HERZ - Ball valves for heating and chilled water

Datasheet collection

Datasheet **1 XXXX XX**, Issue 0725

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HERZ - ball valves for heating and chilled water

General information

Description of HERZ ball valves for heating and chilled water

HERZ ball valves for heating and chilled water are high quality products that are assembled and pressure tested during the manufacturing process under constant quality control.

Advantages of HERZ ball valves for heating and chilled water are:
- all integrated components are the result of our own development,
- possibility of high pressure, high or low temperature and high flow of medium,
- easy to use and maintain,
- reliable design and long service life,
- permanent quality control of production in our own factories,
- easy installation.

Field of application

HERZ ball valves have to be used as shut off elements. Field of application are building services, such as heating or chilled water plants. Ball valves are used wherever the medium flow has to be reliably closed. Ball valve should not be used as regulating element so it has to be fully opened or fully closed (the handle should not be in intermediate position). All of HERZ ball valves have additional application advantages and features. Informations about this can be found in individual data sheets which are presented in this data sheet collection.

Assembly instruction

The threads of the pipe have to be coated with a suitable sealing material (spinning material, Teflon ribbon, sealing paste). There should not be excess of sealing material on the pipe because it can damage the thread. The ball valve with thread (G, R) is screwed onto the pipe. The pipes have to be correctly alligned, so the valve is not loaded with a bending moment. When using cooper or plastic pipes take into account pressure and temperature limits of used material. When assembling, use a suitable assembly tool that adapts to valve end connections (Sw, Sw1). The ball valve can be mounted in any position: horizontal, vertical or upside-down. Following assembly, the connections of ball valve must be checked for water-tightness by the installer. All engineering standards and recognised regulations must be adhered by these specialist staff. If there are impurities in the medium (water too hard, dust, etc.) there should be a filter installed, in other case the impurities can damage the seals in the valve. Some of HERZ ball valves have additional assembly instructions. Informations about this can be found in individual data sheets which are presented in this data sheet collection.

Brass

HERZ use top-quality brass that responds to the latest European norms DIN EN 12164, DIN EN 12165 and DIN EN 1982. Pursuant to Article 33 of the REACH Regulation (EC No. 1907/2006), we are obliged to point out that the material lead is listed on the SVHC list and that all brass components manufactured in our products exceed 0.1% (w / w) lead (CAS: 7439-92-1 / EINECS: 231-100-4). Since lead is a component part of an alloy, actual exposure is not possible and thereforeno additional information on safe use is necessary.

Function principle

Inspect the position of the handle to see whether the ball valve is opened or closed. It is opened if the handle is aligned with the pipe and it is closed if the handle is positioned perpendicularly to the pipe. Open or close the ball valve by rotating the handle for 90°.

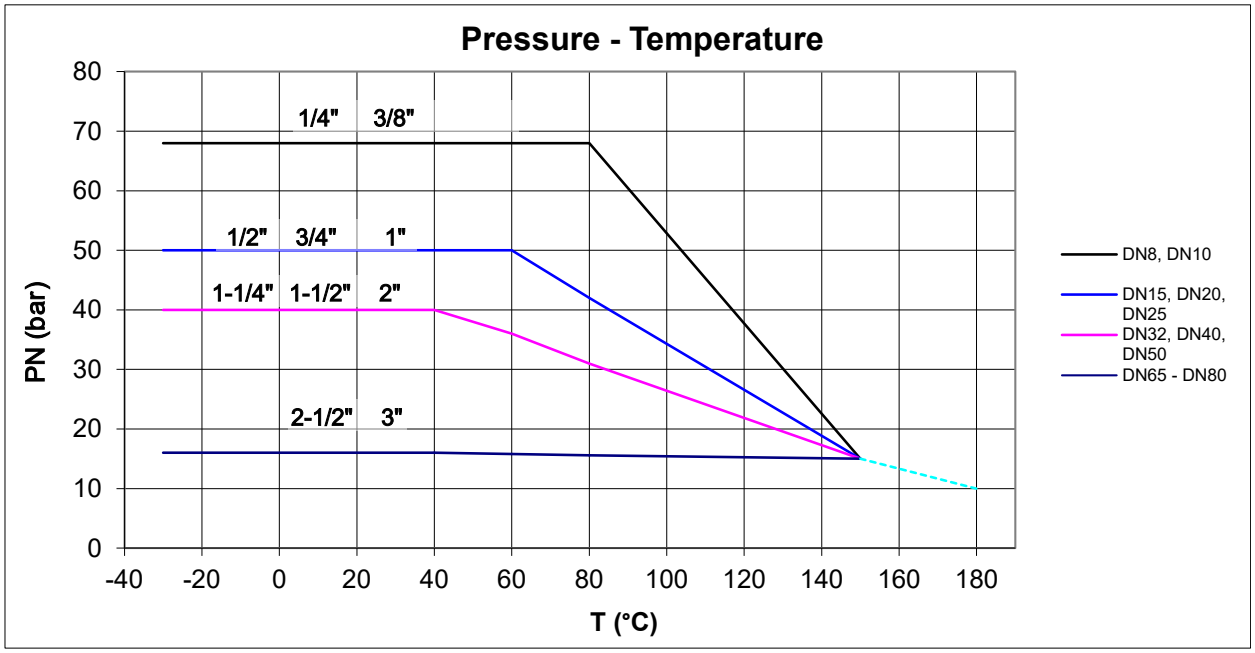
Maintenance instruction

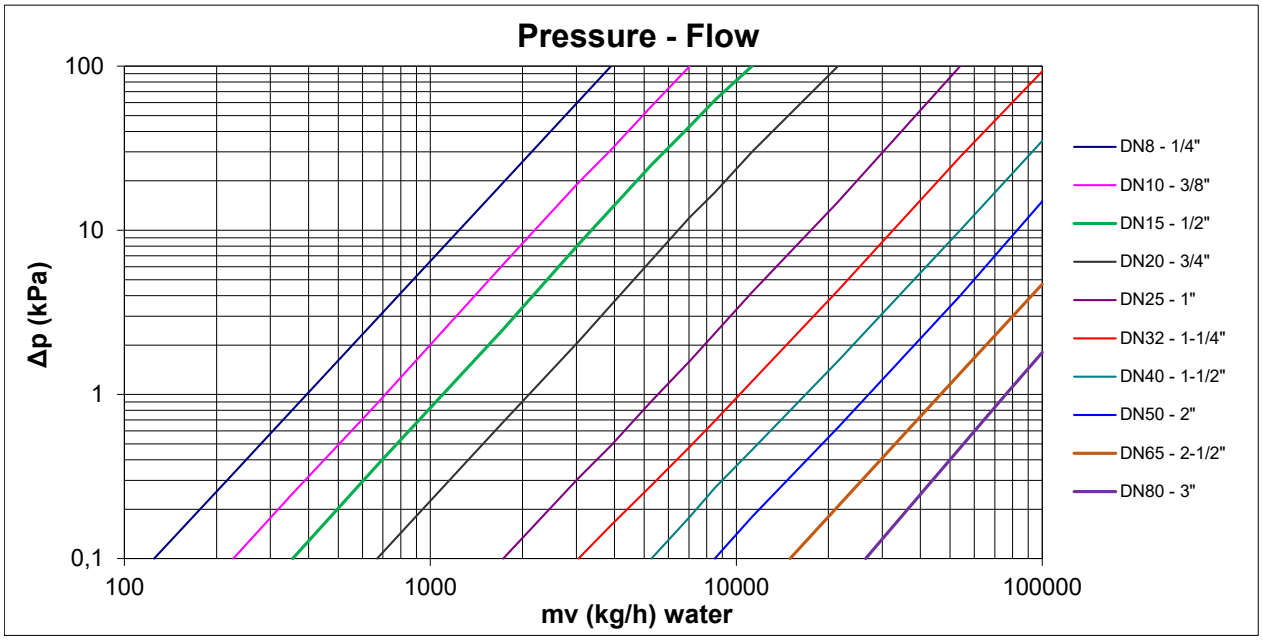
When the ball valve for heating and chilled water is installed, it does not require any special maintenance. It is recommended to close and open the ball valve periodically (at least twice a year).

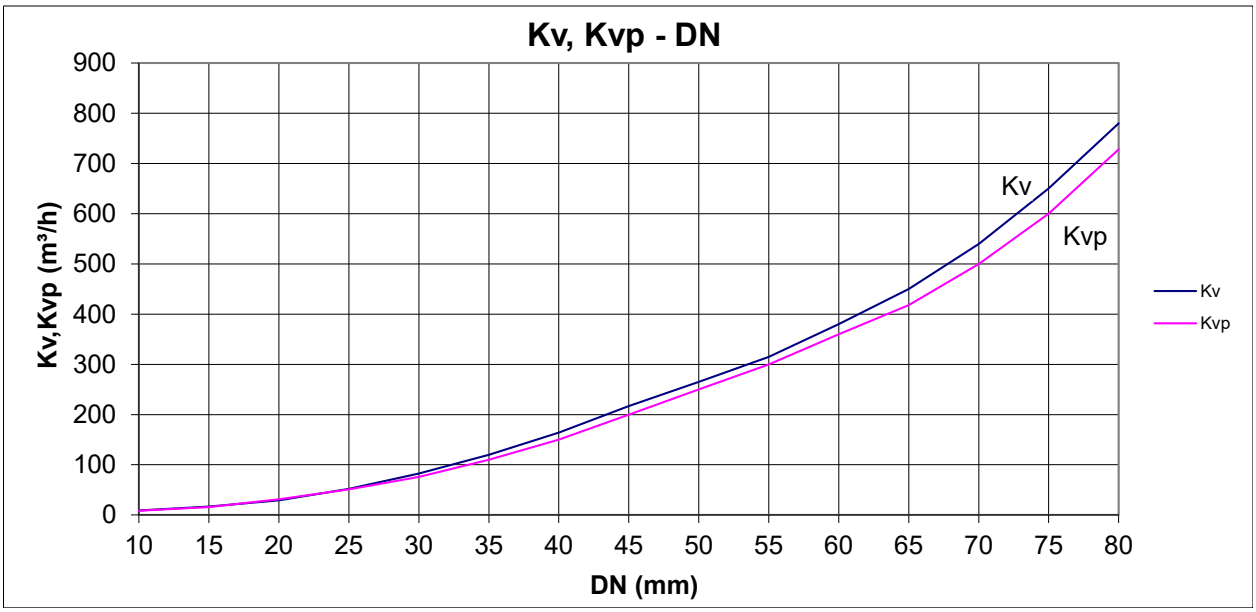
Disposal instruction

The disposal of HERZ ball valves for heating and chilled water must not endanger the health or the enviroment. National legal regulations for proper disposal of the HERZ ball valves for heating and chilled water have to be followed.

Diagrams


Pressure - Temperature
PN (bar)
T (°C)
80
70
60
50
40
30
20
10
0
-40
-20
0
20
40
60
80
100
120
140
160
180
1/4"
3/8"
1/2"
3/4"
1"
1-1/4"
1-1/2"
2"
2-1/2"
3"
DN8, DN10
DN15, DN20, DN25
DN32, DN40, DN50
DN65 - DN80


Pressure - Flow
Δp (kPa)
mv (kg/h) water
100
10
1
0,1
100
1000
10000
100000
DN8 - 1/4"
DN10 - 3/8"
DN15 - 1/2"
DN20 - 3/4"
DN25 - 1"
DN32 - 1-1/4"
DN40 - 1-1/2"
DN50 - 2"
DN65 - 2-1/2"
DN80 - 3"



DN	8	10	15	20	25	32	40	50	65	80
Kv [m³/h]	7	9	17	34	55	102	165	270	450	780
Kvp [m³/h]	6,5	8,4	15,8	31,5	51	95	153	250	418	728

Kv: Outflow characteristic (m3 / h) - is the flow of water at temperature 15.5 °C, a pressure drop of 1 bar (100 kPa) and a fully open valve

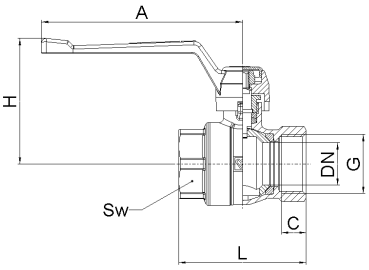
Kvp: Outflow characteristic (m3 / h) - is the flow of air with density of 1,16 kg/m3 at temperature 15.5 °C, a pressure drop of 1 mbar (0,1 kPa) and a fully open valve.

