled riser valves
  - differential pressure regulators
  - high pressure losses in parts of the system through which all water flows, e.g. boiler, heat exchanger and distribution pipe in the section up to the first branch
- Air-conditioning systems with:
  - heat exchangers (fan coil units)
  - chilled ceilings
  - chilling surfaces

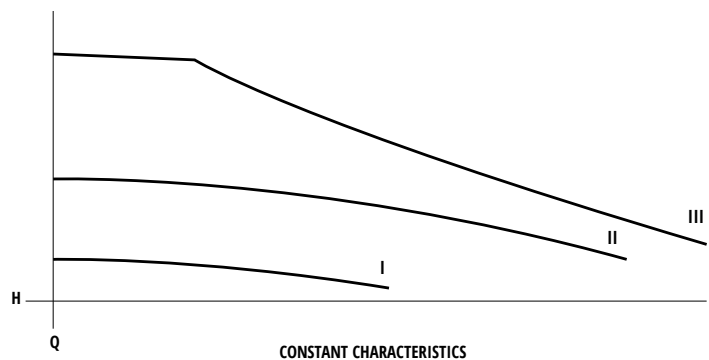
This setting minimises energy consumption and valve noise levels, reducing operating costs and increasing comfort.

## CONSTANT PRESSURE CHART



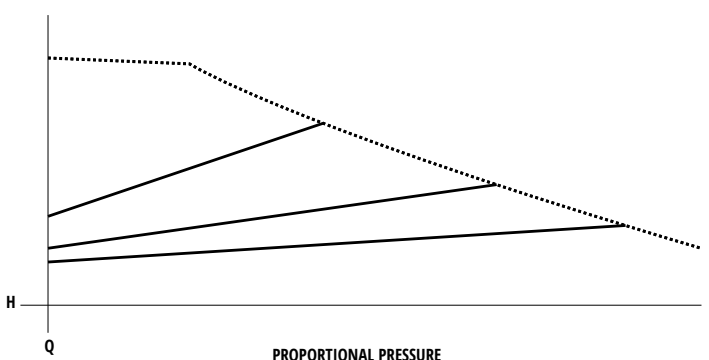
CONSTANT PRESSURE

## CONTINUOUS PRESSURE CHART



CONSTANT CHARACTERISTICS

## CONTINUOUS CHARACTERISTICS CHART



PROPORTIONAL PRESSURE

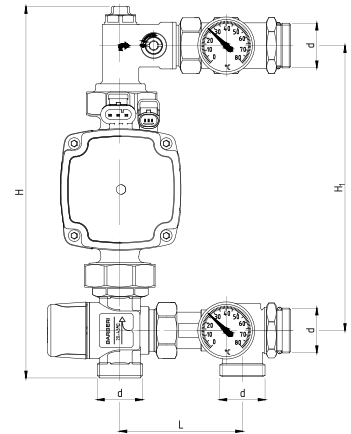
# PHA-130

## MIXING UNIT FOR UNDERFLOOR HEATING



### PARAMETERS

TMAX	PMAX	FT ACC. TO
+95°C	1,0 MPa	ISO228



Dimensions in mm.

### TECHNICAL DATA



index	DN	d	L	H	H <sub>1</sub>
30-600-0000-000	25	G1	95	280	210
*30-600-0000-001	25	G1	95	280	210

\* Index 30-600-0000-0001 includes 555/1 brackets.

### DESCRIPTION

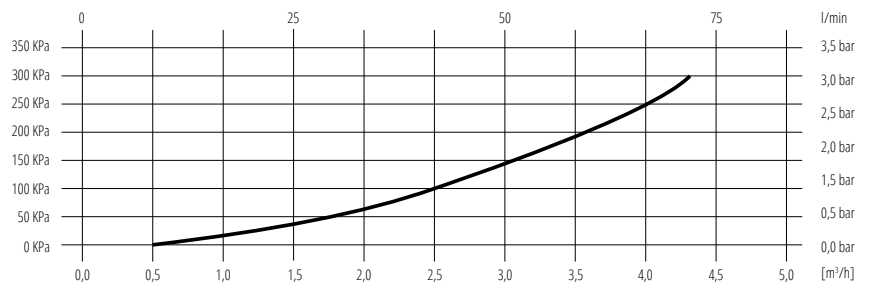
#### 1. Three-way thermostatic mixing valve Barberi art. no. V07M25NBA:

- temperature control range: 20°C-43°C;
- accuracy of temperature settings: ± 2°C;
- maximum operating temperature: up to 95°C;
- maximum operating pressure (static): 10 bar;
- maximum operating pressure (dynamic): 5 bar;
- flow capacity Kv: 2,5 m³/h;
- connection: G1".

#### 2. GRUNDFOS UPM3S AUTO 25/60 130 pump with supply cable

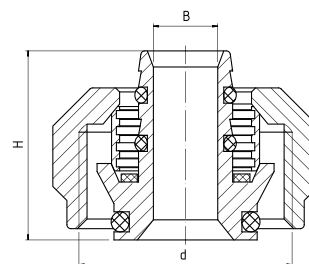
- Maximum permissible ambient temperature: +70°C, maximum media temperature +110°C (TF110)
- Power consumption: 2W-39W
- Power supply: 230V
- Frequency: 50Hz
- Protection class: IP44
- Assembled length: 130mm
- Delivery head: 6m

### CHART



# PHA-090

**COMPRESSION FITTING FOR MULTI-LAYER PIPES Ø16**



**PARAMETERS**

TMAX	TMIN	PMAX	FT ACC. TO
+90°C	+1°C	1,0 MPa	ISO228

## TECHNICAL DATA



Dimensions in mm.

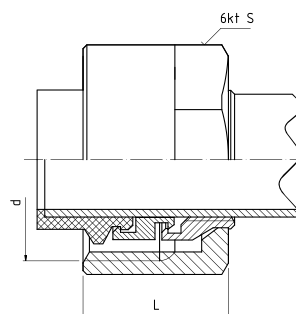
index	size	d	H	B
20-090-0000-000	16x3/4	G3/4	23,6	ø8

## MATERIALS

CONNECTOR NUT: CW617N nickel-plated brass  
 CONNECTOR, COMPRESSION SLEEVE: brass  
 CONNECTOR SEAL (O-RING): NBR  
 WASHER: PTFE (Teflon)

# 215E

**COMPRESSION FITTING FOR COPPER PIPES Ø15**



**PARAMETERS**

TMAX	TMIN	PMAX	FT ACC. TO
+100°C	+1°C	1,0 MPa	ISO228

## TECHNICAL DATA



Dimensions in mm.

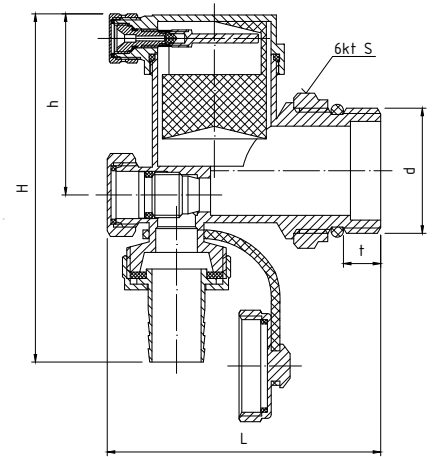
index	size	d	L	S
20-104-9001-000	ø15x3/4"	G3/4	19	27

## MATERIALS

CONNECTOR NUT: nickel-plated brass  
 COMPRESSION SLEEVE, DRIVE RING: brass  
 WASHER: NBR

# PHA-098

**BLEEDING AND VENTING UNIT FOR MANIFOLD**



**PARAMETERS**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

**TECHNICAL DATA**



Dimensions in mm.

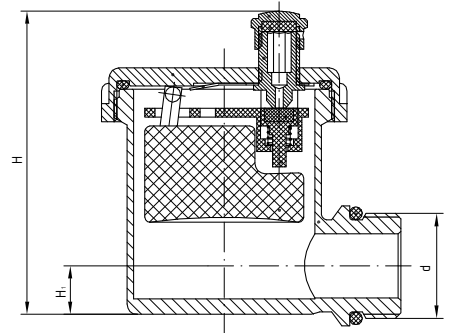
index	color	d	L	t	H	h	S
30-200-0980-000	red	G1	72,9	10	93	48	37,9
30-200-0980-010	blue	G1	72,9	10	93	48	37,9

**MATERIALS**

**BODY, STEM, BLANKING NUT, LOCK NUT, BLEED FITTING, AUTOMATIC AIR VENT NUT, AUTOMATIC AIR VENT STEMS:** CW617N brass  
**FLOAT:** polypropylene  
**FLAT WASHER, O-RING SEALING:** NBR  
**SPRING:** stainless steel

# PHA-041A

**ANGLED AUTOMATIC AIR VENT**



**PARAMETERS**

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+110°C	+1°C	1,0 MPa	ISO228

**TECHNICAL DATA**



Dimensions in mm.

index	size	d	H	H <sub>1</sub>
20-041-0000-100	1/2"	G1/2	59,3	9,5

**MATERIALS**

**BODY, COVER, SOCKET, BLANKING PLUG:** nickel-plated brass  
**VALVE SEAL:** NBR  
**O-RINGS:** EPDM  
**SPRING, LINK:** stainless steel

# 9003+S

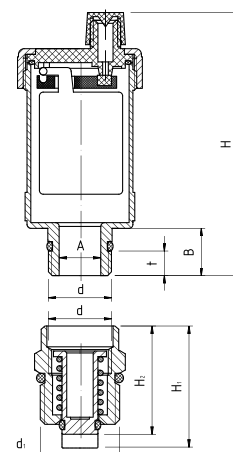
## AUTOMATIC AIR VENT WITH SHUT-OFF VALVE 1/2"X3/8"



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+110°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	d <sub>1</sub>	t	H	H <sub>1</sub>	H <sub>2</sub>	A	B
20-400-0003-000	1/2"x3/8"	G3/8	G1/2	6	72	34	30	ø10,5	12

### MATERIALS

**AIR VENT**  
**BODY, COVER:** brass  
**DISC, SOCKET, BLANKING PLUG, LEVER:** acetate resin  
**LINK, SPRING:** acid-resistant steel 1H18N9(AISI 302)  
**DISC SEAL, PLUG SEAL:** NBR  
**COVER SEAL (O-RING):** NBR  
**FLOAT:** polypropylene

**SHUT-OFF VALVE**  
**BODY:** chrome-plated brass  
**STEM:** brass  
**SPRING:** acid-resistant steel 1H18N9(AISI 302)  
**COVER SEAL (O-RING):** NBR

# 9003C+S

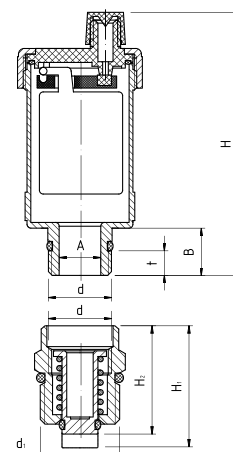
## AUTOMATIC AIR VENT WITH SHUT-OFF VALVE 1/2"X3/8"



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
+110°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	d <sub>1</sub>	t	H	H <sub>1</sub>	H <sub>2</sub>	A	B
20-400-0003-001	1/2"x3/8"	G3/8	G1/2	6	72	34	30	ø10,5	12

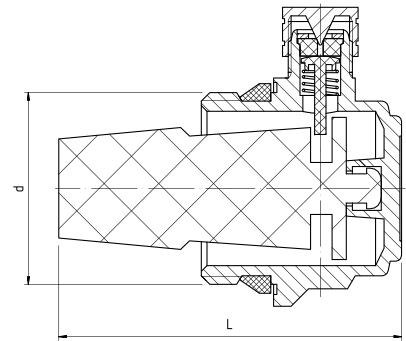
### MATERIALS

**AIR VENT**  
**BODY, COVER:** chrome-plated brass  
**DISC, SOCKET, BLANKING PLUG, LEVER:** brass  
**LINK, SPRING:** acid-resistant steel 1H18N9(AISI 302)  
**DISC SEAL, PLUG SEAL:** NBR  
**COVER SEAL (O-RING):** NBR  
**FLOAT:** polypropylene

**SHUT-OFF VALVE**  
**BODY:** chrome-plated brass  
**STEM:** brass  
**SPRING:** acid-resistant steel 1H18N9(AISI 302)  
**COVER SEAL (O-RING):** NBR

# 9006

## AUTOMATIC IR VENT FOR ALUMINIUM RADIATOR 1"



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+110°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

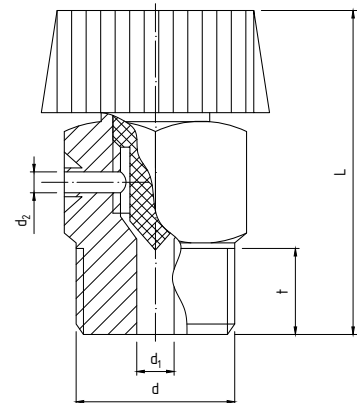
index	type	size	d	L
71-952-0000-001	right	1"	G1	55,5
71-952-0001-001	left	1"	G1	55,5

### MATERIALS

**BODY, STEM:** nickel-plated brass  
**FLOAT, COVER:** ABS  
**WASHER:** NBR

# 418

## MANUAL AIR VENT



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	d <sub>1</sub>	d <sub>2</sub>	L	t
20-401-0100-001	3/8"	G3/8	ø3	ø2,5	26	6
20-401-0150-001	1/2"	G1/2	ø3	ø2,5	26	6

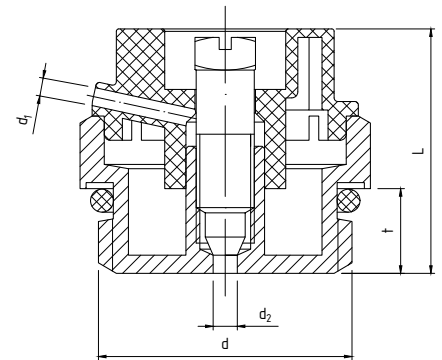
### MATERIALS

**BODY:** nickel-plated brass  
**HANDLE:** plastic



# 417

## MANUAL AIR VENT O-RING



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

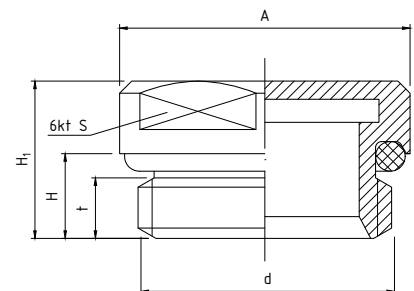
index	size	d	d <sub>1</sub>	d <sub>2</sub>	L	t
20-401-0150-000	1/2"	G1/2	ø2	ø1,8	21	6,5

### MATERIALS

**BODY, STEM:** nickel-plated brass  
**CAP:** ABS  
**O-ring:** NBR

# 4216

## BLANKING PLUG O-RING



### PARAMETERS

T <sub>MAX</sub>	T <sub>MIN</sub>	P <sub>MAX</sub>	MT ACC. TO
+120°C	+1°C	1,0 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	t	H	H <sub>1</sub>	S	A
20-402-0000-000	1/2"	G1/2	5	7	12	22	ø24

### MATERIALS

**BODY:** nickel-plated brass  
**O-ring:** NBR

## TS+5.11/230

### THERMAL ACTUATOR, NORMALLY OPEN, M30X1,5 THREAD



#### TECHNICAL DATA

index

32-000-0000-000



#### DESCRIPTION

Thermal actuator of TS+ regulator with a wide range of applications in heating, cooling and ventilation systems, e.g. for: regulating individual heating circuits in underfloor heating and radiator heating systems, regulating zone valves, regulating valves in single and dual-pipe systems.

Product features: compact and elegant design, unique regulation mechanism, IP 54 protection class in all positions, clearly visible status and stroke position, possibility of installation in any orientation, standard fitting (M30x1,5 mm), adapter not required (optionally M28x1,5 mm with 120 N closing force), 230 V and 24 V power supply versions available, low power consumption.

