



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

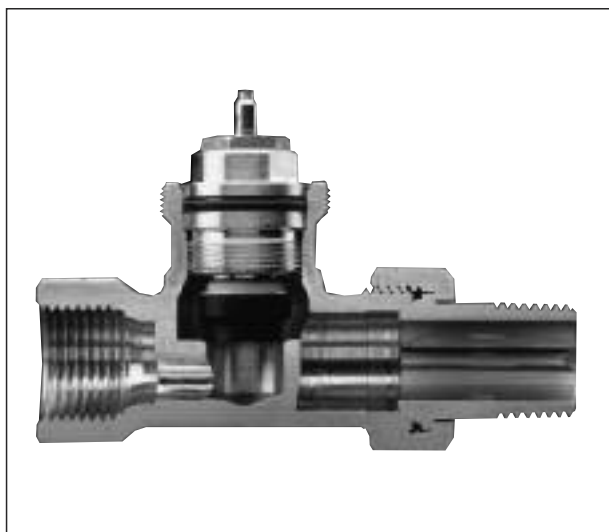
### Function:

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

### Technical data:

- Nominal flow: (see charts)
- Max. flow of heating water: (see charts)
- Max. differential pressure against which the radiator valve closes: 14.5 psi: "Series A, AV 6, ADV 6, RF, RFV 6, RFZ, AZ, P"  
43.5 psi "Series F"
- Valve body material: bronze, brass, nickel plated
- Differential pressure effect: 0.1 K – 0.7 K/7.25 psi

## Thermostatic radiator valves



Straight pattern valve "Series A"



"Bypass-Combi Uno"



"Tauchrohr" valve with horizontal/vertical insertion tube

**Oventrop thermostatic radiator valve  
"Series AZ"**

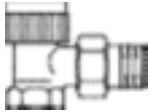
Max. working temperature: 248°F (for short periods up to 266°F),  
max. working pressure: 145 psi  
Low pressure steam 7.25 psi, 230°F  
Max. differential pressure: 14.5 psi  
Body nickel plated, stem made of stainless steel with double O-ring seal.  
Connection for threaded and copper pipes or composition pipe "Copipe".  
Complete valve insert replaceable, under working conditions by using the special tool "Demo-Bloc".

**Zone/radiator valves**  
with M 30 x 1,5 threaded actuator connection,  
brass, nickel plated

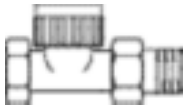
**"Series AZ"** (for hot water)

These valves can be used with 4 types of actuators:

1. Manual adjuster (included)
2. Thermostatic (non-electric)
3. Thermostatic remote capillary (non-electric)
4. 24 V electric for on/off control



Angle pattern valve		NPT/NPT	
1/2"	(25)		<b>188 90 04</b>
3/4"	(25)		<b>188 90 06</b>
1"	(10)		<b>188 90 08</b>
1 1/4"	(10)		<b>188 90 10</b>



Straight pattern valve		NPT/NPT	
1/2"	(25)		<b>188 91 04</b>
3/4"	(25)		<b>188 91 06</b>
1"	(10)		<b>188 91 08</b>
1 1/4"	(10)		<b>188 91 10</b>

All valve inserts are replaceable under working conditions by means of the special tool "Demo-Bloc".  
System does not need to be drained!



Reversed angle pattern valve		NPT/NPT	
1/2"	(25)		<b>188 92 04</b>
3/4"	(25)		<b>188 92 06</b>



Double angle pattern valve		NPT/NPT	
1/2" left hand side connection	(25)		<b>169 40 62</b>



1/2" right hand side connection	(25)		<b>169 40 63</b>
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**Oventrop one pipe radiator valve  
"Tauch-Rohr" with shut off**

Max. working temperature: 248°F (for short periods up to 266°F)  
Max. working pressure: 145 psi  
For horizontal or vertical connection to lower radiator nipple.  
Body nickel plated,

The constant bypass of the one pipe radiator injection valves is adjusted to a radiator flow share of 35%.  
The insertion tube is 6" long, has a diameter of 7/16" and the distance between pipe centres is 1.97".



with horizontal insertion tube		
(1/2") 3/4 M		118 35 61



with vertical insertion tube		
(1/2") 3/4 M		118 35 71

The one pipe radiator injection valve with vertical insertion tube is especially suitable for towel radiators. (The technical instructions of the radiator manufacturers need to be observed.)

