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

Function:

Oventrop thermostatic radiator valves are proportional regulators working without auxiliary energy. They regulate the room temperature by varying the flow volume of heating water.

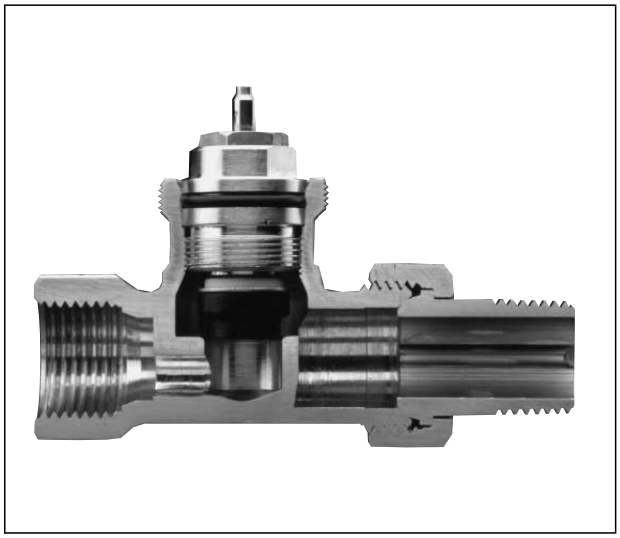
Oventrop thermostatic radiator valves meet the requirements of the **Energy Saving Directive** and allow the design of thermostatic radiator valves with a proportional control range of 1 or 2 Kelvin (k_V-values see page 13 and onwards).

Technical data:

- Nominal flow: (see charts)
- Max. flow of heating water: (see charts)
- Max. differential pressure against which the radiator valve closes: 1 bar: “Series A, AV 6, ADV 6, RF, RFV 6, RFZ, AZ, P” 3 bar “Series F”
- Valve body material: bronze, brass, nickel plated
- Differential pressure effect: 0.1 K – 0.7 K/0.5 bar

CEN – The Oventrop thermostatic radiator valves “Series A, AV 6, RF and F (angle and straight pattern valves DN 10 – DN 20) with the thermostats “Uni XH”, “Uni LH”, “Uni SH”, “vindo TH”, “Uni L” and “Uni LGH” as well as “Uni LH” and “Uni L” with remote sensor have the CEN approval.

For further details see installation instructions.



Straight pattern valve “Series A”

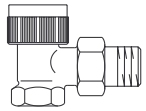
“Bypass-Combi Uno”

“Tauchrohr” valve with horizontal/vertical insertion tube

Tender specifications (short form)

Oventrop thermostatic radiator valve
"Series A"

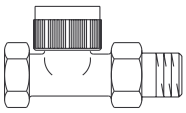
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar
Low pressure steam 0.5 bar, 110°C
Max. differential pressure: 1 bar
Body nickel plated, stem made on stainless steel with double O-ring seal.
Connection thread M 30 x 1.5
Connection for threaded and copper pipes or composition pipe "Copipe".
Complete valve insert replaceable under working conditions by using the special tool "Demo-Bloc".



Angle pattern valve

(k_V 0.95 at 2 K P-deviation)

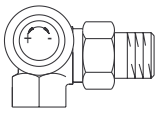
DN 10 (⅜") Angle	118 00 03
DN 15 (½") Angle	118 00 04



Straight pattern valve

(k_V 0.95 at 2 K P-deviation)

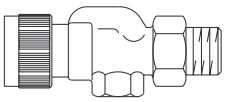
DN 10 (⅜") Straight	118 01 03
DN 15 (½") Straight	118 01 04



Double angle pattern valve

(k_V 0.95 at 2 K P-deviation)

DN 10 (⅜") Double angle left	118 04 90
DN 10 (⅜") Double angle right	118 04 91
DN 15 (½") Double angle left	118 04 92
DN 15 (½") Double angle right	118 04 93



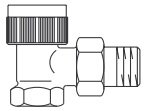
Reversed angle pattern valve for the supply pipe

especially for panel radiators
(k_V 0.95 at 2 K P-deviation)

DN 10 (⅜") Reversed angle	118 02 03
DN 15 (½") Reversed angle	118 02 04

Oventrop thermostatic radiator valve
"Series RF", reduced dimensions

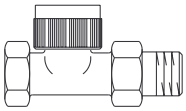
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar
Low pressure steam 0.5 bar, 110°C
Max. differential pressure: 1 bar
Body nickel plated, stem made of stainless steel with double O-ring seal.
Connection for threaded and copper pipes or composition pipe "Copipe".
Complete valve insert replaceable under working conditions by using the special tool "Demo-Bloc".



Angle pattern valve

(k_V 0.95 at 2 K P-deviation)

DN 10 (⅜") Angle	118 45 03
DN 15 (½") Angle	118 45 04
DN 20 (¾") Angle	118 45 06



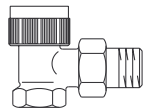
Straight pattern valve

(k_V 0.95 at 2 K P-deviation))

DN 10 (⅜") Straight	118 46 03
DN 15 (½") Straight	118 46 04
DN 20 (¾") Straight	118 46 06

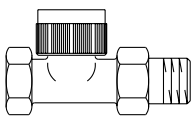
Oventrop thermostatic radiator valve
"Series AV 6"

Limiting and presetting to adapt the flow volumes to the required heat demand without replacing the valve insert.
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar
Max. differential pressure: 1 bar
Body nickel plated, stem made of stainless steel with double O-ring seal.
Connection for threaded and copper pipes or steel and composition pipe "Copipe".
Complete valve insert replaceable under working conditions by using the special tool "Demo-Bloc".



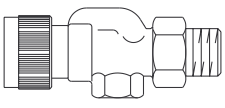
Angle pattern valve

DN 10 (⅜") Angle	118 37 63
DN 15 (½") Angle	118 37 64
DN 20 (¾") Angle	118 37 66



Straight pattern valve

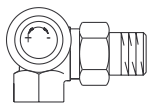
DN 10 (⅜") Straight	118 38 63
DN 15 (½") Straight	118 38 64
DN 20 (¾") Straight	118 38 66



Reversed angle pattern valve for the supply pipe

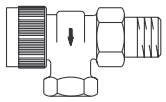
especially for panel radiators

DN 10 (⅜") Reversed angle	118 39 63
DN 15 (½") Reversed angle	118 39 64
DN 20 (¾") Reversed angle	118 39 66



Double angle pattern valve

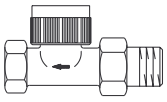
DN 10 (⅜") Double angle left	118 34 60
DN 10 (⅜") Double angle right	118 34 61
DN 15 (½") Double angle left	118 34 62
DN 15 (½") Double angle right	118 34 63



Reversed angle pattern valve for the return pipe

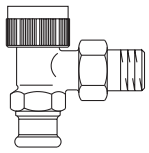
for reversed supply and return pipe (rattling noises)

DN 10 (⅜")	118 37 91
DN 15 (½")	118 37 92



Straight pattern valve for the return pipe

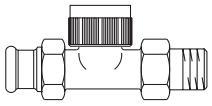
DN 10 (⅜")	118 38 91
DN 15 (½")	118 38 92



Angle pattern valve with press connection

for the direct connection of copper pipes according to EN 1057 and stainless steel pipes "Niro-San". Pressing must be carried out to tighten the connection. Suitable for use with SANHA, Geberit-Mapress or Viega press fitting jaws.

DN 15 (½") Ø 15 mm Angle	118 37 74



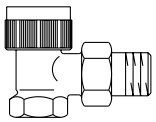
Straight pattern valve with press connection

DN 15 (½") Ø 15 mm Straight	118 38 74

Presetting key
for all valves of the "Series AV 6", "Series ADV 6" and "Series RFV 6" 118 39 61

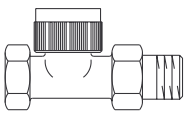
Oventrop thermostatic radiator valve
"Series ADV 6"

With presetting to adapt the flow volumes to the required heat demand.
Should the thermostat be removed or vandalised, the double function provokes an automatic closing of the valve to 5% of the nominal flow.
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar
Max. differential pressure: 1 bar
Body nickel plated, stem made of stainless steel with double O-ring seal.
Connection for threaded and copper pipes or composition pipe "Copipe".
Complete valve insert replaceable under working conditions by using the special tool "Demo-Bloc".



Angle pattern valve

DN 10 (⅜") Angle	118 81 63
DN 15 (½") Angle	118 81 64
DN 20 (¾") Angle	118 81 66



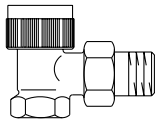
Straight pattern valve

DN 10 (⅜") Straight	118 82 63
DN 15 (½") Straight	118 82 64
DN 20 (¾") Straight	118 82 66

Presetting key
for all valves of the "Series AV 6", "Series ADV 6" and "Series RFV 6" 118 39 61

Oventrop thermostatic radiator valve
"Series AZ"

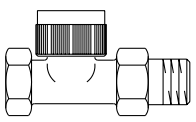
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar
Low pressure steam 0.5 bar, 110°C
Max. differential pressure: 1 bar
Body nickel plated, stem made of stainless steel with double O-ring seal.
Connection for threaded and copper pipes or composition pipe "Copipe".
Complete valve insert replaceable under working conditions by using the special tool "Demo-Bloc".



Angle pattern valve

(k_V 1.1 at 2 K P-deviation)

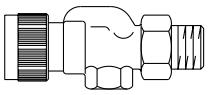
DN 10 (⅜") Angle	118 70 03
DN 15 (½") Angle	118 70 04
DN 20 (¾") Angle	118 70 06
DN 25 (1") Angle	118 70 08
DN 32 (1¼") Angle	118 70 10



Straight pattern valve

(k_V 1.1 at 2 K P-deviation)

DN 10 (⅜") Straight	118 71 03
DN 15 (½") Straight	118 71 04
DN 20 (¾") Straight	118 71 06
DN 25 (1") Straight	118 71 08
DN 32 (1¼") Straight	118 71 10



Reversed angle pattern valve for the supply pipe
especiallly for panel radiators
(k_V 1.1 at 2 K P-deviation)

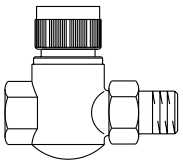
DN 10 (⅜") Reversed angle	118 72 03
DN 15 (½") Reversed angle	118 72 04
DN 20 (¾") Reversed angle	118 72 06

Oventrop thermostatic radiator valve "Series M"

Especially suitable for installations requiring high flow capacities – e.g. gravity fed and one pipe heating systems.

Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar

Max. differential pressure: 0.35 bar



Straight pattern valve

DN 15 (½") kvs 3.0	118 54 04
DN 20 (¾") kvs 4.0	118 54 06

Oventrop thermostatic radiator valve "Series RFV 6", reduced dimensions

With presetting to adapt the flow volumes to the required heat demand.

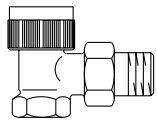
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar

Max. differential pressure: 1 bar

Body nickel plated, stem made of stainless steel with double O-ring seal.

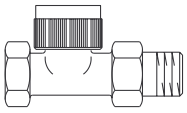
Connection for threaded and copper pipes or composition pipe "Copipe".

Complete valve insert replaceable under working conditions by using the special tool "Demo-Bloc".



Angle pattern valve

DN 10 (⅜") Angle	118 50 63
DN 15 (½") Angle	118 50 64
DN 20 (¾") Angle	118 50 66



Straight pattern valve

DN 10 (⅜") Straight	118 51 63
DN 15 (½") Straight	118 51 64
DN 20 (¾") Straight	118 51 66

Presetting key

for all valves of the "Series AV 6", "Series ADV 6" and "Series RFV 6"	118 39 61

Oventrop thermostatic radiator valve "Series P"

With linear flow characteristic line of the regulating insert for piston strokes up to 2.5 mm.

Especially for use with electric actuators with steady control.

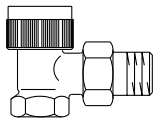
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar

Max. differential pressure: 1 bar

Body nickel plated, stem made of stainless steel with double O-ring seal.

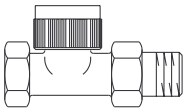
Connection for threaded and copper pipes or composition pipe "Copipe".

Complete valve insert replaceable under working conditions by using the special tool "Demo-Bloc".