HERZ - Ball valve

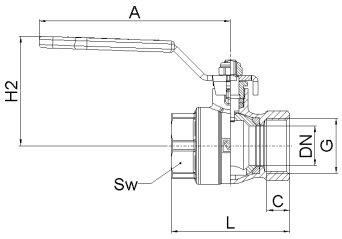
MODUL

Datasheet **1 220X XX**

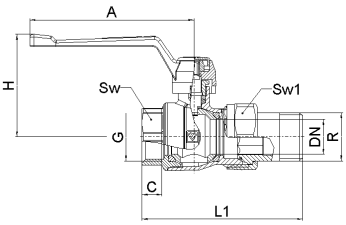
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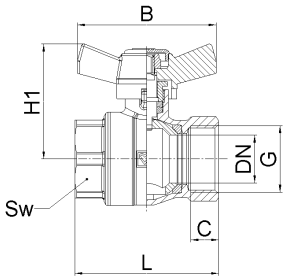
1 **2201** 01(06)



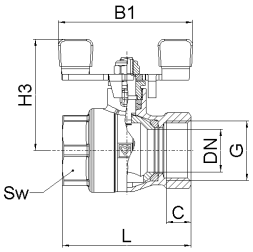
1 **2201** 21(26)



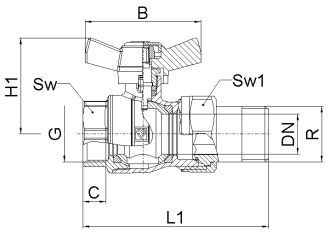
1 **2211** 01(06)



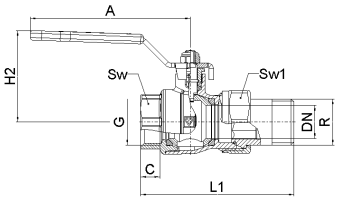
1 **2201** 11(14)



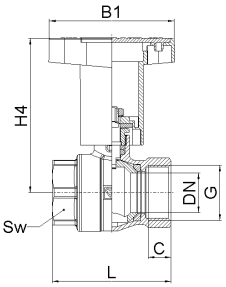
1 **2201** 31(34)



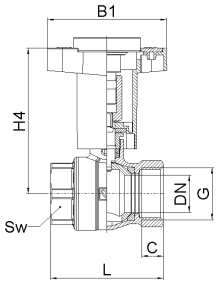
1 **2211** 11(14)



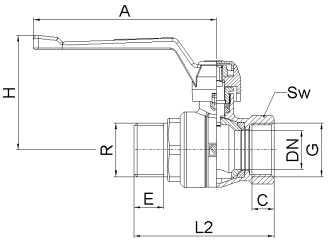
1 **2211** 21(26)



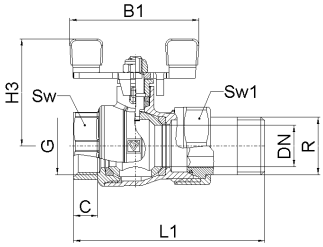
1 **2201** 41(46)
1 **2201** 51(56)



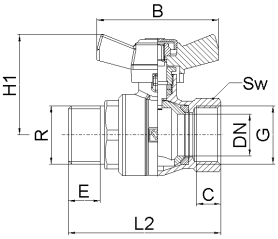
1 **2201** 61(66)
1 **2201** 71(76)



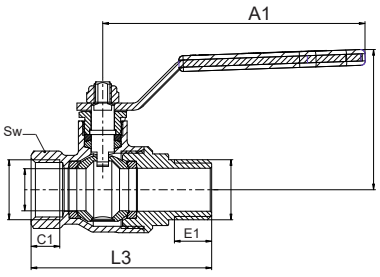
1 **2228** 01(06)



1 **2211** 31(34)



1 **2228** 11 (14)



1 **2202** 21 (26)

DN	PN [bar]	G ISO228	R [ISO7/1]	L [mm]	L1 [mm]	L2 [mm]	L3 [mm]	C [mm]	C1 [mm]	E [mm]	E1 [mm]
15	25	G1/2	R1/2	51	74	64	63	10	10	13	13
20	25	G3/4	R3/4	57	88	69	69	11	11	15	15
25	25	G1	R1	73	106	84	84	16	14	17	17
32	25	G5/4	R5/4	84	123	97	97	18	16	19	19
40	25	G6/4	R6/4	95	142	105	105	17	17	20	19.1
50	25	G2	R2	112	166	120	120	19	19	23	23

A [mm]	A1 [mm]	B [mm]	B1 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	H5 [mm]	Sw [mm]	Sw1 [mm]
90	91	55	60	53	42	49	46	70	49	25	30
90	91	55	60	56	46	52	49	74	52	31	36
135	134	75	85	72	56	63	64	81	63	39	46
135	134	75	85	77	61	68	69	86	68	48	52
180	180	-	120	93	-	86	-	121	87	55	60
180	180	-	120	100	-	93	-	128	94	70	75

Weight of ball valves

DN	Weight [kg]												
	1 **2201** 01 -6	1 **2201** 11 -4	1 **2201** 21 -6	1 **2201** 31 -4	1 **2211** 01 -6	1 **2211** 11 -4	1 **2211** 21 -6	1 **2211** 31 -4	1 **2201** 41 -6	1 **2201** 61 -6	1 **2228** 01 -6	1 **2228** 11 -4	1 **2202** 21 -6
15	0.170	0.163	0.178	0.170	0.232	0.225	0.250	0.230	0.172	0.206	0.195	0.188	0.152
20	0.250	0.242	0.253	0.246	0.360	0.355	0.380	0.382	0.252	0.286	0.290	0.274	0.316
25	0.458	0.440	0.486	0.458	0.680	0.670	0.700	0.669	0.460	0.475	0.506	0.500	0.562
32	0.706	0.670	0.765	0.712	1.025	1.01	1.046	1.022	0.690	0.730	0.800	0.780	0.865
40	1.186	/	1.213	/	1.612	/	1.634	/	1.136	1.152	1.186	/	1.309
50	1.958	/	2.0	/	2.628	/	2.625	/	1.926	1.954	2.125	/	1.987

Models

1 **2201** 01 (06) = IG x IG, Silumin – Lever handle
1 **2201** 11 (14) = IG x IG, Silumin – T-handle
1 **2201** 21 (26) = IG x IG, steel sheet - plated, lever handle
1 **2201** 31 (34) = IG x IG, steel sheet - plated, T-lever
1 **2211** 01 (06) = IG x connection, Silumin – lever handle
1 **2211** 11 (14) = IG x connection, Silumin – T-lever
1 **2211** 21 (26) = IG x connection, steel sheet - plated, lever handle
1 **2211** 31 (34) = IG x connection, steel sheet - plated, T-handle
1 **2201** 41 (46) = IG x IG, synthetic material - red
1 **2201** 51 (56) = IG x IG, synthetic material - blue
1 **2201** 61 (66) = IG x IG, synthetic material with thermometer – red
1 **2201** 71 (76) = IG x IG, synthetic material with thermometer –blue
1 **2228** 01 (06) = IG x AG, Silumin – lever handle
1 **2228** 11 (14) = IG x AG, Silumin – T-handle
1 **2202** 21 (26) = IG x AG, steel sheet – galvanised, lever handle

Material and construction

Body:	forged brass acc. to EN 12165, nickel plated, CW617N
Ball:	forged brass acc. to EN 12165, hollow, full bore, hard chrome plated, CW617N
Spindle:	machined brass acc. to EN 12164, CW614N
Handles:	lever handle, red, silumin
	T-handle, red, silumin
	T-handle, red / blue, synthetic material PA66 GF30
	T-handle with thermometer, red / blue, synthetic material PA66 GF30
	lever handle, red, sheet steel - plated
	T-handle, red, sheet steel - plated
Ball seals:	PTFE
Spindle seals:	PTFE
Screw joint connector seals	
(1 **2211** X1 - X3):	EPDM (O-ring)
(1 **2211** X4 - X6):	KLINGER (flat sealing)
Internal threaded connectors:	acc. to ISO 228-1
External threaded connectors:	acc. to ISO 7-1

Operating data

Max. operating pressure:	PN 25
Min. temperature:	-30 °C (water 0,5 °C)
Max. temperature:	150 °C (water up to 110 °C - no steam)

Medium:
Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. Please note that EPDM gaskets will be affected by Mineral oils lubricants and thus lead to failure of the EPDM seals in the valves that use EPDM seals. The HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases..) because it can destroy sealing components.

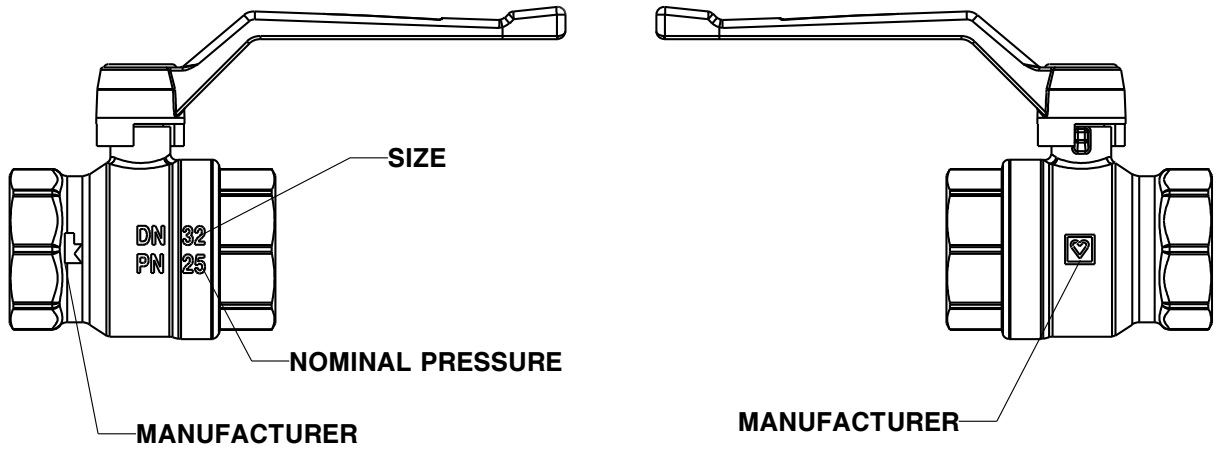
Field of application

HERZ ball valve MODUL is designed for building services such as heating and chilled water plants. The operating conditions (temperature, pressure) should be constant.