Operating voltage: AC 230 V 50 Hz  
 Valve connection: M 30 x 1,5 mm  
 Thermal actuator: open/closed  
 Power consumption: 2,5 W  
 Connecting cable: 2 x 0,5 mm<sup>2</sup>, length 100 cm  
 Travel: 4,5 mm  
 Protection class: IP 54  
 Dimensions: 46 mm Ø, height in opened position 80,4 mm

## EVPL-230

### JUNCTION BOX FOR 6 THERMOSTATS AND 14 ACTUATORS



#### TECHNICAL DATA

index

32-000-0614-000

module

with pump control unit

32-000-0614-001

without pump control unit



#### DESCRIPTION

The device is designed for electro-thermal temperature regulators and servo drive systems, in the case of connection to hot water-based underfloor heating systems. Manifold (used with temperature regulator) allows to control temperature in 6 independent rooms (zones).

General characteristics:  
 - ready for connection to electric outlet (230 V)  
 - up to 6 zones (rooms)  
 - possibility of direct connection of servo drives (230 V)  
 - pump control  
 Protection against pump blockage in the summer. Pump operates 5 minutes per day. It always is activated when the divider is connected to the power source. The pump can be connected only to external power source.  
 Operating voltage: AC 230V 50Hz  
 Optional control methods: outlet pulse width modulation or on/off control  
 Working temperature: 0°C - +50 °C (without condensation).  
 Housing protection class: IP 40  
 Dimensions (width x height x depth) with DIN rail: 310x90x65 mm  
 Number of 3W servo drives max. 14

## E100

### DIGITAL DAILY TEMPERATURE CONTROL PANEL



#### TECHNICAL DATA

index

32-000-2000-000



#### DESCRIPTION

Regulation is based on the measurement of current room temperature; the thermostat is activated when the temperature falls below setpoint and switches off when the setpoint is achieved.

Power supply: two 1,5V batteries (alkaline LR06)  
 Optional control methods: outlet pulse width modulation or on/off control  
 Factory-set temperature: +5°C - +32 °C  
 Protection class: IP 30 / Insulated  
 Dimensions (width x height x depth): 140 x 94 x 26 mm

## E200

### DIGITAL WEEKLY TEMPERATURE CONTROL PANEL



#### TECHNICAL DATA

index

32-000-1000-000

#### DESCRIPTION

Pre-set clock, automatic daylight saving time adjustment, 3 pre-set programs, memory protection, protection against unauthorised access, holiday mode / timer, manual control function, energy saving K2 group - microprocessor-controlled E200 thermostat automatically "learns" how long pre-heating must take to achieve desired temperature.

Power supply: two 1,5V batteries (alkaline LR06)  
Optional control methods: outlet pulse width modulation or on/off control  
Factory-set temperature: +5°C - +30°C  
Protection class: IP 30 / Insulated  
Dimensions (width x height x depth): 140 x 94 x 26 mm

## RTR3520

### ROOM THERMOSTAT



#### TECHNICAL DATA

index

32-000-3000-000

#### DESCRIPTION

Room temperature regulator with setting knob. The room temperature regulator is installed in a room (wired installation on a wall), with wired data transmission of measured parameters to the receiver. The user can manually adjust room temperature.

Power supply: 24...230V AC, 1A/16A  
Factory-set temperature: 5°C - 30°C  
Protection class: IP 30 / Insulated  
Dimensions (width x height x depth): 75 x 75 x 27,5 mm

## INSTAT868A1A

### RADIO RECEIVER FOR ACTUATORS



#### TECHNICAL DATA

index

32-000-0001-000

#### DESCRIPTION

Radio receiver designed for use with INSTAT868-R, for activation/deactivation of:

- actuators controlling radiator valves
  - circulation pumps (independent pump control)
  - other temperature control devices comprised in heating systems
- 1-channel radio receiver converts transmission signals into control signals for electrical devices. With valve protection function and emergency mode.

Power supply: AC 230V 50/60 Hz  
Touch button: 1 x learning mode, 1 x resetting  
Reception range: 1 ceiling or 3 walls  
Antenna: internal  
Protection class: IP 30 / Insulated  
Dimensions (width x height x depth): 75 x 75 x 27 mm  
Frequency: 868 MHz

## INSTAT868-A4

### 4-CHANNEL RADIO RECEIVER



#### TECHNICAL DATA

index

32-000-4000-000



#### DESCRIPTION

4-channel radio receivers convert transmission signals into control signals for electrical devices. Ready for direct connection to 230 V AC outlet. The set includes clamps for 230 V AC-powered actuators. Separate power supply required for AC 24V. Pump logic and timer function enabling connection of additional analogue radio transmitters INSTAT 868-r1. Valve test function, radio transmission test function, emergency mode. K2 group.

Supplied with standard mounting rail. Load: 4 switches 8(2) A, potential-free. Max. 10 230V actuators, 3W per circuit, max. 4 24V actuators, 3W per circuit.  
Dimensions (width x height x depth): 372 x 42 x 65 mm  
Power supply: AC 230V 50/60 Hz  
Reception range: 1 ceiling or 3 walls; Frequency: 868 MHz

## INSTAT868-A6

### 6-CHANNEL RADIO RECEIVER



#### TECHNICAL DATA

index

32-000-5000-000



#### DESCRIPTION

6-channel radio receivers convert transmission signals into control signals for electrical devices. Ready for direct connection to 230 V AC outlet. The set includes clamps for 230 V AC-powered actuators. Separate power supply required for AC 24V. Pump logic and timer function enabling connection of additional analogue radio transmitters INSTAT 868-r1. Valve test function, radio transmission test function, emergency mode.

Supplied with standard mounting rail. Load: 6 switches 8(2) A, potential-free. Max. 10 230V actuators, 3W per circuit, max. 4 24V actuators, 3W per circuit.  
Dimensions (width x height x depth): 450 x 42 x 65 mm  
Power supply: AC 230V 50/60 Hz  
Reception range: 1 ceiling or 3 walls; Frequency: 868 MHz

## INSTAT868R

### WIRELESS DIGITAL WEEKLY PROGRAMMABLE TEMPERATURE CONTROL PANEL



#### TECHNICAL DATA

index

32-000-1000-100



#### DESCRIPTION

3 pre-set programs serving up to 6 events per day, automatic daylight saving time adjustment, holiday and party function, optimum start function (defined temperature achieved at a specified time), manual operation, frost protection and unauthorized access protection, usage optimisation thanks to the use of only 4 buttons and a large legible LCD screen displaying date, time and temperature. All applications of this type employ 868 MHz transmission frequency. Reliable transmission guaranteed by internal test procedures and signal repetition.

Power supply: two 1,5V batteries (alkaline LR06)  
Optional control methods: outlet pulse width modulation or on/off control  
Factory-set temperature: +5 - +32°C (resolution 0,1 K)  
Transmission range: 1 ceiling or 3 walls;  
Frequency: 868 MHz.  
Antenna: options to connect external antenna;  
Protection class: IP 30 / Insulated  
Dimensions (width x height x depth): 137 x 96,5 x 31,3 mm

## B-002

### SET OF BOILER BRACKETS

#### TECHNICAL DATA

index

20-900-0001-000



## B-003

### SET OF BRACKETS FOR EQUALIZING TANK

#### TECHNICAL DATA

index

20-900-0002-000



## NOTES

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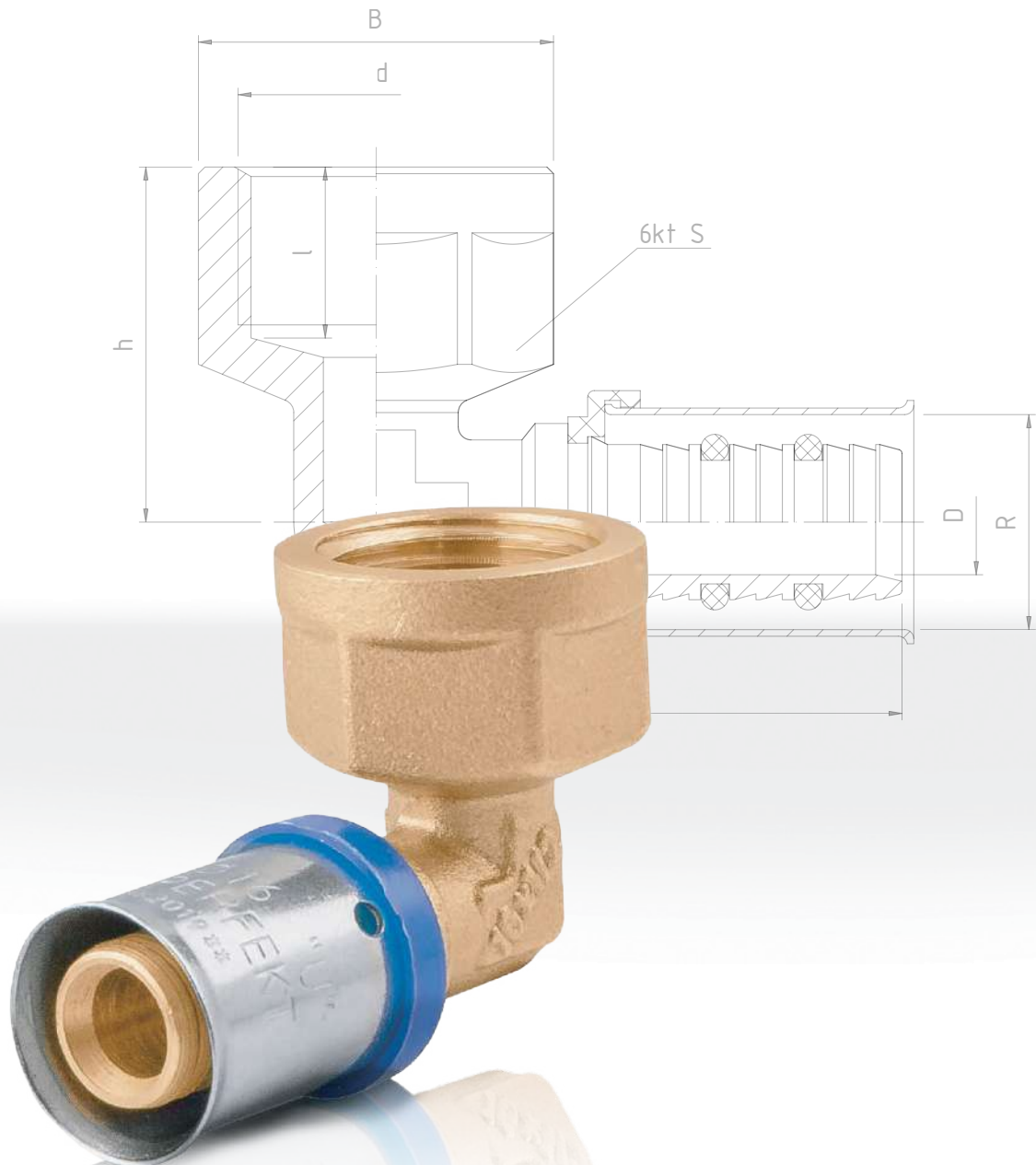
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# MULTILAYER PIPE SYSTEMS

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**PERFEXIM**

**145-178**



Complete system  
- guarantee of quality and satisfaction

# INSTALLATION INSTRUCTIONS

## COMPRESSION FITTING - INSTALLATION INSTRUCTIONS

In the case of compression fittings, firm connection between the pipe and the fitting is made by tightening the nut to adjust the compression sleeve on the pipe. The nut and the sleeve are profiled in such a way so as to ensure uniform tightening over the entire contact surface between the compression sleeve and the pipe. To ensure stable connection, special profiled grooves are made on the fitting and the sleeve to prevent it from sliding out from the pipe. The system of fittings allows for easy assembly of a new system, connection to or modification of an existing system, as well as making repairs, if necessary. Working with this solution is intuitive, leading to efficient execution of intended tasks.



### 1. PIPE CUTTING

Measure an appropriate pipe section, and make a cut in the desired place. Use special scissors for this purpose. The cut must always be perpendicular to the pipe axis; it must be a single cut (single operation), leaving only one cutting line.



### 2. PIPE END CALIBRATING AND CHAMFERING

Use specially designed tools for pipe calibration and chamfering the inner edge of the pipe. Before the operation, make sure that the available tools are dedicated to the appropriate pipe diameters and are suitable for further use, i.e. they have not lost their functional properties. In order to carry out calibration, insert the appropriate tip of the calibrating tool inside the pipe and make a few turns. Make sure to insert the calibrator to its full length. When the pipe is calibrated - i.e. a precisely circular cross-section of the pipe is obtained - start chamfering the inner edge of the pipe. Perform chamfering using cutters placed directly on the calibrating tool or using special separate cutters. The purpose of chamfering is to shape the edges of the inner pipe in an appropriate manner to ensure proper installation of the fitting and correct positioning of the sealing rings in the fitting channels. After inserting the calibrating tool inside the pipe, verify if the cutting blades touch the inside edge of the pipe. Next, make a few turns with the cutter, pushing the cutter towards the edge of the pipe, so that the edge of the pipe is properly shaped (inclined) along the entire circumference.



### 3. FITTING ASSEMBLY

Place the fitting and then the compression sleeve on the properly prepared pipe. Next, slide the pipe over the stem of the fitting along its entire length. After verifying that the coupling is inserted into the pipe along the full length of the stem, push the compression sleeve and the nut to the fitting. Hand-tighten the nut firmly on the fitting.



### 4. TIGHTENING

Before commencing installation, make sure the right wrenches dedicated to the fittings are available at hand. Use two wrenches to fix the nut onto the fitting body, working in two opposing directions. Tighten the nut (no more than two full revolutions) until resistance is felt.

## NOTE

1. In order to cut a pipe do NOT use such tools as "blade", saw, angle grinder, etc.
2. **Edge chamfering is an essential step in preparing the pipe for assembly with a fitting. Failure to execute this stage of pipe preparation or incorrect execution may lead to incorrect operation of the system.**
3. Install the system in line with applicable guidelines and the standard.
4. A leak test must be conducted before putting the system into service.
5. While at work, use tools dedicated to a given system and to specific diameters.
6. Do not exceed the operating parameters, especially the maximum operating temperature.



# INSTALLATION INSTRUCTIONS

## PRESS FITTING - INSTALLATION INSTRUCTIONS

In the case of press fittings, the connection is made using dedicated mini-presses (crimping tools). Pipe preparation is the same as for compression fittings, namely: cutting, calibrating and chamfering of pipe end. Slide the prepared pipe onto the fitting stem and push firmly until its edge reaches the plastic ring, which additionally positions the press sleeve. The pipe is properly installed on the fitting when each port on the sleeve is covered by the pipe. After verifying that the pipe is properly assembled on the fitting, press the sleeve on the pipe. Such a connection enables free rotation of connected elements around pipe axis, and hence faster and easier installation of the entire system.



### 1. PIPE CUTTING

Measure an appropriate pipe section, and make a cut in the desired place. Use special scissors for this purpose. The cut must always be perpendicular to the pipe axis; it must be a single cut (single operation), leaving only one cutting line.



### 2. PIPE END CALIBRATING AND CHAMFERING

Use specially designed tools for pipe calibration and chamfering the inner edge of the pipe. Before the operation, make sure that the available tools are dedicated to the appropriate pipe diameters and are suitable for further use, i.e. they have not lost their functional properties. In order to carry out calibration, insert the appropriate tip of the calibrating tool inside the pipe and make a few turns. Make sure to insert the calibrator to its full length. When the pipe is calibrated - i.e. a precisely circular cross-section of the pipe is obtained - start chamfering the inner edge of the pipe. Perform chamfering using cutters placed directly on the calibrating tool or using special separate cutters. The purpose of chamfering is to shape the edges of the inner pipe in an appropriate manner to ensure proper installation of the fitting and correct positioning of the sealing rings in the fitting channels. After inserting the calibrating tool inside the pipe, verify if the cutting blades touch the inside edge of the pipe. Next, make a few turns with the cutter, pushing the cutter towards the edge of the pipe, so that the edge of the pipe is properly shaped (inclined) along the entire circumference.



### 3. FITTING ASSEMBLY

Slide the pipe onto the end of the fitting with the press sleeve until resistance is felt. In order to verify that the pipe is inserted to an appropriate length, check the ports on the press sleeve. The pipe is properly installed on the fitting when each of the three ports is fully covered by the pipe.



### 4. PRESSING

The connection should only be made using U-type pressing tongs, along with dedicated tools. Place the elements to be connected in the jaws in such a way that the compression sleeve of the fitting remains "inside the jaws" while the plastic ring supporting the sleeve rests against the front surface of the jaws. The entire surface of the plastic ring must adhere to the jaw. Next, close the pressing tongs completely - the "jaws" of the tool must be fully closed, in accordance with the manual of a given device and press tools.