Angle pattern valve
kvs 0.45

DN 15 (½") Angle	115 40 04



Straight pattern valve
kvs 0.45

DN 15 (½") Straight	115 41 04

kvs 0.8

DN 15 (½") Straight	115 41 51

Oventrop thermostatic radiator valve "Series F"

With hidden infinitely adjustable fine presetting without replacing the valve insert.

Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar

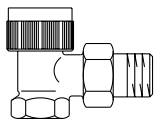
Max. differential pressure: 3 bar

Flow rates limited to a max. P-deviation of 2 K.

Body nickel plated, stem made of stainless steel with double O-ring seal.

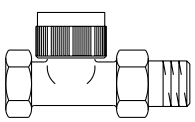
Connection for threaded and copper pipes or composition pipe "Copipe".

Complete valve insert replaceable under working conditions by using the special tool "Demo-Bloc".



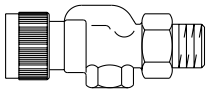
Angle pattern valve

DN 10 (⅜") Angle	118 06 03
DN 15 (½") Angle	118 06 04
DN 20 (¾") Angle	118 06 06



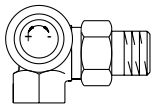
Straight pattern valve

DN 10 (⅜") Straight	118 07 03
DN 15 (½") Straight	118 07 04
DN 20 (¾") Straight	118 07 06



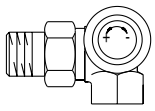
Reversed angle pattern valve for the supply pipe
especiallly for panel radiators

DN 10 (⅜") Reversed angle	118 08 03
DN 15 (½") Reversed angle	118 08 04



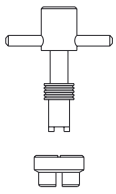
Double angle pattern valve
Left hand side connection

DN 10 (⅜")	118 14 60
DN 15 (½")	118 14 62



Right hand side connection

DN 10 (⅜")	118 14 61
DN 15 (½")	118 14 63



Presetting key

for all valves of the "Series F"	118 07 91

Conversion valve PN 20
for the replacement of manual radiator valves

Pruss,

Model 120 EV	118 09 64
dto., DV	118 09 65

Fittings for conversion valves

Weldable nipple (steel)

⅜"	101 09 89
½"	101 09 90

Solder nipple (brass)

12 mm	101 09 91
15 mm	101 09 92

Screwed nipple (brass)

½" M EN 10226	101 09 93

Collar nut (brass)

⅞" F	101 09 94

Screwed tailpipe (brass)

⅞" M x 12 mm	101 09 95
⅞" M x 15 mm	101 09 96

Screwed tailpipe (weldable nipple - steel)

¾" M	101 09 88
⅞" M	101 09 98

Cap (brass)

⅝" F	101 09 99
⅞" F	101 09 97

Compression fittings

for copper pipes, according to DIN EN 1057 compression nut nickel plated (for female threaded connection ⅜", ½", ¾")

⅜" x 10 mm	102 71 51
⅜" x 12 mm	102 71 52
½" x 10 mm	102 81 52
½" x 12 mm	102 81 53
½" x 14 mm	102 81 54
½" x 15 mm	102 81 55
½" x 16 mm	102 81 65
¾" x 18 mm	102 71 57
¾" x 22 mm	102 71 58

for copper pipes according to DIN EN 1057, collar nut nickel plated (for male threaded connection ¾" according to DIN V 3838)

10 mm	102 74 72
12 mm	102 74 73
14 mm	102 74 74
15 mm	102 74 75
16 mm	102 74 76
18 mm	102 74 77

for plastic pipes according to DIN 4726, PE-X according to DIN 16892/16893, PB according to DIN 16968, PP according to DIN 8078 A1, collar nut nickel plated (for male threaded connection ¾" according to DIN V 3838)

12 x 1.1 mm	102 77 68
12 x 2 mm	102 77 52
14 x 2 mm	102 77 55
16 x 1.5 mm	102 77 67
16 x 2 mm	102 77 57
17 x 2 mm	102 77 59
18 x 2 mm	102 77 61
20 x 2 mm	102 77 63

for copper pipes according to DIN EN 1057, precision steel pipes according to DIN EN 10305-1/2 and stainless steel pipes, collar nut nickel plated, double compression ring, supplied as one piece, soft sealing, 95°C max. (for male threaded connection ¾"according to DIN V 3838)

10 mm	102 74 40
12 mm	102 74 41
14 mm	102 74 42
15 mm	102 74 43
16 mm	102 74 44
18 mm	102 74 45

for composition pipe "Copipe", compression nut nickle plated (for female threaded connection ½")

14 x 2 mm	150 73 54
16 x 2 mm	150 73 55

for composition pipe "Copipe", (for male threaded connection ¾" according to DIN V 3838)

14 x 2 mm	150 79 54
16 x 2 mm	150 79 55
18 x 2 mm	150 79 58
20 x 2.5 mm	150 79 60

Reinforcing sleeves

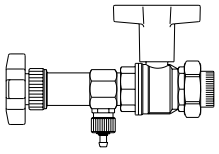
For the additional stabilisation of soft pipes

Suitable for all thermostatic radiator valve series

10 x 1 mm	102 96 51
12 x 1 mm	102 96 52
14 x 1 mm	102 96 53
15 x 1 mm	102 96 54
16 x 1 mm	102 96 55
18 x 1 mm	102 96 56
22 x 1 mm	102 96 57

Oventrop
Special tool "Demo-Bloc"

For the replacement of defective thermostatic radiator valve inserts under working conditions without the necessity to drain the system.



Suitable for all thermostatic radiator valve series	118 80 51
Cleaning head	118 84 00

Oventrop three-way bypass valve

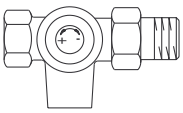
With presetting to adapt the flow volumes to the required heat demand.

Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar

For one and two pipe heating systems.

Bronze body, nickel plated, stem made of stainless steel with double O-ring seal.

Connection for threaded and copper pipes or composition pipe “Copipe”.



DN 15 (½”) left	118 05 82
DN 15 (½”) right	118 05 83

Oventrop two pipe connection piece "Duo"

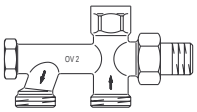
With shut off, for simplified installation of two pipe heating systems.

Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar

Body nickel plated.

Connection of copper, precision steel, plastic and composition pipe “Copipe”.

Distance between pipe centres: 50 mm

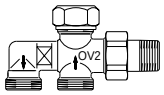


DN 15 ¾” M	101 33 61

Oventrop two pipe connection piece “Duo” with infinitely adjustable presetting and with and without shut off

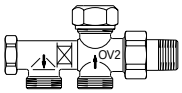
Connection of copper and plastic pipe.

Distance between pipe centres: 35 mm



without shut off

DN 15 M 24 x 1.5 M	118 25 51



with shut off

DN 15 M 24 x 1.5 M	118 26 51

Set of compression fittings

2-fold for copper pipe according to DIN EN 1057 and 2-fold for connecting pipe for male threaded connection ¾” according to DIN V 3838

12 mm	101 67 61
14 mm	101 67 62
15 mm	101 67 63
16 mm	101 67 64
18 mm	101 67 65

2-fold for copper pipe according to DIN EN 1057 for male threaded connection M 24 x 1.5

15 mm	101 68 13

2-fold for plastic pipe according to DIN 4726, PE-X according to DIN 16892/16893, PB according to DIN 16968, PP according to DIN 8078 A1 for male threaded connection M 24 x 1.5

14 x 2 mm	101 68 23
16 x 2 mm	101 68 24

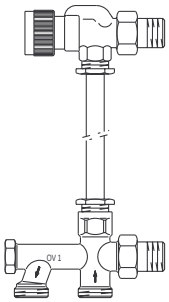
Oventrop one pipe radiator valve “Bypass-Combi Uno”

Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar

With upper and lower connection to the radiator, consisting of:
Reversed angle pattern or double angle pattern valve, or straight pattern valve with pipe elbow, connecting pipe, distributor and set of compression fittings.

With infinite bypass adjustable under working conditions, for radiator isolation and with radiator isolation fitting preventing self convection heating between distributor and radiator.

Body nickel plated.



Reversed angle pattern valve for the supply pipe

DN 15 (½”) Reversed angle	118 02 04

Double angle pattern valve

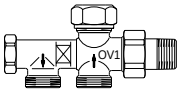
DN 15 (½”) Double angle left	118 04 92
DN 15 (½”) Double angle right	118 04 93

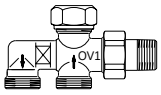
Straight pattern valve with pipe elbow

DN 15 (½”) Straight	118 03 04

Connecting pipe

15 x 560 mm	101 69 51
15 x 1120 mm	101 69 53
15 x 2000 mm	101 69 54





One pipe connection piece with isolating fitting

Distance between pipe centres: 50 mm

DN 15 (½”) ¾” M	101 31 61

One pipe connection piece with brass fitting

Distance between pipe centres: 50 mm

DN 15 (½”) ¾” M	101 31 62

One pipe connection piece “Uno” with infinitely adjustable bypass, with and without shut off, with brass fitting

Distance between pipe centres: 35 mm

with shut off

DN 15 (½”) M 24 x 1.5 M	118 21 51

without shut off

DN 15 (½”) M 24 x 1.5 M	118 20 51

Set of compression fittings

2-fold for copper pipes according to DIN EN 1057 and 2-fold for connecting pipe for male threaded connection ¾” according to DIN V 3838

12 mm	101 67 61
14 mm	101 67 62
15 mm	101 67 63
16 mm	101 67 64
18 mm	101 67 65

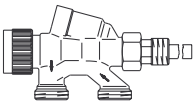
2-fold for copper pipes according to DIN EN 1057 for male threaded connection M 24 x 1.5

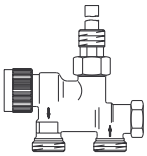
15 mm	101 68 13

2-fold for plastic pipes according to DIN 4726, PE-X according to DIN 16892/16893, PB according to DIN 16968, PP according to DIN 8078 A1 for male threaded connection M 24 x 1.5

14 x 2 mm	101 68 23
16 x 2 mm	101 68 24

Reinforcing sleeves see column 2 of previous page.





Oventrop one pipe radiator valve “Tauch-Rohr” with shut off

Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C) max. working pressure p_s: 10 bar

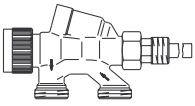
For horizontal or vertical connection to lower radiator nipple.

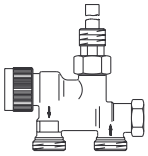
Body nickel plated, with horizontal insertion tube

DN 15 (½”) ¾” M	118 35 61

with vertical insertion tube

DN 15 (½”) ¾” M	118 35 71





Oventrop two pipe radiator valve “Tauch-Rohr” with shut off

Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar

For lateral or vertical connection to lower radiator nipple.

Body nickel plated with lateral insertion tube

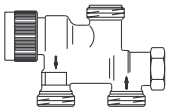
DN 15 (½”) ¾” M	164 35 61

with vertical insertion tube

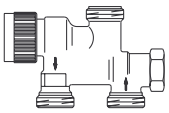
DN 15 (½”) ¾” M	118 35 81

Restrictor

for DIN radiators	118 36 54



Oventrop one pipe radiator valve for "TKM" system
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar
For vertical connection to lower radiator nipple.
Body nickel plated
DN 15 (½") ¾" M 118 36 11

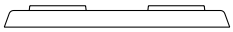


Oventrop two pipe radiator valve for "TKM" system
Working temperature t_s: 2°C up to 120°C (for short periods up to 130°C), max. working pressure p_s: 10 bar
For vertical connection to lower radiator nipple.
Body nickel plated
(k_V 0.95 at 2 K P-deviation)
DN 15 (½") ¾" M 118 36 61

Set of compression fittings
2-fold for copper pipes according to DIN EN 1057
for male threaded connection ¾" according to DIN V 3838

10 mm	101 68 60
12 mm	101 68 61
14 mm	101 68 62
15 mm	101 68 63
16 mm	101 68 64
18 mm	101 68 65

Reinforcing sleeves see column 2 of previous page.

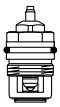


Plastic rosette cover
Distance between pipe centres: 50 mm
Perforation

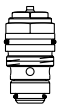
12 mm	101 66 71
14 mm	101 66 72
15 mm	101 66 73
16 mm	101 66 74
18 mm	101 66 75
Distance between pipe centres: 35 mm	
Perforation 14-20 mm	101 66 84

Valve inserts:
Stem made of stainless steel with double O-ring seal.
The valve inserts of all series (except for three-way bypass valves) may be combined with all thermostatic radiator valve bodies.

