oventrop

Technical information

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

Three-way diverting valve ”Tri -D” PN 16 - flat sealing -

Tender specification:

Oventrop three-way diverting valve „Tri-D” PN 16 up to 120 °C, for short periods up to 140 °C.
Bronze body.
Connection thread M 30 x 1.5.
Steady or two point control with Oventrop temperature controllers or Oventrop actuators.
Oventrop three-way diverting valves „Tri-D” are supplied with collar nuts for the connection of either weldable tailpipes made of steel or solder or screwed tailpipes made of brass.

Accessories sets:

Weldable tailpipes DN...20, 25, 40 mm
Solder tailpipes 15, 18, 22, 28, 35, 42 mm
Screwed tailpipes ½”, ¾”, 1”, 1¼”, 1½”

Function:

Oventrop three-way diverting valves „Tri-D” have one inlet port and two outlet ports. Depending on the position of the valve disc, the direction of flow is diverted from one to the other outlet port.

For commercial two point controls, the electrothermal actuator* (item no. 101 24 85 with connection thread M 30 x 1.5) is used, with the straight port being closed with current ”off” and the port opposite the actuator being fully opened. Reversed action with the current ”on”. The working procedure of the actuators (item nos. 101 24 85 and 101 24 86) can be reversed, i.e. the straight port is opened with current ”off”. Pressure waves are not produced during changeover and the volume of flow remains constant. Oventrop actuators* have an expansion type working element which is heated electrically.

When using a steady control, Oventrop temperature controllers* with immersion sensor (item nos. 114 05 61 - 114 05 74 with connection thread M 30 x 1.5) or Oventrop temperature controllers with contact sensor (item nos. 114 28 61 - 114 28 64 with connection thread M 30 x 1.5) are used. These are proportional controllers working without auxiliary energy and allowing intermediate positions. With the temperature at the sensor rising, the straight port is closed and the angle port is opened.

Model:

Valve body made of corrosion-resistant bronze, inner parts made of brass and stainless steel, EPDM washers.

Application:

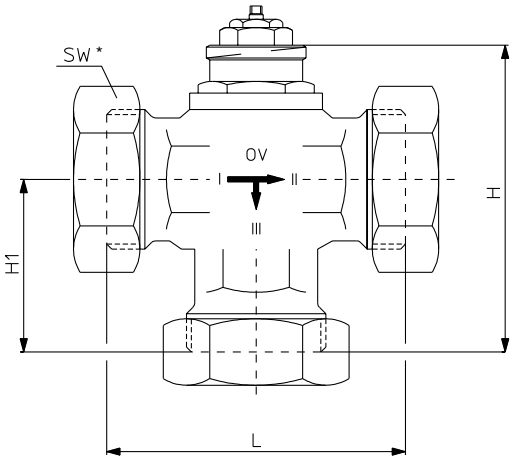
Diverting and changingover of the flow in bivalent heating systems or hot water storage cylinders, e.g. solar heating and heatpump installations. Temperature of fluid up to 120°; for short periods up to 140 °C.

Permissible pressure difference: ¾” ≙ 750 mbar, 1” ≙ 500 mbar, 1½” ≙ 200 mbar (tight closing in final positions of the valve disc).

Max. working pressure: 10 bar

* see special technical information sheets
Oventrop actuators and Oventrop temperature controller

Dimensions:

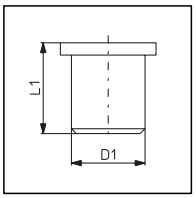


DN	L	H	H_1	SW*	Item no.
20	80	88	47	37	113 02 06
25	90	91	50	46	113 02 08
40	115	106	64	66	113 02 12

* SW = spanner size

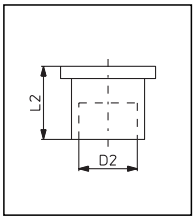
Accessories sets:

One set includes three tailpipes.



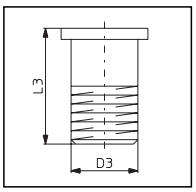
Weldable tailpipes

DN	D_1	L_1	Item no.
20	26	50	113 00 93
25	33	60	113 00 94
40	48.5	65	113 00 96



Solder tailpipes

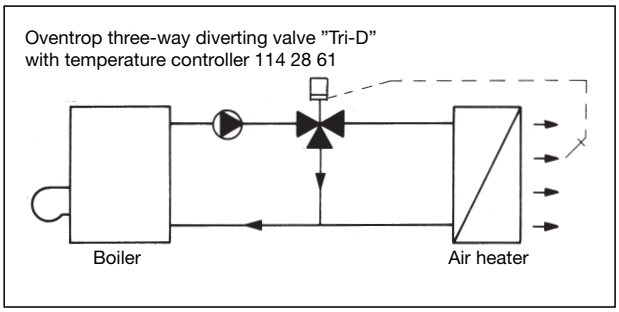
DN	D_2	L_2	Item no.
20	15	20	113 01 92
20	18	23	113 01 93
20	22	24	113 01 94
25	28	27	113 01 95
40	35	40	113 01 96
40	42	32	113 01 97



