



The Oventrop Quality Management System is certified to DIN-EN-ISO 9001

Brass ball valves "Optibal" with full flow

Technical information

Application:

Oventrop brass ball valves "Optibal" with full flow are used in industrial, commercial and domestic installations for the isolation of pipes transporting fluids. Depending on the different models, they may be used for the following fluids: water, mineral, heating, hydraulic and diesel oil and air (see table on the last page).

Depending on the model, the brass ball valves "Optibal" are suitable for a nominal pressure of 16 bar (or 25 bar) and for water temperatures up to 100 °C (or 150 °C).

Function:

The ball valve is opened/closed by turning the handle or lever 90°. The position of the ball is indicated by the position of the handle or lever which moves parallel to it. Even if the handle or lever were removed, the stem with two flats still indicates the position of the ball.

Advantages:

- full flow
- wide range of application
- all standard types of handles and levers available
- simple insulation of the models with extended plastic handle
- suitable for high pressures due to solid bodies
- PN 16 (or PN 25)
- ball valves with aluminium T-handle or steel lever may subsequently be equipped with an extended plastic handle by use of the conversion set, item no. 107 60 71-73
- plastic handles may subsequently be equipped with a thermometer

Insulation:

The Oventrop brass ball valves "Optibal" with extended plastic handle may be equipped with standard insulations.

The brass ball valves "Optibal" with female threaded connection on both ports and with extended plastic handle (item no's. 107 71 03 - 16) may alternatively also be equipped with the insulations item no's. 107 71 91 - 97 consisting of two double shells with a 1 mm plastic coat and an inner core made of polyurethane.



Ball valves "Optibal" PN 16 made of brass

**Ball valves "Optibal", brass, nickel plated,
full flow:**

both ports female thread:

Application:

Heating systems, water, industry

PN 20 for cold water, PN 16 for fluids and harmless gases*) between 0°C and 100°C, for the sizes DN 65 up to DN 100, the admissible working pressure depends on the working temperature: 16 bar up to 70°C, 12 bar up to 85°C, 8 bar up to 100°C.

CE-marking on size DN 65 and above according to directive 97/23/EC.

*) not for gaseous fluids of group 1 according to Pressure Equipment Directive (PED) 97/23/EC

Construction:

Two-piece body, nickel plated, full flow, ball made of chrome plated brass with PTFE seats, brass stem with double FKM O-ring seal.

DN	d ISO 228	~ H ₁	~ H ₂	~ H ₃	h ₁	h ₂	h ₃	L	SW*
8	1/4"	-	-	100	-	-	38	39	20
10	3/8"	60	50	100	64	38.5	38	39	20
15	1/2"	60	50	100	68	43	43	50	25
20	3/4"	80	60	120	73	49	50	54	31
25	1"	80	60	120	77	53	54	67	38
32	1 1/4"	120	-	160	114	-	73	77	48
40	1 1/2"	120	-	160	120	-	79	90	54
50	2"	120	-	160	127	-	86	106	66
65	2 1/2"	-	-	250	-	-	134	136	85
80	3"	-	-	250	-	-	141	157	99
100	4"	-	-	250	-	-	156	191	125

**one port female thread,
one port male thread:**

Application:

Heating systems, water, industry

PN 20 for cold water, PN 16 for fluids and harmless gases*) between 0°C and 100°C.

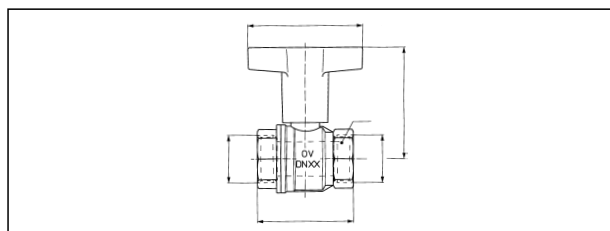
*) not for gaseous fluids of group 1 according to Pressure Equipment Directive (PED) 97/23/EC

Construction:

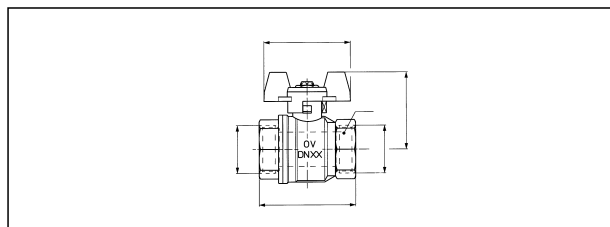
Two-piece body, nickel plated, full flow, ball made of chrome plated brass with PTFE seats, brass stem with double FKM O-ring seal.