Valve insert "Series A" 118 70 69



Valve insert "Series AV 6" with presetting 118 70 57



Valve insert "Series F" with fine presetting 118 73 52

Valve insert "Series ADV 6" with double function and presetting 118 60 01

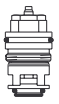
Valve insert "Series P"
with linear flow characteristic line
kvs = 0.45 118 60 52

Valve insert "Series P"
with linear flow characteristic line
kvs = 0.80 118 60 53

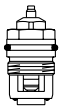
Valve insert with stainless steel seat
especially for steam installations 118 62 00

Valve insert with presetting
suitable for all
three-way bypass valves 118 70 56

Valve insert "Series AZ" 118 70 60



Special valve insert
for reversed supply and return pipe, suitable for the valve bodies of the "Series A, AV 6, E, F, RF and RFV 6" 118 70 70

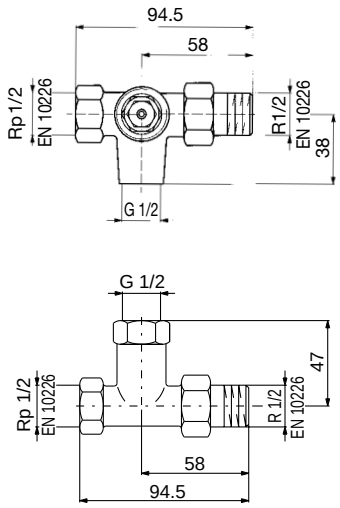


Special valve insert with presetting
for reversed supply and return pipe, suitable for the valve bodies of the "Unibox T", "Unibox plus" and "Unibox vario" 118 70 77
As replacement for the Oventrop products: "Multiblock T", "Unibox E plus", "Unibox ET" and "Unibox E vario"

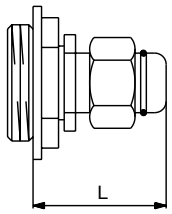
Gland nut
for all valves (exception: "Series AV 6, RFV 6 and ADV 6") 101 75 01

Dimensions:

Three-way bypass valve/T-union:

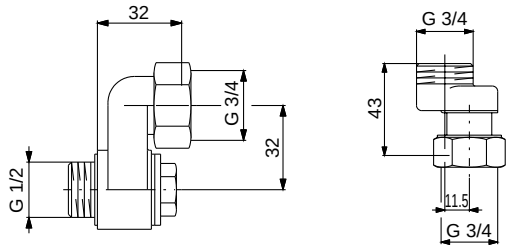


Length compensating radiator fitting:

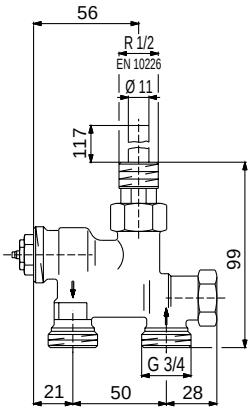


DN	Lmin.	Lmax.
10	29	61
15	32	61
20	32	61

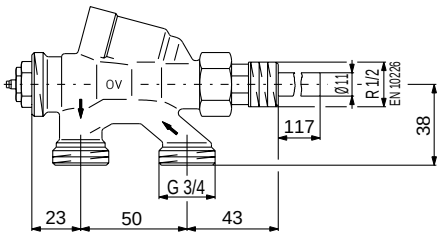
S-connection fitting:



"Tauch-Rohr":

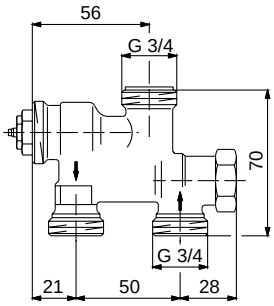


vertical insertion tube (one pipe/two pipe)

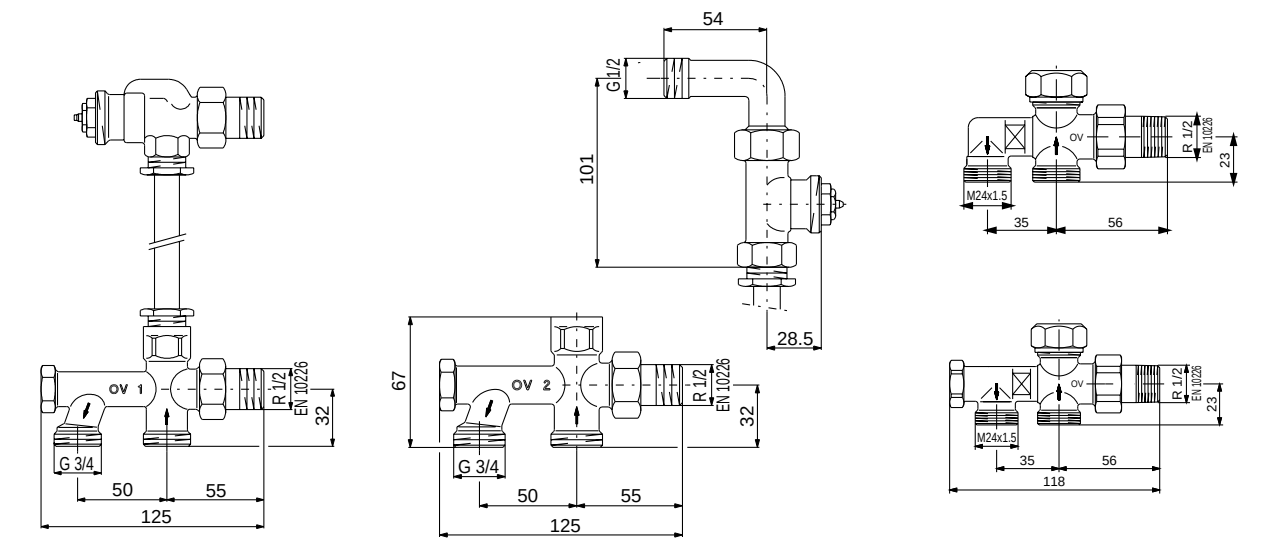


horizontal insertion tube (one pipe)

"TKM" valve (one pipe/two pipe):

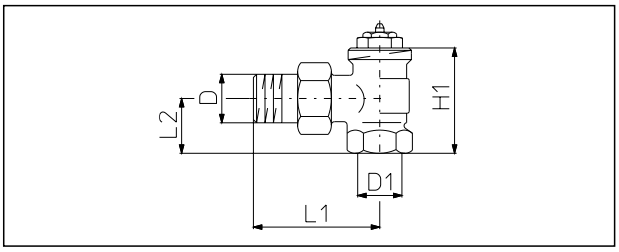


"Bypass-Combi Uno/Duo":

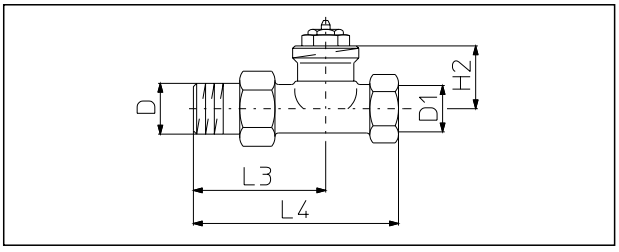


Dimensions:

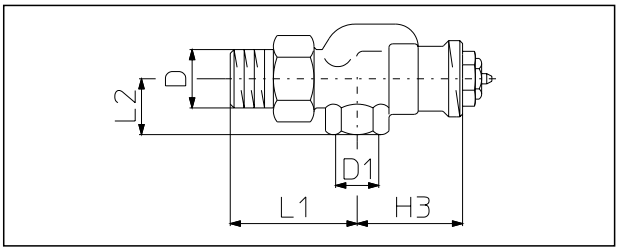
“Series A, AV 6, AZ, ADV 6, F” and “Series P”



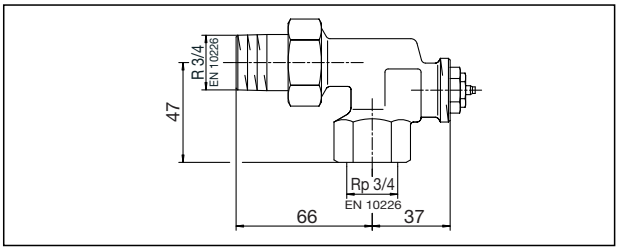
Angle pattern valve



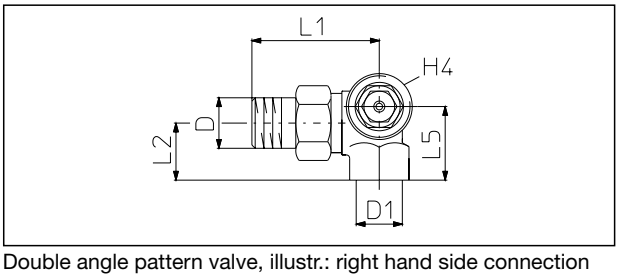
Straight pattern valve



Reversed angle pattern valve for the supply pipe DN 10 and DN 15

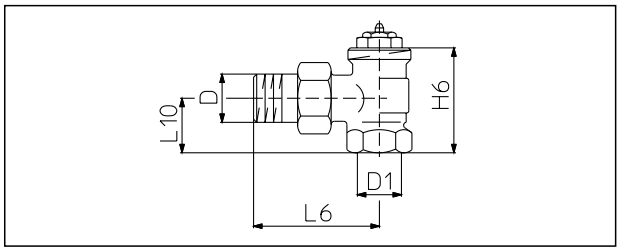


Reversed angle pattern valve for the supply pipe DN 20

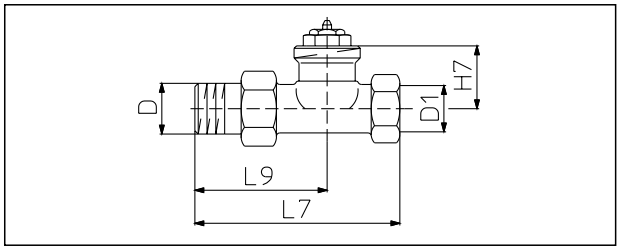


Double angle pattern valve, illustr.: right hand side connection

“Series RF“, “Serie RFV 6” and “Series RFZ”

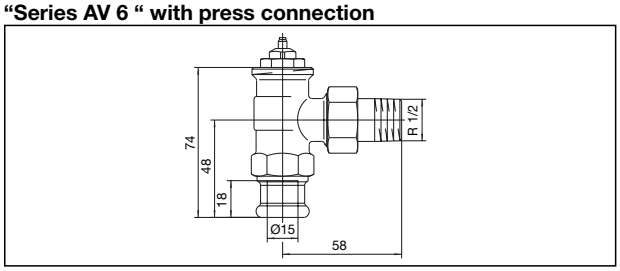


Angle pattern valve

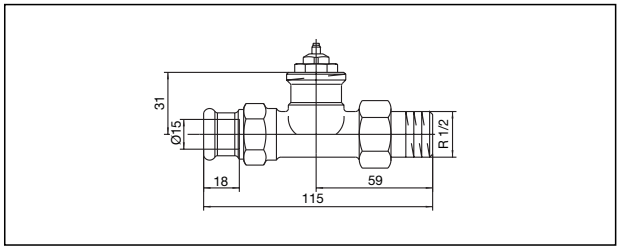


Straight pattern valve

“Series AV 6 “ with press connection

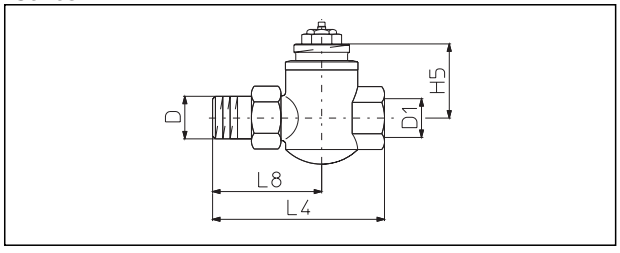


Angle pattern valve



Straight pattern valve

“Series M”



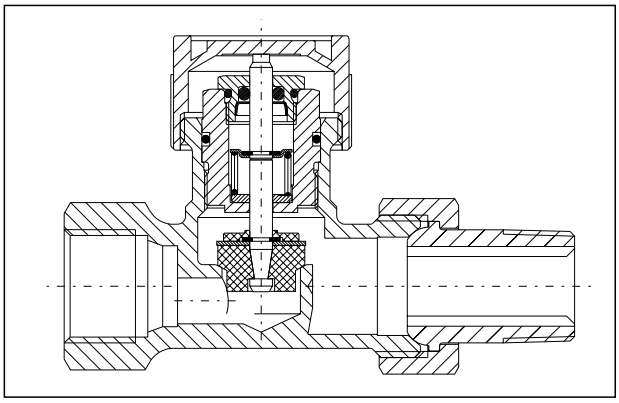
Straight pattern valve DN 15 and DN 20

The dimensions of the valves for the return pipe are identical with those for the supply pipe.

