



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

Technical information

Tender specification:

Oventrop radiator lockshield valve "Combi 4" with proportional fine presetting with memory position for use in hot water central heating systems and for chilled water circuits. For presetting, isolating, filling and draining of the radiator. Made of bronze/brass, nickel plated, valve disc with EPDM O-ring seal.

Protection cap with additional sealing function.
Connection for service tool.
Suitable for threaded pipes or compression fittings.
Lengths according to DIN 3842.
Working temperature t_S : 2 °C up to 120 °C
(for short periods up to 130°C)
Max. working pressure p_S : 10 bar

Oventrop radiator lockshield valve "Combi 3" with proportional fine presetting for use in hot water central heating systems and for chilled water circuits. For presetting, isolating, filling and draining of the radiator. Made of bronze/brass, nickel plated, valve disc with EPDM O-ring seal.

Protection cap with additional sealing function.
Connection for service tool.
Suitable for threaded pipes, compression fittings press connection.
Lengths according to DIN 3842.
Working temperature t_S : 2 °C up to 120 °C
(for short periods up to 130°C)
Max. working pressure p_S : 10 bar

Oventrop radiator lockshield valve "Combi 2" with proportional fine presetting for use in hot water central heating systems and for chilled water circuits. For presetting and isolating of the radiator. Made of brass, nickel plated, valve disc with EPDM O-ring seal. Protection cap with additional sealing function.

Suitable for threaded or solder pipes or compression fittings.
Lengths according to DIN 3842.
Working temperature t_S : 2 °C up to 120 °C
(for short periods up to 130°C)
Max. working pressure p_S : 10 bar

Function:

The Oventrop radiator lockshield valves "Combi 4, 3 and 2" are installed in the return pipe of the radiator. When installing "Combi 4 and 3", please ensure that the draining facility for draining the radiator is accessible. This will allow the removal of radiators without the necessity to drain the system.

To carry out the hydronic balancing with the heating system, a presetting can be made to alter the flow resistance. Draining and filling of the radiator ("Combi 4 and 3" only) is carried out using the service tool with 1/2" hose connection.

Application:

- Hot water central heating systems
- Chilled water circuits

"Combi 4" radiator lockshield valve with the following functions:

- Presetting with memory position
- Isolating
- Filling
- Draining

"Combi 3" radiator lockshield valve with the following functions:

- Presetting
- Isolating
- Filling
- Draining

"Combi 2" radiator lockshield valve with the following functions:

- Presetting
- Isolating

Note:

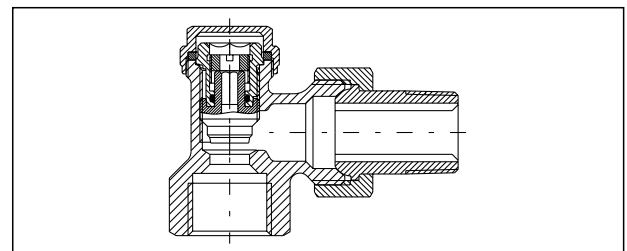
When using compression fittings, the Oventrop radiator lockshield valves can also be used in installations with Oventrop composition pipe "Copipe" (14 and 16 mm) as well as copper pipe (10-22 mm). The models with 3/4" male thread can also be used for precision steel, stainless steel and plastic pipes as well as the Oventrop composition pipe "Copipe".

The radiator lockshield valves with press connection are suitable for the direct connection of copper pipes according to EN 1057 or stainless steel pipes "NiroSan". Pressing must be carried out to tighten the connection. Suitable for use with SANHA, Geberit-Mapress or Viega press fitting jaws.

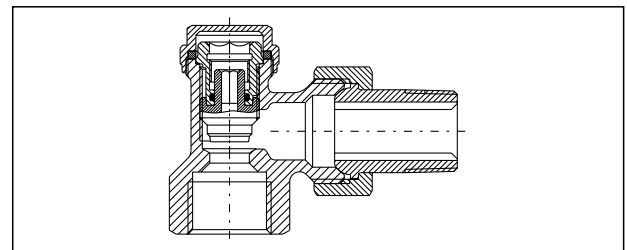


Radiator lockshield valve "Combi 4"