Additional informations

For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

Labels on ball valve

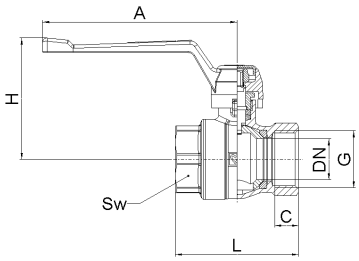


HERZ - Ball valve

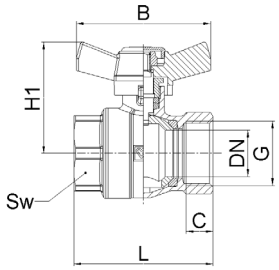
MODUL DZR

Datasheet **1 220X XX**

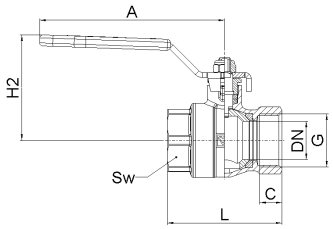
Dimensions



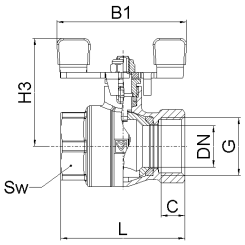
1 **2206** 01(06)



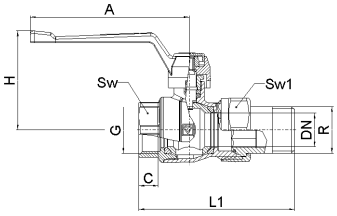
1 **2206** 11(14)



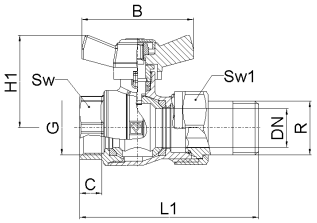
1 **2206** 21(26)



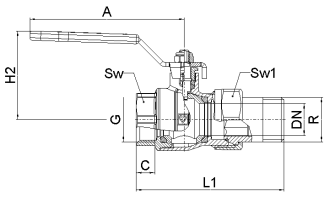
1 **2206** 31(34)



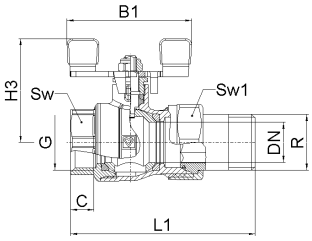
1 **2216** 01(06)



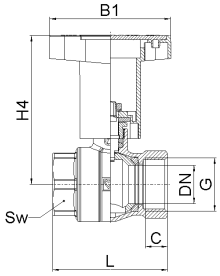
1 **2216** 11(14)



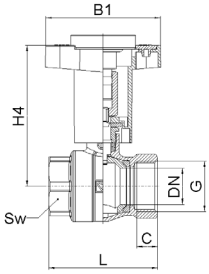
1 **2216** 21(26)



1 **2216** 31(34)



1 **2206** 41(46)
1 **2206** 51(56)



1 **2206** 61(66)
1 **2206** 71(76)

DN	PN [bar]	G ISO228	R [ISO7/1]	L [mm]	L1 [mm]	L2 [mm]	C [mm]	E [mm]	A [mm]	B [mm]	B1 [mm]	H [mm]	H1 [mm]	H2 [mm]	H3 [mm]	H4 [mm]	Sw [mm]	Sw1 [mm]
15	25	G1/2	R1/2	51	74	64	10	13	90	55	60	53	42	49	46	70	25	30
20	25	G3/4	R3/4	57	88	69	11	15	90	55	60	56	46	52	49	74	31	36
25	25	G1	R1	73	106	84	16	17	135	75	85	72	56	63	64	81	39	46
32	25	G5/4	R5/4	84	123	97	18	19	135	75	85	77	61	68	69	86	48	52
40	25	G6/4	R6/4	95	142	105	17	20	180	-	120	93	-	86	-	121	55	60
50	25	G2	R2	112	166	120	19	23	180	-	120	100	-	93	-	128	70	75

Weight of ball valves

DN	Weight [kg]									
	1 **2206** 01 -6	1 **2206** 11 -4	1 **2206** 21 -6	1 **2206** 31 -4	1 **2216** 01 -6	1 **2216** 11 -4	1 **2216** 21 -6	1 **2216** 31 -4	1 **2206** 41 -6	1 **2206** 61 -6
15	0,170	0,163	0,178	0,170	0,232	0,225	0,250	0,230	0,172	0,206
20	0,250	0,242	0,253	0,246	0,360	0,355	0,380	0,382	0,252	0,286
25	0,458	0,440	0,486	0,458	0,680	0,670	0,700	0,669	0,460	0,475
32	0,706	0,670	0,765	0,712	1,025	1,01	1,046	1,022	0,690	0,730
40	1,186	/	1,213	/	1,612	/	1,634	/	1,136	1,152
50	1,958	/	2,0	/	2,628	/	2,625	/	1,926	1,954

Models

1 **2206** 01 (06) = IG x IG, Silumin – Lever handle
1 **2206** 11 (14) = IG x IG, Silumin – T-handle
1 **2206** 21 (26) = IG x IG, steel sheet - plated, lever handle
1 **2206** 31 (34) = IG x IG, steel sheet - plated, T-lever
1 **2216** 01 (06) = IG x connection, Silumin – lever handle
1 **2216** 11 (14) = IG x connection, Silumin – T-lever
1 **2216** 21 (26) = IG x connection, steel sheet - plated, lever handle
1 **2216** 31 (34) = IG x connection, steel sheet - plated, T-handle
1 **2206** 41 (46) = IG x IG, synthetic material - red
1 **2206** 51 (56) = IG x IG, synthetic material - blue
1 **2206** 61 (66) = IG x IG, synthetic material with thermometer – red
1 **2206** 71 (76) = IG x IG, synthetic material with thermometer –blue

Material and construction

Body:	forged brass acc. to EN 12165, CW602N, DZR
Ball:	forged brass acc. to EN 12165, hollow, full bore hard chrome plated, CW602N, DZR
Spindle:	machined brass acc. to EN 12164, CW614N
Handles:	lever handle, red, silumin
	T-handle, red, silumin
	T-handle, red / blue, synthetic material PA66 GF30
	T-handle with thermometer, red / blue, synthetic material PA66 GF30
	lever handle, red, sheet steel - plated
	T-handle, red, sheet steel - plated
Ball seals:	PTFE
Spindle seals:	PTFE
Screw joint connector seals:	
(1 **2211** X1 - X3)	EPDM (O-ring)
(1 **2211** X4 - X6)	KLINGER (flat sealing)
Internal threaded connectors:	acc. to ISO 228-1
External threaded connectors:	acc. to ISO 7-1

Operating data

Max. operating pressure:	PN 25
Min. temperature:	-30 °C (water 0,5 °C)
Max. temperature:	150 °C (water up to 110 °C - no steam)

Medium:
Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. Please note that EPDM gaskets will be affected by Mineral oils lubricants and thus lead to failure of the EPDM seals in the valves that use EPDM seals. The HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases..) because it can destroy sealing components.

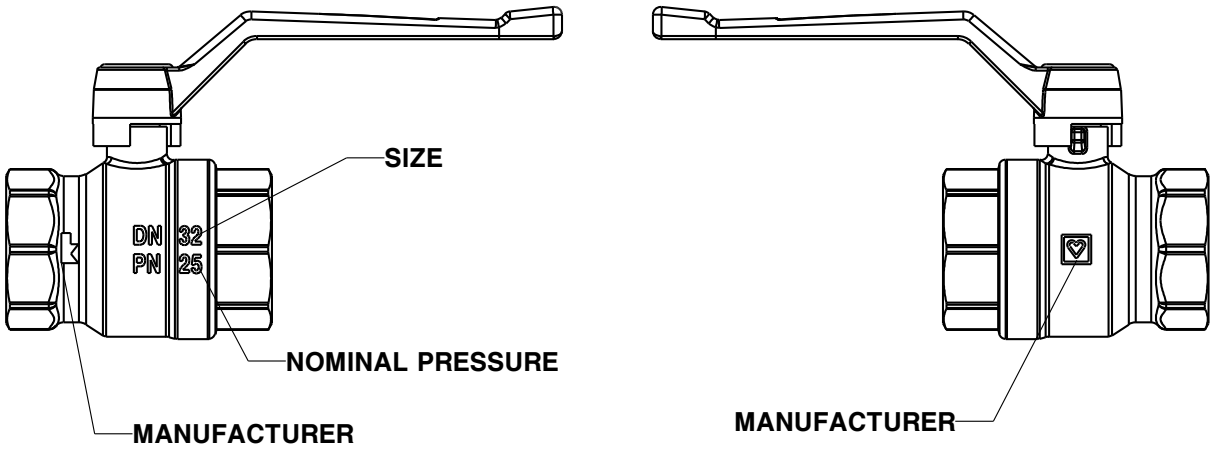
Field of application

HERZ - ball valve MODUL DZR is designed for building services such as heating and chilled water plants. The operating conditions (temperature, pressure) should be constant. HERZ ball valve MODUL DZR is made from CW602N; this material has DZR properties (dezinfication resistant brass).

Additional informations

For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

Labels on ball valve

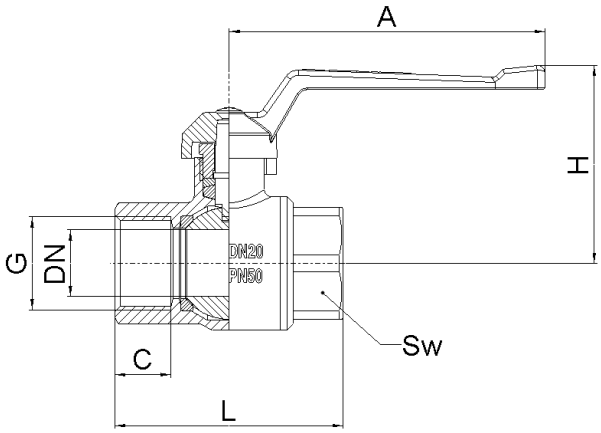


HERZ - Ball valve

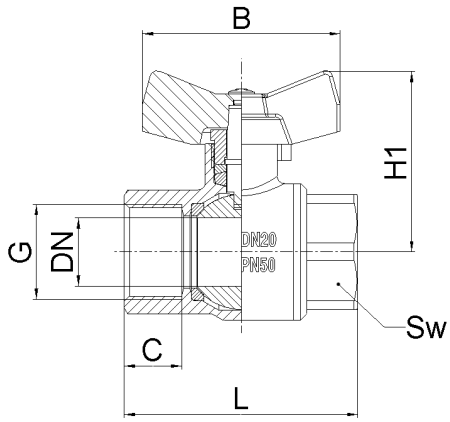
HEAVY TYPE

Datasheet **1 21X0 XX**

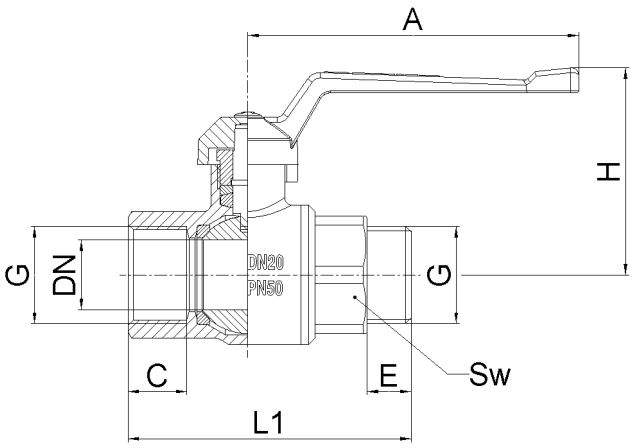
Dimensions



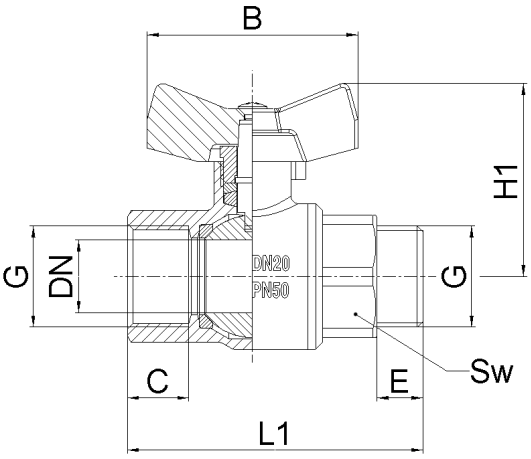
1 **2100** 00 (09)