DN	D EN 10226	D_1 EN 10226	L_1	L_2	L_3	L_4	L_5	L_6	L_7	L_8	L_9	L_{10}	H_1	H_2	H_3	H_4	H_5	H_6	H_7
10	R ⅜	Rp ⅜	52	22	52	85	27	49	75	–	50	20	47.5	31	41.5	31	–	47.5	31
15	R ½	Rp ½	58	26	59	95	34	54	83	61	56	23	53	31	40	30	40	50	31
20	R ¾	Rp ¾	66	29	63	106	–	63	98	69	63	26	53	29	37	–	40	50	29
25	R 1	Rp 1	75	34	80	125	–	–	–	–			61	30	–	–	–		
32	R 1¼	Rp 1¼	86	39	90	150	–	–	–	–			68.5	33.5	–	–	–		

Series

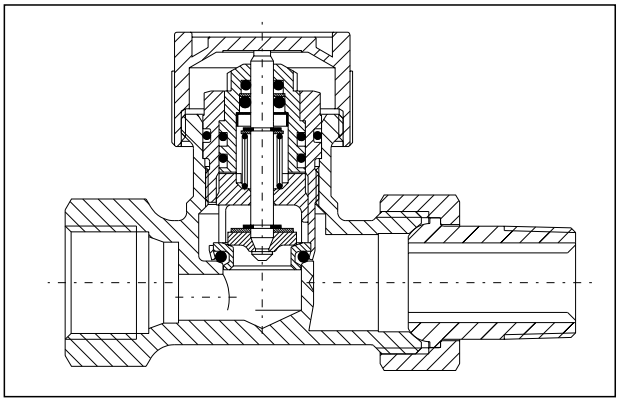
“Series A” and “Series RF”



Standard model for all one and two pipe heating systems.

The valves of the “Series A” and “Series RF” have a k_V value of 0.95 at 2 K P-deviation.

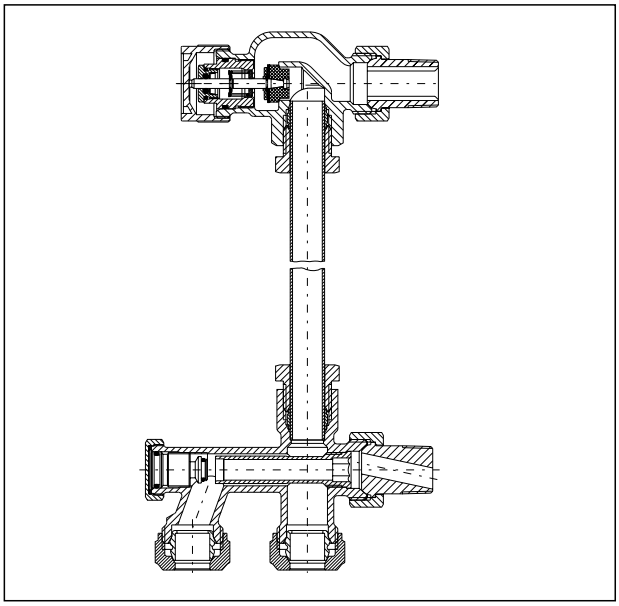
“Series AV 6” and “Series RFV 6”



Model with presetting: for two pipe heating systems with normal temperature difference.

The valves of the “Series AV 6” and “Series RFV 6” are fitted with a presettable valve insert and therefore allow a problem-free adaptation of the flow rates.

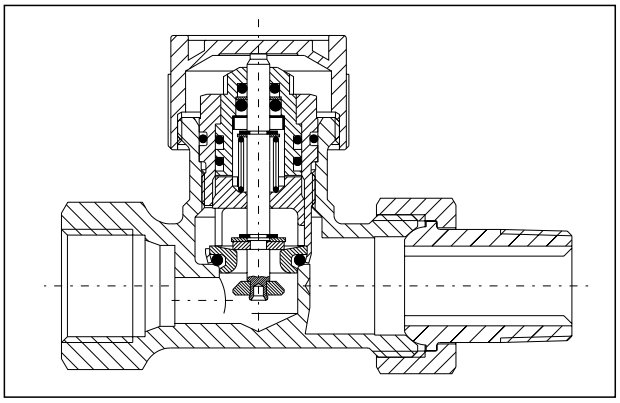
“Bypass-Combi”



One pipe radiator valve “Bypass-Combi Uno”

Installation set for a problem-free installation of one pipe heating systems.

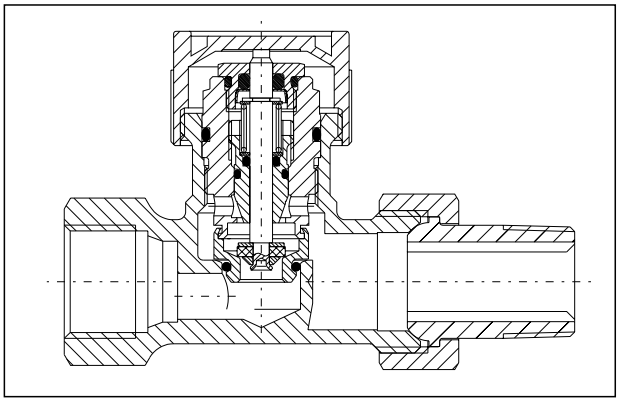
“Series ADV 6”



Model with presetting and double function.

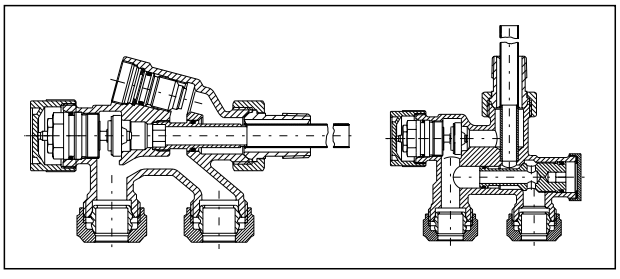
Should the thermostat be removed or vandalised, the double function provokes and automatic closing of the valve to 5% of the nominal flow.

“Series F”



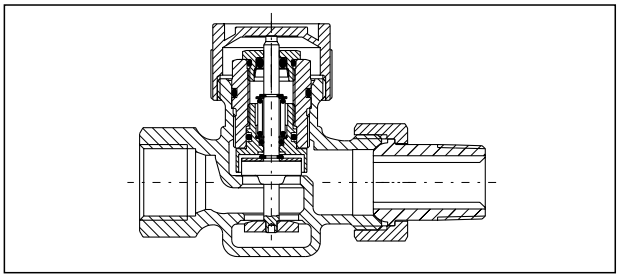
Model with infinitely adjustable fine presetting: for two pipe heating systems with high temperature difference and low flow rates.

“Tauch-Rohr”



“Tauch-Rohr” valves for one pipe heating systems

Three-way bypass valve
Illustr. Left hand side connection



For one and two pipe heating systems. The valves are adjusted to a 40% radiator flow share at 2 K P-deviation.

k_V and Zeta-values

"Series A" and "Series RF"

Size	k_V at P-deviation				k_{VS}	Zeta at P-deviation				
	1 K	1.5 K	2 K	3 K		1 K	1.5 K	2 K	3 K	open
Straight pattern valve, angle pattern valve										
DN 10	0.50	0.73	0.95	1.25	1.35	151	71	42	24	21
DN 15	0.50	0.73	0.95	1.25	1.35	404	190	112	65	55
DN 20	0.50	0.73	0.95	1.25	1.35	1343	630	372	215	184
Reversed angle pattern valve, double angle pattern valve, sizes DN 10 + DN 15										
DN 10	0.50	0.73	0.95	1.25	1.35	151	71	42	24	21
DN 15	0.50	0.73	0.95	1.25	1.35	404	190	112	65	55
DN 20	0.50	0.73	0.95	1.25	1.35	1343	630	372	215	184

"Series AV 6" and "Series RFV 6" (with presetting)

All patterns

Size	k_V at P-deviation (presetting 6)				k_{VS}	Zeta at P-deviation				
	1 K	1.5 K	2 K	3 K		1 K	1.5 K	2 K	3 K	open
DN 10	0.32	0.49	0.65	0.8	0.9	374	157	89	59	46
DN 15	0.32	0.49	0.65	0.8	0.9	1004	421	239	158	125
DN 20	0.32	0.49	0.65	0.8	0.9	3330	1398	795	525	414

"Series ADV 6" (with double function and presetting)

All patterns

Size	k_V at P-deviation (presetting 6)				Zeta at P-deviation			
	1 K	1.5 K	2 K	3 K	1 K	1.5 K	2 K	3 K
DN 10	0.32	0.49	0.65	0.8	374	157	89	59
DN 15	0.32	0.49	0.65	0.8	1004	421	239	158
DN 20	0.32	0.49	0.65	0.8	3330	1398	795	525

"Series F" (with fine presetting)

All patterns

Size	k_V at P-deviation (presetting 6)				k_{VS}	Zeta at P-deviation				
	1 K	1.5 K	2 K	3 K		1 K	1.5 K	2 K	3 K	open
DN 10	0.20	0.29	0.32	0.35	0.37	957	449	374	313	280
DN 15	0.20	0.29	0.32	0.35	0.37	2570	1202	1004	839	751
DN 20	0.20	0.29	0.32	0.35	0.37	8535	3992	3330	2790	2490

"Series AZ"

Size	k_V at P-deviation			k_{VS}			Zeta at P-deviation					
	1 K	1.5 K	2 K	Straight	Angle	Rev. angle	1 K	1.5 K	2 K	Straight, open	Angle, open	Rev. angle open
DN 10	0.55	0.82	1.1	1.8	2.8	1.8	125	56	31	12	5	12
DN 15	0.55	0.82	1.1	1.8	3.5	1.8	334	150	84	31	8	31
DN 20	0.55	0.82	1.1	2.8	3.5	1.8	1110	499	277	43	27	104
DN 25	0.55	0.82	1.1	3.5	3.5	–	2791	1255	698	69	69	–
DN 32	0.55	0.82	1.1	4.1	4.1	–	8467	3809	2117	152	152	–

"Series P"

Size	k_V at P-deviation			k_{VS}		Zeta at P-deviation				
	1 K	1.5 K	2 K	Straight	Angle	1 K	1.5 K	2 K	Straight, open	Angle, open
DN 15 "P 1"	0.05	0.08	0.1	0.45	0.45	40425	15791	10106	499	499
DN 15 "P 2"	0.08	0.12	0.16	0.80	1.40	15791	7018	3948	158	52

"Series M"