DN	d ISO 228	~ H ₁	~ H ₂	~ H ₃	h ₁	h ₂	h ₃	L	SW ₁ *
8	1/4"	-	-	100	-	-	38	47.5	20
10	3/8"	60	50	100	64	38.5	38	47.5	20
15	1/2"	60	50	100	68	43	43	57.5	25
20	3/4"	80	60	120	73	49	50	63.5	31
25	1"	80	60	120	77	53	54	75.5	38
32	1 1/4"	120	-	160	114	-	73	86	48

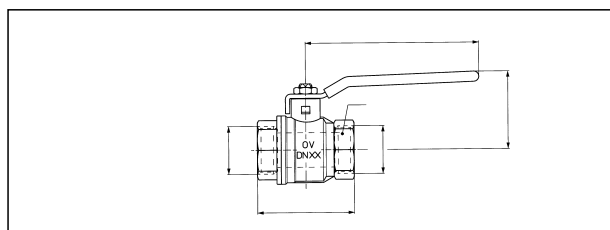
* SW = spanner size



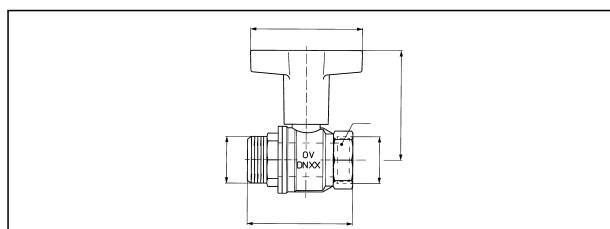
Item no's. 107 71 03-16 (DN 10 to DN 50)
Extended plastic handle



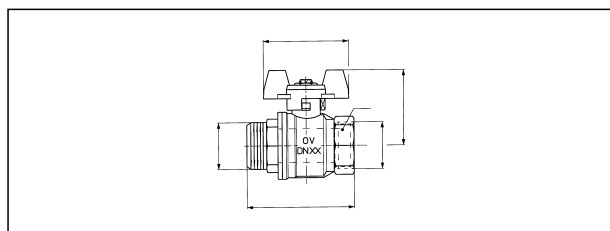
Item no's. 107 61 03-10 (DN 10 to DN 25)
Aluminium handle



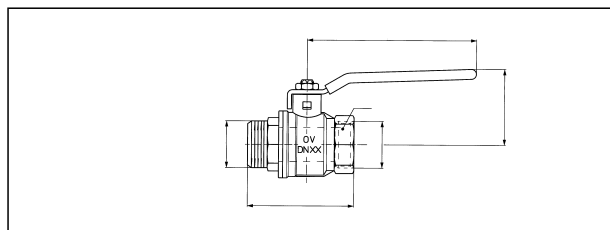
Item no's. 107 60 02-32 (DN 8 to DN 100)
Lever made of galvanized steel with plastic coating



Item no's. 107 73 03-10 (DN 10 to DN 32)
Extended plastic handle



Item no's. 107 63 03-10 (DN 10 to DN 25)
Aluminium handle



Item no's. 107 62 03-10 (DN 10 to DN 32)
Lever made of galvanized steel with plastic coating

Ball valves "Optibal", brass, nickel plated, full flow, both ports female thread, with thermometer:

Application:

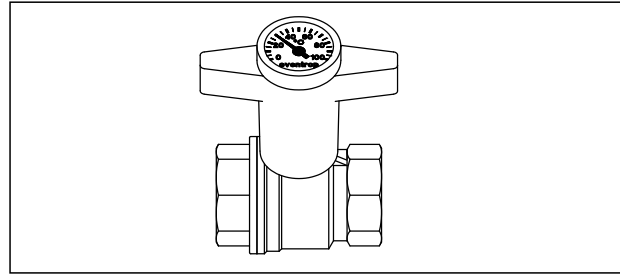
Construction and dimensions except for height of handle identical with item no. 107 71 ..

Due to the thermometer, height h1 or H is increased as follows.

DN 10 + 15: + 10 mm

DN 20 + 25: + 9 mm

DN 32 - 50: + 7 mm



Item no's. 107 80 03-16 (DN 10 to DN 50)
Extended plastic handle, with thermometer

Ball valves "Optibal", brass, nickel plated, full flow with draining facility, both ports female thread:

Application:

PN 16 for heating and domestic water between 0°C and 100°C.

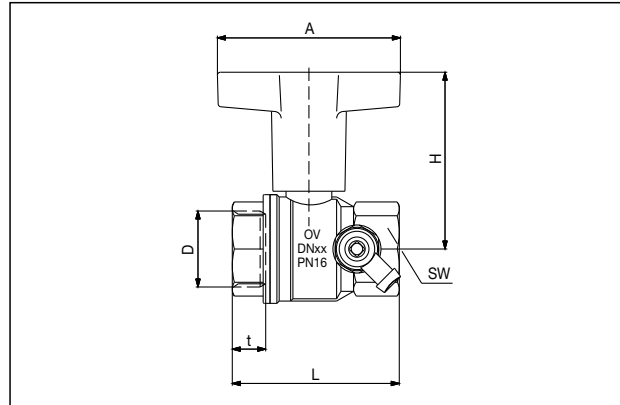
Construction:

Two-piece body, nickel plated, full flow, ball made of chrome plated brass with PTFE seats, brass stem with double FKM O-ring seal.