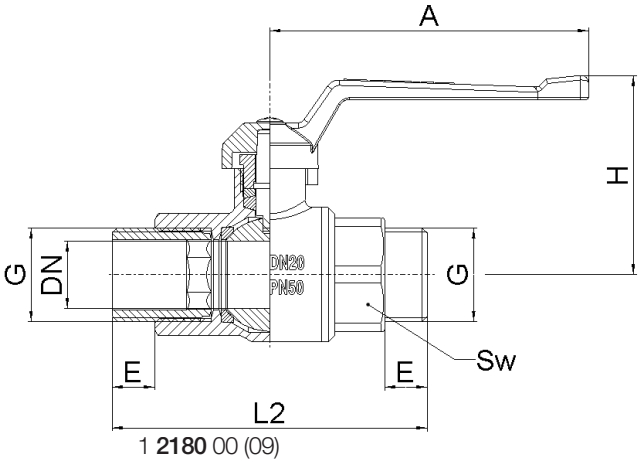
1 **2100** 10 (19)



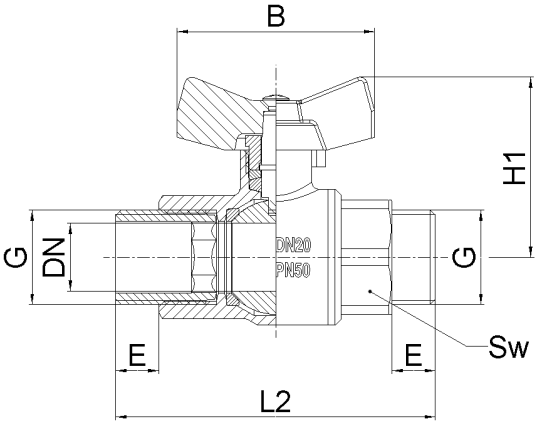
1 **2160** 00 (09)



1 **2160** 10 (19)



1 **2180** 00 (09)



1 **2180** 10 (19)

DN	PN [bar]	G [in]	L [mm]	L1 [mm]	L2 [mm]	C [mm]	E [mm]	A [mm]	B [mm]	H [mm]	H1 [mm]	Sw [mm]
8	63	1/4	43	52	61	10,5	9	60	40	45	41	17
10	63	3/8	45	54	63	11	9	60	40	56	43	21
15	50	1/2	59	72	85	15	13	90	55	53	47	25
20	50	3/4	65	77	89	16	13	90	55	57	53	32
25	50	1	80	95	110	19	15	135	75	77	57	41
32	40	1-1/4	91	106	122	19,5	16	135	75	81	60	48
40	40	1-1/2	104	120	136	22	16	180	/	96	/	55
50	40	2	125	142	159	25	17	180	/	101	/	70
65	16	2-1/2	146	/	/	25	/	210	/	124	/	85
80	16	3	179	/	/	28	/	210	/	134	/	100

Weight of ball valves [kg]

DN	1 **2100** 00 (09)	1 **2100** 10 (19)	1 **2160** 00 (09)	1 **2160** 10 (19)	1 **2180** 00 (09)	1 **2180** 10 (19)
8	0.120	0.118	0.130	0.122	0.130	0.125
10	0.140	0.138	0.156	0.138	0.178	0.174
15	0.230	0.230	0.260	0.260	0.300	0.290
20	0.350	0.350	0.400	0.400	0.440	0.434
25	0.660	0.640	0.744	0.718	0.820	0.800
32	0.950	0.930	1.100	1.065	1.217	01.165
40	1.640	/	1.178	/	1.834	/
50	2.780	/	3.000	/	3.100	/
65	4.760	/	/	/	/	/
80	6.200	/	/	/	/	/

Index of order numbers

When selecting the valve, please note the last number of the order number from the table below
(1 2100 0**X** / 1 2100 1**X** / 1 2160 0**X** / 1 2160 1**X** / 1 2180 0**X** / 1 2180 1**X**)

	DN8	**DN10**	**DN15**	**DN20**	**DN25**	**DN32**	**DN40**	**DN50**	**DN65**	**DN80**
X	9	0	1	2	3	4	5	6	7	8

Models of ball valves

1 **2100** 00 (09) = internal / internal thread, handle silumin lever handle red
1 **2100** 10 (19) = internal / internal thread, handle silumin T-handle red
1 **2160** 00 (09) = internal/external, handle silumin lever handle red
1 **2160** 10 (19) = internal/external, handle silumin T-handle red
1 **2180** 00 (09) = external / external thread, handle silumin lever handle red
1 **2180** 10 (19) = external / external thread, handle silumin T-handle red

Material and construction

Body (1 **2100** X0 - X4, X9):	forged brass acc. to EN 12165, CW617N
Body (1 **210X** X7 - X8):	casted brass acc. to EN 1982, CW617N
Ball (1 **2100** X0 - X4, X9):	forged brass acc. to EN 12165, hollow, full bore, hard chrome plated, CW617N
Ball (1 **210X** X7 - X8):	casted brass acc. to EN 1982, hollow, full bore, hard chrome plated, CW617N
Spindle:	machined brass acc. to EN 12164, CW614N
Handles:	lever handle, red, silumin T-handle, red, silumin
Ball seals:	PTFE
Spindle seals:	PTFE
Internal threaded connectors:	acc. to ISO 228-1

Operating data

Max. operating pressure:	see table above
Min. temperature:	-30 °C (water 0,5 °C)
Max. temperature:	150 °C (water up to 110 °C - no steam)

Medium:
Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases..) because it can destroy sealing components.

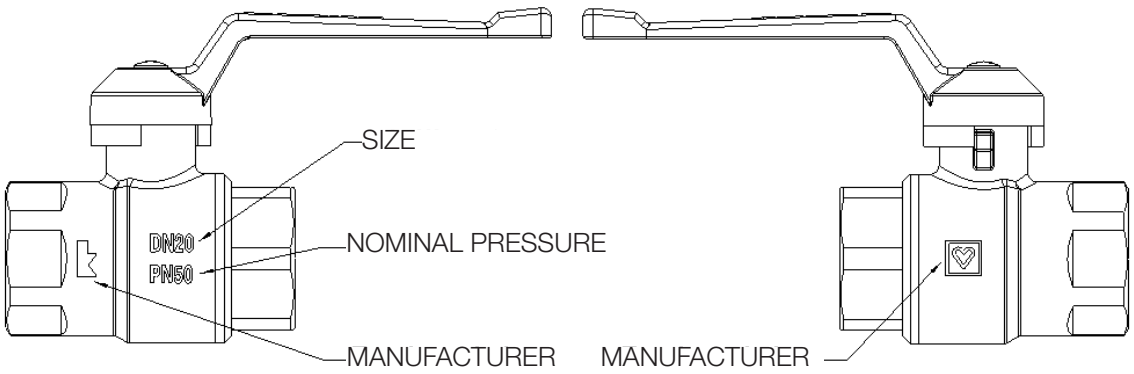
Field of application

Ball valve heavy type is designed for heating and cooling systems which have to withstand continuously changing working system parameters. It allows safe system operation even under conditions of significant changes of medium temperatures and sudden pressure loads. The ball valve is bi-directional, that means it allows flow of the medium in both directions.

Additional informations

For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

Labels on ball valve

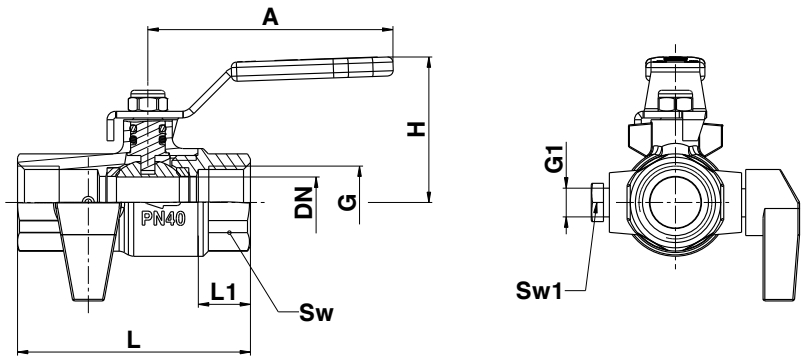


HERZ - Ball valve

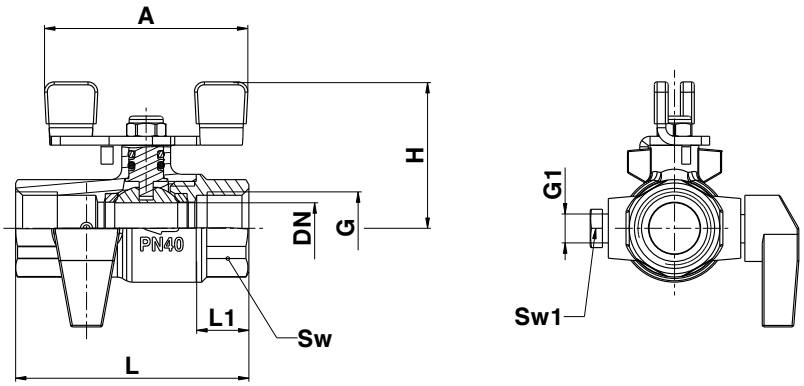
with drain cock and plug

Data sheet **1 2402 XX**

Dimensions



1 **2402** 0X



1 **2402** 1X

Order Nr.	DN	PN	G [in]	G1 [in]	L [mm]	L1 [mm]	H [mm]	A [mm]	Sw [mm]	Sw1 [mm]	Weight [kg]
1 **2402** 01	15	40	1/2"	1/8"	67	12	42	70	26	11	0,26
1 **2402** 02	20	40	3/4"	1/8"	71	14	49	90	32	11	0,38
1 **2402** 03	25	40	1"	1/8"	85	16	61	135	41	11	0,70
1 **2402** 04	32	40	1-1/4"	1/8"	101	26	65	135	50	11	0,11
1 **2402** 05	40	25	1-1/2"	1/8"	106	21,4	84	180	55	11	1,44
1 **2402** 11	15	40	1/2"	1/8"	67	12	42	60	25	11	0,26
1 **2402** 12	20	40	3/4"	1/8"	71	14	45	60	32	11	0,38
1 **2402** 13	25	40	1"	1/8"	85	16	63	85	41	11	0,68
1 **2402** 14	32	40	1-1/4"	1/8"	101	26	67	85	50	11	0,11

Material and construction

Body:	forged brass acc. to EN 12165, nickel plated, CW617N
Ball:	forged brass acc. to EN 12165, hollow, full bore, hard chrome plated, CW617N
Spindle:	machined brass acc. to EN 12164, CW614N
Plug handle:	synthetic material
Handles:	steel sheet - plated, lever handle, red steel sheet - plated, T-handle, red
Ball seals:	PTFE
Spindle seals:	NBR
Internal threaded connectors:	acc. to ISO228

Operating data

Max. operating pressure:	see table above
Min. operating temperature:	-10 °C (water 0,5 °C)
Max. operating temperature:	80 °C
Medium:	

Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases) because it can destroy sealing components.

Field of application

HERZ ball valve with drain cock and plug is used in building services such as heating and chilled water plants. Due to the special valve design it is possible to shut-off and drain the system. A plug is mounted at the outlet (G1). In case of draining the installation close the ball valve and then empty the medium by draining. Before refilling the installation the draining tap must be closed.

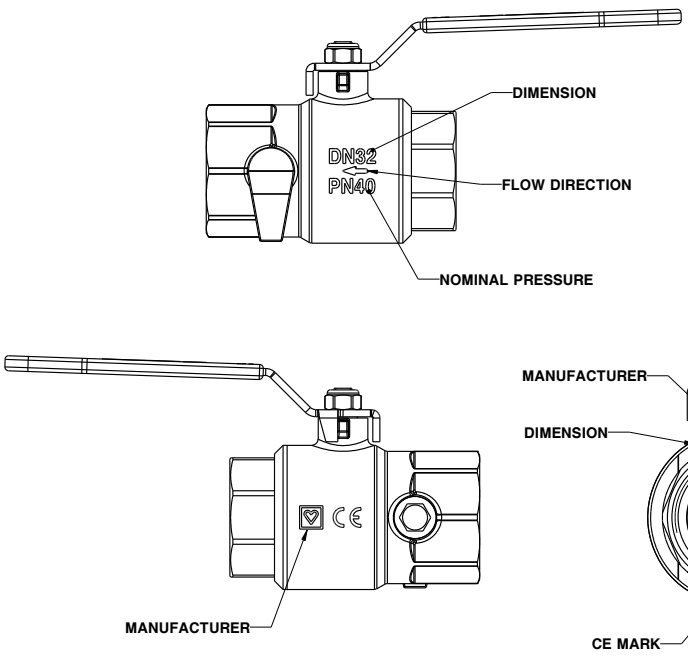
Assembly instruction

The arrow on the housing indicates the medium flow direction, it is necessary to pay attention to the correct valve orientation during assembly.