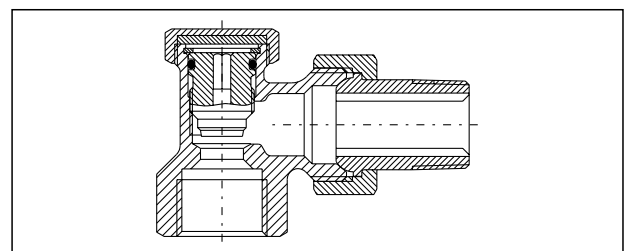
Cut illustrations:



"Combi 4" angle pattern with female thread according to EN 10226-1



"Combi 3" angle pattern with female thread according to EN 10226-1



"Combi 2" angle pattern with female thread according to EN 10226-1

"Combi 4" / "Combi 3"

1 Presetting:

- 1.1 Remove protection cap.
- 1.2 Close the valve disc by turning a 4 mm spanner (1) clockwise (drawing 1).
- 1.3 Then preset the valve disc by turning the 4 mm spanner (1) anticlockwise according to the number of turns selected from the flow chart (drawing 2).
- 1.4 Finally, using a screwdriver, turn the lock nut clockwise until stop (drawing 3, only "Combi 4").

Important: In case of subsequent modification of the presetting, the lock nut should first be unscrewed by turning a screwdriver (drawing 3) slightly anticlockwise. Afterwards the presetting can be changed with the help of the 4 mm spanner (1).

Note: The chosen presetting will not be changed by draining or isolating the radiator.

2 Isolating:

- 2.1 Remove protection cap.
 - 2.2 Close the valve disc by turning a 4 mm spanner (1) clockwise (drawing 4).
- Attention:** Do not twist the lock nut as otherwise the chosen presetting is no longer given when opening the valve (only "Combi 4").

3 Draining:

- 3.1 First close the thermostatic radiator valve in the flow pipe.
 - 3.2 Isolate the "Combi 4/3" as described above (point 2).
 - 3.3 Loosen the valve insert by turning a 10 mm spanner (1) anticlockwise (max. ¼ thread) (drawing 5).
- Attention:** The lock nut has to be screwed in sufficiently so that the 10 mm spanner can be inserted up to 4 mm at least.
- 3.4 Fit the service tool (2) to the "Combi 4/3" and connect a ½" hose (drawing 6).
- Note:** Tighten the 19 mm compression nut closely (max. 10 Nm).
- 3.5 Open the vent screw at the radiator. Fit the 10 mm spanner (1) to the service tool (2) and drain the radiator by turning anticlockwise (drawing 6).

4 Filling:

by using the service tool

- 4.1 If the radiator was just drained with the service tool (2), no modifications to the tool or the valve are required. The radiator can now be filled through the ½" hose (radiator now has to be bled).
- 4.2 With the filling operation completed, fit a 10 mm spanner (1) to the service tool (2) again and close the insert by turning clockwise (drawing 7).
- 4.3 Remove the service tool (2) and tighten insert using the 10 mm spanner (1) (max. 10 Nm) (drawing 8).

via the heating system

- 4.4 Close the valve disc by turning a 10 mm spanner (1) clockwise and tighten it (max. 10 Nm) (drawing 8).
- 4.5 Open the valve disc by turning a 4 mm spanner (1) anticlockwise until stop (drawing 2). Bleed radiator.
- 4.6 Replace protection cap.

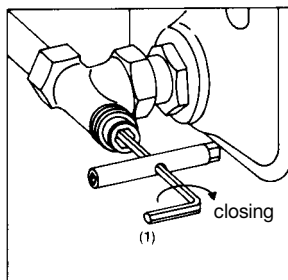
"Combi 2"

1 Presetting:

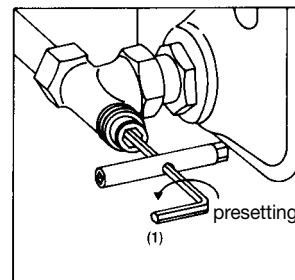
For presetting the "Combi 2" proceed as described above but using a 6 mm spanner ("Combi 4", point 1).

2 Isolating:

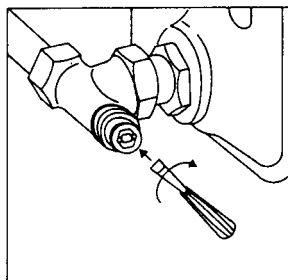
For isolating the "Combi 2" proceed as described above but using a 6 mm spanner ("Combi 4", point 2).