## NOTE

1. In order to cut a pipe do NOT use such tools as "blade", saw, angle grinder, etc.
2. Edge chamfering is an essential step in preparing the pipe for assembly with a fitting. Failure to execute this stage of pipe preparation or incorrect execution may lead to incorrect operation of the system.
3. Install the system in line with applicable guidelines and the standard.
4. A leak test must be conducted before putting the system into service.
5. While at work, use tools dedicated to a given system and to specific diameters.
6. Pressing jaws dedicated for the **PERFEKT**<sup>SYSTEM</sup> multi-layer pipe system are U-type jaws.
7. Do not exceed the operating parameters, especially the maximum operating temperature.

# PERFEKT SYSTEM - MULTI-LAYER PIPE SYSTEM

## MULTI-LAYER PIPES - LAYERS

Due to the use of special adhesive, the layers of aluminium and polyethylene do not delaminate, while thanks to the full bonding of plastic with metal, thermalelongation has been reduced and increased resistance to high pressure has been ensured.

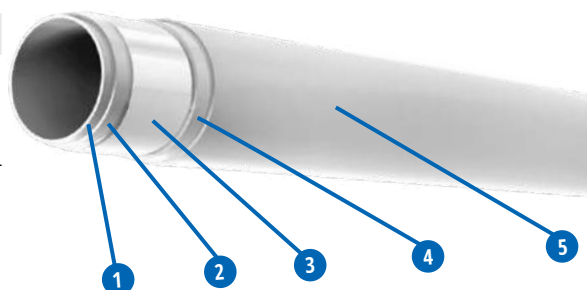
Thus far, the **PERFEKT<sup>SYSTEM</sup>** has been applied in the assembly of:

- central heating systems
- surface heating systems
- internal water supply systems (hot and cold water)
- compressed air systems
- low-temperature radiators



**PERFEKT<sup>SYSTEM</sup>**

	1.POLYETHYLENE	2.ADHESIVE	3.ALUMINIUM	4.ADHESIVE	5.POLYETHYLENE
<b>PEX-AL-PE PIPE</b>	cross-linked PEX; cross-links between polymer chains	specially developed for bonding plastic with metal	aluminium insert	specially developed for bonding plastic with metal	PE protective layer
<b>PERT-AL-PERT PIPE</b>	PE-RT type II - raised temperature resistance				PE-RT type II - raised temperature resistance



## FEATURES

The combination of plastic (polyethylene) and metal (aluminium) translates into excellent properties of multi-layer composite pipes. They offer the advantages of both metal and plastic pipes, while at the same time eliminating the disadvantages of both these types.

They are characterised by:

- easy assembly without mechanical and welded joints. The system is simple and economical thanks to available accessories and connectors.
- flexibility: multi-layer pipes are extremely stable and flexible. They can be bent to a radius of 5.0 times the pipe diameter and the pipe still retains its shape. Bending can be carried out as a cold process, without using special tools.
- resistance to high temperature: the pipes can be used at temperatures up to 90°C and even up to 100°C for short periods of time
- high pressure resistance: depending on the pipe type, the estimated service life of multi-layer pipes at 0-90°C and a pressure of up to 10 bar can be as long as 50 years
- resistance to oxygen diffusion: the aluminium layer forms a barrier to prevent diffusion of gas particles, thus eliminating the risk of corrosion under the influence of oxygen
- lack of deposits: the inner plastic layer is highly resistant to the formation of calcareous deposits, dirt and substances resulting from galvanic corrosion
- abrasion resistance: multi-layer pipes are resistant to wear and erosion, also in bending areas where higher water velocity can lead to increased wear
- resistance to microbial growth: lack of corrosion prevents the formation of environments conducive to bacterial proliferation
- ideal sanitary and health conditions: the pipes can be used in all water and heating systems. They are manufactured from non-toxic materials and can be used for drinking water
- no noise transmission due to flexibility of the pipes: sound wave propagation is greatly reduced compared to metal pipes, even at higher flow rates
- minimum expansion/shrinkage due to temperature fluctuations, compared to metal pipes; the pipes have shape memory
- impact resistance: the pipe is rigid and flexible at the same time, more effectively absorbing sudden impacts

# PERFEKT SYSTEM - MULTI-LAYER PIPE SYSTEM

## PARAMETERS

The operating parameters of composite pipes are determined by the EN21003 standard, currently in force in Poland for this type of piping.

Class	Pmax	Tmax	Maximum short-term operating temperature	Minimum bend radius	Linear expansion coefficient	Thermal conductivity coefficient
1	1,0 MPa	+60°C	+100°C	5xdz	0,025 mm/(mK)	0,40-0,45 W/(mK)
5	0,6 MPa	+90°C	+100°C	5xdz	0,025 mm/(mK)	0,40-0,45 W/(mK)

## FOAM INSULATION

PEX/AL/PE multi-layer pipe is also available with 6 mm foam insulation - 16x2 or 9mm pipe - 20x2 pipe. The foam tube serves as an insulating layer for hot and cold water systems in the construction sector - for embedded installation.

Due to its closed-cell structure, polyethylene foam is resistant to moisture (water absorption after 7 days of immersion in water remains under 1%) and it effectively dampens vibration. Additionally, due to diffusion prevention, the pipe is protected against condensation of water vapour on its surface, while the layer of red or blue PE film on the insulation protects it against mechanical damage and the impact of gauged mortar.

Apparent density of foamed polyethylene	Temperature resistance	Thermal conductivity coefficient	Longitudinal shrinkage at 95°C	Water vapour diffusion resistance factor
30-35 kg/m <sup>3</sup>	from 0°C to +100°C	0,036 W/(mK)	under 1,65%	>μ 3500

## 700PER

### PERT/AL/PERT PIPE TYPE II



## TECHNICAL DATA



index	type	size [mm]	length[mb]	water volume [l/100m]	minimum bend radius [mm]
60-200-1620-200	PERT/Al/PERT	16 x 2,0	200	11,3	80
60-200-1620-500	PERT/Al/PERT	16 x 2,0	500	11,3	80
60-200-2000-100	PERT/Al/PERT	20 x 2,0	100	20,1	100
60-200-2500-050	PERT/Al/PERT	25 x 2,5	50	31,4	125
60-200-3200-025	PERT/Al/PERT	32 x 3,0	25	53,1	160

## 700PE

## PEX/AL/PE PIPE



## TECHNICAL DATA



index	type	size [mm]	length[mb]	water volume [l/100m]	minimum bend radius [mm]
60-100-1610-100	PEX/AL/PE	16 x 2,0	100	11,3	80
60-100-1620-200	PEX/AL/PE	16 x 2,0	200	11,3	80
60-100-1620-500	PEX/AL/PE	16 x 2,0	500	11,3	80
60-100-2000-100	PEX/AL/PE	20 x 2,0	100	20,1	100
60-100-2500-050	PEX/AL/PE	25 x 2,5	50	31,4	125
60-100-3200-025	PEX/AL/PE	32 x 3,0	25	53,1	160
60-100-1620-005	PEX/AL/PE	16 x 2,0	5*	11,3	80
60-100-2000-005	PEX/AL/PE	20 x 2,0	5*	20,1	100
60-100-2500-005	PEX/AL/PE	25 x 2,5	5*	31,4	125
60-100-3200-005	PEX/AL/PE	32 x 3,0	5*	53,1	160

\* The pipe is sold in 5-meter sections.

## 700PE-IZO + 700PER-IZO

## PIPE WITH INSULATION



## TECHNICAL DATA



index	type	size [mm]	insulation color	length[mb]	water volume [l/100m]	minimum bend radius [mm]
60-100-1603-100	PEX/AL/PE+PE 18/9	16 x 2,0 (18x9,0)	blue	200	11,3	80
60-100-1604-100	PEX/AL/PE+PE 18/9	16 x 2,0 (18x9,0)	red	200	11,3	80
60-100-1611-100	PEX/AL/PE+PE 18/6	16 x 2,0 (18x6,0)	blue	100	11,3	80
60-100-1612-100	PEX/AL/PE+PE 18/6	16 x 2,0 (18x6,0)	red	100	11,3	80
60-100-2001-100	PEX/AL/PE+PE 22/9	20 x 2,0 (22x9,0)	blue	50	20,1	100
60-100-2002-100	PEX/AL/PE+PE 22/9	20 x 2,0 (22x9,0)	red	50	20,1	100
60-100-2501-025	PEX/AL/PE+PE 28/9	25 x 2,5 (28x9,0)	blue	25		
60-100-2502-025	PEX/AL/PE+PE 28/9	25 x 2,5 (28x9,0)	red	25		

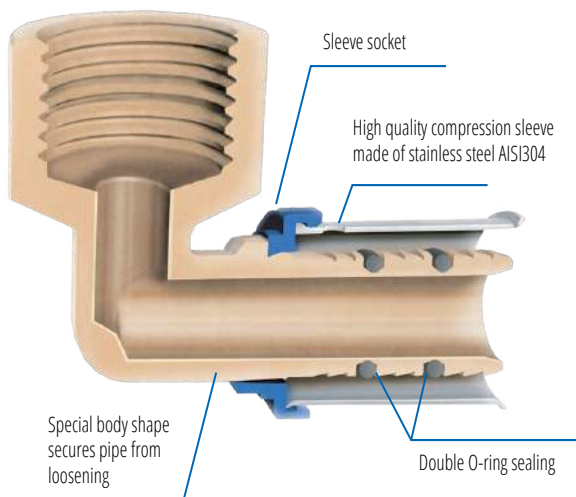
index	type	size [mm]	insulation color	length[mb]	water volume [l/100m]	minimum bend radius [mm]
60-200-1621-100	PERT/AL/PERT +PE 18/6	16 x 2,0 (18x6)	blue	100	11,3	80
60-200-1622-100	PERT/AL/PERT +PE 18/6	16 x 2,0 (18x6)	red	100	11,3	80
60-200-2001-050	PERT/AL/PERT +PE 22/9	20 x 2,0 (22x9)	blue	50	20,1	100
60-200-2002-050	PERT/AL/PERT +PE 22/9	20 x 2,0 (22x9)	red	50	20,1	100

\* The pipe is sold on special request of the customer.

# PRESS FITTINGS (COUPLINGS)

## DESCRIPTION

**PERFEKT<sup>SYSTEM</sup>** press fittings are made of **durable brass alloy** - CW617N. Double protection involving NBR sealing rings ensures **long-term functionality without leakage**, while the stainless steel sleeve packing guarantees durability. The structure of the nozzle and pressed sleeve with a precisely executed U-type **connection ensure tight and firm pipe fit**, without the risk of the pipe sliding out during use. Press fittings offer extremely **simple and fast installation** for professionals. Our fittings are available in numerous versions and dimensions to enable simple and fast execution or modification of the entire installation.



## PARAMETERS

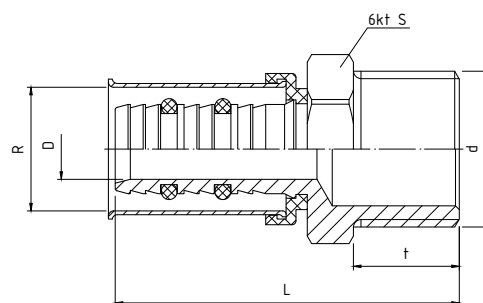
Class	T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

## MATERIALS

**BODY:** CW617N brass  
**COMPRESSION SLEEVE:** stainless steel AISI304  
**O-RINGS:** NBR  
**SLEEVE SOCKET:** polypropylene

# 731

## PRESS NIPPLE MT



## PARAMETERS

CLASS	T <sub>MAX</sub>	P <sub>MAX</sub>	MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

## TECHNICAL DATA

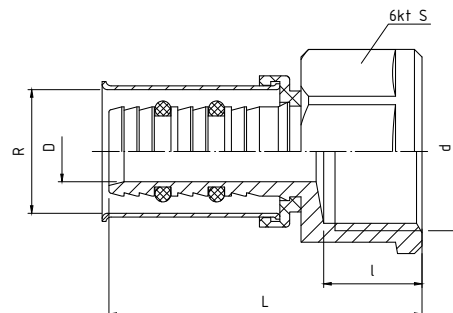


Dimensions in mm.

index	size	d	R	L	t	D	S
62-731-1615-000	16 x 1/2"	G1/2	16,4	45,5	14,0	8,0	22,0
62-731-1620-000	16 x 3/4"	G3/4	16,4	45,5	14,0	8,0	27,0
62-731-2015-000	20 x 1/2"	G1/2	20,4	45,5	14,0	11,5	22,0
62-731-2020-000	20 x 3/4"	G3/4	20,4	46,5	15,0	11,5	27,0
62-731-2520-000	25 x 3/4"	G3/4	25,5	53,0	15,0	15,0	27,0
62-731-2525-000	25 x 1"	G1	25,5	56,5	17,5	15,0	34,0
62-731-3225-000	32 x 1"	G1	32,5	58,5	15,0	20,0	34,0

# 732

## PRESS COUPLING FT



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

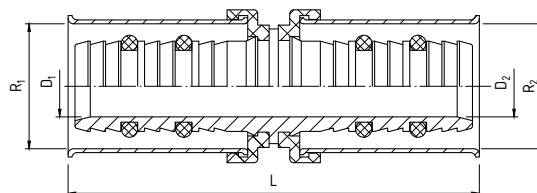


Dimensions in mm.

index	size	d	R	L	l	D	S
62-732-1615-000	16 x 1/2"	G1/2	16,4	41,4	13,0	8,0	24
62-732-1620-000	16 x 3/4"	G3/4	16,4	43,0	14,0	8,0	30
62-732-2015-000	20 x 1/2"	G1/2	20,4	41,4	13,0	11,5	24
62-732-2020-000	20 x 3/4"	G3/4	20,4	43,4	13,0	11,5	30
62-732-2520-000	25 x 3/4"	G3/4	25,5	50,0	14,0	15,0	30
62-732-2525-000	25 x 1"	G1	25,5	51,0	15,0	15,0	36
62-732-3225-000	32 x 1"	G1	32,5	53,0	15,0	20,0	36

# 733

## STRAIGHT PRESS COUPLING



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa

### TECHNICAL DATA

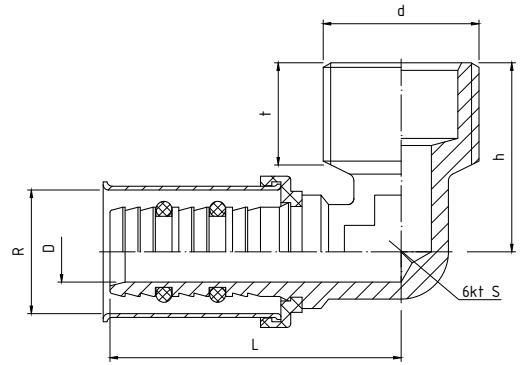


Dimensions in mm.

index	size	R <sub>1</sub>	R <sub>2</sub>	L	D <sub>1</sub>	D <sub>2</sub>
62-733-0160-000	16	16,4	16,4	52,0	8,0	8,0
62-733-0200-000	20	20,4	20,4	52,0	11,5	11,5
62-733-2016-000	20x16	20,4	16,4	52,0	11,5	8,0
62-733-0250-000	25	25,5	25,5	65,0	15,0	15,0
62-733-2516-000	25x16	25,5	16,4	58,5	15,0	8,0
62-733-2520-000	25x20	25,5	20,4	58,5	15,0	11,5
62-733-0320-000	32	32,5	32,5	69,0	20,0	20,0
62-733-3225-000	32x25	32,5	25,5	67,0	32,5	20,0

# 734

## PRESS ELBOW MT



### PARAMETERS

CLASS	TMAX	PMAX	MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

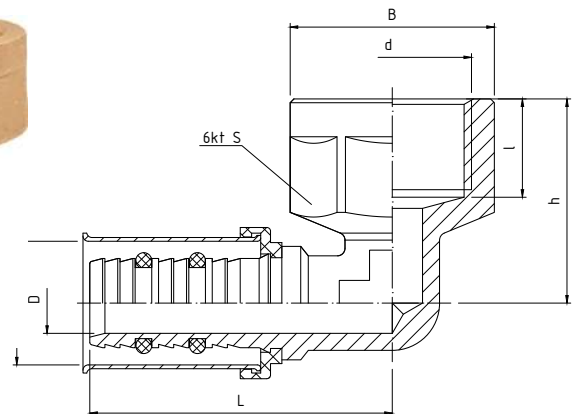


Dimensions in mm.