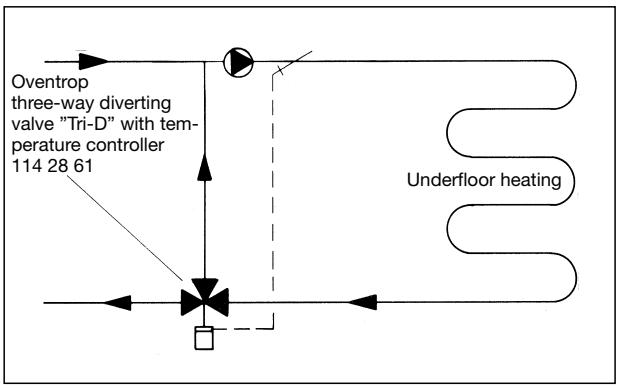
Screwed tailpipes

DN	D_3 DIN 2999	L_3	Item no.
20	½”	32	113 02 92
20	¾”	34	113 02 93
25	1”	40	113 02 94
40	1¼”	40	113 02 95
40	1½”	40	113 02 96

Examples of installation:



Use in a heating system with air heater
The outlet temperature of the air heater is controlled.



Control of underfloor heating systems
The flow temperature of the underfloor circuit is limited to the set value.

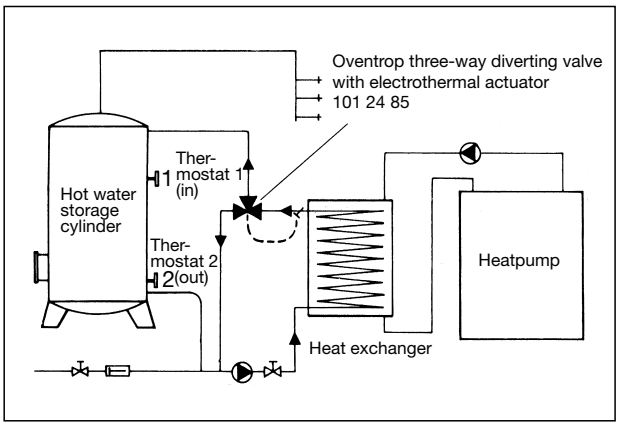
Use for hot water storage:

Direct heating of domestic water by means of a heatpump often proves to be difficult as a result of fluctuating heat supply.

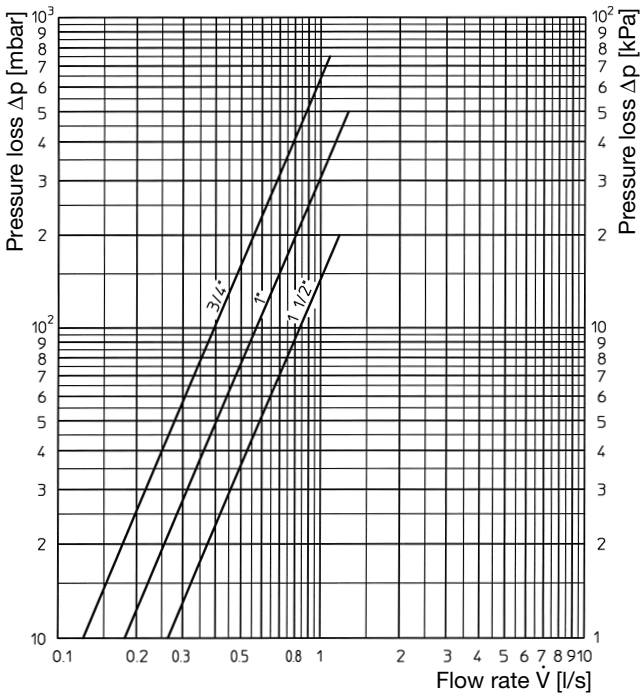
The problem may be solved by means of a storage charging connection:

The domestic water circulates through the three-way diverting valve and the heat exchanger until the required water temperature is reached. Only then, the three-way diverting valve opens and the storage cylinder is filled from the top. At the same time, cold water is taken from the lower level to be heated.

This sequence is controlled by the thermostat 1 (in) and the thermostat 2 (out).



Performance data:

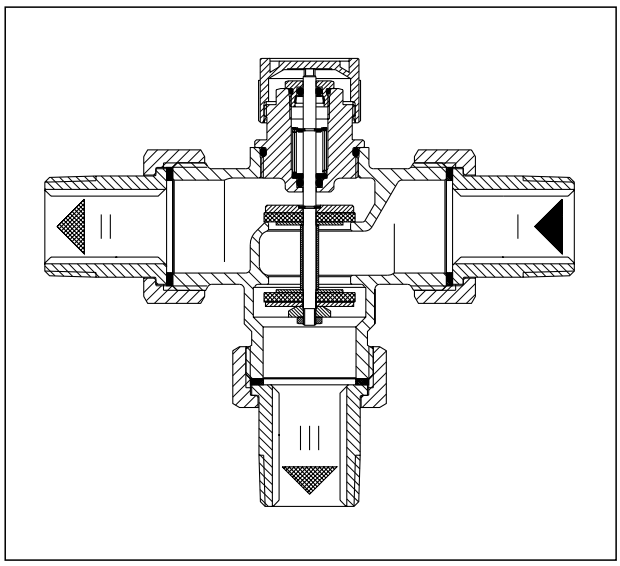


k_V and zeta values:

DN	Size	k_V	Zeta
20	¾"	4.5	17
25	1"	6.5	21
40	1½"	9.5	52

Zeta values related to the inner pipe diameter according to DIN 2440.

k_V values in m^3/h with Δp 1 bar.



Cut illustration

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