**Oventrop thermostatic radiator valve  
"Series S"**

Max. working temperature: 248°F (for short periods up to 266°F),  
max working pressure: 145 psi

Low pressure steam 30 psi, 230°F

Max. differential pressure: 14.5 psi



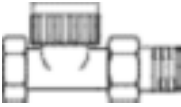

Body nickel plated, stem made on stainless steel with double O-ring seal.

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".

"Series S" (for low pressure steam, max. 15 psi)

	<b>Steam Radiator Valve</b>				
	One-pipe steam radiator valve	NPT		M 30 x 1,0 Actuator thread.	
	1/8" (25)		<b>188 83 51</b>	Add adapter item no. 101 14 45.	
	<b>Angle pattern valve</b>	NPT/NPT		These valves can be used with 4 types of actuators:	
	1/2" (25)		<b>189 90 04</b>	1. Manual adjuster (included)	
	3/4" (25)		<b>189 90 06</b>	2. Thermostatic (non-electric)	
	1" (25)		<b>189 90 08</b>	3. Thermostatic remote capillary (non-electric)	
	1 1/4" (25)		<b>189 90 10</b>	4. 24 V electric for on/off control	
	<b>Straight pattern valve</b>	NPT/NPT		All valve inserts are replaceable under working conditions by means of the special tool "Demo-Bloc".	
	1/2" (25)		<b>189 91 04</b>	System does not need to be drained!	
	3/4" (25)		<b>189 91 06</b>		
	1" (25)		<b>189 91 08</b>		
	1 1/4" (25)		<b>189 91 10</b>		
	<b>Reversed angle pattern valve</b>	NPT/NPT			
	1/2" (25)		<b>189 92 04</b>		
	3/4" (25)		<b>189 92 06</b>		

**Oventrop thermostatic radiator valve**

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.

Max. working temperature: 248°F (for short periods up to 266°F), max. working pressure: 145 psi

Max. differential pressure: 14.5 psi

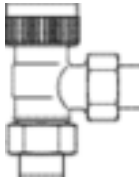
Body nickel plated, stem made of stainless steel with double O-ring seal.

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

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

**Zone/radiator valves**

with M 30 x 1,5 threaded actuator connection, brass, nickel plated, standard AZ insert



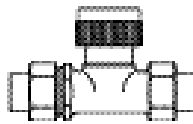
Angle pattern valve

sweat/sweat

Incl. (2) unions and sweat tails.

1/2" (25)  
3/4" (25)

**169 44 04**  
**169 44 06**



Straight pattern valve

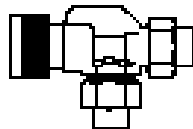
sweat/sweat

1/2" (25)  
3/4" (25)  
3/4" (25)  
3/4" (25)

**169 44 14**  
**169 44 16**  
**169 44 16 ZV**  
**169 44 16 ZVO**

\*1694416ZV includes (1) 1012496 Electrothermal actuator (LH) connection thread M 30 x 1,5, normally closed, 24 V, 2 Watt with end switch.

\*1694416ZVO includes (1) 1012486 Electrothermal actuator connection thread M 30 x 1,5, normally open, 24 V.



Reversed angle pattern valve

sweat/sweat

1/2" (25)  
3/4" (25)

**169 44 24**  
**169 44 26**



Sweat tailpiece for zone radiator valves

1/2" (100)  
3/4"  
1"  
1 1/4"

**198 76 51**  
**198 76 52**  
**198 76 53**  
**198 76 54**

If ordered separately.

## Oventrop thermostatic radiator valve

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.

Max. working temperature: 248°F (for short periods up to 266°F),  
max. working pressure: 145 psi

Max. differential pressure: 14.5 psi

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".


### Radiator valves "Series E"

actuator connection M 30 x 1,5


Designer Series for use with towel racks or panel radiators.

Gold plated or anthracite models upon request.


Awards:

 Design Award of North Rhine Westphalia, Award of Honour for Industrial Products

 Industrial Design Forum Hannover Award iF

 Design Innovation of Design Centre Essen Award for high Quality of Design

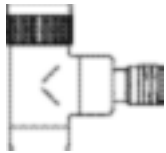
 Pragothem, Prague

 German Institute for Copper Berlin Award "Product and Brass"

Admission to "The New Collection" for exemplary Design Munich, "Design Laboratory" Museum of Art and Commerce Hamburg and Design Museum London.