index	size	d	R	L	t	h	D	S
62-734-1615-000	16 x 1/2"	G1/2	16,4	38,5	13	25,0	8,0	12,5
62-734-1620-000	16 x 3/4"	G3/4	16,4	41,5	15	28,0	8,0	12,5
62-734-2015-000	20 x 1/2"	G1/2	20,4	38,5	13	27,0	11,5	16
62-734-2020-000	20 x 3/4"	G3/4	20,4	41,0	15	29,0	11,5	16
62-734-2520-000	25 x 3/4"	G3/4	25,5	48,5	15	31,5	15,0	19,5
62-734-2525-000	25 x 1"	G1	25,5	51,0	17	33,0	15,0	25
62-734-3225-000	32 x 1"	G1	32,5	53,0	17	36,0	20,0	25

# 735

## PRESS ELBOW FT



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	R	L	l	h	D	B	S
62-735-1615-000	16 x 1/2"	G1/2	16,4	40,0	13,0	27,0	8,0	27,0	24
62-735-2015-000	20 x 1/2"	G1/2	20,4	40,0	14,0	27,0	11,5	27,0	24
62-735-2020-000	20 x 3/4"	G3/4	20,5	44,0	14,0	30,0	11,5	33,0	30
62-735-2520-000	25 x 3/4"	G3/4	25,5	51,0	14,5	26,5	15,0	34,0	30
62-735-2525-000	25 x 1"	G1	25,5	58,0	17,0	35,0	15,0	40,5	36
62-735-3225-000	32 x 1"	G1	32,5	53,0	16,0	32,0	20,0	41,0	36



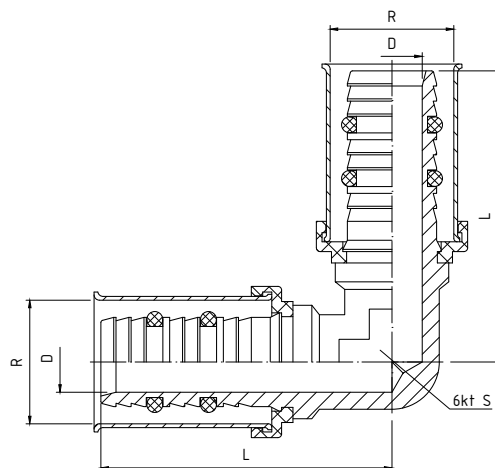
# 736

## PRESS ELBOW



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa



### TECHNICAL DATA



Dimensions in mm.

index	size	R	L	D
62-736-0160-000	16	16,4	38,5	8,0
62-736-0200-000	20	20,4	40,0	11,5
62-736-0250-000	25	25,5	48,5	15,0
62-736-0320-000	32	32,5	54,0	20,0

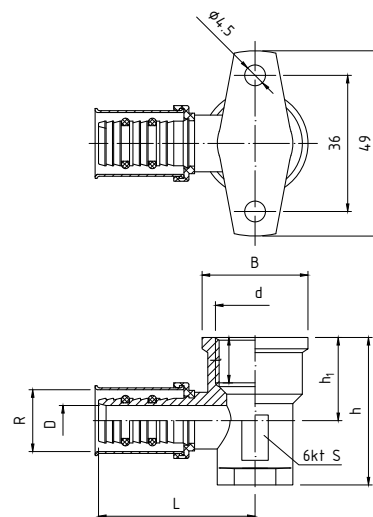
# 738

## PRESS ELBOW WITH MOUNTING FT



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228



### TECHNICAL DATA

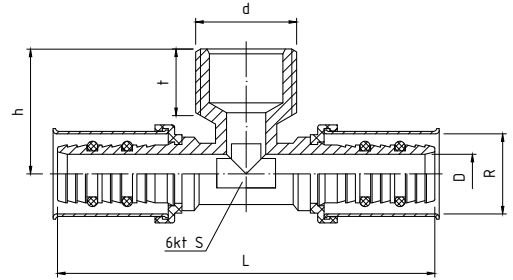


Dimensions in mm.

index	size	d	R	L	l	h	h <sub>1</sub>	D	B
62-738-1615-000	16 x 1/2"	G1/2	16,4	41,4	14,5	36,7	21	8	28
62-738-2015-000	20 x 1/2"	G1/2	20,4	41,4	13	39	22	11,5	28

# 739

## PRESS TEE MT



### PARAMETERS

CLASS	TMAX	PMAX	MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

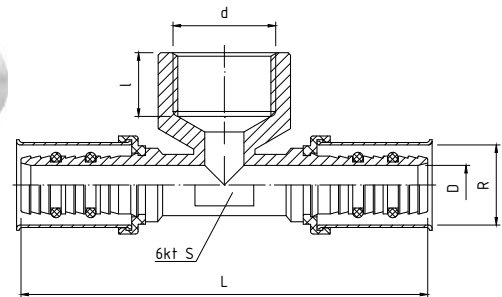


Dimensions in mm.

index	size	d	R	L	t	h	D	S
62-739-1615-000	16 x 1/2"	G1/2	16,4	77,0	13	25,5	8,0	13
62-739-2015-000	20 x 1/2"	G1/2	20,4	77,0	13	27,0	11,5	
62-739-2020-000	20 x 3/4"	G3/4	20,4	82,0	15	29,5	11,5	16,5
62-739-2520-000	25 x 3/4"	G3/4	25,5	96,0	15	29,5	15,0	20
62-739-2525-000	25 x 1"	G1	25,5	104,0	15	35,5	15,0	20
62-739-3225-000	32 x 1"	G1	32,5	104,0	15	31,5	20,0	20

# 73A

## PRESS TEE FT



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	R	L	l	h	D	S
62-071-1615-000	16 x 1/2"	G1/2	16,4	83,0	13,0	27,0	8,0	24
62-071-2015-000	20 x 1/2"	G1/2	20,4	83,0	13,0	29,0	11,5	24
62-071-2020-000	20 x 3/4"	G3/4	20,4	89,0	14,0	31,0	11,5	30
62-071-2520-000	25 x 3/4"	G3/4	25,5	102,0	14,0	32,0	15,0	30
62-071-2525-000	25 x 1"	G1	25,5	107,0	18,0	35,5	15,0	36
62-071-3225-000	32 x 1"	G1	32,5				20,0	36

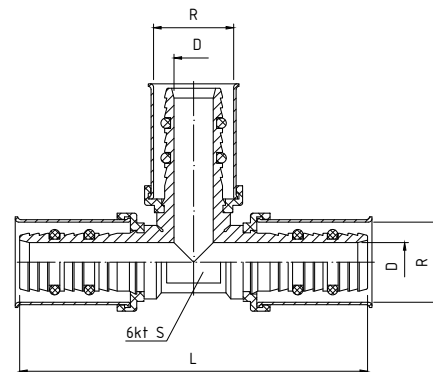
# 73B

**PRESS  
TEE**



**PARAMETERS**

CLASS	T <sub>MAX</sub>	P <sub>MAX</sub>
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa



## TECHNICAL DATA



Dimensions in mm.

index	size	R	L	h	D	S
62-73B-0160-000	16,0	16,4	71	35,5	8,0	13,0
62-73B-0200-000	20,0	20,4	75	37,5	11,5	16,5
62-73B-0250-000	25	25,5	92	46,0	15,0	19,0
62-73B-0320-000	32	32,5	102	51,0	20,0	25,5

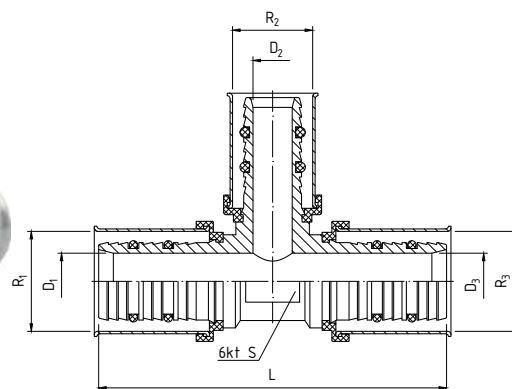
# 73C

**PRESS  
TEE**



**PARAMETERS**

CLASS	T <sub>MAX</sub>	P <sub>MAX</sub>
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa



## TECHNICAL DATA

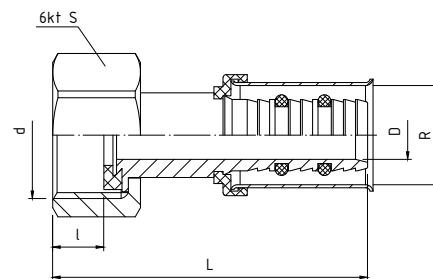


Dimensions in mm.

index	size	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	L	h	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	S
62-73C-1620-000	16x20x16	16,4	20,4	16,4	75,0	35,5	8,0	11,5	8,0	12,5
62-73C-2016-000	20x16x16	20,4	16,4	16,4	71,0	37,5	11,5	8,0	8,0	16,0
62-73C-2016-001	20x16x20	20,4	16,4	20,4	71,0	37,5	11,5	8,0	11,5	16,5
62-73C-2020-000	20x20x16	20,4	20,4	16,4	75,0	36,5	11,5	11,5	8,0	16,0
62-73C-2025-000	20x25x20	20,4	25,5	20,4	80,0	46,0	11,5	15,0	11,5	16,5
62-73C-2516-000	25x16x25	25,5	16,4	25,5	84,0	39,5	15,0	8,0	15,0	20,0
62-73C-2520-000	25x20x25	25,5	20,4	25,5	88,0	39,5	15,0	11,5	15,0	20,0
62-73C-2520-001	25x20x20	25,5	20,4	20,4	81,5	39,5	15,0	11,5	11,5	20,0
62-73C-2525-000	25x25x20	25,5	25,5	20,4	84,5	46,0	15,0	15,0	11,5	19,5
62-73C-3220-000	32x20x32	32,5	20,4	32,5	92,0	42,5	20,0	11,5	20,0	25,5
62-73C-3225-000	32x25x32	32,5	25,5	32,5	96,0	49,0	20,0	15,0	20,0	25,5

# 732/0

## NUT COUPLING - HALF PIPE UNION



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

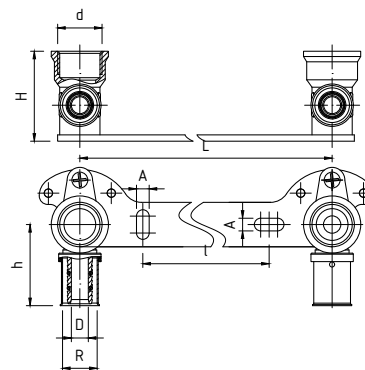


Dimensions in mm.

index	size	d	D	L	l	R	S
62-732-1615-001	16x 1/2"	G 1/2	8	53,0	11,3	16,4	24
62-732-2020-001	20x 3/4"	G 3/4	11,5	53,1	12,5	20,4	30
62-732-2525-001	25x1"	G1	15	61,9	13,7	25,5	38

# 740

## BAR VALVE MOUNTING BRACKET FOR WALL MIXER INSTALLATION



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	D	R	L	l	H	h	A
62-740-0100-000	100	G1/2	8	16,4	100	40,5	42,5	38,3	6
62-740-0150-000	150	G1/2	8	16,4	150	90,5	42,5	38,3	6

### MATERIALS

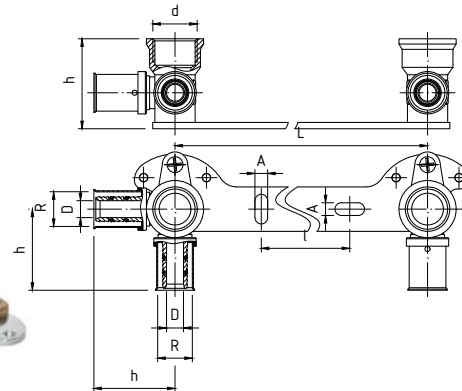
**BODY:** CW617N brass  
**BAR:** S235JR carbon steel with galvanic coating  
**COMPRESSION SLEEVE:** AISI304 stainless steel  
**O-RING:** NBR  
**SLEEVE SOCKET:** polypropylene

### DESCRIPTION

Bar valve mounting brackets consist of a steel support on which brass elbows are installed. Brass elbows have threaded sockets with G-type pipe 1/2 threads and assembly connections for 16x2 multilayer pipes. Bars are mainly intended for connecting the faucets to a water installation made with the use of multi-layer pipes and **PERFEKT** SYSTEM fittings. Depending on the needs, the bars can also be used in central heating and in cold and hot water installations (including drinking water).

# 741

## BAR VALVE MOUNTING BRACKET FOR WALL MIXER INSTALLATION WITH H.W.S. CIRCULATION



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	D	R	L	l	H	h	A
62-741-0100-000	100	G½	8	16,4	100	40,5	42,5	38,3	6
62-741-0150-000	150	G½	8	16,4	150	90,5	42,5	38,3	6

### MATERIALS

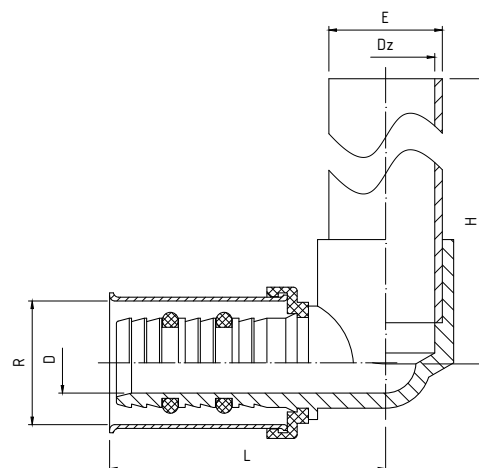
**BODY:** CW617N brass  
**BAR:** S235JR carbon steel with galvanic coating  
**COMPRESSION SLEEVE:** AISI304 stainless steel  
**O-RING:** NBR  
**SLEEVE SOCKET:** polypropylene

### DESCRIPTION

Bar valve mounting brackets consist of a steel support on which brass elbows are installed. Brass elbows have threaded sockets with G-type pipe ½ threads and assembly connections for 16x2 multilayer pipes. Bars are mainly intended for connecting the faucets to a water installation made with the use of multi-layer pipes and **PERFEKT** SYSTEM fittings. Product 741 is intended for installations with hot water systems circulation. Depending on the needs, the bars can also be used in central heating and in cold and hot water installations (including drinking water).

# 742

## ELBOW WITH Cu PIPE



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa

### TECHNICAL DATA



Dimensions in mm.

index	size	D	R	L	H	E	Dz
62-742-1615-000	16x15	8	16,4	100	215,3	15	13

### MATERIALS

**BODY:** CW617N brass  
**PIPE:** copper with galvanic coating  
**COMPRESSION SLEEVE:** AISI304 stainless steel  
**O-RING:** NBR  
**SLEEVE SOCKET:** polypropylene

# 745

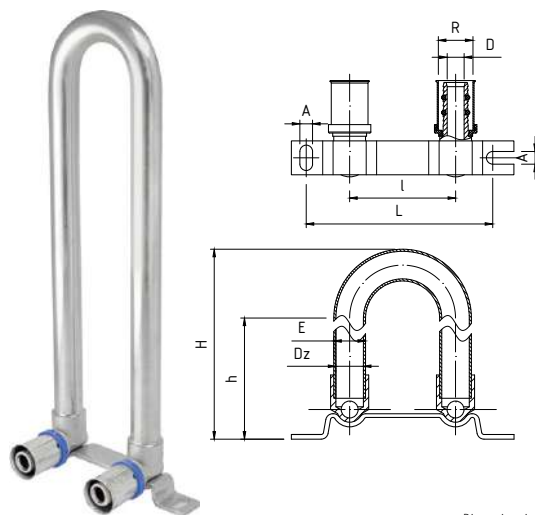
## SET OF ELBOWS WITH Cu PIPE MOUNTING



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa

### TECHNICAL DATA



Dimensions in mm.

index	size	D	R	L	I	H	h	E	Dz	A
62-745-1615-000	16x200	8	16,4	88	50	237,5	205	15	13	6

### MATERIALS

- BODY:** CW617N brass
- BAR:** S235JR carbon steel with galvanic coating
- PIPE:** copper with galvanic coating
- COMPRESSION SLEEVE:** AISI304 stainless steel
- O-RING:** NBR
- SLEEVE SOCKET:** polypropylene

# COMPRESSION FITTINGS (COUPLINGS) - 700 SERIES

## DESCRIPTION

**PERFEKT<sup>SYSTEM</sup>** compression fittings are made of **durable brass alloy** - CW617N. Specially selected NBR sealing rings ensure **long-term functionality** and **leak-tightness**. The fittings feature a double sealing solution employing O-rings and an additional Teflon washer at the point where aluminium layer contacts the fitting material, which **protects against electrochemical corrosion**. The construction of the nozzle and the internal surface of the compression sleeve ensure firm pipe fit, preventing it from sliding out during use.