Two lateral draining orifices 1/4" one port with plug, one port with venting valve.

Venting valve with rotating outlet.

DN	D	t	L	SW*	A	H
	ISO 228					~
15	1/2"	11	56	25	60	68
20	3/4"	12	59.5	31	80	73
25	1"	14	79.5	40	80	77



Item no's. 107 78 04-08 (DN 15 to DN 25)

one port female thread, one port detachable coupling with male thread:

Application:

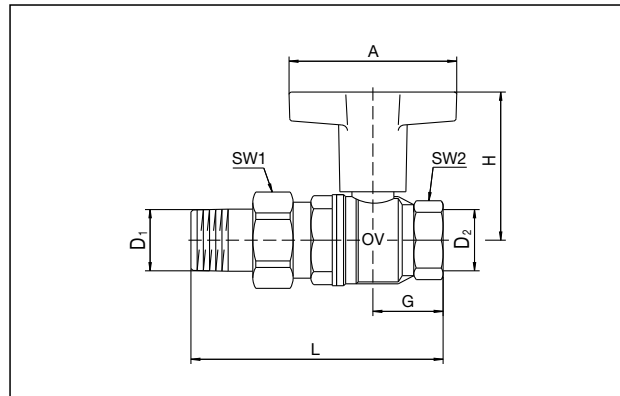
PN 16 for heating and domestic water between 0°C and 100°C.

Construction:

Two-piece body, nickel plated, full flow, ball made of chrome plated brass with PTFE seats, brass stem with double FKM O-ring seal.

Detachable coupling with male threaded tailpipe, tapered connection to the ball valve with additional EPDM O-ring.

D1	D2	H	A	G	L	SW1*	SW2*
1/2"	1/2"	68	60	25	87	30	25
3/4"	3/4"	73	80	27	98	37	31
1"	1"	77	80	33.5	115	46	38
1 1/4"	1 1/4"	114.5	120	38.5	130	52	48



Item no's. 107 57 04-10 (DN 15 to DN 32)

Ball valves "Optibal" according to DIN 3357 standard, brass, nickel plated, full flow:

both ports female thread:

Application:

Heating systems, water, industry

PN 25 for cold water, for fluids and harmless gases*) between 0°C and 150°C.

(The admissible working pressure depends on the working temperature: 25 bar up to 50°C, 20 bar up to 80°C, 16 bar up to 100°C, 8 bar up to 150°C)

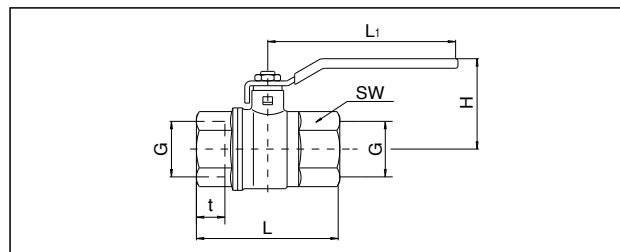
*) not for gaseous fluids of group 1

according to Pressure Equipment Directive (PED) 97/23/EC

Construction:

Two-piece body nickel plated, full flow, ball made of chrome plated brass with PTFE seats, brass stem with double FKM O-ring seal.

*SW = spanner size



Item no's. 107 65 02-16 (DN 6 to DN 50)
Lever made of galvanized steel with plastic coating

DN	G EN 10226	t	L	L1	H	SW*
6	1/4"	11	50	100	42	22
8	3/8"	11.4	55	100	42	22
32	1 1/4"	21.4	110	158	77	50
40	1 1/2"	21.4	120	158	83	55
50	2"	25.7	140	158	90.5	70

Conversion set plastic handle:

Application:

For subsequent insulation of ball valves with steel lever or aluminium T-handle, conversion to a plastic handle is recommended.

Sizes	Item no.
up to DN 15	107 60 71
DN 20 + DN 25	107 60 72
DN 32 - DN 50	107 60 73

Conversion set thermometer for plastic handle

Consisting of anthracite thermometer 0°C up to 100°C and special screw.

