

Radiator Valves and Thermostats V2300

Lockshield – Radiator Return Valve

Application

Installed at the return end of the radiator, it adjusts the pressure difference between the inlet and outlet to ensure low-noise operation of the radiator and achieve hydraulic balance at the end, and adjusts the resistance balance of each heating circuit.

Special Features

- Presetting and shut-off with one valve
- Presettable by stroke limitation
- Insert externally O-ring sealed
- Connection to all types of pipe DN15 - DN20



Technical Data

Medium	
Medium:	Water, water-glycol mixture Quality to VDI2035
pH-value:	8 - 9.5
Connection/Sizes	
Nominal size diameter:	DN10, DN15, DN20
Operating temperatures	
Max. operating temperature:	130 °C
Min. operating temperature medium:	2 °C
Pressure values	
Max. operating pressure:	PN10, 10 bar (1000 kPa)
Max. differential pressure:	1.0 bar (100 kPa)
Flow rates	
k _{VS} -value:	
Straight DN10	0.89
Angle DN10	1.48
Straight DN15	1.47
Angle DN15	1.84
Straight DN20	1.81
Angle DN20	2.37

Construction

Overview	Components	Materials
	1 Cap for fail-safe sealing after draining	Brass
	2 Insert cartridge for radiator draining	
	3 * Washer	
	4 Circlip	Stainless steel
	5 Cap gasket	EPDM
	6 O-Rings	
	7 * Sealing ring	
	8 Valve body, tailpiece, nut	Brass, nickel plated

* not applicable for V2300

Method of Operation

Connects the return of a radiator or heat exchanger to the heating loop and has the functions regulation, shut-off.

Regulation:

The flow can be regulated by pre-setting the V2300 to a certain value derived from the flow diagram. By pre-setting, the opening between valve insert and valve seat is reduced. In this way the flow is throttled. The V2300 is supplied set fully closed. Before installation the valve should be preset to the required flow.

Shut-off:

The return of the radiator can be shut-off by closing the valve insert.

Transportation and Storage

Keep parts in their original packaging and unpack them shortly before use.

The following parameters apply during transportation and storage:

Parameter	Value
Environment:	clean, dry and dust free
Min. ambient temperature:	0 °C
Max. ambient temperature:	50 °C
Max. ambient relative humidity:	75 % *

*non condensing

Installation Guidelines

Setup requirements

- To avoid stone deposit and corrosion, the composition of the medium should conform with VDI-Guideline 2035.
- Additives have to be suitable for EPDM sealings.
- System has to be flushed thoroughly before initial operation with all valves fully open.
- Any complaints or costs resulting from non-compliance with above rules will not be accepted by Resideo.
- Please contact us if you should have any special requirements or needs.