## MATERIALS

**BODY, NUT:** CW617N brass with outer nickel-plated coating

**COMPRESSION SLEEVE:** CW614N brass

**O-RINGS:** NBR

**PIPE (END) COUPLING:** CW617N brass

**WASHER:** PTFE

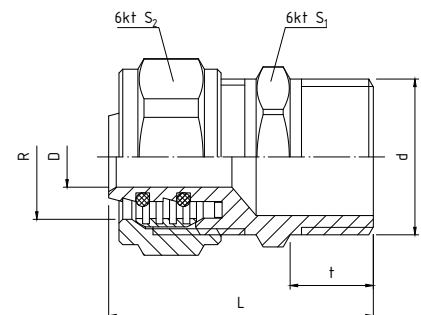
*additionally for item 701/B*

## PARAMETERS

Class	T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

## 701

### COMPRESSION NIPPLE MT



## PARAMETERS

CLASS	T <sub>MAX</sub>	P <sub>MAX</sub>	MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

## TECHNICAL DATA



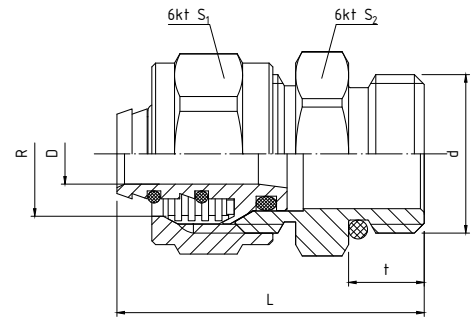
Dimensions in mm.

index	size	d	R	L	t	D	S <sub>1</sub>	S <sub>2</sub>
61-001-1615-000	16 x 1/2"	G1/2	16,5	36,0	11,0	8,0	21	24
61-001-2015-000	20 x 1/2"	G1/2	20,5	40,8	14,0	11,5	27	30
61-001-2020-000	20 x 3/4"	G3/4	20,5	42,0	15,0	11,5	27	30
61-001-2520-000	25 x 3/4"	G3/4	25,5	50,0	15,0	15,0	34	36
61-001-2525-000	25 x 1"	G1	25,5	49,0	15,0	15,0	34	36
61-001-3225-000	32 x 1"	G1	32,5	46,0	15,0	20,0	37	42



# 701/B

## COMPRESSION NIPPLE WITH REMOVABLE END FOR MANIFOLD BAR



### PARAMETERS

CLASS	TMAX	PMAX	MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	R	L	t	D	S <sub>1</sub>	S <sub>2</sub>
61-001-1615-001	16 x 1/2"	G1/2	16,5	40,6	10	8	24	24

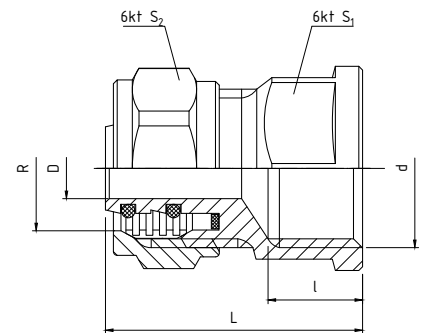
### DESCRIPTION

Compression fitting for multilayer pipes with removable end is suitable for quick assembly and disassembly of pipes in manifold bars. This is possible thanks to the use of an O-ring that effectively seals the connection (fitting body - bar) without any additional sealing materials, which undoubtedly saves time. An additional advantage of this fitting is the use of a removable end (pipe coupling), which greatly simplifies pipe assembly. Owing to the use of a removable pipe coupling, a part of the body can be "permanently" screwed e.g. into a manifold bar, while the end itself can be placed on the pipe together with the nut, and then the final assembly can be completed, which greatly simplifies the work.

Part of the body can be "permanently" screwed e.g. into a manifold bar, and the end itself can be placed on the pipe. The end connected to the pipe should be placed in the socket of the body and screwed in. The connection is simple to make. Importantly, the pipe must be correctly prepared

# 702

## COMPRESSION COUPLING FT



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

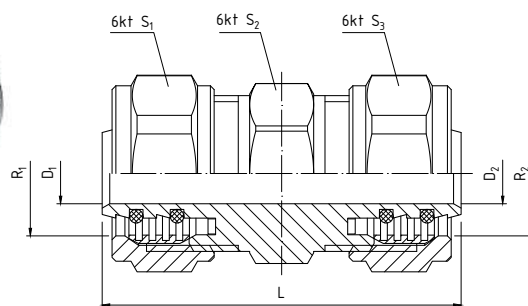


Dimensions in mm.

index	size	d	R	L	l	D	S <sub>1</sub>	S <sub>2</sub>
61-002-1615-000	16 x 1/2"	G1/2	16,5	34,0	12,5	8,0	24	24
61-002-2015-000	20 x 1/2"	G1/2	20,5	36,0	14,0	11,5	27	30
61-002-2020-000	20 x 3/4"	G3/4	20,5	37,4	12,0	11,5	30	30
61-002-2520-000	25 x 3/4"	G3/4	25,5	43,5	14,0	15,0	34	36
61-002-2525-000	25 x 1"	G1	25,5	47,8	16,0	15,0	38	36
61-002-3225-000	32 x 1"	G1	32,5	40,0	16,0	20,0	40	42

# 703

## COMPRESSION COUPLING



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa

### TECHNICAL DATA

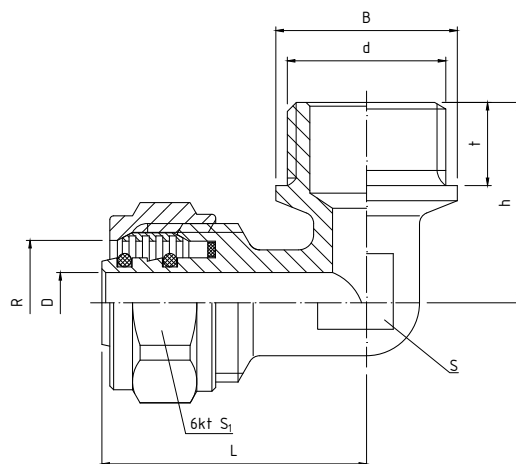


Dimensions in mm.

index	size	R <sub>1</sub>	R <sub>2</sub>	L	D <sub>1</sub>	D <sub>2</sub>	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>
61-003-0160-000	16	16,5	16,5	46,0	8,0	8,0	24	21	24
61-003-0200-000	20	20,5	20,5	48,0	11,5	11,5	30	27	30
61-003-1620-000	16x20	16,5	20,5	45,8	8,0	11,5	24	27	30
61-003-2520-000	25x20	25,5	20,5	53,5	15,0	11,5	36	34	30

# 704

## COMPRESSION ELBOW MT



### PARAMETERS

CLASS	TMAX	PMAX	MT acc. to
1	+60°C	1,0 MPa	ISO228
5	+90°C	0,6 MPa	ISO228

### TECHNICAL DATA



Dimensions in mm.

index	size	d	R	L	t	h	D	S	S <sub>2</sub>	B
61-004-1615-000	16 x 1/2"	G1/2	16,5	35,0	11	26,5	8,0	14,5	24	24,0
61-004-2015-000	20 x 1/2"	G1/2	20,5	37,5	13	33,0	11,5	17,5	30	24,0
61-004-2020-000	20 x 3/4"	G3/4	20,5	37,5	14	34,5	11,5	17,5	30	29,0
61-004-2525-000	25 x 1"	G1	25,5	46,5	16	43,5	15,0	21,3	36	36,0
61-004-3225-000	32 x 1"	G1	32,5	47,0	16	39,0	20,0	26,0	42	37,5

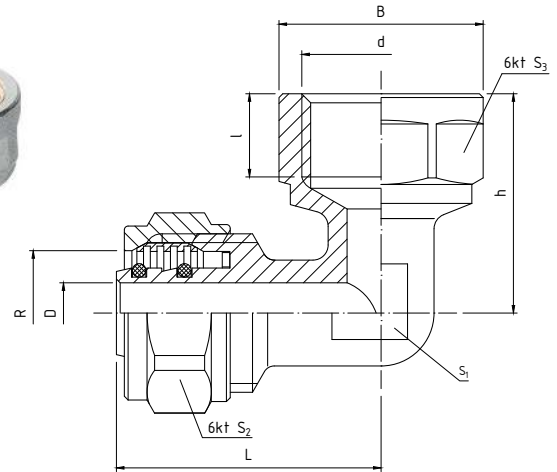
# 705

## COMPRESSION ELBOW FT



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228



### TECHNICAL DATA



Dimensions in mm.

index	size	d	R	L	l	h	D	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	B
61-005-1615-000	16 x 1/2"	G1/2	16,5	35,0	12,5	29,0	8,0	15,0	24	24	27,0
61-005-2015-000	20 x 1/2"	G1/2	20,5	37,5	12,5	29,0	11,5	19,3	30	24	27,0
61-005-2020-000	20 x 3/4"	G3/4	20,5	38,0	12,5	35,0	11,5	19,3	30	30	33,0
61-005-2525-000	25 x 1"	G1	25,5	48,0	17,5	45,5	15,0	21,3	36	40	44,8
61-005-3225-000	32 x 1"	G1	32,5	47,0	15,0	39,0	20,0	26,0	42		39,5

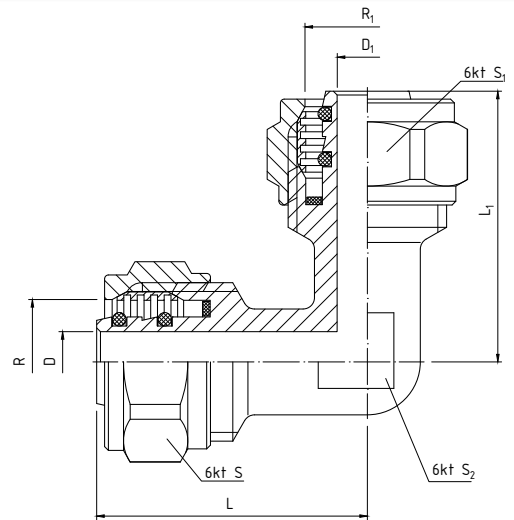
# 706

## COMPRESSION ELBOW



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa



### TECHNICAL DATA

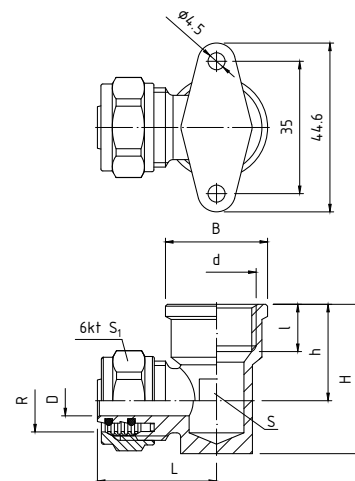


Dimensions in mm.

index	size	R	R <sub>1</sub>	L	L <sub>1</sub>	D	D <sub>1</sub>	S	S <sub>1</sub>	S <sub>3</sub>
61-006-0160-000	16 x 16	16,5	16,5	35,8	35,8	8,0	8,0	24,0	24,0	14,3
61-006-0200-000	20 x 20	20,5	20,5	38,0	38,0	11,5	11,5	30,0	30,0	19,3
61-006-0250-000	25 x 25	25,5	25,5	45,0	45,0	15,0	15,0	36,0	36,0	21,3
61-006-2500-000	25 x 20	25,5	20,5	45,0	40,0	15,0	11,5	36,0	30,0	21,3
61-006-0320-000	32 x 32	32,5	32,5	45,0	45,0	20,0	20,0	42,0	42,0	26,0

# 707

## COMPRESSION ELBOW WITH MOUNTING FT



Dimensions in mm.

### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

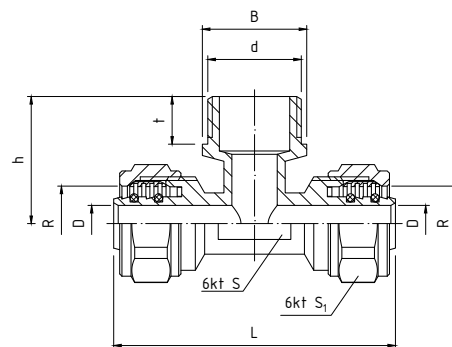
### TECHNICAL DATA



index	size	d	R	L	l	H	h	D	S	S <sub>1</sub>	B
61-007-1615-000	16 x 1/2"	G1/2	16,5	31,5	12,5	40,0	25,5	8,0	19,5	24	27
61-007-2015-000	20 x 1/2"	G1/2	20,5	33,0	12,5	39,5	23,0	11,5	19,5	30	27
61-007-2020-000	20 x 3/4"	G3/4	20,5	36,0	14,0	41,5	25,0	11,5	19,5	30	33

# 708

## COMPRESSION TEE MT



Dimensions in mm.

### PARAMETERS

CLASS	TMAX	PMAX	MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

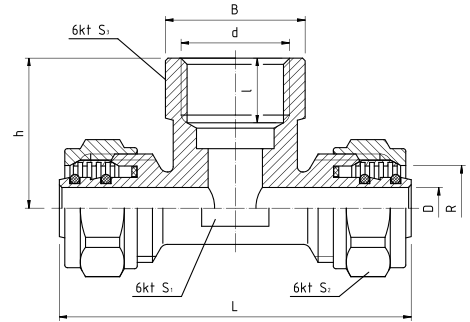
### TECHNICAL DATA



index	size	d	R	L	t	h	D	S <sub>1</sub>	S <sub>2</sub>
61-008-1615-000	16 x 1/2"	G1/2	16,5	68	11,5	25,0	8,0	14,3	24
61-008-2015-000	20 x 1/2"	G1/2	20,5	74	11,5	25,0	11,5	19,3	30
61-008-2020-000	20 x 3/4"	G3/4	20,5	74	14,0	34,5	11,5	19,3	30
61-008-2520-000	25 x 3/4"	G3/4	25,5	90	14,0	34,5	15,0	21,3	36
61-008-2525-000	25 x 1"	G1	25,5	90	16,0	37,0	15,0	21,3	36
61-008-3225-000	32 x 1"	G1	32,5	88	16,0	39,0	20,0	26,0	42

# 709

## COMPRESSION TEE FT



### PARAMETERS

CLASS	TMAX	PMAX	FT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

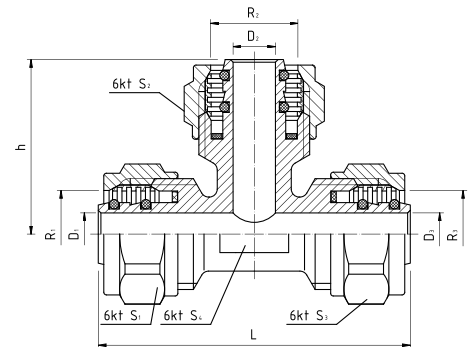


Dimensions in mm.

index	size	d	R	L	l	h	D	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	B
61-009-1615-000	16 x 1/2"	G1/2	16,5	68	12,5	29	8,0	14,3	24	24	27,0
61-009-2015-000	20 x 1/2"	G1/2	20,5	74	14,0	35	11,5	19,3	30	24	27,0
61-009-2020-000	20 x 3/4"	G3/4	20,5	74	14,0	35	11,5	19,3	30	30	33,0
61-009-2520-000	25 x 3/4"	G3/4	25,5	90	14,0	36	15,0	21,3	36	30	33,0
61-009-2525-000	25 x 1"	G1	25,5	90	15,0	37	15,0	21,3	36		39,5
61-009-3225-000	32 x 1"	G1	32,5	88	15,0	39	20,0	26,0	42		39,5

# 70A

## COMPRESSION TEE



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa

### TECHNICAL DATA



Dimensions in mm.

index	size	R <sub>1</sub>	R <sub>2</sub>	R <sub>2</sub>	L	h	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>	S <sub>4</sub>
61-010-0160-000	16	16,5	16,5	16,5	59	33,0	8,0	8,0	8,0	24	24	24	14,3
61-010-0200-000	20	20,5	20,5	20,5	68	36,0	11,5	11,5	11,5	30	30	30	17,3
61-010-0250-000	25	25,5	25,5	25,5	90	45,0	15,0	15,0	15,0	36	36	36	21,3
61-010-0320-000	32	32,5	32,5	32,5	94	47,0	20,0	20,0	20,0	42	42	42	26,0
61-010-1616-000	20x16x16	20,5	16,5	16,5	78	37,0	11,5	8,0	8,0	30	24	24	17,3
61-010-1620-000	20x16x20	20,5	16,5	20,5	78	34,0	11,5	8,0	11,5	30	24	30	17,3
61-010-1625-000	25x20x16	25,5	20,5	16,5	84	40,0	15,0	11,5	8,0	36	30	24	21,3
61-010-2520-000	25x20x25	25,5	20,5	25,5	90	40,0	15,0	11,5	15,0	36	30	36	21,3
61-010-3225-000	32x25x32	32,5	25,5	32,5	94	47,0	20,0	15,0	20,0	42	36	42	26,0

# COMPRESSION FITTINGS (COUPLINGS) - 600 SERIES

## DESCRIPTION

**PERFEKT<sup>SYSTEM</sup>** compression fittings are made of **durable brass alloy** - CW617N. Specially selected NBR sealing rings ensure **long-term functionality** and **leak-tightness**. The fittings feature a double sealing solution employing O-rings and an additional Teflon washer at the point where aluminium layer contacts the fitting material, which **protects against electrochemical corrosion**. The construction of the nozzle and the internal surface of the compression sleeve ensure firm pipe fit, preventing it from sliding out during use.