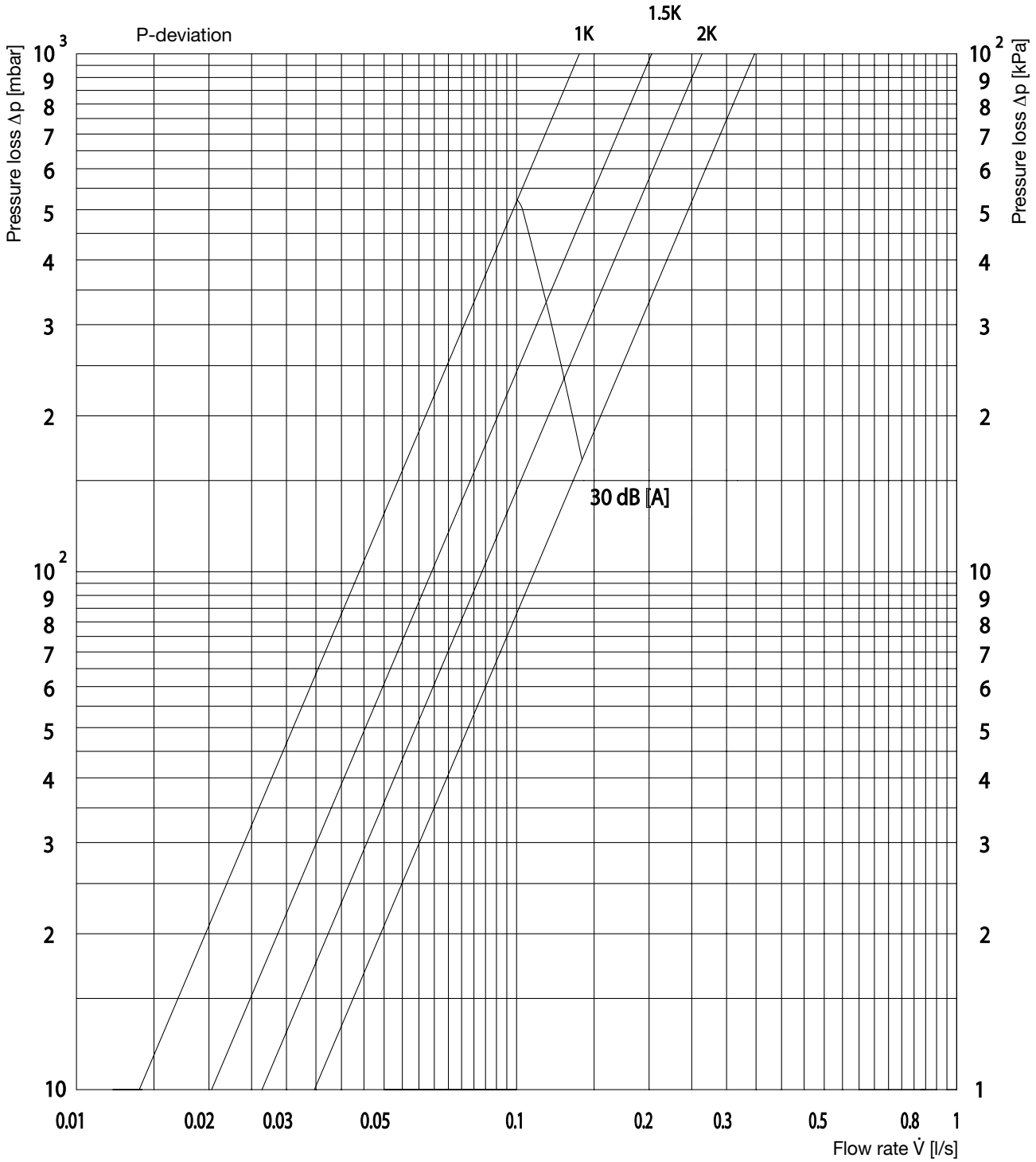
Size	k_V at P-deviation				k_{VS}	Zeta at P-deviation				
	1 K	1.5 K	2 K	3.K		1 K	1.5 K	2 K	3 K	open
DN 15	0.72	0.96	1.2	1.6	3.0	195	110	70	39	11
DN 20	0.72	0.96	1.2	1.6	4.0	648	364	233	131	21

Zeta values related to the inner pipe diameter according to DIN 2440 (⅜" = 12.5 mm, ½" = 16.0 mm, ¾" = 21.6 mm, 1" = 27.2 mm, 1¼" = 35.9 mm).

Charts

Chart 1

Oventrop thermostatic radiator valves “Series A” and “Series RF”
All patterns and sizes at 1 to 3 K P-deviation



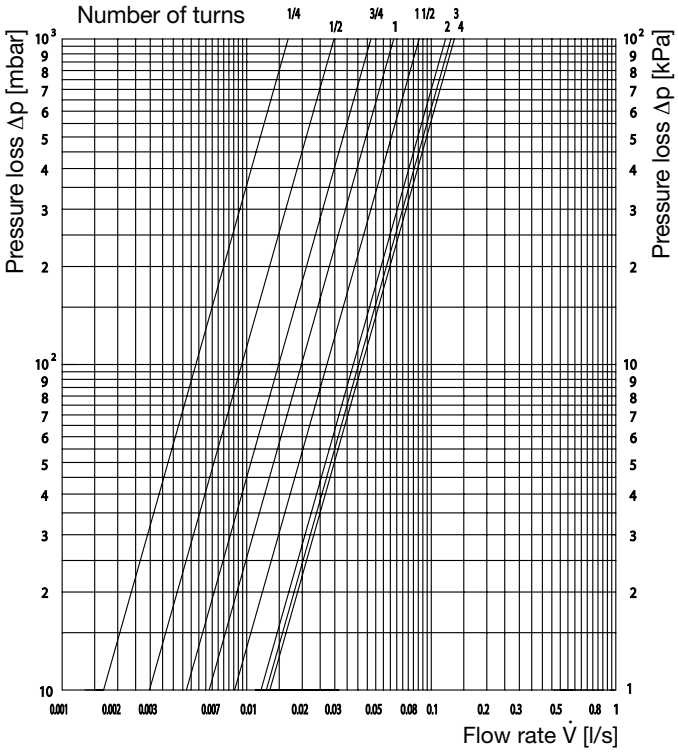
100 mbar = 10.000 Pa ≈ 1.000 mm WG

P-deviation	1 K	1.5 K	2 K	3 K	max.
kv	0.50	0.73	0.95	1.25	1.35

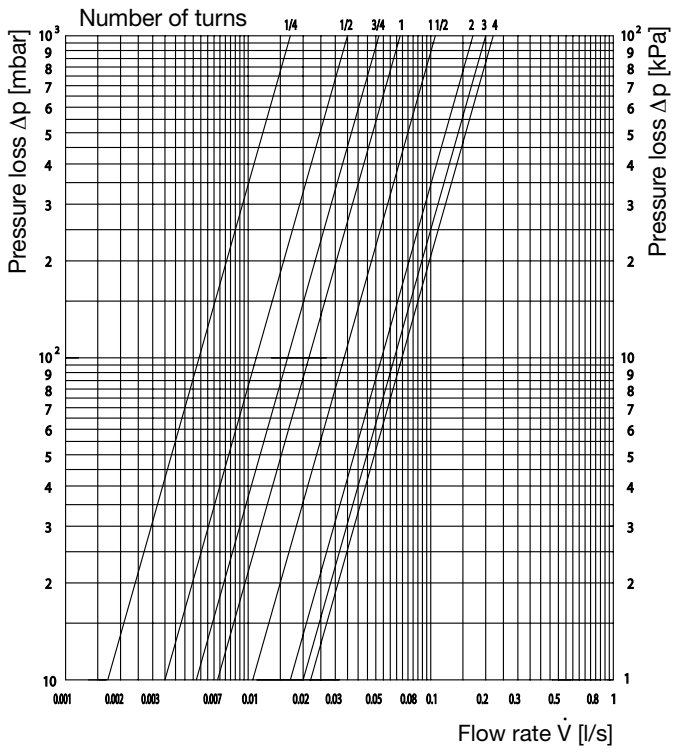
Chart 2

Oventrop thermostatic radiator valves “Series A” and “Series RF”
and radiator lockshield valve “Combi 4” “Combi 3” or “Combi 2”

All patterns and sizes at **1 K** P-deviation



All patterns and sizes at **2 K** P-deviation



100 mbar = 10.000 Pa ≈ 1.000 mm WG

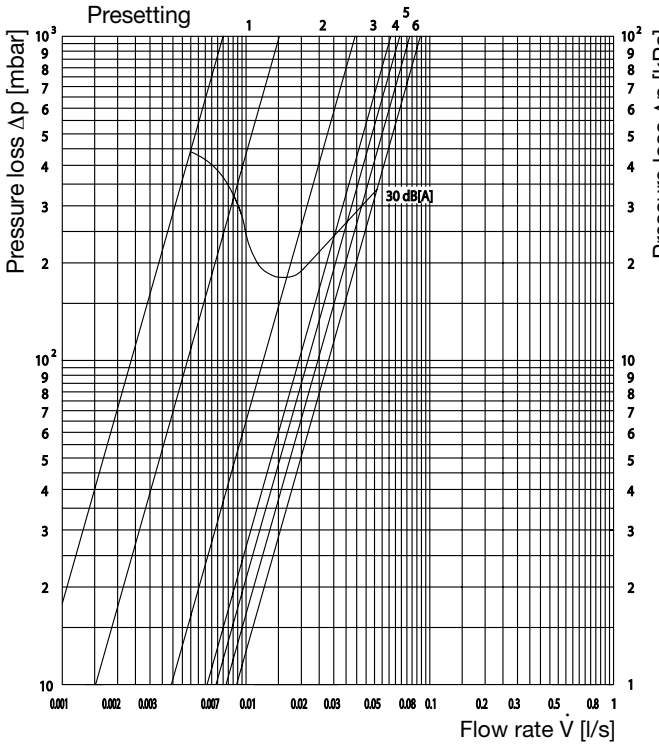
Performance data: all pattern and sizes

Presetting (turns)	¼	½	¾	1	1½	2	3	4
kv value at 1 K P-deviation	0.060	0.107	0.170	0.225	0.310	0.430	0.460	0.480
kv value at 1.5 K P-deviation	0.060	0.125	0.183	0.240	0.360	0.560	0.630	0.670
kv value at 2 K P-deviation	0.060	0.125	0.187	0.244	0.380	0.610	0.730	0.800

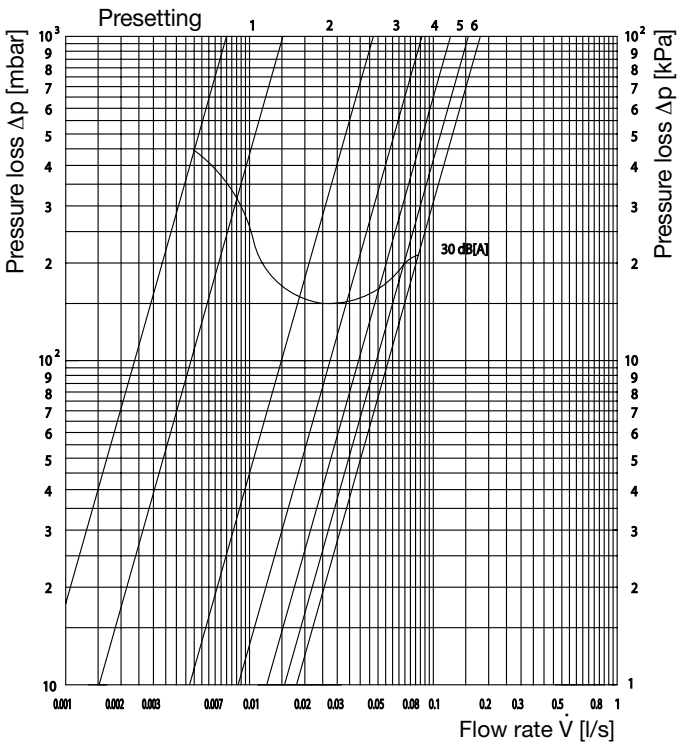
Chart 3

Oventrop thermostatic radiator valves “Series AV 6”, “Series RFV 6” and “Series ADV 6” with presetting

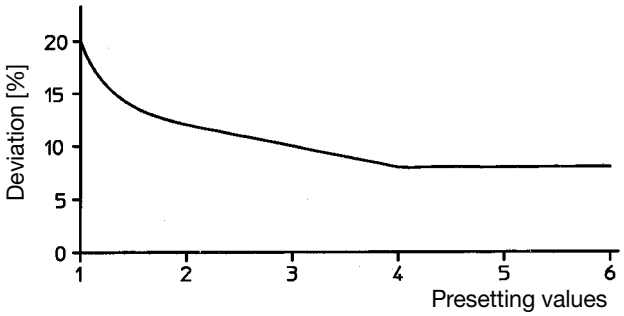
All patterns and sizes at **1 K** P-deviation



All patterns and sizes at **2 K** P-deviation



Flow tolerances depending on the presetting:
According to DIN EN 215 at 2 K P-deviation