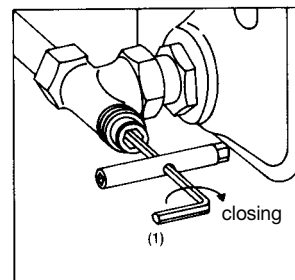
Drawing 1



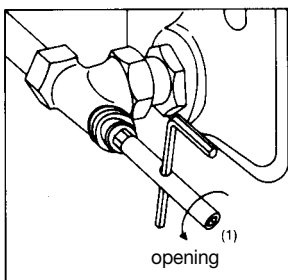
Drawing 2



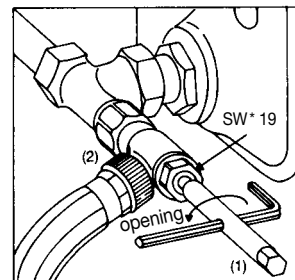
Drawing 3



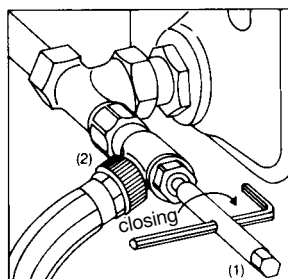
Drawing 4



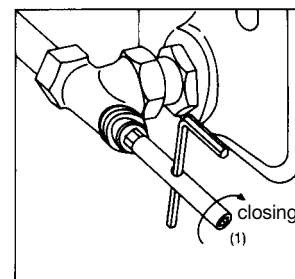
Drawing 5



Drawing 6



Drawing 7

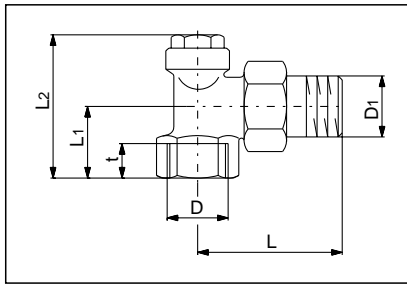


Drawing 8

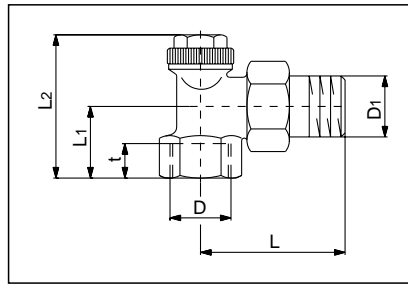
* SW = Spanner size

Radiator lockshield valves "Combi 4", "Combi 3" and "Combi 2"

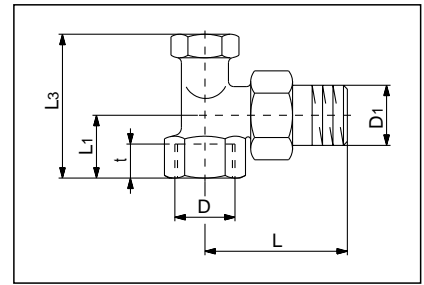
"Combi 4"



"Combi 3"



"Combi 2"



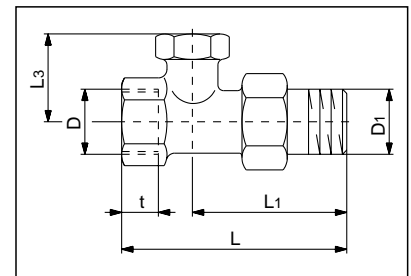
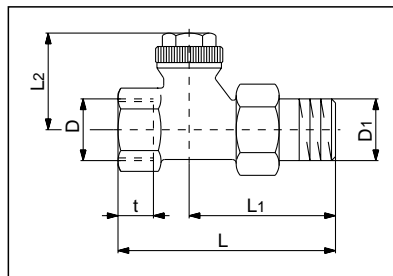
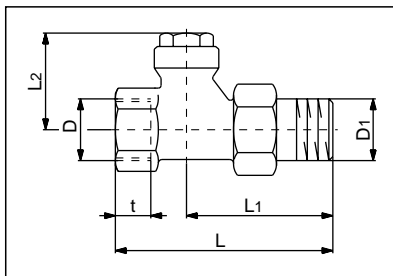
Angle pattern with female thread