Angle pattern valve

BSP



1/2" chrome plated

**116 30 52**

1/2" white powder coated

**116 30 62**

Straight pattern valve

BSP



1/2" chrome plated

**116 31 52**

1/2" white powder coated

**116 31 62**

Double angle pattern valve

BSP



left hand side connection

1/2" chrome plated

**116 34 52**

1/2" white powder coated

**116 34 62**

right hand side connection

1/2" chrome plated

**116 34 53**

1/2" white powder coated

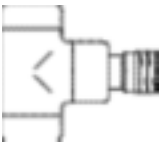
**116 34 63**

### Service valve "Combi E"

Normally used on return side of radiator or towel rack. Allows isolation, balancing with fill and drain capability.

Angle pattern

BSP



1/2" chrome plated

**116 60 52**

1/2" white powder coated

**116 60 62**

Straight pattern

BSP



1/2" chrome plated

**116 70 52**

1/2" white powder coated

**116 70 62**

**Service valve "Combi 2"**

balancing, shut-off

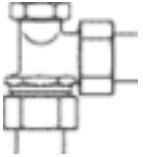
Angle pattern  
nickel plated

NPT inlet  
NPT tailpiece



1/2" (100) **109 10 82**  
3/4" **109 10 83**

Used on the return side of radiators, base-board or floor heat to provide balancing and shut-off capability.  
Use 5/32" (4 mm) allen key.



1/2" (100) sweat/sweat **109 10 92**  
3/4" (25) **109 10 93**

Incl. (2) unions and sweat tails.



Straight pattern  
nickel plated

NPT inlet  
NPT tailpiece

1/2" (100) **109 11 82**  
3/4" (25) **109 11 83**



1/2" (100) sweat/sweat **109 11 92**

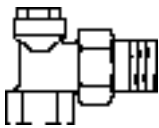
Incl. (2) unions and sweat tails.

**Service valve "Combi 4"**

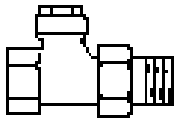
balancing with memory position, shut-off,  
filling and draining

Angle pattern  
nickel plated

NPT inlet  
NPT tailpiece



1/2" **109 06 82**  
3/4" **109 06 83**



Straight pattern  
nickel plated

NPT inlet  
NPT tailpiece

1/2" **109 07 82**  
3/4" **109 07 83**

**"Multiflex" fittings**

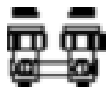
for Panel Radiators with Bottom Tappings  
and Built-in Valve Assembly (such as Buderus, DiaNorm)



Diverter valves  
1/2" angle (10) **101 59 34**

For Series Loop systems,  
allows setting of flow to next radiators  
in loop. Isolation capability.  
Factory Setting 35%.

same, Straight **101 59 33**



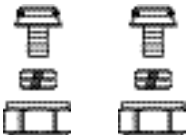
2-Pipe isolating valve  
1/2" angle (10) **101 58 14**

same, Straight **101 58 13**



Adapter from 1/2" female to 3/4" male (Euroconus)  
(10) **102 82 53**

For use with compression fittings.



**"Euroconus"**

compression fittings for Floor Heat Manifolds  
"Unibox", Panel Radiators etc.

US-PEX 3/8" (100) **164 68 49**

US-PEX 1/2" (100) **164 68 50**

US-PEX 5/8" (100) **164 68 51**



Copper 1/2" (100) **101 68 44**

Copper 1/2" (100) **101 68 64**

**Valve inserts**

for all valves M 30 x 1,5  
(M 30 x 1,0 upm request)



Valve insert "Series AZ"

1.28

**118 70 60**

Standard with Oventrop zone/radiator valves M 30 x 1,5 Highest Cv.



Valve insert "Series AV 6"  
with presetting

0.75

**118 70 57**

Adjustable Cv valve insert, allows technician to balance flow rate. Six different settings.



Valve insert "Series ADV 6"  
"Landlord model"

0.75

**118 60 01**

Same as "Series AV 6", but with additional feature that, if thermostat is removed, flow will be restricted to 5% of normal flow.