## MATERIALS

**BODY, NUT:** CW617N brass with outer nickel-plated coating

**COMPRESSION RING:** CW614N brass

**O-RINGS:** NBR

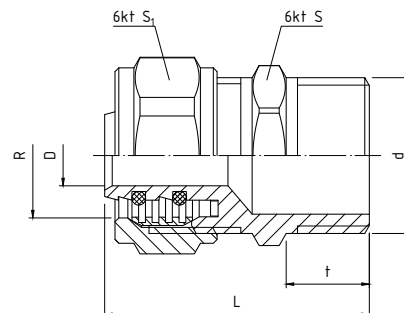
**WASHER:** PTFE

## PARAMETERS

Class	T <sub>MAX</sub>	P <sub>MAX</sub>	FT/MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

## 601

### COMPRESSION NIPPLE MT



## PARAMETERS

CLASS	T <sub>MAX</sub>	P <sub>MAX</sub>	MT ACC. TO
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

## TECHNICAL DATA

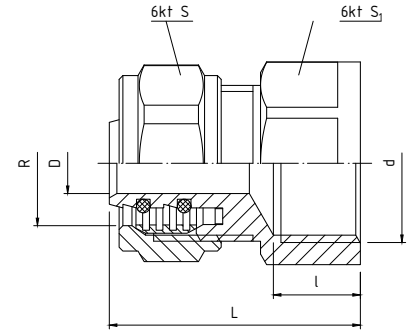


Dimensions in mm.

index	size	d	D	L	t	R	S	S <sub>1</sub>
61-601-1615-000	16x 1/2"	G 1/2	8	35,0	9,5	16,4	21,0	23,8
61-601-2015-000	20x 1/2"	G 3/4	11,5	37,0	9,5	20,5	26,5	29,5
61-601-2020-000	20x 3/4"	G 3/4	11,5	39,0	10	20,5	26,7	29,5
61-601-2520-000	25x 3/4"	G 3/4	11,5	44,8	13	25,5	31,5	35,0
61-601-2525-000	25x1"	G1	15	47,0	13	25,5	33,5	35,0

# 602

## COMPRESSION COUPLING FT



### PARAMETERS

CLASS	TMAX	PMAX	FT acc. to
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

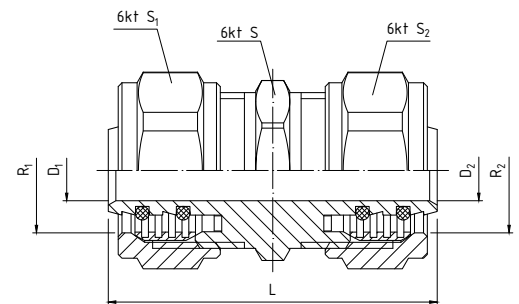


Dimensions in mm.

index	size	d	D	L	l	R	S	S <sub>1</sub>
61-602-1615-000	16x 1/2"	G 1/2	8	32,3	10,5	16,5	24,0	23,8
61-602-2015-000	20x 1/2"	G 3/4	11,5	35,5	15	20,5	24,0	29,5
61-602-2020-000	20x 3/4"	G 3/4	11,5	36,0	10,5	20,5	30,0	29,5
61-602-2520-000	25x 3/4"	G 3/4	15,0	39,5	14,0	25,5	31,5	35,0
61-602-2525-000	25x1"	G1	15,0	42,0	14,0	25,5	36,0	35,0

# 603

## COMPRESSION COUPLING



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa

### TECHNICAL DATA



Dimensions in mm.

index	size	D	D <sub>1</sub>	L	R	R <sub>1</sub>	S	S <sub>1</sub>	S <sub>2</sub>
61-603-0160-000	16x 16	8,0	8,0	44,0	16,5	16,5	21,0	23,8	23,8
61-603-0200-000	20x 20	11,5	11,5	45,0	20,5	20,5	27,0	29,5	29,5
61-603-1620-000	20x 16	11,5	8,0	45,5	20,5	16,5	26,5	29,5	23,8

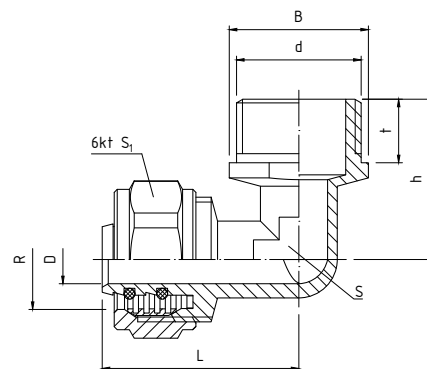


# 604

## COMPRESSION ELBOW MT

### PARAMETERS

CLASS	TMAX	PMAX	MT acc. to
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228



### TECHNICAL DATA



Dimensions in mm.

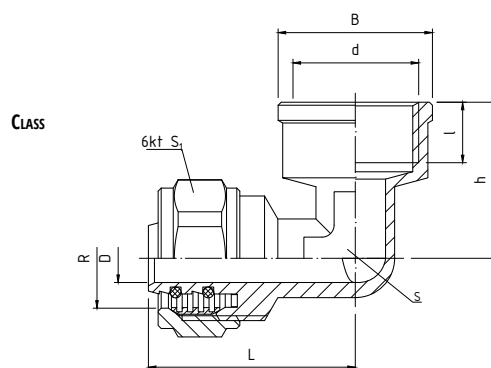
index	size	d	D	L	t	h	B	R	S	S <sub>1</sub>
61-604-1615-000	16x 1/2"	G 1/2	8	32,5	10,5	26,5	23,0	16,5	13,0	23,8
61-604-2015-000	20x 1/2"	G 1/2	11,5	35,0	10,5	29,0	23,0	20,5	14,5	29,5
61-604-2020-000	20x 3/4"	G 3/4	11,5	35,0	10,5	31,5	29,0	20,5	15,0	29,5

# 605

## COMPRESSION ELBOW FT

### PARAMETERS

CLASS	TMAX	PMAX	FT acc. to
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228



### TECHNICAL DATA



Dimensions in mm.

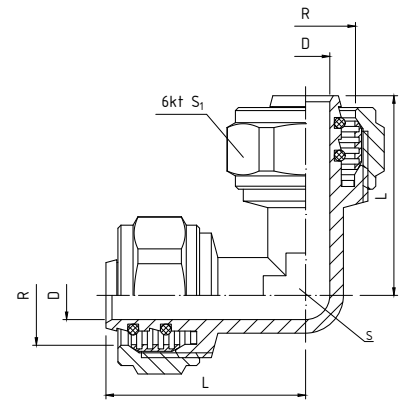
index	size	d	D	L	I	h	B	R	S	S <sub>1</sub>
61-605-1615-000	16x 1/2"	G 1/2	8	34,5	10,0	25,8	25,5	16,5	13,0	23,8
61-605-2015-000	20x 1/2"	G 1/2	11,5	38,0	11,5	30,0	26,0	20,5	15,0	29,5
61-605-2020-000	20x 3/4"	G 3/4	11,5	39,0	12,5	32,0	32,0	20,5	15,0	29,5

# 606

## COMPRESSION ELBOW

### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa



### TECHNICAL DATA



Dimensions in mm.

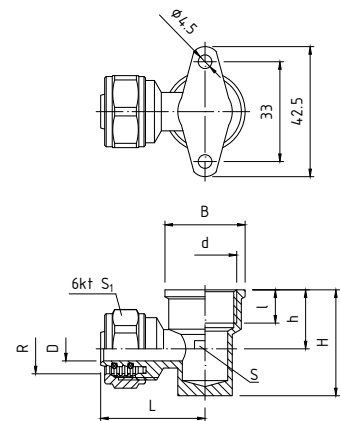
index	size	D	L	R	S	S <sub>1</sub>
61-606-0160-000	16,0	8,0	33,0	16,5	12,5	23,8
61-606-0200-000	20,0	11,5	35,0	20,5	15,0	29,5
61-606-2525-000	25,0	15,0	43,0	25,5	20,0	35,0

# 607

## COMPRESSION ELBOW WITH MOUNTING FT

### PARAMETERS

CLASS	TMAX	PMAX	FT acc. to
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228



### TECHNICAL DATA

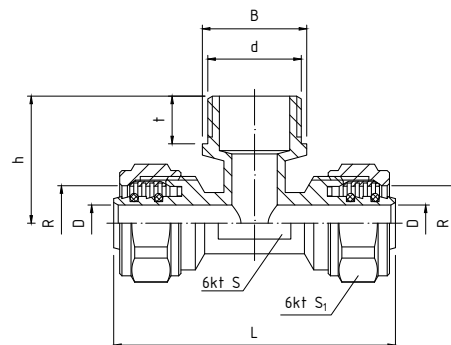


Dimensions in mm.

index	size	d	D	L	l	H	h	B	R	S	S <sub>1</sub>
61-607-1615-000	16x 1/2"	G 1/2	8	34,5	11,0	35,0	19,5	26,5	16,5	19,0	23,8
61-607-2015-000	20x 1/2"	G 1/2	11,5	36,5	11,0	38,5	20,0	26,5	20,5	17,5	23,8
61-607-2020-000	20x 3/4"	G 3/4	11,5	40,5	11,0	43,5	20,0	33,0	20,5	20,0	29,5

# 608

## COMPRESSION TEE MT



### PARAMETERS

CLASS	TMAX	PMAX	MT acc. to
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

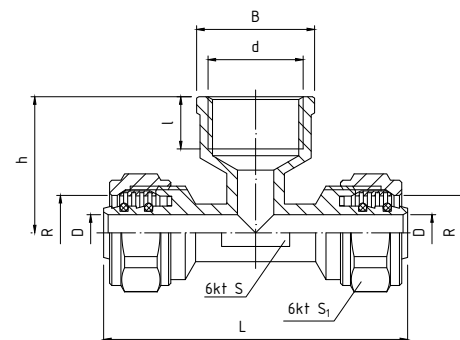


Dimensions in mm.

index	size	d	D	L	t	h	B	R	S	S <sub>1</sub>
61-608-1615-000	16x 1/2"	G 1/2	8,0	64,0	10,5	28,0	23,0	16,5	13,5	23,8
61-608-2015-000	20x 1/2"	G 1/2	11,5	69,0	10,5	28,0	23,0	20,5	14,5	23,8
61-608-2020-000	20x 3/4"	G 3/4	11,5	70,0	11,0	32,0	30,0	20,5	15,0	29,5

# 609

## COMPRESSION TEE FT



### PARAMETERS

CLASS	TMAX	PMAX	FT acc. to
1	+60°C	1,0 MPa	ISO 228
5	+90°C	0,6 MPa	ISO 228

### TECHNICAL DATA

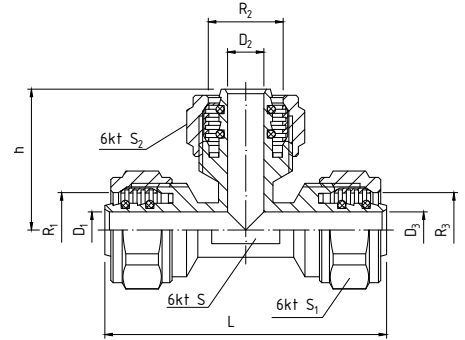


Dimensions in mm.

index	size	d	D	L	l	h	B	R	S	S <sub>1</sub>
61-609-1615-000	16x 1/2"	G 1/2	8,0	67,0	11,5	30,0	26,0	16,5	13,0	23,8
61-609-2015-000	20x 1/2"	G 1/2	11,5	74,0	13,0	31,0	26,0	20,5	15,0	29,5
61-609-2020-000	20x 3/4"	G 3/4	11,5	73,0	11,0	33,0	32,0	20,5	15,0	29,5

# 60A

## COMPRESSION TEE



### PARAMETERS

CLASS	TMAX	PMAX
1	+60°C	1,0 MPa
5	+90°C	0,6 MPa

### TECHNICAL DATA



Dimensions in mm.

index	size	D <sub>1</sub>	D <sub>2</sub>	D <sub>3</sub>	L	h	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>	S	S <sub>1</sub>	S <sub>2</sub>	S <sub>3</sub>
61-610-0160-000	16	8,0	8,0	8,0	62,1	31,3	16,5	16,5	16,5	12,0	23,8	23,8	23,8
61-610-1620-000	16x20x16	8,0	11,5	8,0	67,0	34,0	16,5	20,5	16,5	15,5	23,8	29,5	23,8
61-610-2016-000	20x16x20	11,5	8,0	11,5	65,5	35,5	20,5	16,5	20,5	15,0	29,5	23,8	29,5
61-610-0200-000	20	11,5	11,5	11,5	68,0	36,5	20,5	20,5	20,5	15,5	29,5	29,5	29,5
61-610-2520-000	25x20x25	15,0	11,5	15,0	81,0	40,0	25,5	20,5	25,5	18,5	35,0	29,5	35,0
61-610-1616-000	20x16x16	11,5	8,0	8,0	66,5	34,0	20,5	16,5	16,5	15,0	29,5	23,8	23,8

# PHA-840

## FILM FOR UNDER-FLOOR HEATING SYSTEMS



### TECHNICAL DATA

index	roll length	grammage	fire rating class	watertightness at 2 kPa	vapour diffusion resistance	impact resistance	bending strength	accelerated ageing resistance watertightness	content of hazardous substances
63-800-0840-000	50 m <sup>2</sup>	100 g/m <sup>2</sup>	F	watertight	1,55*10 <sup>-11</sup> m <sup>2</sup>	150 mm	no change at -30°C	watertight after accelerated ageing	none

## PHA-810/PHA-811

### SINGLE FLOOR HOOK



#### TECHNICAL DATA

product	index	size
PHA-810	63-800-0810-000	L-77
PHA-811	63-800-0811-000	L-100



## PHA-820/PHA-821

### DOUBLE FLOOR HOOK



#### TECHNICAL DATA

product	index	size
PHA-820	63-800-0820-000	L-77
PHA-821	63-800-0821-000	L-100



## PHA-850/PHA-851

### PIPEWORK PRESSURE TEST PLUG



#### TECHNICAL DATA

product	index	size
PHA-850 (red)	63-800-0850-000	½"
PHA-851 (blue)	63-800-0851-000	½"



## 730

### SLEEVE FOR PRESS FITTINGS

#### TECHNICAL DATA

index	size
62-730-0160-000	16
62-730-0200-000	20
62-730-0250-000	25



#### MATERIALS

COMPRESSION RING: corrosion resistant steel  
SLEEVE SOCKET: polypropylene

## 793

### DEBURRING TOOL FOR PERFECT PEX OR PERT PIPES

#### TECHNICAL DATA

index	size
63-800-2160-000	16
63-800-2200-000	20
63-800-2250-000	25
63-800-2320-000	32



## N-PRO1

### PROFESSIONAL SCISSORS FOR CUTTING MULTI-LAYER PIPES

#### TECHNICAL DATA

index
63-800-1014-000



#### DESCRIPTION

Robust, durable knife, ergonomic handle shape with rubber grip. Lightweight aluminium construction, heavy-duty cutting mechanism.