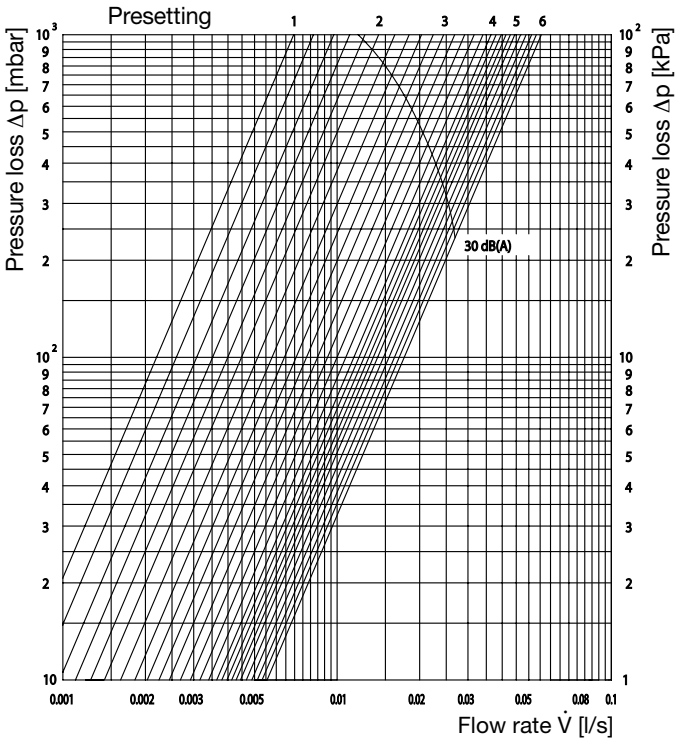
Performance data: all patterns and sizes

Presetting	1	2	3	4	5	6
k_V value at 1 K P-deviation	0.055	0.141	0.221	0.247	0.28	0.32
k_V value at 1.5 K P-deviation	0.055	0.170	0.296	0.370	0.42	0.49
k_V value at 2 K P-deviation	0.055	0.170	0.313	0.446	0.56	0.65

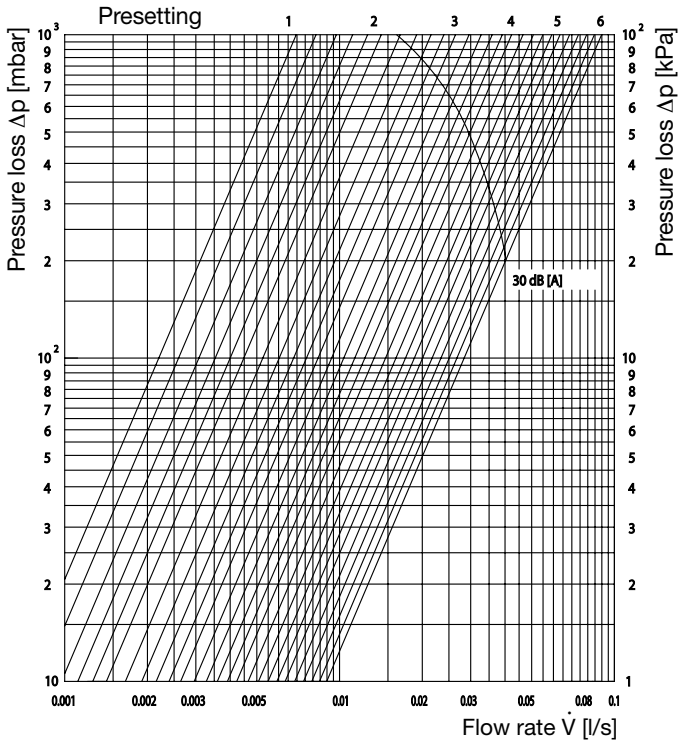
Chart 4

Oventrop thermostatic radiator valves “Series F” with fine presetting

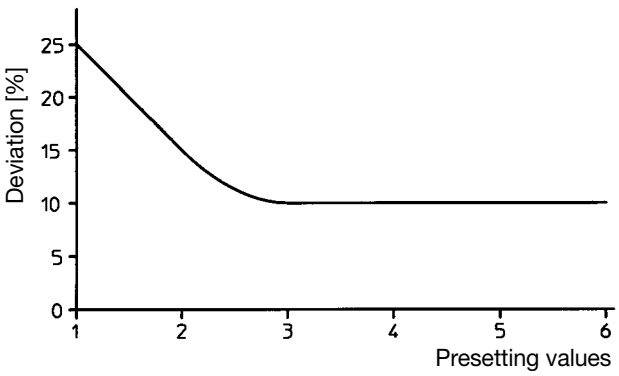
All patterns and sizes at **1 K** P-deviation



All patterns and sizes at **2 K** P-deviation



Flow tolerances depending on the presetting:
According to DIN EN 215 at 2 K P-deviation



Performance data: all patterns and sizes

Presetting	1	2	3	4	5	6
k_V value at 1 K P-deviation	0.025	0.051	0.088	0.131	0.16	0.20
k_V value at 1.5 K P-deviation	0.025	0.051	0.095	0.152	0.20	0.29
k_V value at 2 K P-deviation	0.025	0.051	0.095	0.152	0.228	0.323

Chart 5

Oventrop thermostatic radiator valves “Series AZ”

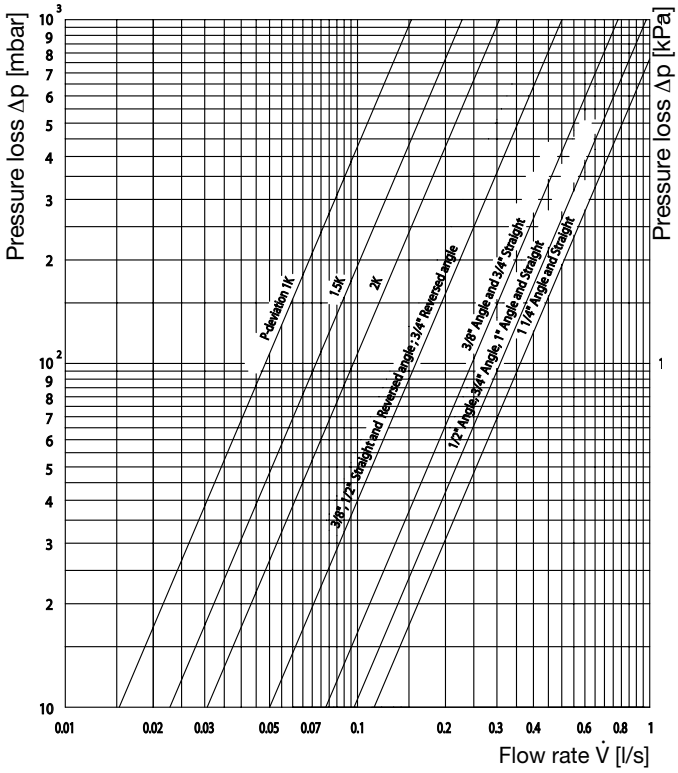


Chart 6

Oventrop thermostatic radiator valves “Series M”

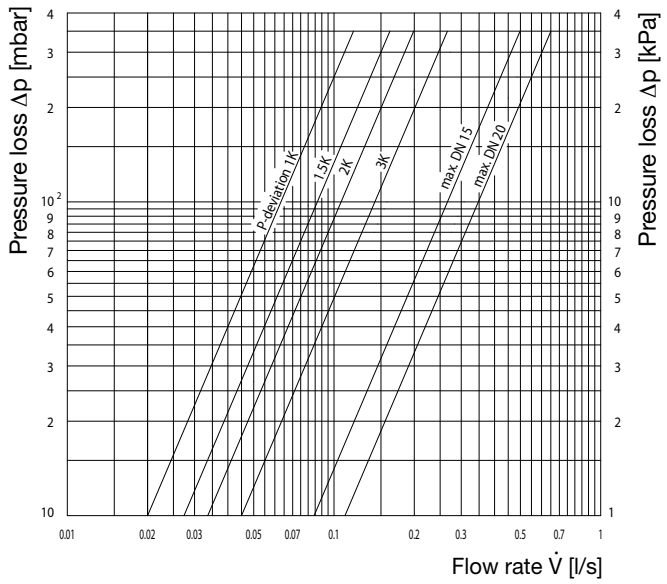


Chart 7

Oventrop thermostatic radiator valves “Series P”

Marking P1 at k_{VS} = 0.45

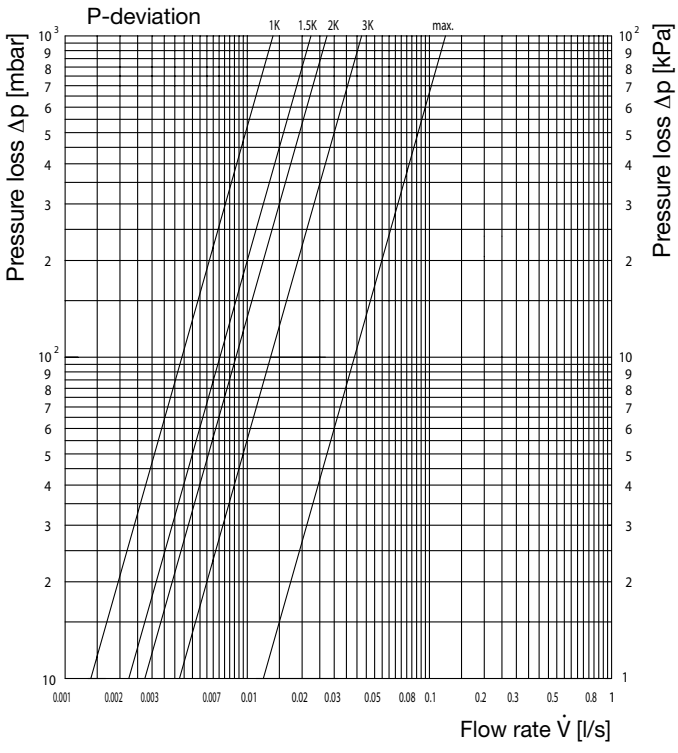


Chart 8

Oventrop thermostatic radiator valves “Series P”