Valve insert with stainless  
steel seat

0.70

**118 62 00**

Especially for steam installations.



Special valve insert

0.52

**118 70 70**

Low Cv, to correct reversed supply/return hookup.



Valve insert "Series KT"

0.58

**114 71 69**

Opens valve upon rising temperature.



Valve insert "Series TM"

1/2"

1.1

3/4"

1.2

1"

1.3

1 1/4"

1.6

**106 70 85**

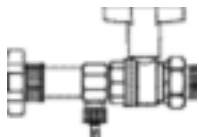
Insert for pressure differential of up to 40 psi (for commercial baseboard etc.).



Gland nut  
Set = 5 pieces

**101 75 01**

Wrench size 14 mm  
Min. order qty. = 5

**"Demo-Bloc"**

special tool for replacing Oventrop  
valve inserts under working conditions  
for both M 30 x 1,0 and M 30 x 1,5  
thread connections

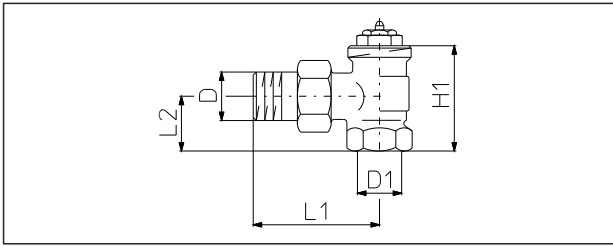
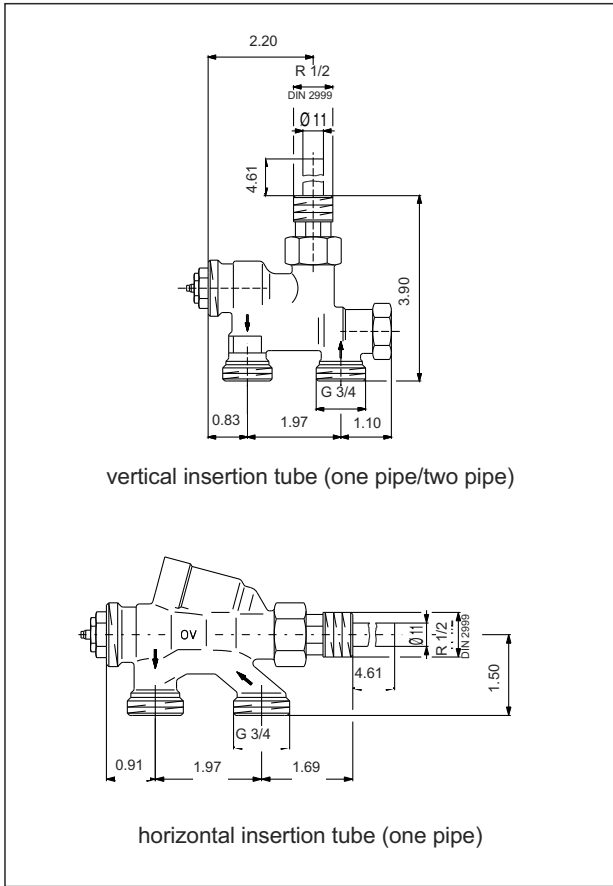
**118 80 51**

**Key**

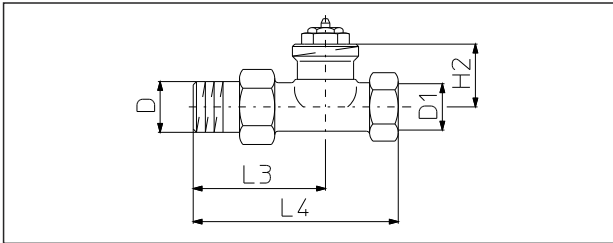
for flow rate setting on  
AV 6 / ADV 6 inserts