Installation Example

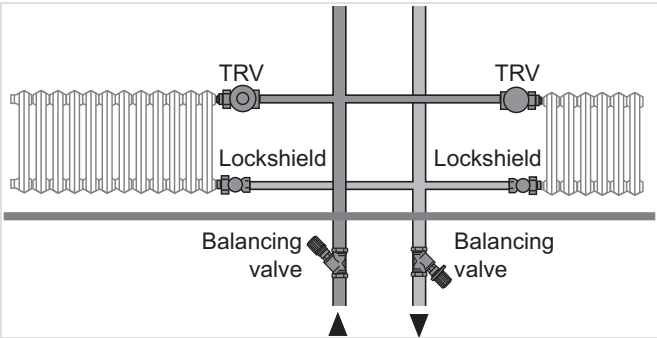


Fig. 1. Installation example heating system

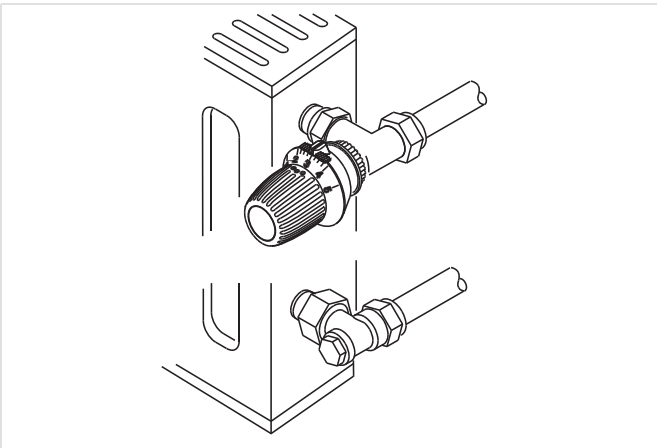
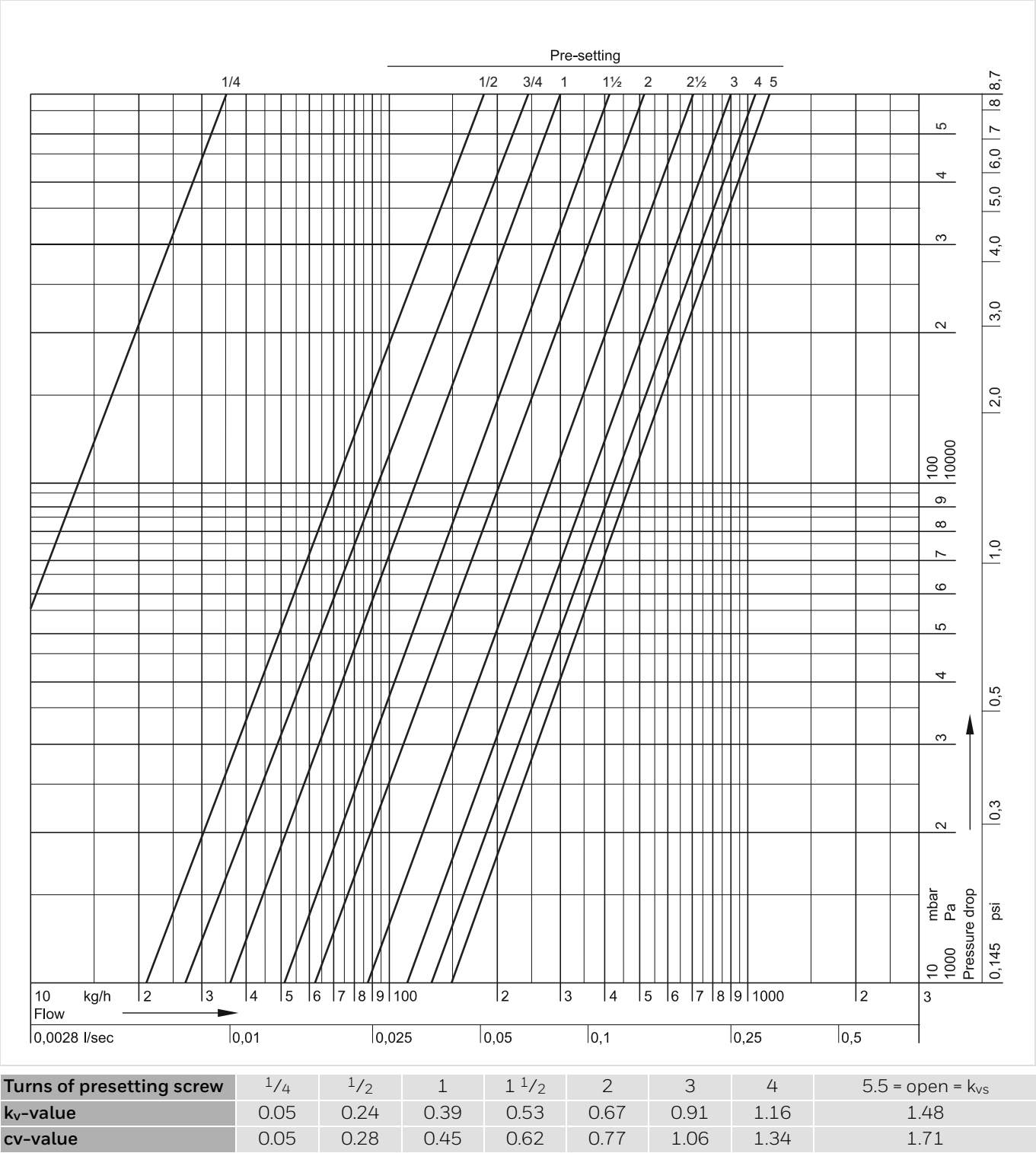