Marking P2 at k_{VS} = 0.8

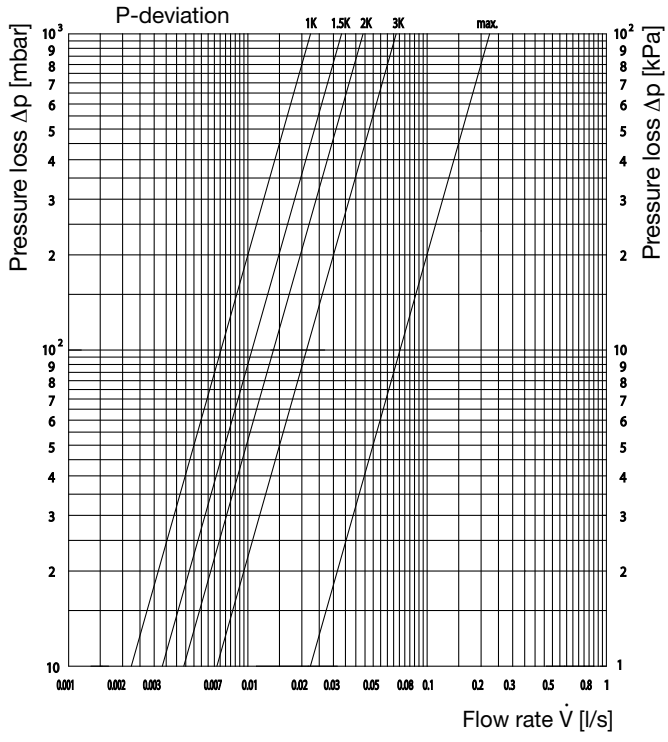
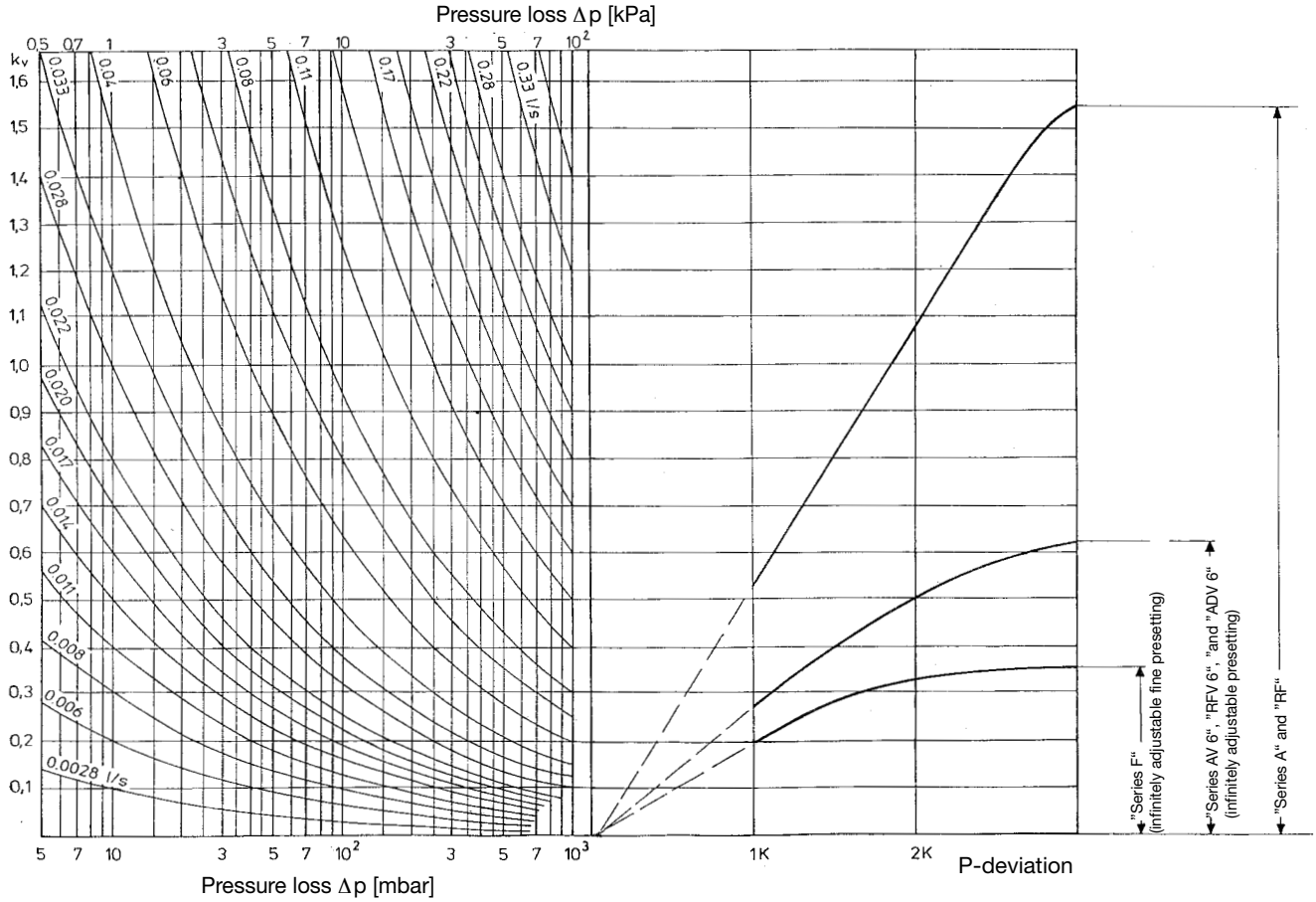


Chart 8

Oventrop thermostatic radiator valves “Series A”, “Series RF”, “Series AV 6”, “Series ADV 6”, “Series RFV” and “Series F”: design ranges



Example: $\dot{V}$ = 0.033 l/s Δp = 3 kPa k_V = 0,7 (read off flow chart)

Valves of the “Series A” and “Series RF” can be used. Choice of valves see flow charts 1-4

Radiator valve design:

Oventrop thermostatic radiator valves permit a “room-by-room” adaptation of the heat output by using:

– thermostatic radiator valves with presetting (“Series AV 6”, “Series RFV 6”, "Series ADV 6” with presetting and “Series F” with fine presetting)

– thermostatic radiator valves “Series A” and “Series RF” combined with presettable radiator lockshield valves “Combi 4”, “Combi 3” and “Combi 2”

Official approvals:

Oventrop thermostatic radiator valves correspond to:

– the EN 215 standard (Reg.-No. 6T0002)

– BS 7556 standard

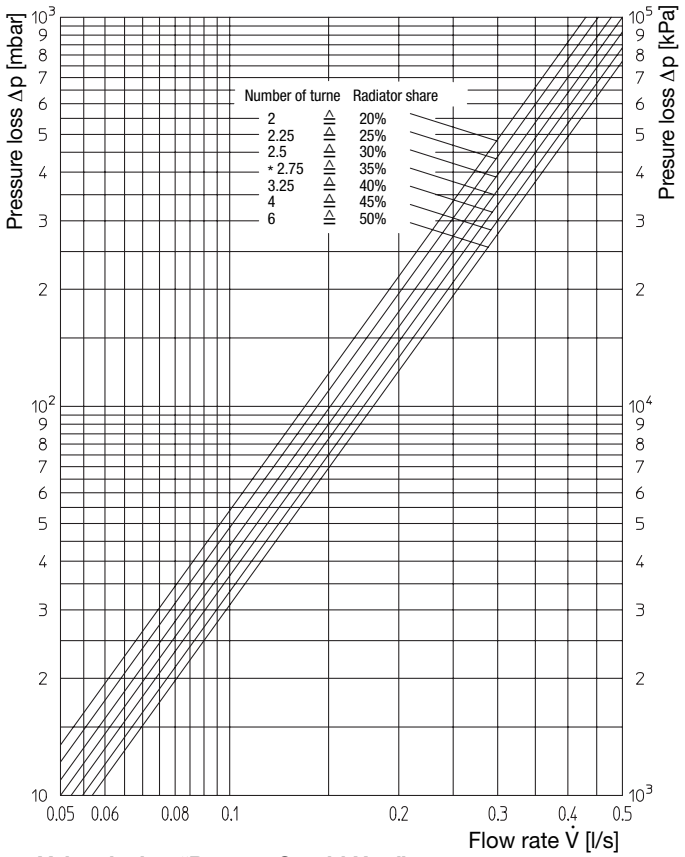
In addition, the thermostatic radiator valves of the “Series F” correspond to:

– the directions of the Association for District Heating (AGFW, work sheet PW 507)

– the conditions of the company Esso (TA list)

Chart 9

Oventrop one pipe radiator valve “Bypass-Combi Uno” with a distance between pipe centres of 50 mm (complete valve set) and “Tauch-Rohr” valve (one pipe) all patterns at 2 K P-deviation



P-deviation	2K						
Turns of setting screw	2	2.25	2.5	2.75	3.25	4	6
k_V value	1.55	1.63	1.72	1.80	1.88	1.97	2.05
Radiator share	20%	25%	30%	35%	40%	45%	50%

Valve design “Bypass-Combi Uno” with a distance between pipe centres of 50 mm

Before leaving the factory, the distributor is adjusted to a radiator flow share of 35% at 2 K P-deviation. The presetting can be restored at any time by first turning the setting screw clockwise until stop and then turning it back anticlockwise by 2.75 turns.

The infinitely presettable bypass provides the optimum design of the heating system. There is a reciprocal relationship between the following three values:

– Radiator share
– Radiator heat output
– Pressure loss

By fixing any of these three values, the other two are determined. To achieve optimum matching of radiator output and pressure loss (pump output), preference can often be given to establishing the lowest possible Δp pressure loss (low pump running costs).

Valve design one pipe connection piece “Uno” with a distance between pipe centres of 35 mm

The distributor is preset at works to a radiator flow share of 50% at 2 K P-deviation (valves of the “Series A”).

Valve design “Tauch-Rohr” valves

The valves have a fixed radiator flow share of 35% at 2 K P-deviation.

Even with the valves being closed, radiators in one pipe heating systems can become slightly warm due to the heat flow through the bypass.

Valve design “TKM” system (one pipe)

The valve is preset at works to a radiator flow share of 50% at 2 K P-deviation. kv value = 1.5.

Resistance in equivalent lengths of pipe (meter)

For “Tauch-Rohr” valve: Radiator share 35%

Soft steel pipe

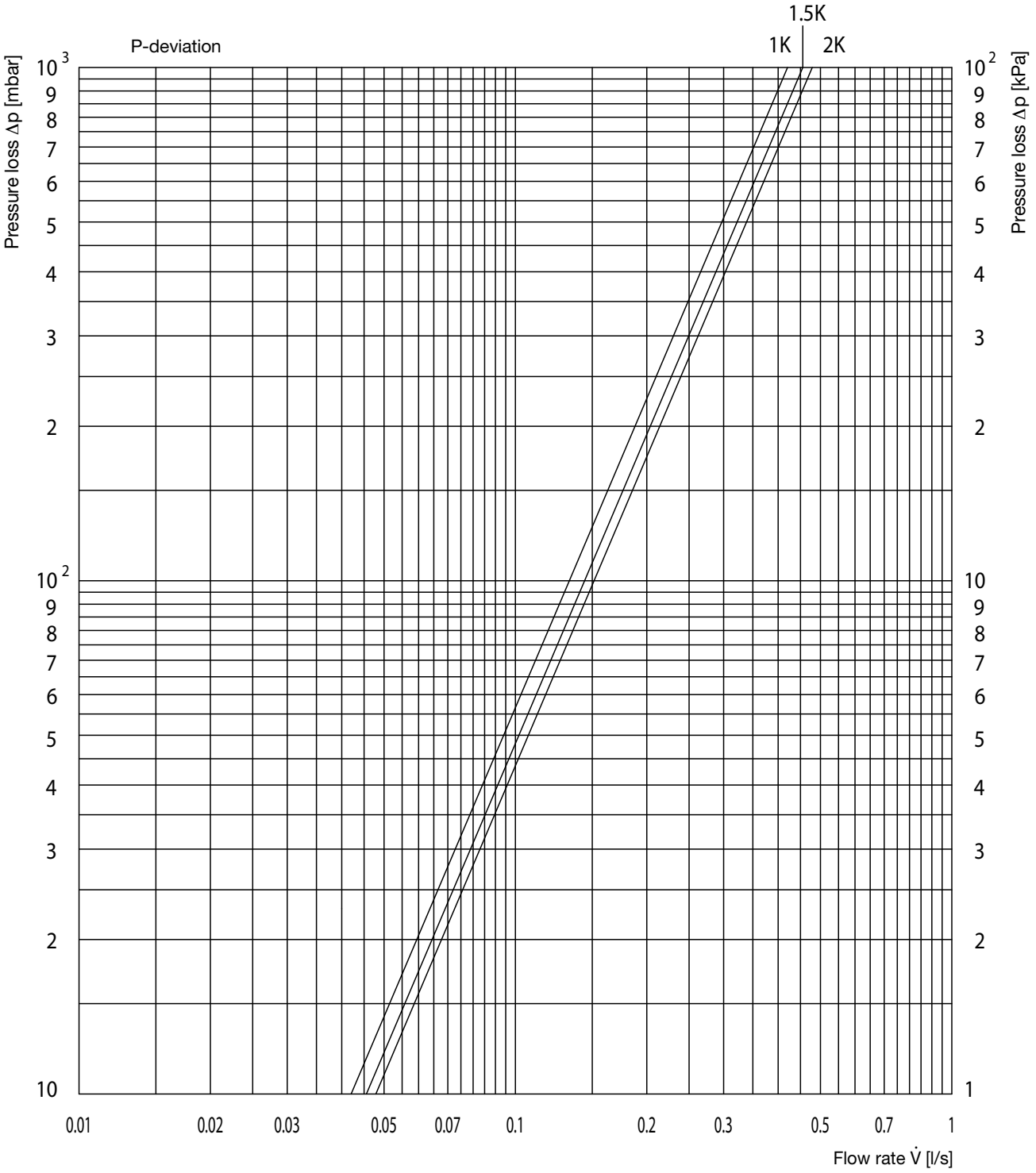
Radiator share	kv	Pipe length [m]				
	kv	12 x 1	14 x 1	15 x 1	16 x 1	18 x 1
50%	2.05	1.10	1.80	2.30	2.75	4.00
45%	1.97	1.15	1.90	2.40	2.85	4.15
40%	1.88	1.20	1.95	2.50	3.00	4.35
35% *	1.80	1.30	2.05	2.60	3.15	4.55
30%	1.72	1.35	2.15	2.75	3.30	4.75
25%	1.63	1.40	2.25	2.90	3.45	5.05
20%	1.55	1.50	2.40	3.00	3.65	5.30

Copper pipe

Radiator share	kv	Pipe length [m]				
		12 x 1	14 x 1	15 x 1	16 x 1	18 x 1
50%	2.05	1.20	1.95	2.50	3.05	4.30
45%	1.97	1.25	2.00	2.60	3.15	4.45
40%	1.88	1.35	2.10	2.70	3.30	4.70
35% *	1.80	1.40	2.20	2.85	3.45	4.90
30%	1.72	1.45	2.30	2.95	3.65	5.10
25%	1.63	1.55	2.40	3.15	3.85	5.40
20%	1.55	1.60	2.55	3.30	4.05	5.70