**118 39 61**

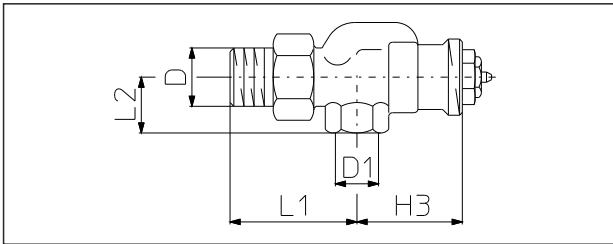
**“Tauch-Rohr”:**



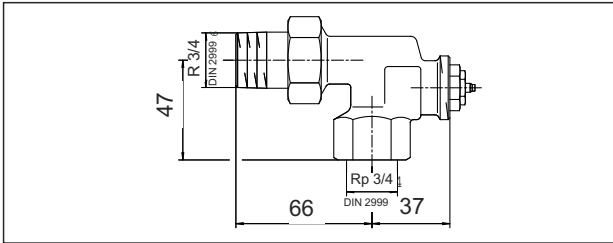
Angle pattern valve



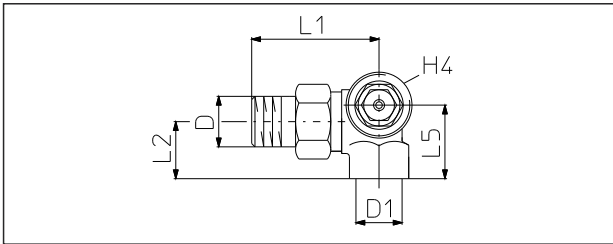
Straight pattern valve



Reversed angle pattern valve for the supply pipe 3/8" and 1/2"



Reserved angle pattern valve for the supply pipe 3/4"



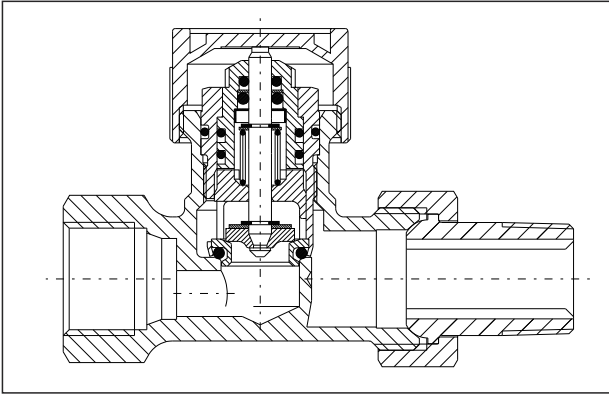
Double angle pattern valve, illustr.: right hand side connection

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

Size	DIN 2999 D	DIN 2999 D <sub>1</sub>	L <sub>1</sub>	L <sub>2</sub>	L <sub>3</sub>	L <sub>4</sub>	L <sub>5</sub>	L <sub>6</sub>	L <sub>7</sub>	L <sub>8</sub>	L <sub>9</sub>	L <sub>10</sub>	H <sub>1</sub>	H <sub>2</sub>	H <sub>3</sub>	H <sub>4</sub>	H <sub>5</sub>	H <sub>6</sub>	H <sub>7</sub>
3/8"	3/8"	3/8"	2.05	0.87	2.05	3.35	1.06	1.93	2.95	—	1.97	0.79	1.87	1.12	1.63	1.22	—	1.87	1.22
1/2"	1/2"	1/2"	2.28	1.02	2.32	3.74	1.34	2.13	3.27	2.40	2.20	0.91	1.97	1.12	1.57	1.18	1.57	1.97	1.22
3/4"	3/4"	3/4"	2.60	1.14	2.48	4.17	—	2.48	3.86	2.72	2.48	1.02	2.09	1.12	1.46	—	1.57	1.97	1.14
1"	1"	1"	2.95	1.34	3.15	4.92	—	—	—	—	2.40	1.12	—	—	—	—	—	—	—
1 1/4"	1 1/4"	1 1/4"	3.39	1.54	3.54	5.91	—	—	—	—	2.70	1.32	—	—	—	—	—	—	—

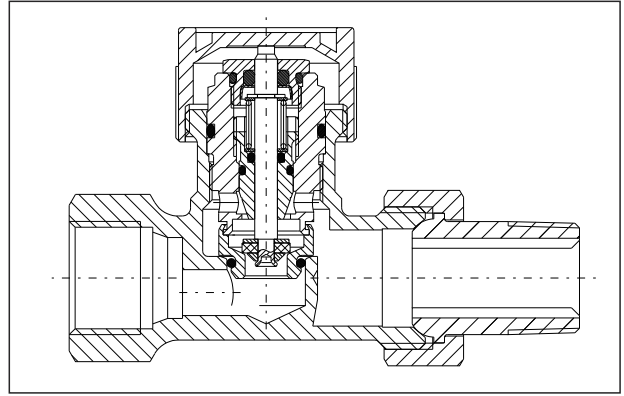


**“Series AZ”**



Model “AZ / AZ sweat”: for two pipe heating systems with normal temperature difference.