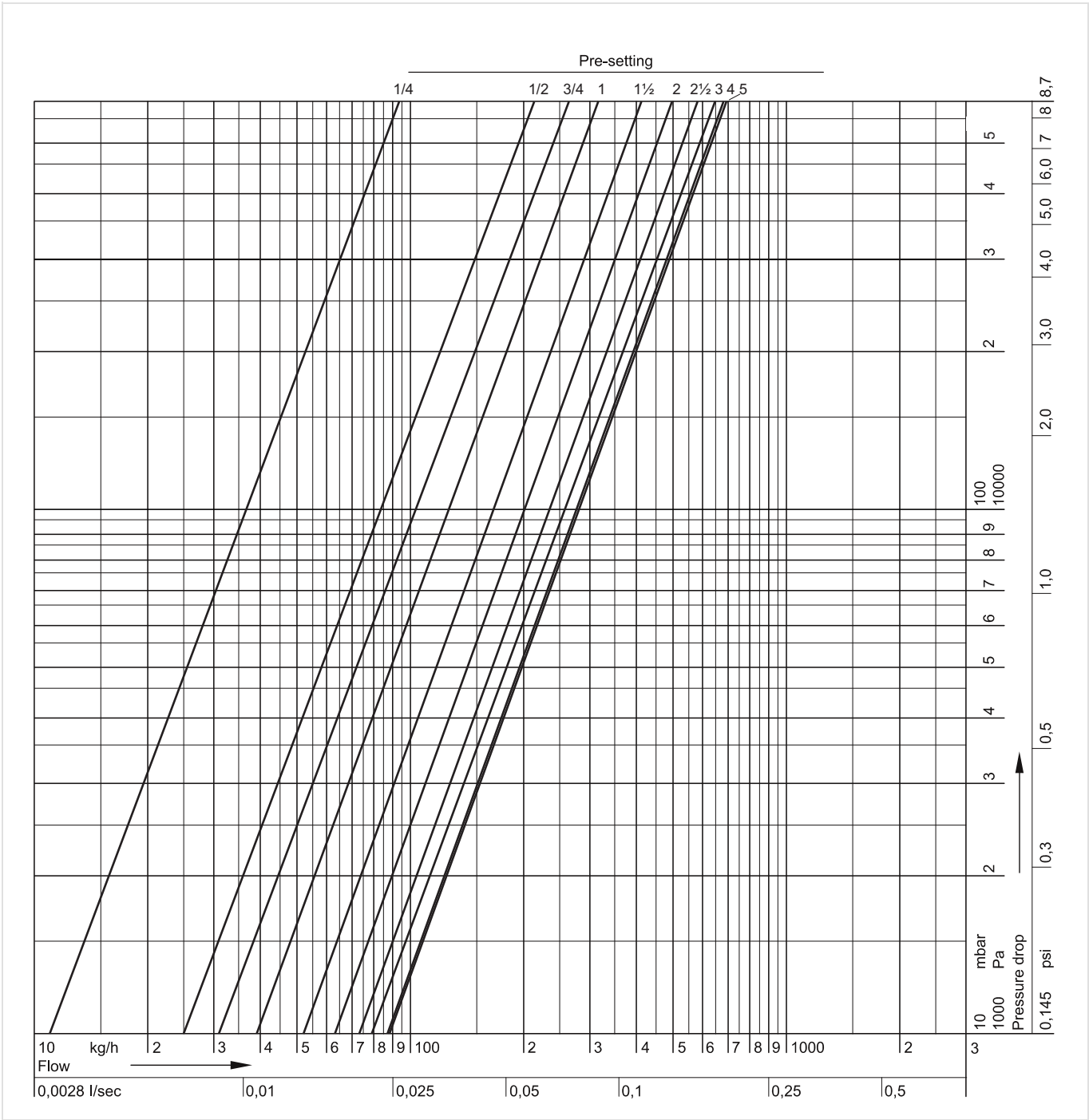
Fig. 2. Installation example radiator

Technical Characteristics

Flow Diagram for Lockshield Angle, DN10