Sizes	Item no.
up to DN 15	107 71 81
DN 20 + DN 25	107 71 82
DN 32 - DN 50	107 71 83

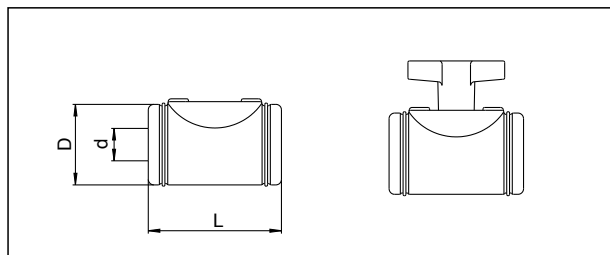
All Oventrop brass ball valves “Optibal” with extended plastic handle may be covered with standard insulation material.

The brass ball valves “Optibal” with female threaded connection on both ports and with extended plastic handle (item no's. 107 71 03 – 16) may alternatively also be equipped with a compact insulation.

DN	d	D	L
10	3/8"	47	80
15	1/2"	62	90
20	3/4"	72	100
25	1"	89	120
32	1 1/4"	109	134
40	1 1/2"	125	160
50	2"	138	200

Insulations may be purchased from Oventrop or directly from the manufacturer:
 GWK-Kuhlmann GmbH
 Franz-Kleine-Str. 16
 D-33154 Salzkotten
 Phone: (0528) 60 66
 Fax: (0528) 217 69

Insulation:



Item no's. 107 71 92-97 (DN 10 to DN 50) closed with tightening straps

Resistance of the ball valves to fluids being transported:

The indications in the table are for general orientation. Unknown factors may impair the resistance considerably. Therefore the given values are not binding. The ball valves “Optibal” are not DVGW approved.

Fluids	Values of resistance
Air, compressed air	1
Amyl alcohol, 60°C	3
Barium sulphate	2
Barium sulphide	2
Beer, 20°C	2
Benzole	2
Borax, aqueous, 60°C	1
Butane, gaseous, 20°C	1
Carbon bisulphide, 20°C	-
Carbon dioxide, dry, 60°C	1
Chlorine, dry, gaseous, 20°C	3
Chloroform, dry, 20°C	2
Citric acid, aqueous	3
Crude oil, 20°C	1
Crude petroleum, 60°C	1
Diesel oil, 60°C	1
Ethyl alcohol, 30-96%, 20°C	2
Gasoline, trade quality	1
Glucose, aqueous, 80°C	1
Glycerine, aqueous, 100°C	1
Heating oil, 60°C	1
Hydraulic oil	1
Hydrogen, 20°C	1
Lactic acid, aqueous, 10%, 20°C	3
Linseed oil, 60°C	2
Machine oil, mineral, 80°C	1
Magnesium hydroxide	2
Magnesium sulphate, aqueous, 100°C	3
Methane, 20°C	1
Methyl alcohol (methanol)	3
Methyl chloride	2
Methylene chloride, 20°C	2
Mineral oil	1

Values of resistance:

- 1: low or no affect
- 2: weak to moderate affect
- 3: strong affect, may not be used
- : no data existing

Fluids	Values of resistance
Natural gas, 20°C	1
Nitrogen, gaseous, 20°C	1
Oxalic acid, aqueous, 100°C	3
Paraffine, aqueous, 60°C	1
Petroleum ether, 60°C	1
Potassium chloride, aqueous, 60°C	3
Propane, gaseous, 20°C	1
Refrigerating agents according to DIN 8962:	
R 11	2
R 12	2
R 13	1
R 13 B1	2
R 14	1
R 32	3
R 113	2
R 115	2
R C318	2
Saturated steam	1
Sea water, 20°C	2
Silicone oil, 20°C	1
Soap suds, aqueous, 20°C	2
Sodium bicarbonate, aqueous, 20°C	3
Sodium silicate, aqueous, 60°C	2
Sodium sulphate, aqueous, 60°C	2
Starch, aqueous, 60°C	1
Sulphur dioxide, dry, 80°C	-
Tartaric acid, aqueous	3
Trichlorethylene, dry, 20°C	2
Turpentine, 60°C	2
Water	1
Water-glycol-mixture, 100°C	2

OVENTROP UK LTD.
 Unit I – The Loddon Centre
 Wade Road
 Basingstoke, Hampshire RG24 8FL
 Telephone (01256) 330441
 Telefax (Sales) (01256) 330525
 Telefax (General) (01256) 470970
 E-Mail sales@oventrop.co.uk
 Internet www.oventrop.co.uk

OVENTROP GmbH & Co. KG
 Paul-Oventrop-Straße 1
 D-59939 Olsberg
 Telefon +49 (0)2962 82-0
 Telefax +49 (0)2962 82-400
 E-Mail mail@oventrop.de
 Internet www.oventrop.com

Subject to technical modification without notice.

Product range 5
 ti 91-1/10/MW
 Edition 2006

Printed on paper free from
 chlorine bleaching.