DN	D	D ₁	L	L ₁	L ₂	L ₃	t	"Combi 4" nickel plated	"Combi 3" nickel plated	"Combi 2" nickel plated
10	Rp 3/8	R 3/8	52	22	47.5	43.5	10.1	109 06 61	109 03 61	109 10 61
15	Rp 1/2	R 1/2	58	26	52	48	13.2	109 06 62	109 03 62	109 10 62
20	Rp 3/4	R 3/4	66	29	58	54	14.5	109 06 63	109 03 63	109 10 63

Angle pattern with solder connection

D	D ₁	L	L ₁	L ₂	L ₃	t	"Combi 2" unplated
12	R 3/8	52	22	47.5	43.5	10	109 12 51
12	R 1/2	54	22	47.5	43.5	10	109 12 52
15	R 1/2	58	26	-	48	12	109 12 53

Note: The threads R and Rp are according to EN 10226-1.



Straight pattern with female thread

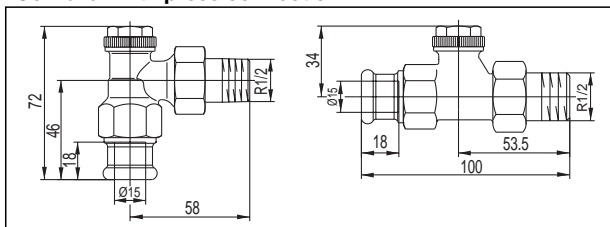
DN	D	D ₁	L	L ₁	L ₂	L ₃	t	"Combi 4" nickel plated	"Combi 3" nickel plated	"Combi 2" nickel plated
10	Rp 3/8	R 3/8	75	51.5	34	30	10.1	109 07 61	109 04 61	109 11 61
15	Rp 1/2	R 1/2	80	53.5	34	30	13.2	109 07 62	109 04 62	109 11 62
20	Rp 3/4	R 3/4	91	62	34.5	30.5	14.5	109 07 63	109 04 63	109 11 63

Straight pattern with solder connection

D	D ₁	L	L ₁	L ₂	L ₃	t	SW*	"Combi 2" unplated
12	R 3/8	75	51.5	34	30	10	27	109 13 51
12	R 1/2	77	53.5	34	30	10	27	109 13 52
15	R 1/2	80	53.5	-	30	12	30	109 13 53

Note: The threads R and Rp are according to EN 10226-1.

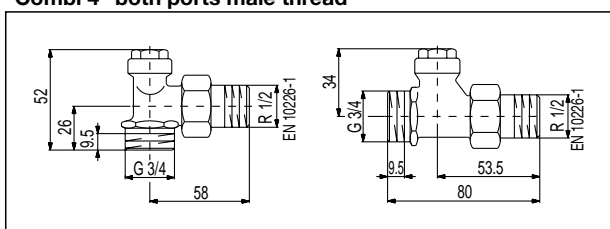
"Combi 3" with press connection



Item no. 109 03 74

Item no. 109 04 74

"Combi 4" both ports male thread

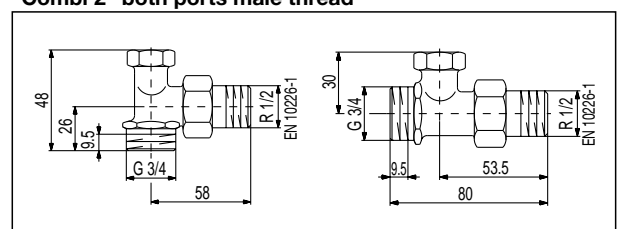


Item no. 109 06 72

Item no. 109 07 72

Service tool for "Combi 4" and "Combi 3" item no. 109 05 51.