Additional informations

For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

Labels on ball valves



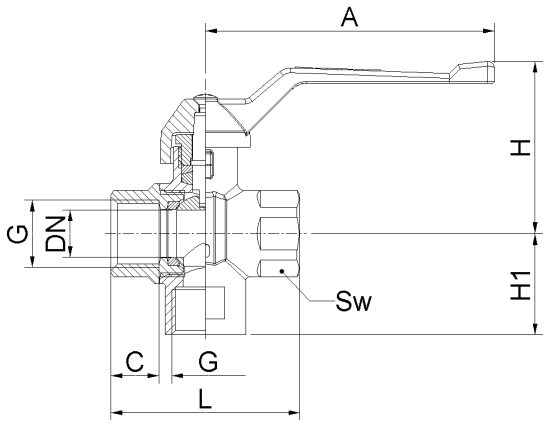
1 **2402** 01 (07)
1 **2402** 11 (13)

1 **2402** 05

HERZ - Three port ball valve

Data sheet 1 **2412** 01

Dimensions



Order Nr.	DN	G [in]	L [mm]	C [mm]	A [mm]	H [mm]	H1 [mm]	Sw	Weight [kg]
1 **2412** 01	15	1/2	59	15	90	54	32	25	0,374

Material and construction

Body:	forged brass acc. to EN 12165, nickel plated, CW617N
Ball:	forged brass acc. to EN 12165, L bore, hard chrome plated, CW617N
Spindle:	machined brass acc. to EN 12164, CW614N
Handle:	Lever handle, red, silumin
Ball seals:	PTFE
Spindle seals:	PTFE
Internal threaded connectors:	acc. to ISO 228

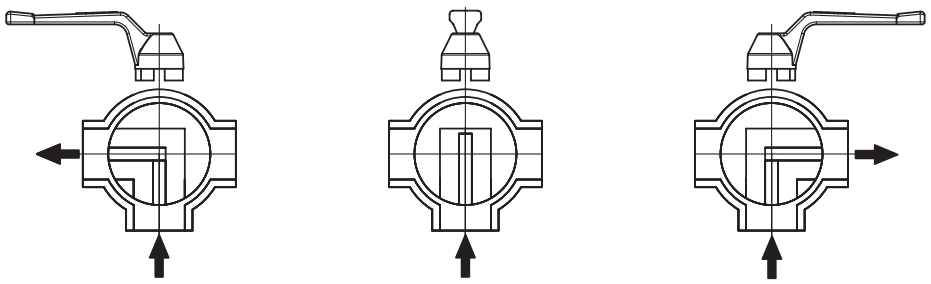
Operating data

Max. operating pressure:	PN 40 bar
Min. operating temperature:	-30 °C (water 0,5 °C)
Max. operating temperature:	150 °C (water 110 °C-no steam)

Medium:
Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases..) because it can destroy sealing components.

Field of application

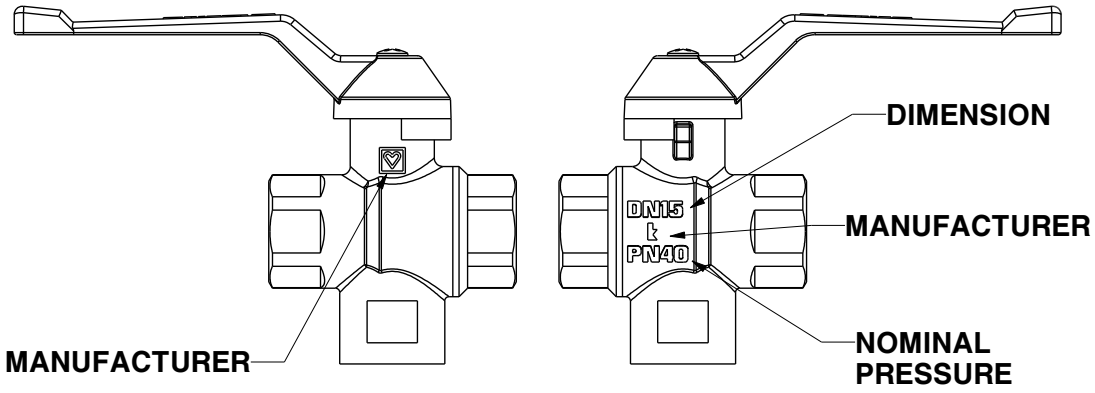
The ball with a T-shape flow apening allows different ways of closing - opening the flow direction. For more detailed usage of three-way ball valve see picture below.



Additional informations

For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

Labels on ball valve

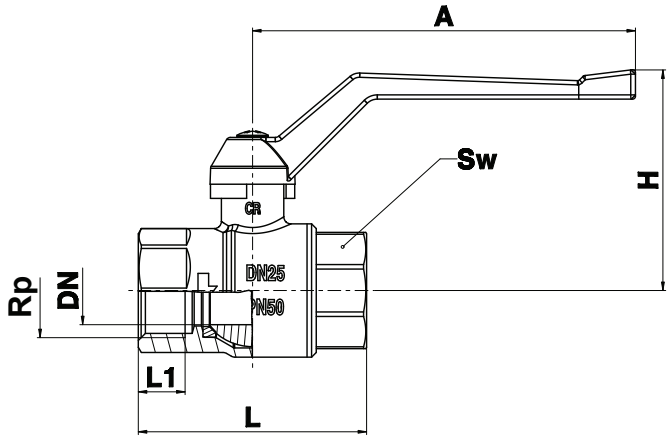


HERZ - Ball valve

with lever handle DZR

Data sheet 1 **2190** 0X

Dimensions



Order Nr.	DN	PN	Rp [in]	L [mm]	L1 [mm]	H [mm]	A [mm]	Sw [mm]	Weight [kg]
1 **2190** 01	15	50	1/2"	59	13	53	90	25	0,24
1 **2190** 02	20	50	3/4"	65	14	56	90	32	0,36
1 **2190** 03	25	50	1"	80,5	16,5	77	135	41	0,67
1 **2190** 04	32	40	1-1/4"	91	17	81	135	48	0,95
1 **2190** 05	40	40	1-1/2"	104	19,5	95	180	55	1,67
1 **2190** 06	50	40	2"	125,5	22,5	101	180	70	2,78

Material and construction

Body:	forged brass acc. to EN 12165, nickel plated, CW602N DZR
Ball:	forged brass acc. to EN 12165, hollow, full bore, hard chrome plated, CW617N
Spindle:	machined brass acc. to EN 12164, CW614N
Handles:	lever handle, red, silumin
Ball seals:	PTFE
Spindle seals:	PTFE
Internal threaded connectors:	acc. to ISO228

Operating data

Max. operating pressure:	see table above
Min. operating temperature:	-30 °C (water 0,5 °C)
Max. operating temperature:	150 °C (water 110 °C - no steam)
Construction and tests:	WRAS approved

Medium:
Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases) because it can destroy sealing components.

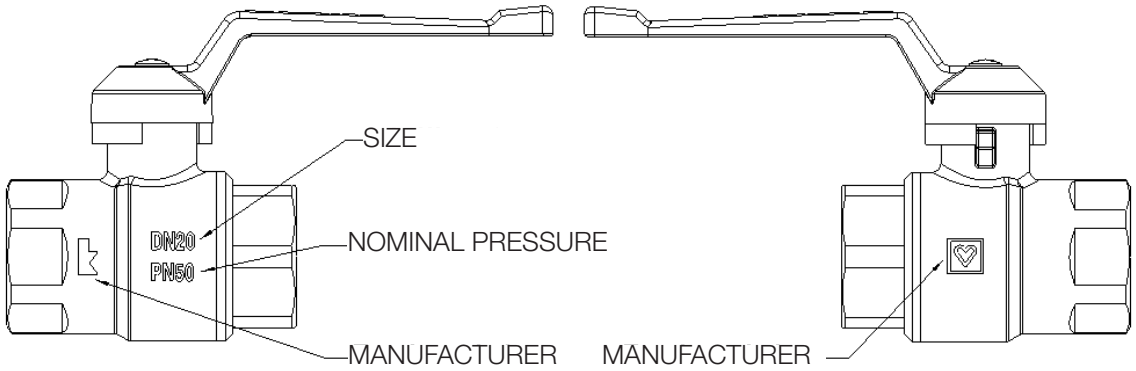
Field of application

HERZ ball valve with lever handle DZR is designed for heating and cooling systems which have to withstand continuously changing working system parameters. It allows safe system operation even under conditions of significant changes of medium temperatures and sudden pressure loads. HERZ ball valve with lever handle DZR is made from CW602N; this material has DZR properties (dezinfication resistant brass). The ball valve is bi-directional, that means it allows flow of the medium in both directions.

Additional informations

For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

Labels on ball valve

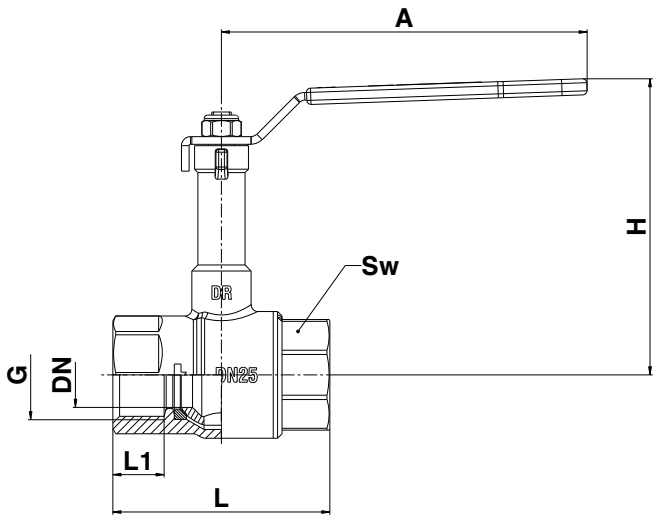


HERZ - Ball valve

with extended spindle DZR

Data sheet 1 **2190** 2X

Dimensions



Order Nr.	DN	PN	G [in]	L [mm]	L1 [mm]	H [mm]	A [mm]	Sw [mm]	Weight [kg]
1 **2190** 21	15	50	1/2"	59	15	90	90	25	0,28
1 **2190** 22	20	50	3/4"	64	16	93	90	32	0,40
1 **2190** 23	25	50	1"	80,5	19	107	135	41	0,74
1 **2190** 24	32	50	1-1/4"	91	19,5	111	135	48	0,96
1 **2190** 25	40	25	1-1/2"	100	19,7	136	180	55	1,38
1 **2190** 26	50	25	2"	118	22,3	144	180	69	2,52

Material and construction

Body:	forged brass acc. to EN 12165, nickel plated, CW602N DZR
Ball:	forged brass acc. to EN 12165, hollow, full bore, hard chrome plated, CW602N, DZR
Spindle:	machined brass acc. to EN 12164, CW614N
Handle:	lever handle, red, sheet steel - plated
Ball seals:	PTFE
Spindle seals:	EPDM
Internal threaded connectors:	acc. to ISO 228

Operating data

Max. operating pressure:	see table above
Min. operating temperature:	-10 °C (water 0,5 °C)
Min. short-term temperature load:	-50 °C
Max. operating temperature:	130 °C (water 110 °C-no steam)
Max. short-term temperature load:	150 °C
Construction and tests:	WRAS approved

Medium:
Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. Please note that EPDM gaskets will be affected by Mineral oils lubricants and thus lead to failure of the EPDM seals in the valves that use EPDM seals. HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases) because it can destroy sealing components.