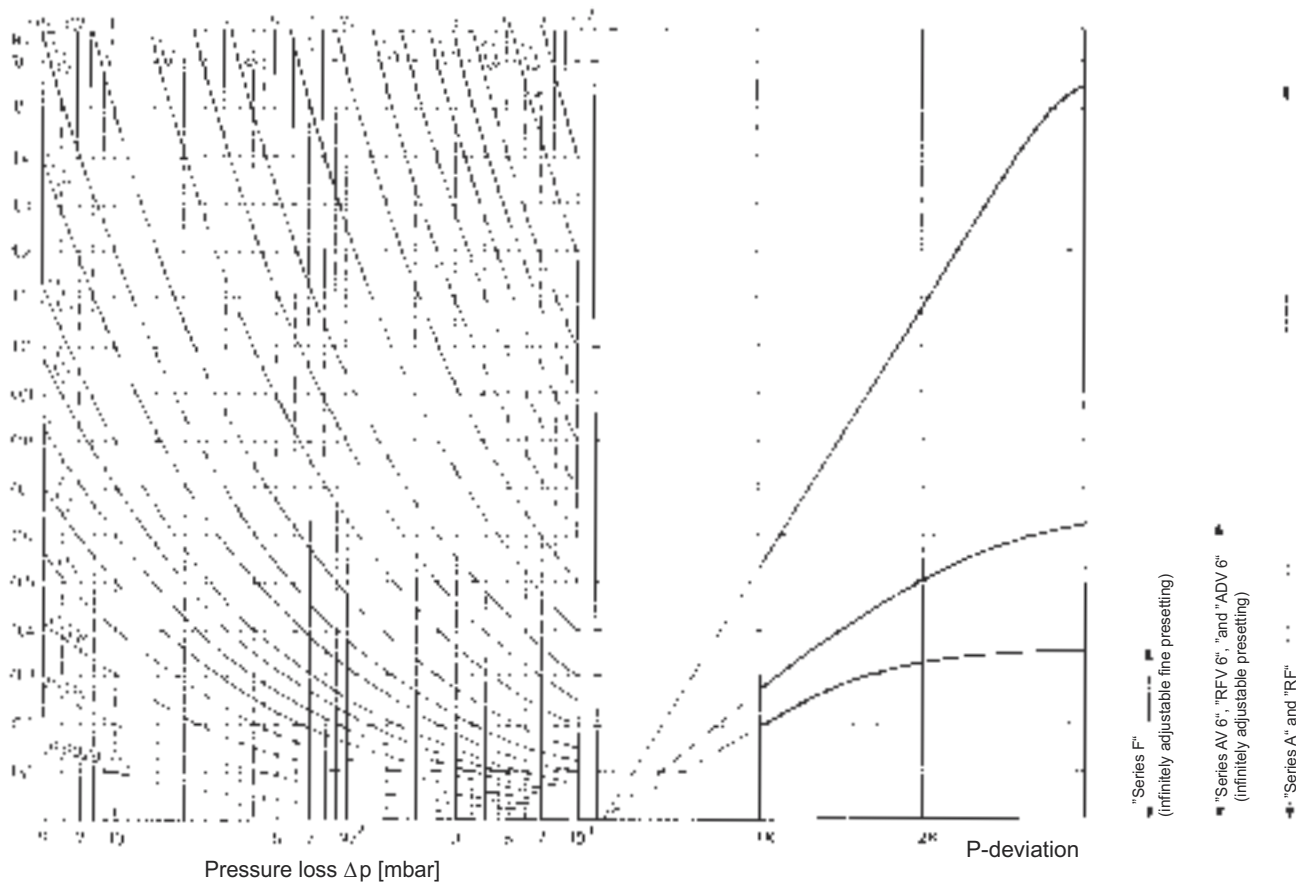
**“Series S”**



Model “S”: for two pipe steam heating systems with high temperature difference and low flow rates.