"Combi 2" both ports male thread



Item no. 109 10 72

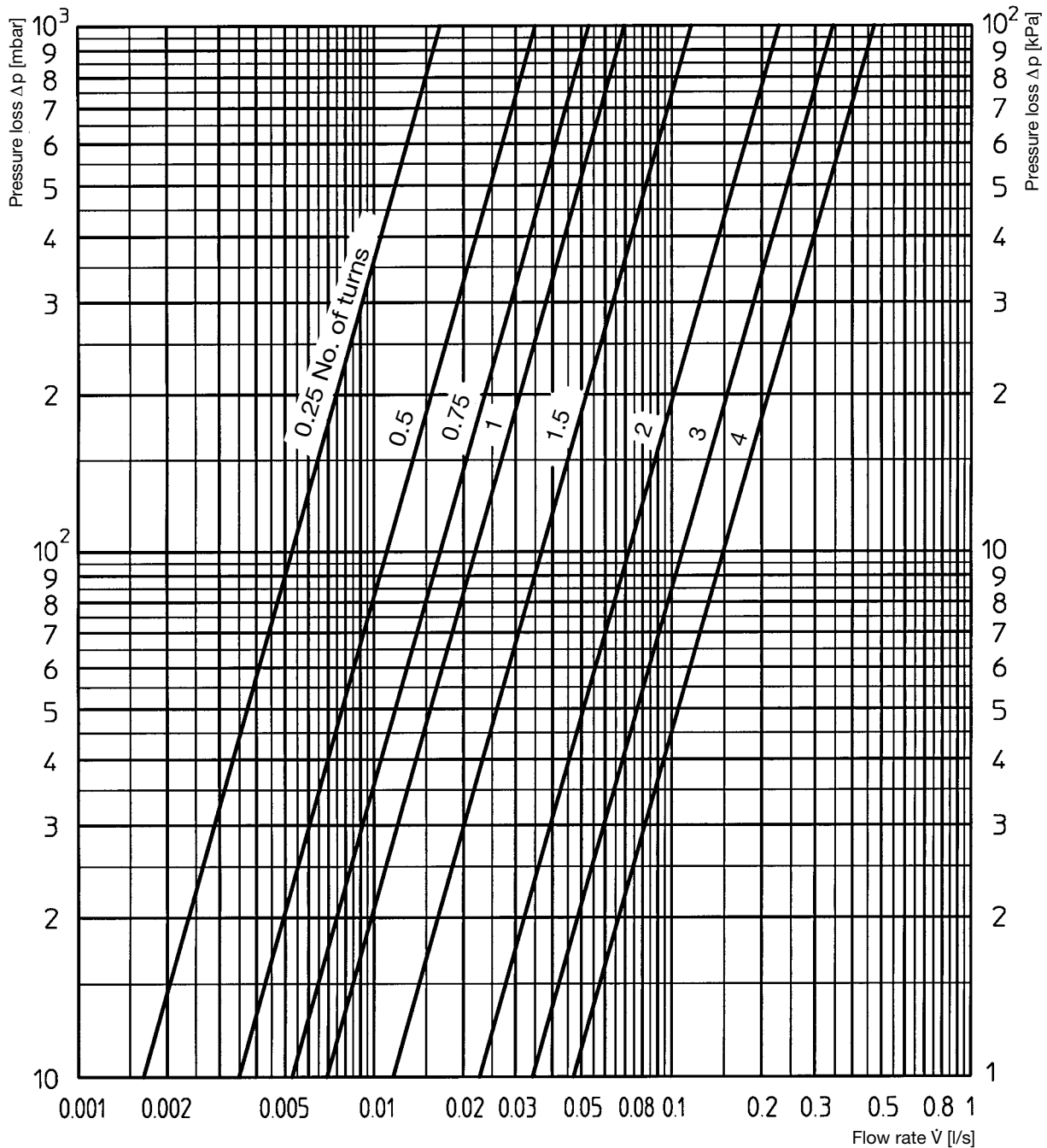
Item no. 109 11 72

* SW = Spanner size

Radiator lockshield valves "Combi 4", "Combi 3" and "Combi 2"

Performance data:

Presetting		0.25	0.5	0.75	1	1.5	2	3	4
k_V value		0.060	0.126	0.190	0.250	0.420	0.819	1.236	1.700
Zeta value	3/8"	10460	2370	1040	600	220	56	25	13
	1/2"	28070	6370	2780	1620	590	150	66	35
	3/4"	93250	21150	9300	5370	1900	500	220	116



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Subject to technical modification without notice.

Product group 1
 ti 6-1/10/MW
 Edition 2008

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 chlorine bleaching.

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