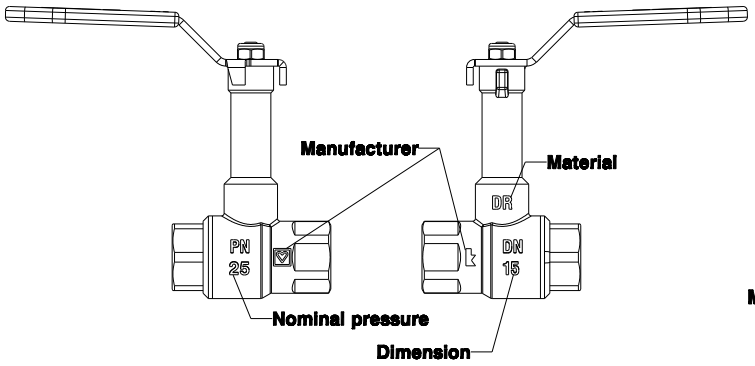
Field of application

HERZ ball valve with extended spindle DZR is designed for building services such as heating or chilled water plants. The operating conditions (temperature, pressure) should be constant. Extended spindle allows easy installation of thicker insulation. The handle is isolated seperately so that the valve can be opened and closed without breaking or damaging the insulation. HERZ ball valve with extended spindle DZR is made from CW602N; this material has DZR properties (dezinfication resistant brass). The ball valve is bi-directional, that means it allows flow of the medium in both directions.

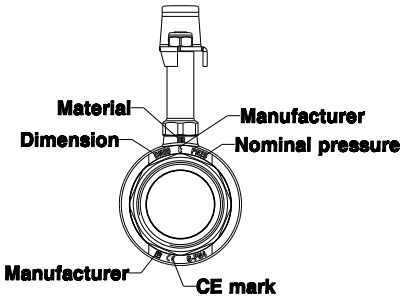
Additional informations

For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

Labels on ball valve



1 **2190** 21 (24)

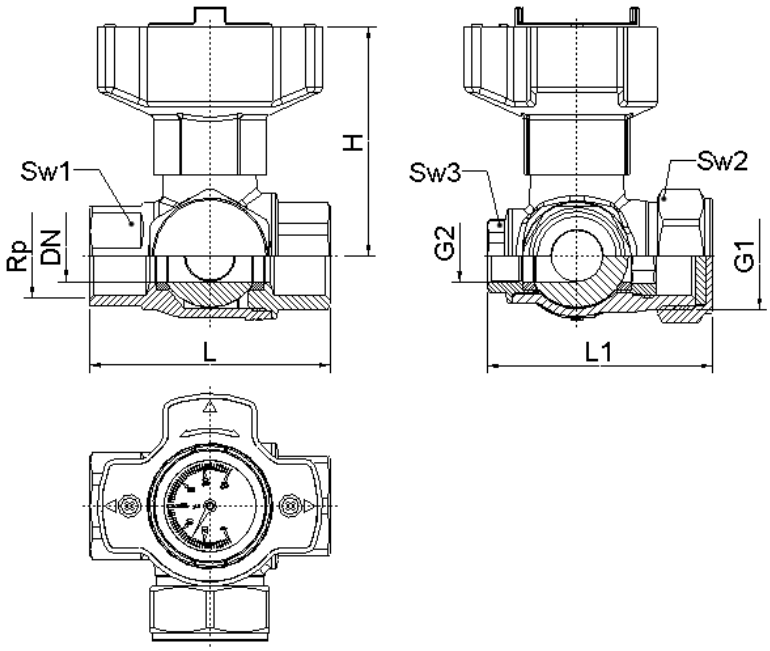


1 **2190** 25 (26)

HERZ - Multifunctional ball valve DZR

Data sheet 1 **241X** 0X

Dimensions



Order Nr.	DN	Rp [in]	G1 [mm]	G2 [mm]	L [mm]	L1 [mm]	H [mm]	Sw1 [mm]	Sw2 [mm]	Sw3 [mm]	Colour	Weight [kg]
1 **2414** 02	20	3/4"	1"	3/8"	75	70	71	31	37	21	Red	0,62
1 **2414** 03	25	1"	1-1/4"	1/2"	96	98	78	41	46	26	Red	1,275
1 **2414** 04	32	1-1/4"	1-1/2"	1/2"	109	113	83	50	52	26	Red	1,712
1 **2415** 02	20	3/4"	1"	3/8"	75	70	71	31	37	21	Blue	0,62
1 **2415** 03	25	1"	1-1/4"	1/2"	96	98	78	41	46	26	Blue	1,275
1 **2415** 04	32	1-1/4"	1-1/2"	1/2"	109	113	83	50	52	26	Blue	1,712

Material and construction

Body:	forged brass acc. to EN 12165, CW626N, DZR
Ball:	forged brass acc. to EN 12165, T-bore, hollow, hard chrome plated, CW626N, DZR
Spindle:	machined brass acc. to EN 12164, CW614N
Handles:	three-way handle with thermometer, red / blue, synthetic material PA66 GF30
Ball seals:	PTFE
Spindle seals:	PTFE, EPDM
Internal threaded connectors:	acc. to ISO228
Internal threaded connectors:	acc. to ISO7/1

Operating data

Max. operating pressure:	PN 25
Min. operating temperature:	-10 °C (water 0,5 °C)
Min. short-term temperature load:	-30 °C
Max. operating temperature:	110 °C (water 110 °C - no steam)
Max. short-term temperature load:	150 °C

Medium:
Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. Please note that EPDM gaskets will be affected by Mineral oils lubricants and thus lead to failure of the EPDM seals in the valves that use EPDM seals. HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases) because it can destroy sealing components.

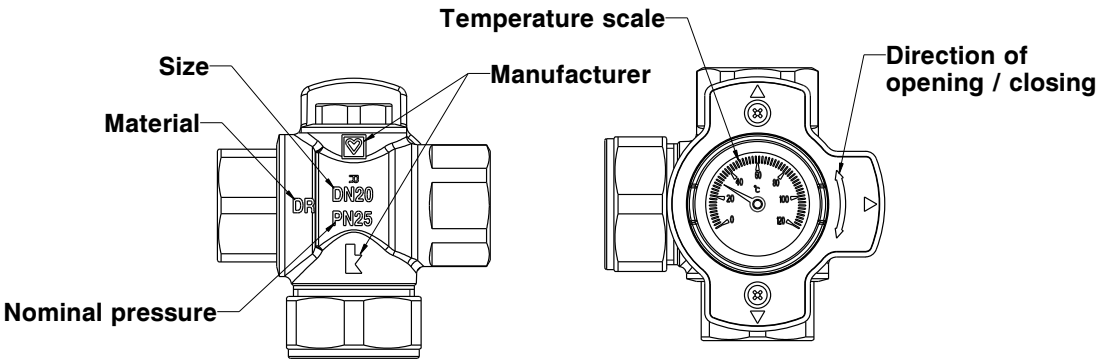
Field of application

Multifunctional ball is used in installations as closing and filling-draining element. It can also be used for the indication of temperature of medium in the system. Because of its multifunctionality this valve can be used in plumbing, heating, cooling systems, industrial pipes and systems with potable water. Multifunctional ball valve is used in applications where the flow of the media hast to be reliably shut off. Ball valve should not be used as regulating element so it has to be fully opened or fully closed (the handle should not be in intermediate position). Position of the T-ball is marked with the shape of handle. HERZ multifunctional ball valve DZR is made from CW626N; this material has DZR properties (dezinfication resistant brass).

Additional informations

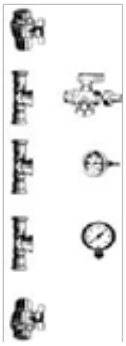
For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

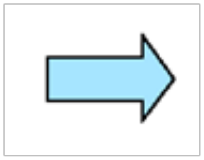
Lables on ball valves



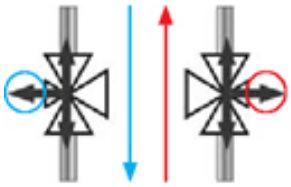
☑ Field of application



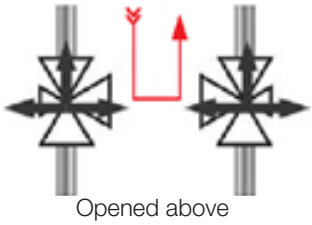




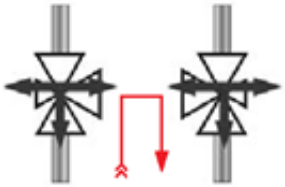




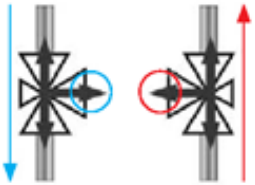
Basic position
Fill/drain
Closed connector



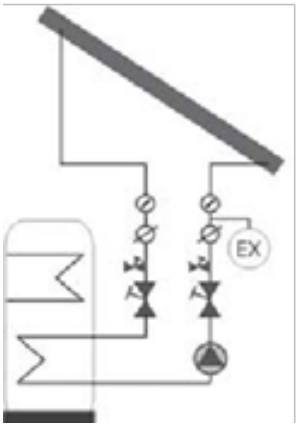
Opened above
Closed below
Possible flow:
left/right



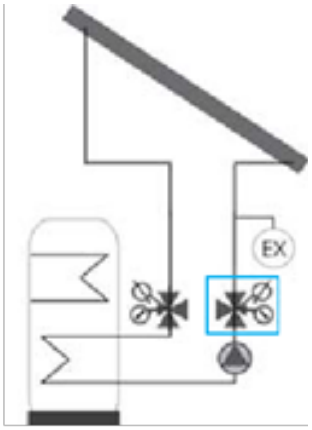
Closed below
Opened above
Possible flow:
left/right