## 790

### SCISSORS FOR CUTTING MULTI-LAYER PIPES

#### TECHNICAL DATA

index
63-800-1015-000



## 791/0

### SPRING FOR BENDING MULTI-LAYER PIPES (EXTERNALLY)

#### TECHNICAL DATA

index	size
63-700-1600-001	16
63-700-2000-001	20
63-700-2500-001	25
63-700-3200-001	32



## 792/0

### SPRING FOR BENDING MULTI-LAYER PIPES (INTERNALLY)

#### TECHNICAL DATA

index	size
63-700-1601-001	16
63-700-2001-001	20
63-700-2501-001	25
63-700-3201-001	32



## RRP

### DRUM REEL FOR PERFECT PEX OR PERT PIPES

#### TECHNICAL DATA

index	quantity in coil type	type
63-200-0000-000	500 >200m	larger
63-200-0000-100	=<200m	smaller



## CEGI ZACISKOWE

### U-TYPE PRESSING TONGS FOR PRESS FITTINGS

#### TECHNICAL DATA

index	size
63-000-0002-160	16
63-000-0002-200	20
63-000-0002-250	25
63-000-0002-320	32



## 571013

### AKKU-PRESS CORDLESS RADIAL PRESS

#### TECHNICAL DATA

63-001-0002-000





**572111**

**POWER-PRESS E  
CORDED RADIAL PRESS**

TECHNICAL DATA

index

63-001-0003-000



**577011**

**POWER-PRESS  
CORDED RADIAL PRESS**

TECHNICAL DATA

index

63-001-0004-000



**574000**

**ECO-PRESS MANUAL  
RADIAL PRESS**

TECHNICAL DATA

index

63-001-0005-000



**571014**

**AKKU-PRESS LI-ION ACC  
CORDLESS RADIAL PRESS**

TECHNICAL DATA

63-001-0011-000



**578012****AKKU-PRESS ACC  
CORDLESS RADIAL PRESS**

## TECHNICAL DATA

index

63-001-0017-000

**578015****MINI-PRESS S 22V ACC CORDLESS  
RADIAL PRESS**

## TECHNICAL DATA

index

63-001-0013-001

**578010****MINI-PRESS 22V ACC  
CORDLESS RADIAL PRESS**

## TECHNICAL DATA

63-001-0006-100

**571545****LI-ION BATTERY FOR RADIAL PRESS  
MINI-PRESS 578012**

## TECHNICAL DATA

63-001-0008-003



## 571571

LI-ION BATTERY FOR RADIAL PRESS  
MINI-PRESS 578010 | 578015

### TECHNICAL DATA

index

63-001-0008-001



## 571555

LI-ION BATTERY FOR RADIAL PRESS  
AKKU-PRESS, 14,4V, 3,0AH

### TECHNICAL DATA

index

63-001-0008-000



## MINI TONGS

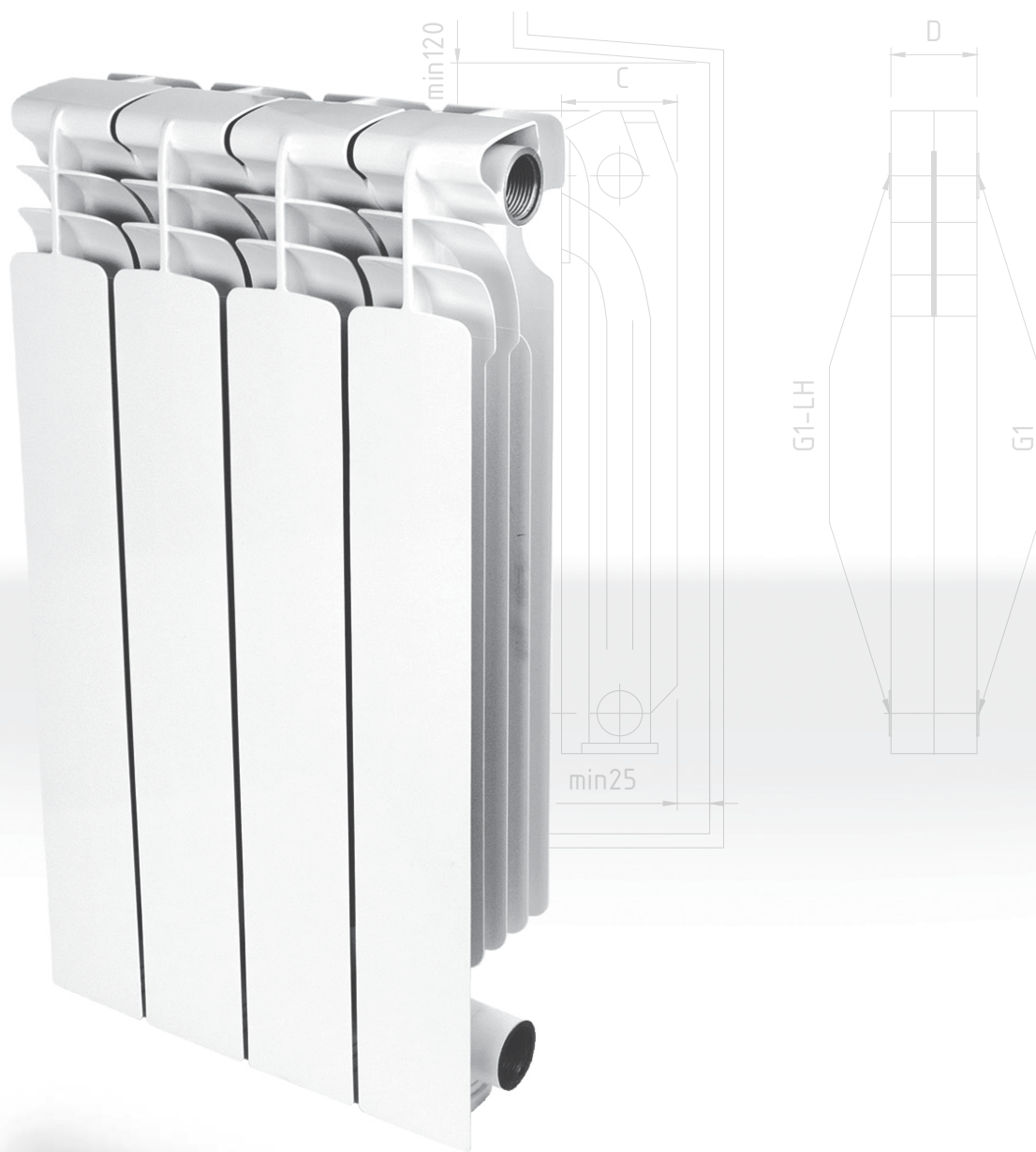
MINI PRESSING TONGS

### TECHNICAL DATA

index	size
63-000-0001-160	16
63-000-0001-200	20
63-000-0001-250	25
63-000-0001-320	32







# ALUMINIUM RADIATORS

Aluminium radiators

180

PERFEXIM

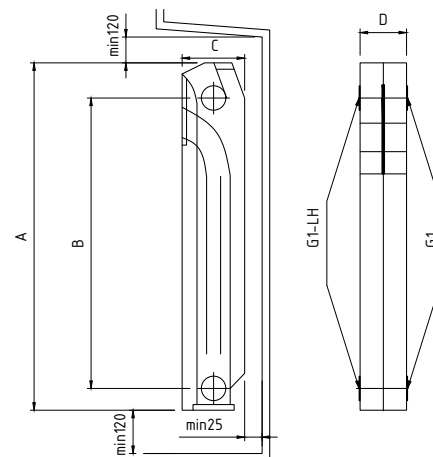
179-180



Warmth and comfort at home

# CO-350

## PERFEKT ALUMINIUM RADIATOR



\* weight of one fin in kg, A - total height of the radiator, B - distance between axes, C - depth of section (fin), D - width of section (fin)  
Dimensions in mm.

### PARAMETERS

TMAX	PMAX	FT	Water volume (l)	"n" value	ΔT 30K (W)	ΔT 50K (W)	ΔT 60K (W)
+95°C	1,6 MPa	ISO228	0,32 L	1,3	45,0	87,3	110,6

### TECHNICAL DATA



index	size	A	B	C	D
71-000-3500-000	350	425	350	85	80

### MATERIALS

High quality aluminium alloy compliant with EN 1706:2011. Individual sections are connected with threaded carbon steel connectors and sealed with TESNIT material. Double-coated external radiator elements, i.e. base coat and white epoxy powder coating – RAL 9003 (signal white).

**ΔT30K (55°C/45°C/20°C)**

**ΔT50K (75°C/65°C/20°C)**

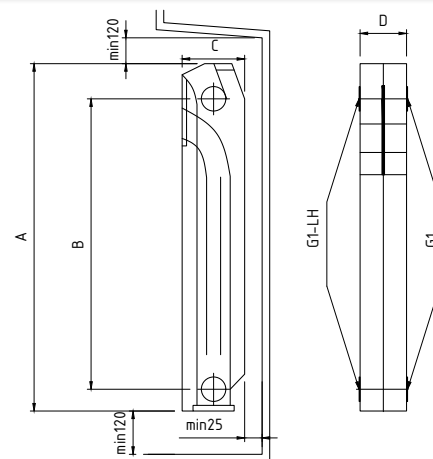
**ΔT60K (90°C/70°C/20°C)**

### DESCRIPTION

These radiators are designed for use in all types of sealed heating systems, e.g.: independent installations, central heating systems, single or dual pipe systems, in rooms with standard humidity. Aluminium radiators are sold in 10-section factory-assembled sets. Any number of sections can be removed from or added to the set. The design characteristics of PERFEKT radiators ensure optimum direction of air flow towards the heated room. The radiators are compliant with the requirements of EN 442 standards. The high quality of PERFEKT radiator workmanship is testified by a positive opinion issued by the accreditation body - ISTITUTO GIORDANO S.p.A.

# FF-500 NEW

## PERFEKT PLUS ALUMINIUM RADIATOR



\* weight of one fin in kg, A - total height of the radiator, B - distance between axes, C - depth of section (fin), D - width of section (fin)  
Dimensions in mm.

### PARAMETERS

TMAX	PMAX	FT	water volume (l)	"n" value	ΔT 30K (W)	ΔT 50K (W)	ΔT 60K (W)
+95°C	1,5 MPa	ISO228	0,41 L	1,287	60,6	117	147,9

### TECHNICAL DATA



index	size	A	B	C	D
71-007-5000-000	500	575	500	95	80

### MATERIALS

High quality aluminium alloy compliant with EN 1706:2011. Individual sections are connected with threaded carbon steel connectors and sealed with TESNIT material. Double-coated external radiator elements, i.e. base coat and white epoxy powder coating – RAL 9003 (signal white).

**ΔT30K (55°C/45°C/20°C)**

**ΔT50K (75°C/65°C/20°C)**

### DESCRIPTION

These radiators are designed for use in all types of sealed heating systems, e.g.: independent installations, central heating systems, single or dual pipe systems, in rooms with standard humidity. Aluminium radiators are sold in 10-section factory-assembled sets. Any number of sections can be removed from or added to the set. The design characteristics of PERFEKT radiators ensure optimum direction of air flow towards the heated room. The radiators are compliant with the requirements of EN 442 standards. The high quality of PERFEKT radiator workmanship is testified by a positive opinion issued by the accreditation body - IEOTGS in Radom.



# COPPER PIPE

Hard and soft pipes and tubes

182

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**PERFEXIM**

**181-184**



## 501

SOFT COPPER PIPE  
CONDITION R220

## TECHNICAL DATA



index	size	length [mb]	type
70-501-0610-020	6 x 1,0	50	soft
70-501-0810-020	8 x 1,0	50	soft
70-501-1010-020	10 x 1,0	50	soft
70-501-1210-020	12 x 1,0	50	soft
70-501-1510-020	15 x 1,0	50	soft
70-501-1810-020	18 x 1,0	25	soft
70-501-2210-020	22 x 1,0	25	soft
70-501-1210-030	12 x 1,0	50	soft
70-501-1510-030	15 x 1,0	50	soft
70-501-1810-030	18 x 1,0	50	soft
70-501-2210-030	22 x 1,0	25	soft

## 505

HARD COPPER PIPE  
CONDITION R290

## TECHNICAL DATA



index	size	5 m bundles [pc/bundle m]
70-505-0810-020	8,0 x 1,0	40/200
70-505-1010-020	10 x 1,0	20/100
70-505-1210-020	12 x 1,0	20/100
70-505-1510-020	15 x 1,0	20/100
70-505-1810-020	18 x 1,0	10/50
70-505-2210-020	22 x 1,0	10/50
70-505-2215-520	22 x 1,5	10/50
70-505-2810-020	28 x 1,0	10/50
70-505-2815-520	28 x 1,5	5/25
70-505-3510-020	35 x 1,0	5/25
70-505-3515-520	35 x 1,5	5/25
70-505-4215-520	42 x 1,5	5/25
70-505-5415-522	54 x 1,5	5/luz
70-505-5420-020	54 x 2,0	5/luz
70-505-6420-020	64 x 2,0	5/luz
70-505-7620-020	76,1 x 2,0	5/luz
70-505-8820-020	88,9 x 2,0	5/luz
70-505-9825-520	108 x 2,5	5/luz
70-505-1210-030	12 x 1,0	5/750
70-505-1510-030	15 x 1,0	5/500
70-505-1810-030	18 x 1,0	5/500
70-505-2210-030	22 x 1,0	5/500
70-505-2810-030	28 x 1,0	5/500
70-505-2815-030	28 x 1,5	5/500
70-505-3510-030	35 x 1,0	5/5
70-505-3515-530	35 x 1,5	5/5
70-505-4215-530	42 x 1,5	5/5
70-505-5420-030	54 x 2,0	5/5

# 503

## CLIMATUB SOFT COPPER PIPE FOR AIR CONDITIONING SYSTEMS - LAFARGA



### ADVANTAGES

- Particularly suitable for air-conditioning and refrigeration systems. Impermeable to external agents, e.g. oxygen. Antibacterial properties
- Prevention and elimination of 99.9% of bacteria and fungi on copper surfaces
  - Maximum durability
  - Easy soldering
  - Inner anti-corrosion coating
  - Possibility of using different types of accessories (capillary welded, pressed, threaded)
  - Excellent performance in combination with most common building materials
    - High resistance to materials used in construction (cement, gypsum, lime mortar, etc.)
    - The most versatile alternative for all types of systems
    - Easy installation
    - Improving system functionality
  - More eco-friendly
  - Resistance to high pressure, suitable for high-pressure refrigerants
  - Resistance to high temperature
  - Resistance to UVA radiation
  - Resistance to ageing and cracks due to material damage or deterioration
    - Excellent mechanical properties
  - In case of fire, the product does not contribute to fire spread Non-flammable, no release of toxic gases (A1 Class in the European Euroclass\* classification)

\*applies to the pipe itself

### TECHNICAL DATA



index	size	length[mb]
70-503-0810-030	8 x 1.0	25
70-503-1210-030	12 x 1.0	25
70-503-1410-030	14 x 1.0	25
70-503-1810-030	18 x 1.0	25
70-503-2210-030	22 x 1.0	25
70-503-1408-030	1/4" x 0.8 (6,35 x 0,8)	15
70-503-5168-030	5/16" x 0.8 (7,94 x 0,8)	15
70-503-3808-030	3/8" x 0.8 (9,52 x 0,8)	15
70-503-1208-030	1/2" x 0.8 (12,7 x 0,8)	15
70-503-5808-030	5/8" x 0.8 (15,88 x 0,8)	15
70-503-5810-030	5/8" x 1.0 (15,88 x 1,0)	15
70-503-3408-030	3/4" x 0.8 (19,05 x 0,8)	15
70-503-3410-030	3/4" x 1.0 (19,05 x 1,0)	15
70-503-7810-030	7/8" x 1.0 (22,2 x 1,0)	15