* Factory preset “Bypass-Combi Uno“/ fixed setting “Tauch-Rohr” valves

Chart 10
One pipe connection piece “Uno” (distance between pipe centres 35 mm) and valves „Series A“

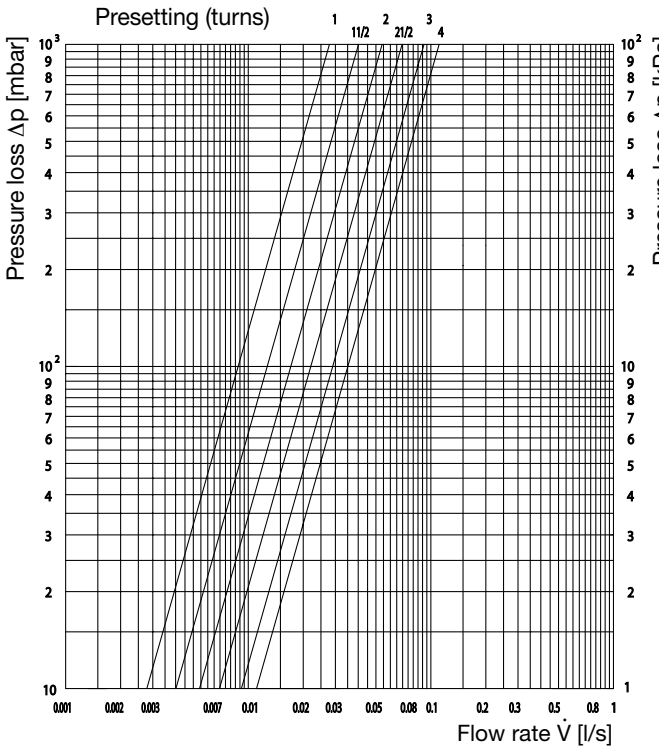


Performance data:

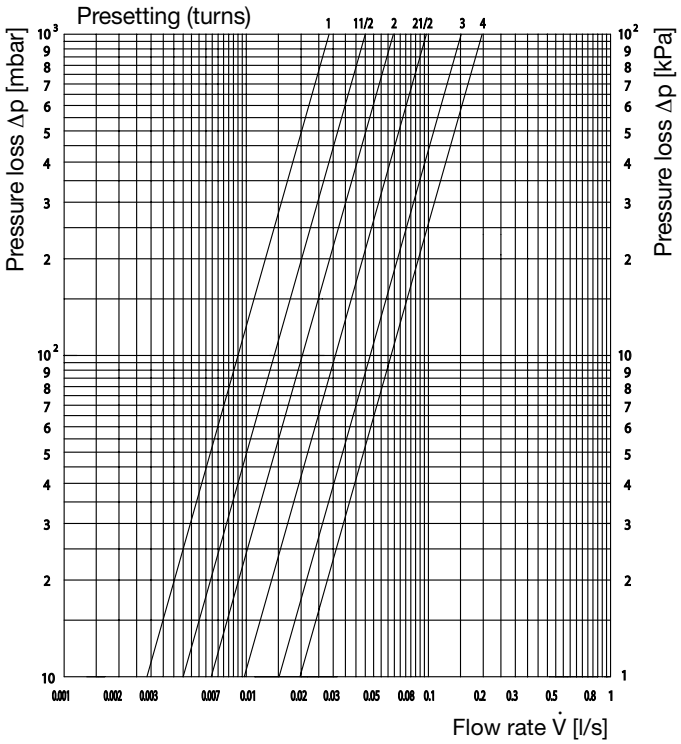
P-deviation	1 K	1.5 K	2 K
k_V	1.5	1.64	1.71
Radiator share	25%	35%	50%

Chart 11
Two pipe connection piece “Duo”(distance between pipe centres 35 mm) and valves „Series A”

All patterns and sizes at **1 K** P-deviation



All patterns and sizes at **2 K** P-deviation



P-deviation	1 K	1.5 K	2 K
k_V	0.4	0.55	0.7

Chart 12
Oventrop “Bypass-Combi Duo”
Two pipe with shut off (distance between pipe centres 50 mm)

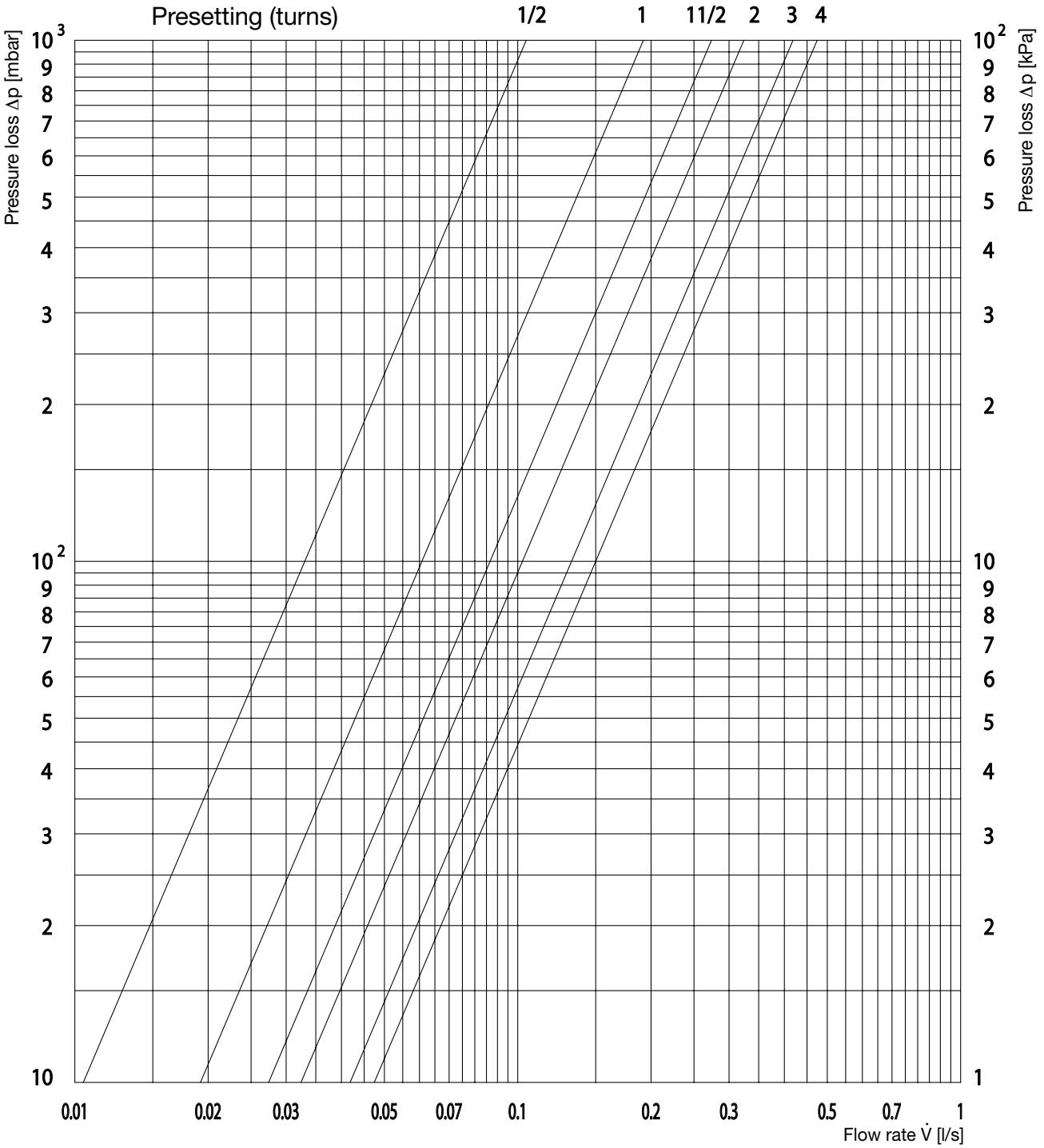
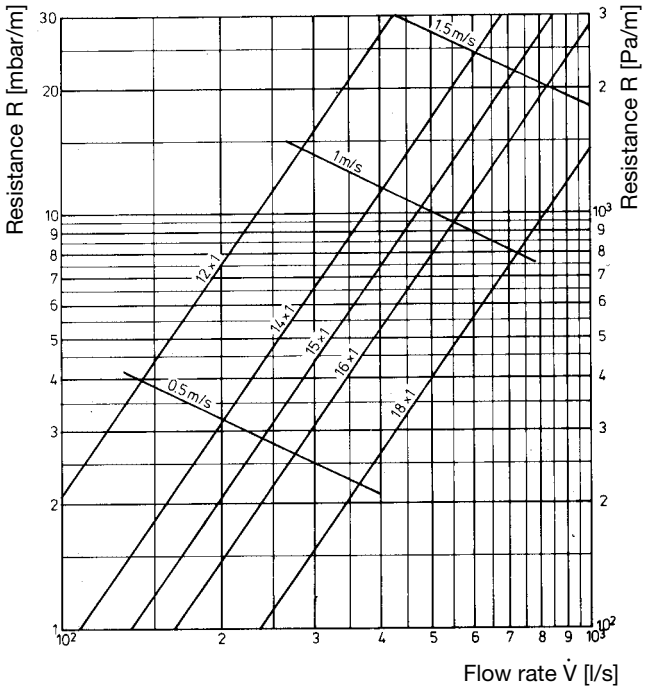
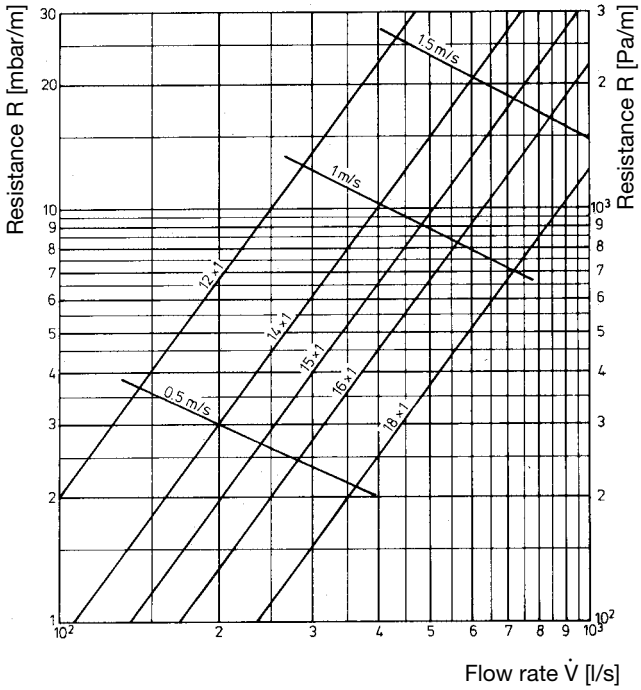


Chart 13 Soft steel pipe
Resistance R in mbar/m



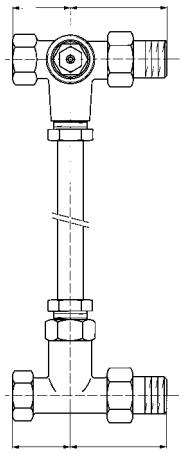
Flow chart 14 Copper pipe
Resistance R in mbar/m



Note: Pressure loss chart for composition pipe "Copipe"see technical information "Combi-System"

Three-way bypass valve

Illustr.: Left hand side connection



Item nos:

118 05 82
(left hand side connection)

118 05 83
(right hand side connection)

Three-way bypass valve DN 15								
Presetting values	Valve closed	0.2	0.3	0.4	0.5	0.6	0.7	0.8
kv value	1.9	2.2	2.2	2.3	2.3	2.4	2.4	2.3
Radiator share *	–	15%	24%	32%	38%	44%	50%	55%

* The indicated radiator flow shares are the maximum flow shares which can be achieved at the corresponding presetting. Depending on the presetting, P-deviation amounts to 1-3 K

Note:

The protection cap is provided with 7 graduations. The change from one graduation to another corresponds to an alteration of the flow rate of 1 K P-deviation at the valve.

The protection cap may not be used for a permanent closure of the valve.

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