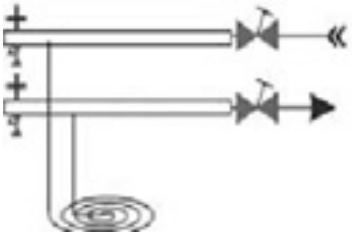


1/2” connector
closed

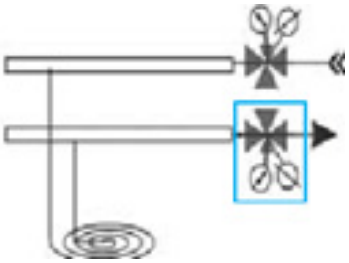


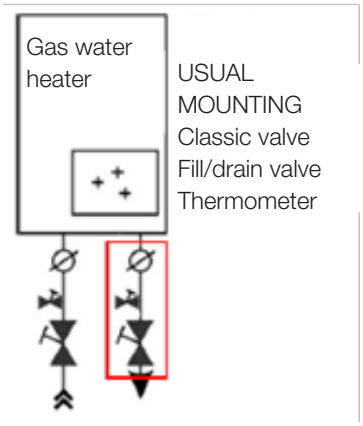






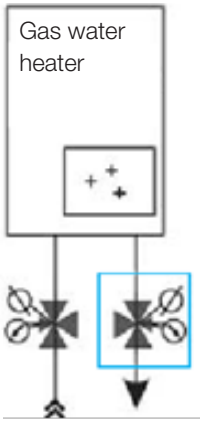






USUAL
MOUNTING
Classic valve
Fill/drain valve
Thermometer



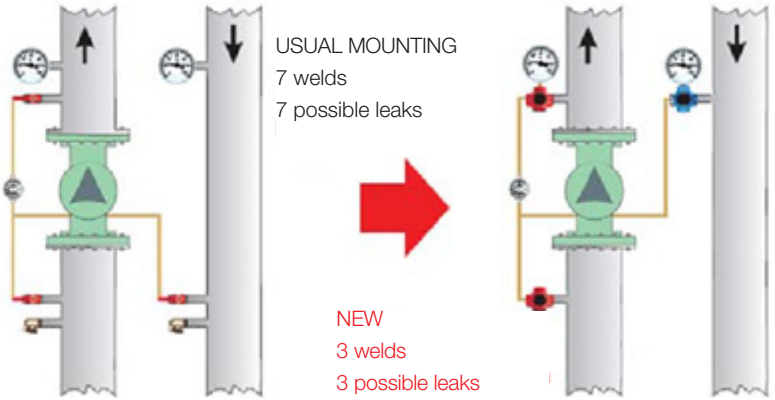


NEW
With HERZ multifunctional ball valve



USUAL MOUNTING: Classic ball valve and fill/drain valve

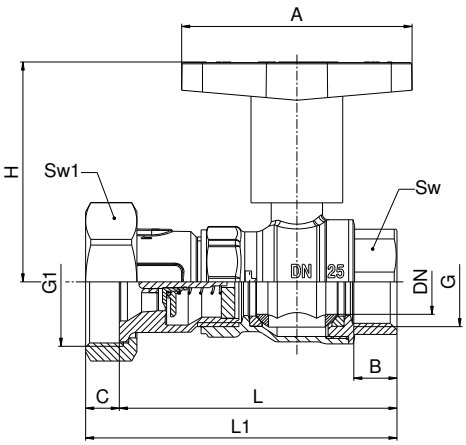
NEW: HERZ - multifunctional ball valve



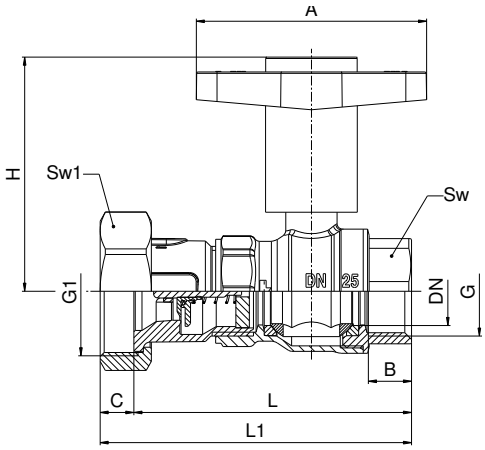
HERZ - ball valve for pump

Datasheet 1 **22XX** XX

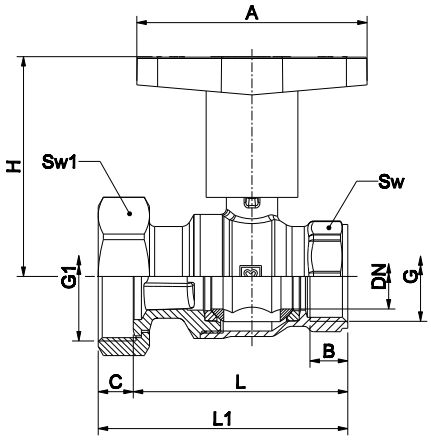
Dimensions



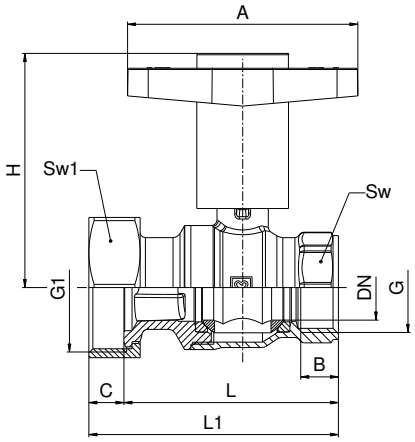
1 **2229** 03 (06)



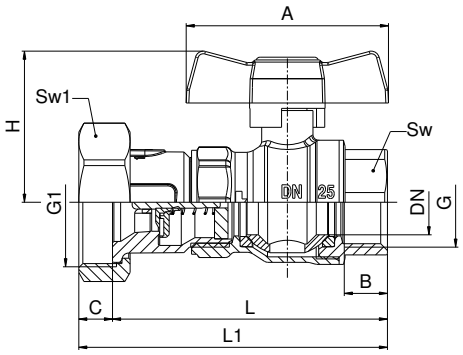
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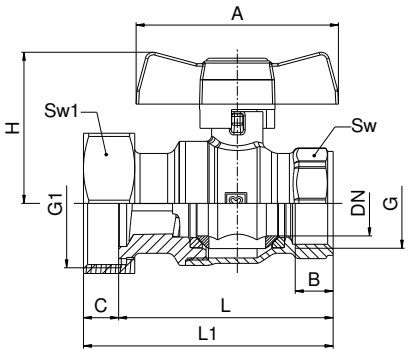
1 **2229** 23 (26)



1 **2229** 33 (36)



1 **2268** 03 (04)



1 **2269** 03 (04)

Model	DN	Handle cover	T	NV	G [in]	G1 [in]	L [mm]	L1 [mm]	A [mm]	B [mm]	C [mm]	H [mm]	Sw [mm]	Sw1 [mm]	Weight [kg]
1 **2229** 03	25	Red	No	Yes	1″	1-1/2″	103	115	85	16	12,5	81,5	39	52	0,74
1 **2229** 04	32	Red	No	Yes	1-1/4″	2″	118	131	85	18	13,5	86	48	65	1,09
1 **2229** 05	25	Blue	No	Yes	1″	1-1/2″	103	115	85	16	12,5	81,5	39	52	0,74
1 **2229** 06	32	Blue	No	Yes	1-1/4″	2″	118	131	85	18	13,5	86	48	65	1,09
1 **2229** 13	25	Red	Yes	Yes	1″	1-1/2″	103	115	85	16	12,5	86,8	39	52	0,78
1 **2229** 14	32	Red	Yes	Yes	1-1/4″	2″	118	131	85	18	13,5	91,8	48	65	1,13
1 **2229** 15	25	Blue	Yes	Yes	1″	1-1/2″	103	115	85	16	12,5	86,8	39	52	0,78
1 **2229** 16	32	Blue	Yes	Yes	1-1/4″	2″	118	131	85	18	13,5	91,8	48	65	1,13
1 **2229** 23	25	Red	No	No	1″	1-1/2″	79,5	92,5	85	14	13	81,5	39	52	0,59
1 **2229** 24	32	Red	No	No	1-1/4″	2″	89	102,5	85	16	13,5	86,8	48	65	0,89
1 **2229** 25	25	Blue	No	No	1″	1-1/2″	79,5	92,5	85	14	13	81,5	39	52	0,59
1 **2229** 26	32	Blue	No	No	1-1/4″	2″	89	102,5	85	16	13,5	86,8	48	65	0,89
1 **2229** 33	25	Red	Yes	No	1″	1-1/2″	79,5	92,5	85	14	13	86,8	39	52	0,63
1 **2229** 34	32	Red	Yes	No	1-1/4″	2″	89	102,5	85	16	13,5	91,8	48	65	0,93
1 **2229** 35	25	Blue	Yes	No	1″	1-1/2″	79,5	92,5	85	14	13	86,8	39	52	0,63
1 **2229** 36	32	Blue	Yes	No	1-1/4″	2″	89	102,5	85	16	13,5	91,8	48	65	0,93
1 **2268** 03	25	Red	No	Yes	1″	1-1/2″	102	114,5	75	16	12,5	56	39	52	0,76
1 **2268** 04	32	Red	No	Yes	1-1/4″	2″	116	129	75	18	13,5	62	48	65	1,27
1 **2269** 03	25	Red	No	No	1″	1-1/2″	79,5	92,5	75	14	13	56	39	52	0,59
1 **2269** 04	32	Red	No	No	1-1/4″	2″	89	102,5	75	16	13,5	62	48	65	1,07

T = Thermometer

NV = Non-return valve

Material and construction

Body (1 **2229** XX):	forged brass acc. to EN 12165, nickel plated, CW617N
Body (1 **226X** 0X):	forged brass acc. to EN 12165, CW617N
Ball:	forged brass acc. to EN 12165, hollow, full bore, hard chrome plated, CW617N
Spindle:	turned brass acc. to EN 12164, CW614N
Handle :	T-handle, red, silumin
	T-handle, red / blue, synthetic material PA66 GF30
	T-handle with thermometer, red / blue, synthetic material PA66 GF30
Spindle seals:	PTFE
Ball seals:	PTFE
Internal threaded connectors:	acc. to ISO 228

Operating data

Max. operating pressure:	PN 16
Min. operating temperature:	-30 °C (water 0,5 °C)
Max. operating temperature:	150 °C (water 110 °C-no steam)

Medium:

Heating water quality according to ÖNORM H5195 or VDI-Standard 2035. The use of ethylene or propylene glycol in a mixing ratio 25- 50 vol.-% is allowed. Please refer to manufacturers documentation when using ethylene glycol products for frost and corrosion protection. HERZ ball valve for heating and chilled water is not suitable for usage of agressive medium (such as: acids, alkalis, combustible and explosive gases..) because it can destroy sealing components.

Field of application

HERZ pump ball valves are used as closing valves in central heating and other installations. Main advantage of pump ball valves are possibility of fast connection of circulating pump through screw joint in a pair with articles 1 226X XX and 1 2229 XX.

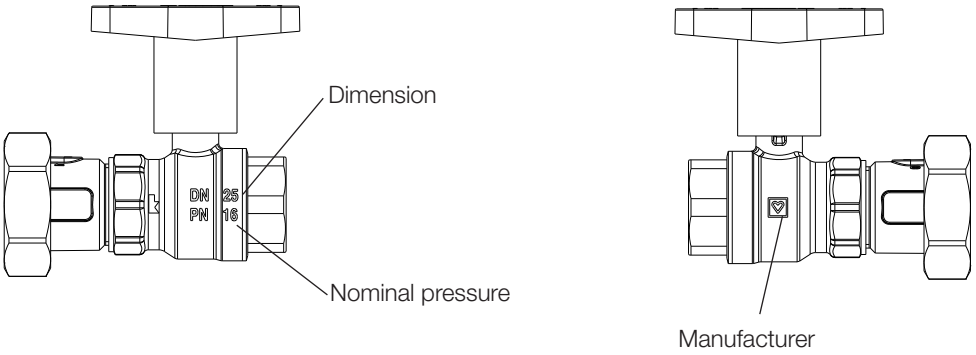
Assembly instruction

Pump ball valve is mounted in front of the central heating circulating pump. The circulation pump is mounted with screw joint G1-1/2" and G2" that is attached to the valve flange. When assembling, use suitable assembly tool that adapts to valve end connections.

Additional informations

For further informations about the field of application, brass, function principle, assembly, maintenance and disposal instructions see chapter "General information" on page 2.