# 508

## SOFT COPPER PIPE FOR AIR CONDITIONING SYSTEMS WITH FOAM INSULATION



### DESCRIPTION

Annealed copper pipe with foam insulation, coil, R220. In addition to the advantages typical of copper pipes, CLIMAPLUS copper pipe with insulation offers additional benefits:

- Ideal for R410A, R407C refrigeration gases
- Less work during installation

### TECHNICAL DATA



index	size	length[mb]	insulation thickness [mm]
70-508-1408-030	1/4" x 0.8 (6,35 x 0,8)	25	6
70-508-3808-030	3/8" x 0.8 (9,52 x 0,8)	25	7
70-508-1208-030	1/2" x 0.8 (12,7 x 0,8)	25	9
70-508-5808-030	5/8" x 0.8 (15,88 x 0,8)	25	9

507

## CLIMATUB HARD COPPER PIPE FOR AIR CONDITIONING SYSTEMS -



### TECHNICAL DATA



index	size	length [mb]
70-507-0810-030	8 x 1.0	5/50
70-507-1010-030	10 x 1.0	5/50
70-507-1210-030	12 x 1.0	5/50
70-507-1510-030	15 x 1.0	5/50
70-507-1810-030	18 x 1.0	5/50
70-507-2210-030	22 x 1.0	5/50
70-507-2810-030	28 x 1.0	5/50
70-507-2815-030	28 x 1.5	5/50
70-507-3510-030	35 x 1.0	5/50
70-507-3515-030	35 x 1.5	5/50
70-507-4215-030	42 x 1.5	5/50
70-507-5415-030	54 x 1.5	5/50
70-507-5420-030	54 x 2.0	5/50
70-507-3808-030	3/8" x 0.8 (9,52 x 0,8)	5/50
70-507-1208-030	1/2" x 0.8 (12,7 x 0,8)	5/50
70-507-5808-030	5/8" x 0.8 (15,88 x 0,8)	5/50
70-507-3408-030	3/4" x 0.8 (19,05 x 0,8)	5/50
70-507-3410-030	3/4" x 1.0 (19,05 x 1,0)	5/50
70-507-7810-030	7/8" x 1.0 (22,2 x 1,0)	5/50
70-507-2510-030	1" x 1.0 (25,4 x 1,0)	5/50
70-507-1181-030	1 1/8" x 1.0 (28,58 x 1,0)	5/50
70-507-1381-030	1 3/8" x 1.25 (34,93 x 1,25)	5/50
70-507-1581-030	1 5/8" x 1.25 (41,28 x 1,25)	5/50
70-507-2181-030	2 1/8" x 1.25 (53,97 x 1,25)	5/50
70-507-2186-030	2 1/8" x 1.65 (53,97 x 1,65)	5/50
70-507-2581-030	2 5/8" x 1.65 (66,68 x 1,65)	5/50
70-507-2582-030	2 5/8" x 2.0 (66,68 x 2,0)	5/50
70-507-3181-030	3 1/8" x 1.65 (79,38 x 1,65)	5/50

### CHARACTERISTICS AND APPLICATIONS

Particularly suitable for air-conditioning and refrigeration systems.

Impermeable to external agents, e.g. oxygen.

Antibacterial properties

- Prevention and elimination of 99.9% of bacteria and fungi on copper surfaces
- Maximum durability
- Easy soldering
- Inner anti-corrosion coating
- Possibility of using different types of accessories (capillary welded, pressed, threaded)
- Excellent performance in combination with most common building materials
- High resistance to materials used in construction (cement, gypsum, lime mortar, etc.)
- The most versatile alternative for all types of systems
- Easy installation
- Improving system functionality
- More eco-friendly
- Resistance to high pressure, suitable for high-pressure refrigerants
- Resistance to high temperature
- Resistance to UVA radiation
- Resistance to ageing and cracks due to material damage or deterioration
- Excellent mechanical properties
- In case of fire, the product does not contribute to fire spread. Non-flammable, no release of toxic gases (A1 Class in the European Euroclass classification)



# ACCESSORIES

Accessories

186

## 185-194

## 5116/CZ

### M10 PLUG

#### TECHNICAL DATA

index	size
07-216-1510-001	M10x1



#### MATERIALS

**BODY:** brass  
**SEALING:** PTFE

## U46

### O-RING FOR SELF-SEALING UNIONS 1046A

#### TECHNICAL DATA

index	size
28-000-0150-000	1/2"
28-000-0200-000	3/4"
28-000-0250-000	1"



#### MATERIALS

NBR

## U60

### O-RING FOR UNIONS 1046, 1046S AND 1048

#### TECHNICAL DATA

index	size
28-002-0010-000	3/8"
28-002-0150-000	1/2"
28-002-0200-000	3/4"
28-002-0250-000	1"
28-002-0320-000	1 1/4"



#### MATERIALS

**O-RING:** NBR

#### DESCRIPTION

The 1/2", 3/4" and 1" sealing rings can also be used for PHA-005 valves, while the 1/2" size is also suitable for radiator valve unions.

## TT

### PTFE TAPE

#### TECHNICAL DATA

index	size	type
29-002-0000-000	0,2mm x 12 mm x 15 mb	blue
29-003-0000-000	0,2mm x 19 mm x 15 mb	yellow
29-004-0000-000	0,2mm x 25 mm x 15 mb	red
29-001-0002-000	0,075mm x 12 mm x 10 mb	white



## U51

### FIBRE WASHER FOR WATER METER UNIONS 5120, 5120S

#### TECHNICAL DATA

index	size
28-001-0150-000	½"
28-001-0200-000	¾"
28-001-0250-000	1"



#### MATERIALS

WASHER: technical fibre

## 5000/CZ

### NUT FOR WATER METER MOUNTING BRACKET

#### TECHNICAL DATA

index	size
07-195-0150-010	DN15
07-195-0200-010	DN20



#### MATERIALS

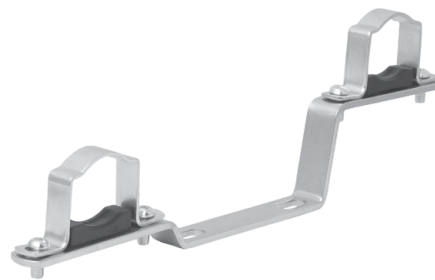
Brass

## 555

### BRASS MANIFOLD BRACKET

#### TECHNICAL DATA

index	spacing [mm]
30-200-5550-000	235



#### MATERIALS

Galvanized steel

## 555-1

### BRASS MANIFOLD BRACKET PHA-107, PHA-107/1 OR PHA-108

#### TECHNICAL DATA

index	spacing[mm]
30-200-5551-000	210



#### MATERIALS

Galvanized steel



**748****NIPPLE FOR BRASS  
MANIFOLD BAR****TECHNICAL DATA**

index	size
30-200-7480-000	1/2" x 3/4"

**MATERIALS**

**BODY:** brass  
**O-RING:** NBR

**748S****NIPPLE FOR STAINLESS STEEL  
MANIFOLD BAR****TECHNICAL DATA**

index	size
30-200-7480-001	1/2" x 3/4"

**MATERIALS**

**BODY:** brass  
**O-RING:** NBR

**749****MANIFOLD BAR PLUG****TECHNICAL DATA**

index	size
30-200-7490-000	1"

**MATERIALS**

**BODY:** brass  
**O-RING:** NBR

**762****MALE REDUCING COUPLING -NIPPLE WITH  
REMOVABLE END FOR VALVE ASSEMBLY IN MANIFOLD****TECHNICAL DATA**

index	size
30-200-7550-020	1/2" x 16mm

**MATERIALS**

**BODY:** brass  
**O-RING:** NBR



## 750

### REGULATING VALVE ASSEMBLY FOR BRASS MANIFOLD BAR

#### TECHNICAL DATA

index

30-200-7500-000



#### MATERIALS

**BODY, NIPPLE, SCREW PLUG, DISC:** BRASS  
**STEM, SPRING:** STAINLESS STEEL  
**DISC SEALING (O-RINGS):** EPDM  
**HANDLE:** ABS

## 751

### SHUT-OFF VALVE ASSEMBLY FOR BRASS MANIFOLD BAR

#### TECHNICAL DATA

index

30-200-7510-000



#### MATERIALS

**BODY, NIPPLE, PROTECTIVE CAP, DISC:** brass  
**PROTECTIVE CAP SEAL:** fibre  
**DISC SEALING (O-RINGS):** EPDM

## 757

### REGULATING/SHUT-OFF VALVE ASSEMBLY FOR MANIFOLD BAR

#### TECHNICAL DATA

index

handle color

30-200-7570-000

red

30-200-7570-010

blue



#### MATERIALS

**BODY, STEM, DISC, NIPPLE:** brass  
**DISC SEALING:** NBR  
**O-RINGS:** NBR  
**HANDLE:** ABS (red or blue)

## 756

### TACONOVA FLOW METER WITH NIPPLE FOR BRASS MANIFOLD BAR

#### TECHNICAL DATA

index

30-200-7560-000



#### MATERIALS

**BODY, NYPEL:** brass  
**HANDLE:** plastic  
**SIGHT GLASS:** Heat-resistant and impact-resistant plastic  
**WASHERS:** EPDM

747

## TEE FOR BRASS MANIFOLD BAR

## TECHNICAL DATA

index	size
30-200-7470-000	1/2"x1"x1/2"



## MATERIALS

**BODY:** CW617N brass  
**WASHER:** NBR

752

## M30X1.5 THERMOSTATIC VALVE HEAD WITH CAPILLARY SENSOR

## TECHNICAL DATA

index
30-200-7520-000



## DESCRIPTION

TEMPERATURE SETTINGS ON THE THERMOSTATIC HEAD:

- „1“ +35°C
- „2“ +42°C
- „3“ +50°C
- „4“ +55°C

8517

## TOP AND BOTTOM PUMP ARM FOR BRASS MANIFOLD

## TECHNICAL DATA

index
30-200-8517-000



## MATERIALS

**BODY, NUTS, CONNECTOR, PLUGS:** nickel-plated brass  
**SEAL (O-RING):** NBR  
**CHECK VALVE:** plastic  
**SPRING:** corrosion-resistant steel

4220

## AIR VALVE KEY

## TECHNICAL DATA

index
20-402-0001-000



## MATERIALS

Zinc alloy

## U-P1

### O-RING FOR PRESS FITTINGS AND COMPRESSION FITTINGS

#### TECHNICAL DATA

index	size
61-999-0160-000	16
61-999-0200-000	20
61-999-0250-000	25
61-999-0320-000	32



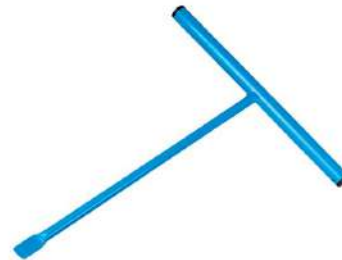
NBR

## KL1

### KEY FOR 5-SECTION ALUMINIUM RADIATOR

#### TECHNICAL DATA

index
71-960-0000-004



## PHA-042

### UNIVERSAL SET FOR ALUMINIUM RADIATOR INSTALLATION

#### TECHNICAL DATA

index	size
71-942-0000-000	1" x 1/2"
71-942-0004-000	1" x 3/4"



## UZ

### NIPPLE O-RING FOR ALUMINIUM RADIATOR

#### TECHNICAL DATA

index	thickness
71-960-0000-100	1
71-960-0000-101	1,5



**NP****NIPPLE FOR ALUMINIUM RADIATOR****TECHNICAL DATA**

index	size
71-960-0000-002	1"

**KZ02/KZ01****LANKING PLUG FOR ALUMINIUM RADIATOR****TECHNICAL DATA**

index	size	PN	type
71-951-0000-200	1"	10	right
71-951-0001-200	1"	10	left

**9010****HANGER WITH WALL PLUG FOR ALUMINIUM RADIATOR, WHITE****TECHNICAL DATA**

index
71-960-0000-001



## R-PHA

PERFEKT<sup>?</sup> SYSTEM

### PHA-001 AND PHA-003 BALL VALVE HANDLE WITHOUT LABEL



#### TECHNICAL DATA

index (red handle)	index (blue handle)	size
01-900-0001-100	01-900-0011-100	3/8"
01-900-0001-150	01-900-0011-150	1/2"
01-900-0001-200	01-900-0011-200	3/4"
01-900-0001-250	01-900-0011-250	1"
01-900-0001-320	01-900-0011-320	1 1/4"
01-900-0001-400	01-900-0011-400	1 1/2"
01-900-0001-500	01-900-0011-500	2"
01-900-0001-650	01-900-0011-650	2 1/2"
01-900-0001-800	01-900-0011-800	3"

## RN-PHA

PERFEKT<sup>?</sup> SYSTEM

### PHA-001 AND PHA-003 BALL VALVE HANDLE WITH LABEL



#### TECHNICAL DATA

index (red handle)	index (blue handle)	size
01-900-1001-100	01-900-1011-100	3/8"
01-900-1001-150	01-900-1011-150	1/2"
01-900-1001-200	01-900-1011-200	3/4"
01-900-1001-250	01-900-1011-250	1"
01-900-1001-320	01-900-1011-320	1 1/4"
01-900-1001-400	01-900-1011-400	1 1/2"
01-900-1001-500	01-900-1011-500	2"
01-900-1001-650	01-900-1011-650	2 1/2"
01-900-1001-800	01-900-1011-800	3"

## M-PHA

PERFEKT<sup>?</sup> SYSTEM

### PHA-002 AND PHA-004 BALL VALVE HANDLE WITHOUT LABEL



#### TECHNICAL DATA

index (red handle)	index (blue handle)	size
01-900-0010-150	01-900-0012-150	1/2"
01-900-0010-200	01-900-0012-200	3/4"
01-900-0010-250	01-900-0012-250	1"

## MN-PHA

PERFEKT<sup>?</sup> SYSTEM

### PHA-002 AND PHA-004 BALL VALVE HANDLE WITH LABEL



#### TECHNICAL DATA

index (red handle)	index (blue handle)	size
01-900-1010-150	01-900-1012-150	1/2"
01-900-1010-200	01-900-1012-200	3/4"
01-900-1010-250	01-900-1012-250	1"

# 3110

## HOSE END FITTING

### TECHNICAL DATA

index	size	DN
01-900-0150-000	¾" x ø15	15
01-900-0200-000	1" x ø20	20
01-900-0250-000	1¼" x ø25	25



# END FITTING

## END FITTING FOR PHA-009S TAP

### TECHNICAL DATA

index	size
01-900-0150-001	½"

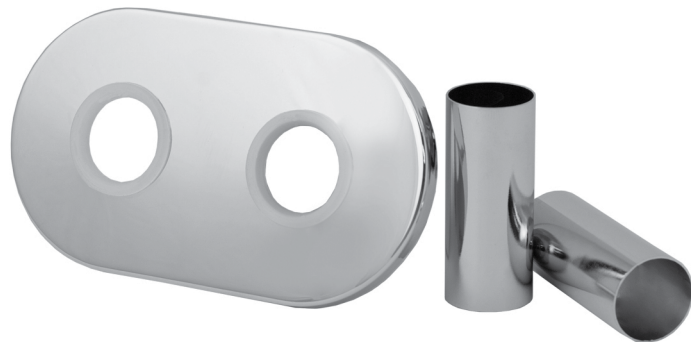


# ZM01

## MASKING SET WITH OVAL ROSETTE AND SLEEVES

### TECHNICAL DATA

index	color
20-040-1040-100	chrome
20-040-1040-101	white
20-040-1040-103	black mat



# ZM02

## MASKING SET WITH TWO ROUND ROSETTES AND SLEEVES

### TECHNICAL DATA

index	color
20-040-1000-200	chrome
20-040-1000-201	white
20-040-1000-203	black mat



## ZMK1

### MASKING SET WITH RECTANGULAR ROSETTE AND SLEEVES

#### TECHNICAL DATA

index	color
20-040-1030-100	chrome
20-040-1030-101	white
20-040-1030-103	black mat



## ZMK2

### MASKING SET WITH TWO SQUARE ROSEETS

#### TECHNICAL DATA

index	color
20-040-1020-200	chrome
20-040-1020-201	white
20-040-1020-203	black mat











GOLDEN  
CONSUMER'S  
LAUREL

CONSUMER'S  
LAUREL  
- DISCOVER  
OF THE YEAR

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