## Chart 8

Overtrop 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  $\Delta p = 3$  kPa  $C_V = 0.81$  (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:

Overtrop 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:

Overtrop thermostatic radiator valves correspond to:

- the EN 215 standard (Reg.-No. 6T0002)
- the DIN 3841 standard, part 1  
the requirements of the US-Army, Germany (approved according to decree EUDED-TEM dated 04.01.1984)
- BS 7556 standard

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

- the directions of the Association for District Heating (AGFW)
- the conditions of the company Esso (TA list)

## C<sub>V</sub> and Zeta-values

### “Series A” and “Series RF”

Size	C <sub>V</sub> at P-deviation				C <sub>Vs</sub>	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										
3/8"	0.58	0.85	1.10	1.45	1.57	151	71	42	24	21
1/2"	0.58	0.85	1.10	1.45	1.57	404	190	112	65	55
3/4"	0.58	0.85	1.10	1.45	1.57	1343	630	372	215	184
Reversed angle pattern valve, double angle pattern valve, sizes 3/8" + 1/2"										
3/8"	0.58	0.85	1.10	1.45	1.57	151	71	42	24	21
1/2"	0.58	0.85	1.10	1.45	1.57	404	190	112	65	55

### “Series AV 6” and “Series RFV 6” (with presetting)

All patterns

Size	C <sub>V</sub> at P-deviation (presetting 6)				C <sub>Vs</sub>	Zeta at P-deviation				
	1 K	1.5 K	2 K	3 K		1 K	1.5 K	2 K	3 K	open
3/8"	0.37	0.57	0.76	0.93	1.05	374	157	89	59	46
1/2"	0.37	0.57	0.76	0.93	1.05	1004	421	239	158	125

Size	C <sub>V</sub> at P-deviation (presetting 6)				C <sub>Vs</sub>	Zeta at P-deviation			
	1 K	1.5 K	2 K	3 K		1 K	1.5 K	2 K	3 K
3/8"	0.37	0.57	0.76	0.93	1.05	374	157	89	59
1/2"	0.37	0.57	0.76	0.93	1.05	1004	421	239	158
3/4"	0.37	0.57	0.76	0.93	1.05	3330	1398	795	525

### “Series F” (with fine presetting)

All patterns

Size	C <sub>V</sub> at P-deviation (presetting 6)				C <sub>Vs</sub>	Zeta at P-deviation				
	1 K	1.5 K	2 K	3 K		1 K	1.5 K	2 K	3 K	open
3/8"	0.23	0.34	0.37	0.41	0.43	957	449	374	313	280
1/2"	0.23	0.34	0.37	0.41	0.43	2570	1202	1004	839	751

### “Series AZ”

Size	C <sub>V</sub> at P-deviation			C <sub>Vs</sub>			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
3/8"	0.64	0.95	1.28	2.09	3.26	2.09	125	56	31	12	5	12
1/2"	0.64	0.95	1.28	2.09	4.07	2.09	334	150	84	31	8	31
3/4"	0.64	0.95	1.28	3.26	4.07	2.09	1110	499	277	43	27	104
1"	0.64	0.95	1.28	4.07	4.07	–	2791	1255	698	69	69	–

### “Series P”

Size	C <sub>V</sub> at P-deviation			C <sub>Vs</sub>		Zeta at P-deviation				
	1 K	1.5 K	2 K	Straight	Angle	1 K	1.5 K	2 K	Straight, open	Angle, open
1/2" "P 1"	0.06	0.09	0.12	0.52	0.52	40425	15791	10106	499	499
1/2" "P 2"	0.09	0.14	0.19	0.93	1.63	15791	7018	3948	158	52

### “Series M”

Size	C <sub>V</sub> at P-deviation				C <sub>Vs</sub>	Zeta at P-deviation				
	1 K	1.5 K	2 K	3 K		1 K	1.5 K	2 K	3 K	open
1/2"	0.84	1.12	1.4	1.86	3.49	195	110	70	39	11

Zeta values related to the inner pipe diameter according to DIN 2440 (3/8" = 12.5 mm, 1/2" = 16.0 mm, 3/4" = 21.6 mm, 1" = 27.2 mm, 1 1/4" = 35.9 mm).