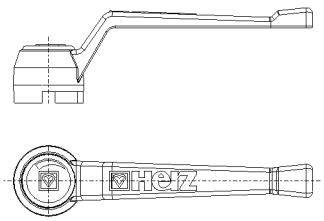
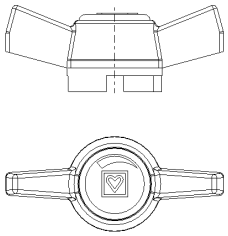
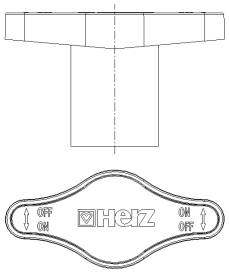
Labels on ball valve

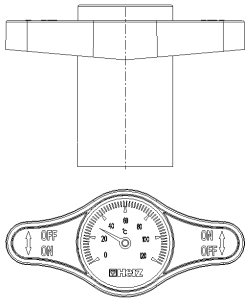
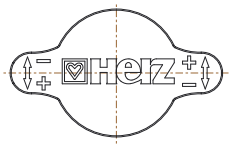
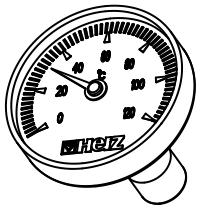


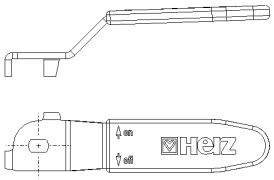
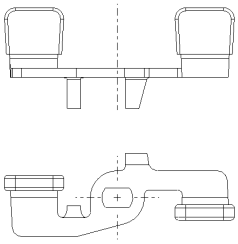
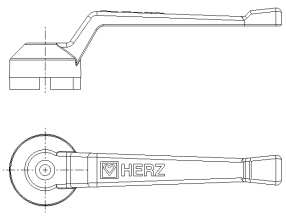
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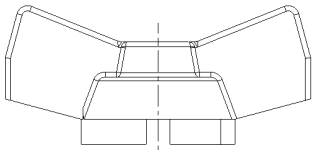
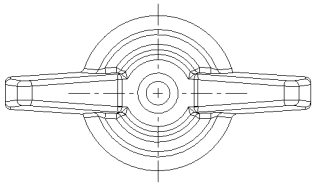
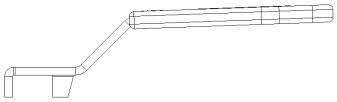
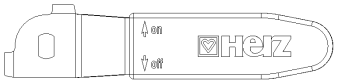
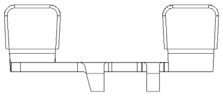
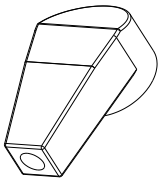
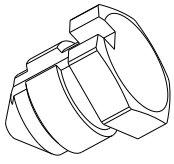
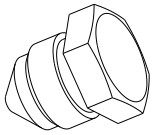
HERZ - ball valves for heating

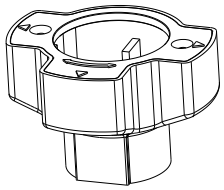
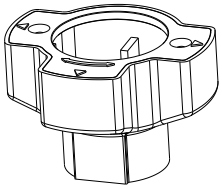
SPARE PARTS

Illustration	Description	Item number	Suitable with
	Lever handle RED L = 90 mm Silumin	1 **6386** 41	1 **2201** 01 (02) 1 **2211** 01 (02) 1 **2228** 01 (02) 1 **2206** 01 (02) 1 **2216** 01 (02)
	Lever handle RED L = 135 mm Silumin	1 **6386** 42	1 **2201** 03 (04) 1 **2211** 03 (04) 1 **2228** 03 (04) 1 **2206** 03 (04) 1 **2216** 03 (04)
	Lever handle RED L = 180 mm Silumin	1 **6386** 43	1 **2201** 05 (06) 1 **2211** 05 (06) 1 **2228** 05 (06) 1 **2206** 05 (06) 1 **2216** 05 (06) 1 **2228** 05 (06)
	T - handle RED L = 55 mm Silumin	1 **6386** 44	1 **2201** 11 (12) 1 **2211** 11 (12) 1 **2228** 01 (02) 1 **2206** 11 (12) 1 **2216** 11 (12) 1 **2268** 03 (04) 1 **2269** 03 (04)
	T - handle RED L = 75 mm Silumin	1 **6386** 45	1 **2201** 13 (14) 1 **2211** 13 (14) 1 **2228** 03 (04) 1 **2206** 13 (14) 1 **2216** 13 (14)
	T - handle RED L = 60 mm Synthetic material	1 **6386** 46	1 **2201** 41 (42) 1 **2206** 41 (42)
	T - handle BLUE L = 60 mm Synthetic material	1 **6386** 47	1 **2201** 51 (52) 1 **2206** 51 (52)
	T - handle RED L = 85 mm Synthetic material	1 **6386** 48	1 **2201** 43 (44) 1 **2206** 43 (44) 1 **2229** 03 (04) 1 **2229** 23 (24)
	T - handle BLUE L = 85 mm Synthetic material	1 **6386** 49	1 **2201** 53 (54) 1 **2206** 53 (54) 1 **2229** 05 (06) 1 **2229** 25 (26)
	T - handle RED L = 120 mm Synthetic material	1 **6386** 50	1 **2201** 45 (46) 1 **2206** 45 (46)
	T - handle BLUE L = 120 mm Synthetic material	1 **6386** 51	1 **2201** 55 (56) 1 **2206** 55 (56)

	T - handle RED L = 60 mm Synthetic material (thermometer not included)	1 **6386** 52	1 **2201** 61 (62) 1 **2206** 61 (62)
	T - handle BLUE L = 60 mm Synthetic material (thermometer not included)	1 **6386** 53	1 **2201** 71 (72) 1 **2206** 71 (72)
	T - handle RED L = 85 mm Synthetic material (thermometer not included)	1 **6386** 54	1 **2201** 63 (64) 1 **2206** 63 (64) 1 **2229** 13 (14) 1 **2229** 33 (34)
	T - handle BLUE L = 85 mm Synthetic material (thermometer not included)	1 **6386** 55	1 **2201** 73 (74) 1 **2206** 73 (74) 1 **2229** 15 (16) 1 **2229** 35 (36)
	T - handle RED L = 120 mm Synthetic material (thermometer not included)	1 **6386** 56	1 **2201** 65 (66) 1 **2206** 65 (66)
	T - handle BLUE L = 120 mm Synthetic material (thermometer not included)	1 **6386** 57	1 **2201** 75 (76) 1 **2206** 75 (76)
	Handle cover blue DN15-20	1 **2207** 11	1 **2206** 51 1 **2206** 52
	Handle cover red DN15-20	1 **2207** 12	1 **2206** 41 1 **2206** 42
	Handle cover blue DN25-32	1 **2207** 13	1 **2206** 53 1 **2206** 54
	Handle cover red DN25-32	1 **2207** 14	1 **2206** 43 1 **2206** 44
	Thermometer Scale 0 - 120 °C	1 **6386** 58	1 **2201** 61 (66) 1 **2206** 61 (66) 1 **2201** 71 (76) 1 **2206** 71 (76)

	Lever handle RED L = 90 mm Sheet steel - plated	1 **6386** 59	1 **2201** 21 (22) 1 **2211** 21 (22) 1 **2206** 21 (22) 1 **2216** 21 (22)
	Lever handle RED L = 135 mm Sheet steel - plated	1 **6386** 60	1 **2201** 23 (24) 1 **2211** 23 (24) 1 **2206** 23 (24) 1 **2216** 23 (24)
	Lever handle RED L = 180 mm Sheet steel - plated	1 **6386** 61	1 **2201** 25 (26) 1 **2211** 25 (26) 1 **2206** 25 (26) 1 **2216** 25 (26)
	T - handle RED L = 60 Sheet steel - plated	1 **6386** 62	1 **2201** 31 (32) 1 **2211** 31 (32) 1 **2206** 31 (32) 1 **2216** 31 (32)
	T - handle RED L = 85 Sheet steel - plated	1 **6386** 63	1 **2201** 33 (34) 1 **2211** 33 (34) 1 **2206** 33 (34) 1 **2216** 33 (34)
	Lever handle RED L = 60 mm Silumin	1 **6386** 64	1 **2100** 09 (00) 1 **2160** 09 (00) 1 **2180** 09 (00)
	Lever handle RED L = 90 mm Silumin	1 **6386** 65	1 **2100** 01 (02) 1 **2160** 01 (02) 1 **2180** 01 (02) 1 **2190** 01 (02)
	Lever handle RED L = 135 mm Silumin	1 **6386** 66	1 **2100** 03 (04) 1 **2160** 03 (04) 1 **2180** 03 (04) 1 **2190** 03 (04)
	Lever handle RED L = 180 mm Silumin	1 **6386** 67	1 **2180** 05 (06) 1 **2160** 05 (06) 1 **2180** 05 (06) 1 **2190** 05 (06)
	Lever handle RED L = 265 mm Silumin	1 **6386** 68	1 **2100** 07 1 **2100** 08

 	T - handle RED L = 40 mm Silumin	1 **6386** 69	1 **2100** 19 (10) 1 **2160** 19 (10) 1 **2180** 19 (10)
	T - handle RED L = 55 mm Silumin	1 **6386** 70	1 **2100** 11 (12) 1 **2160** 11 (12) 1 **2180** 11 (12)
	T - handle RED L = 75 mm Silumin	1 **6386** 71	1 **2100** 13 (14) 1 **2160** 13 (14) 1 **2180** 13 (14) 1 **2412** 01
 	Lever handle RED L = 70 mm Sheet steel - plated	1 **6386** 72	1 **2402** 01
	Lever handle RED L = 90 mm Sheet steel - plated	1 **6386** 73	1 **2402** 02 1 **2190** 21 (22) 1 **2190** 41 (42) 1 **2190** 61 (62)
	Lever handle RED L = 135 mm Sheet steel - plated	1 **6386** 74	1 **2402** 03 (04) 1 **2190** 23 (24) 1 **2190** 43 (44) 1 **2190** 63 (64)
	Lever handle RED L = 180 mm Sheet steel - plated	1 **6386** 75	1 **2402** 05 1 **2190** 25 (26) 1 **2190** 45 (46) 1 **2190** 65 (66)
 	T - handle RED L = 60 Sheet steel - plated	1 **6386** 76	1 **2402** (12)
	T - handle RED L = 85 Sheet steel - plated	1 **6386** 77	1 **2402** 13 (14)
	Drain lever Synthetic material	1 **6386** 78	1 **2402** 01 (05) 1 **2402** 11 (14)
	Vent valve G1/8″ Brass	1 **6386** 79	1 **2402** 01 (05) 1 **2402** 11 (14)
	Drain plug G1/8″ Brass	1 **6386** 80	1 **2402** 01 (05) 1 **2402** 11 (14)

	T - handle RED Synthetic material (thermometer not included)	1 **6386** 81	1 **2414** 02 (04)
	T - handle BLUE Synthetic material (thermometer not included)	1 **6386** 82	1 **2415** 02 (05)
	Thermometer RED Scale 0 - 120 °C	1 **6386** 83	1 **2414** 02 (04)
	Thermometer BLUE Scale 0 - 120 °C	1 **6386** 84	1 **2415** 02 (05)
	Lockshield for ball valve DN15/20	1 **2117** 31	1 **2190** 21 (22) 1 **2201** 01 (02) 1 **2201** 11 (12) 1 **2201** 21 (22) 1 **2201** 31 (32) 1 **2201** 41 (42) 1 **2201** 61 (62) 1 **2206** 01 (02) 1 **2206** 11 (12) 1 **2206** 21 (22) 1 **2206** 31 (32) 1 **2206** 41 (42) 1 **2206** 61 (62) 1 **2211** 01 (02) 1 **2211** 11 (12) 1 **2211** 21 (22) 1 **2211** 31 (32) 1 **2216** 01 (02) 1 **2216** 11 (12) 1 **2216** 21 (22) 1 **2216** 31 (32) 1 **2228** 01 (02) 1 **2268** 03 (04) 1 **2269** 03 (04) 1 **2402** 02 1 **2402** 12 (14)
	Lockshield for ball valve DN25/32	1 **2117** 33	1 **2190** 23 (24) 1 **2201** 03 (04) 1 **2201** 13 (14) 1 **2201** 23 (24) 1 **2201** 33 (34) 1 **2201** 43 (44) 1 **2201** 63 (64) 1 **2206** 03 (04) 1 **2206** 13 (14) 1 **2206** 23 (24) 1 **2206** 33 (34) 1 **2206** 43 (44) 1 **2206** 63 (64) 1 **2211** 03 (04) 1 **2211** 13 (14) 1 **2211** 23 (24) 1 **2211** 33 (34) 1 **2216** 03 (04) 1 **2216** 13 (14) 1 **2216** 23 (24) 1 **2216** 33 (34) 1 **2228** 03 (04) 1 **2229** 03 (04) 1 **2229** 23 (24) 1 **2229** 33 (34) 1 **2402** 03 (04) 1 **2402** 13 (14)
	Lockshield for ball valve DN40/50	1 **2117** 35	1 **2201** 05 (06) 1 **2201** 25 (26) 1 **2201** 45 (46) 1 **2201** 65 (66) 1 **2206** 05 (06) 1 **2206** 25 (26) 1 **2206** 45 (46) 1 **2206** 65 (66) 1 **2211** 05 (06) 1 **2211** 25 (26) 1 **2216** 05 (06) 1 **2216** 25 (26)
	Lockshield for ball valve DN40/50	1 **2117** 36	1 **2190** 25 (26) 1 **2402** 05