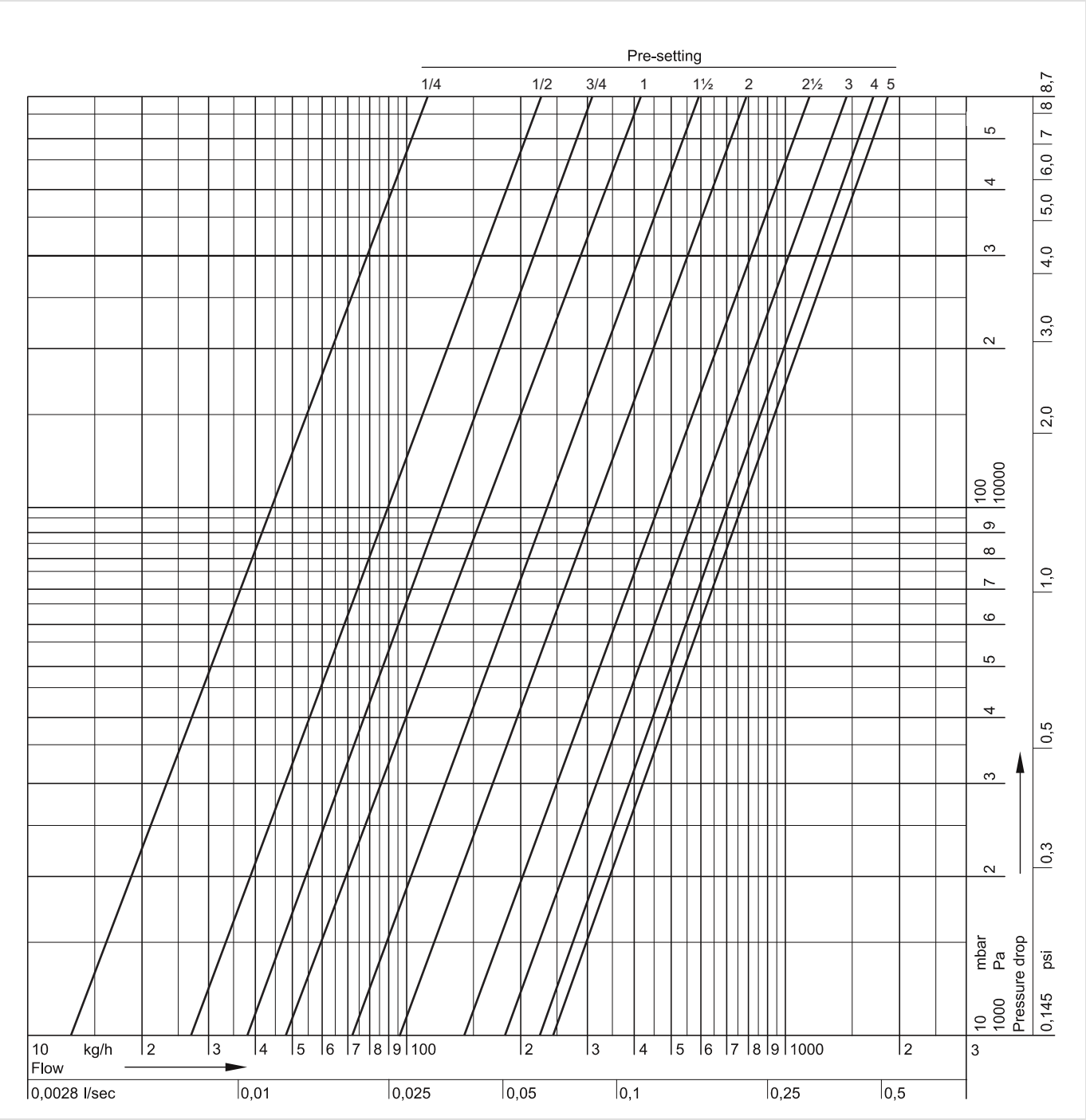


Flow Diagram for Lockshield Straight, DN10



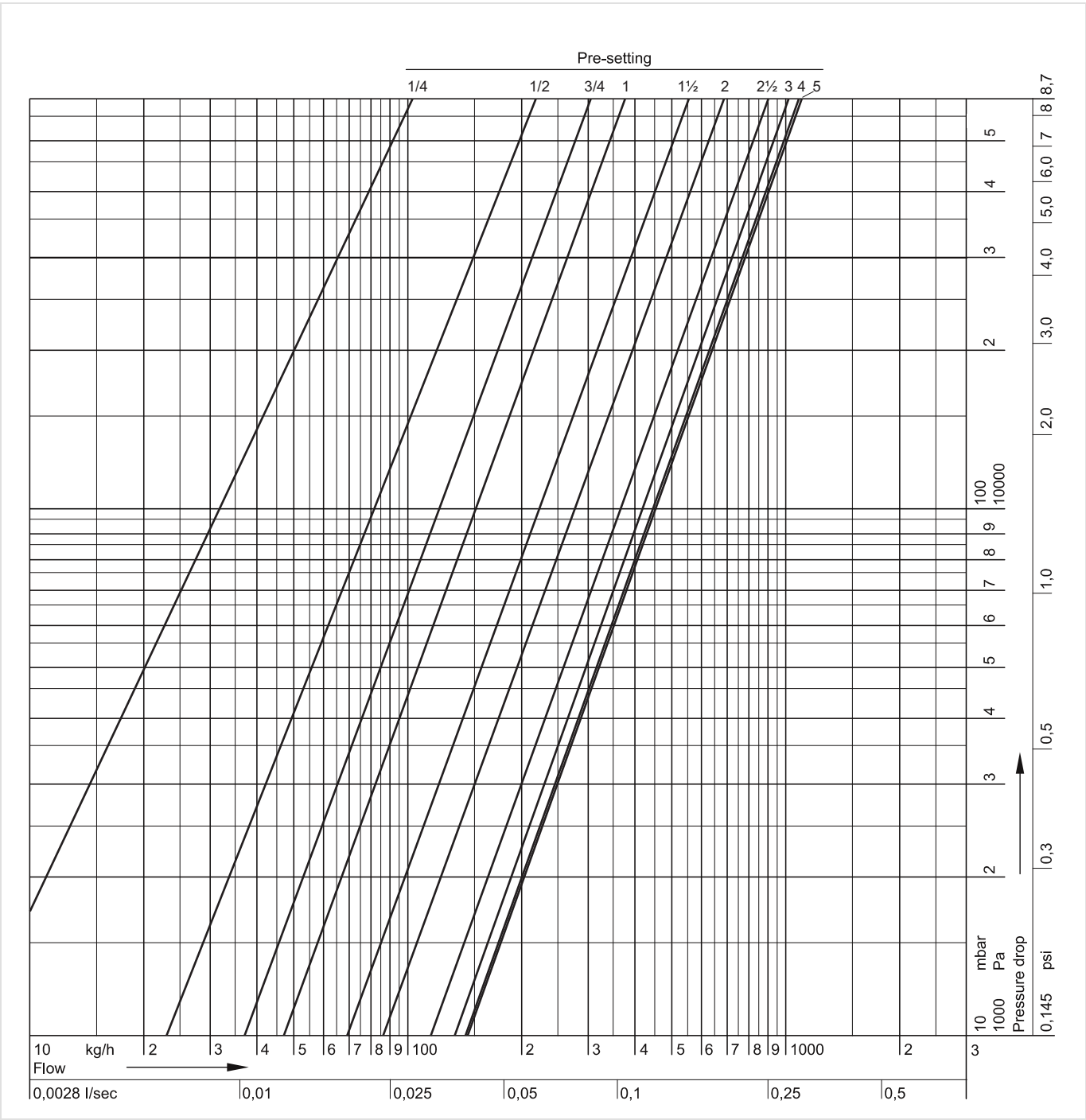
Turns of presetting screw	1/4	1/2	1	1 1/2	2	3	4	5.5 = open = k _{vs}
k _v -value	0.12	0.28	0.41	0.53	0.64	0.75	0.84	0.89
cv-value	0.14	0.32	0.48	0.62	0.75	0.87	0.97	1.03

Flow Diagram for Lockshield Angle, DN15



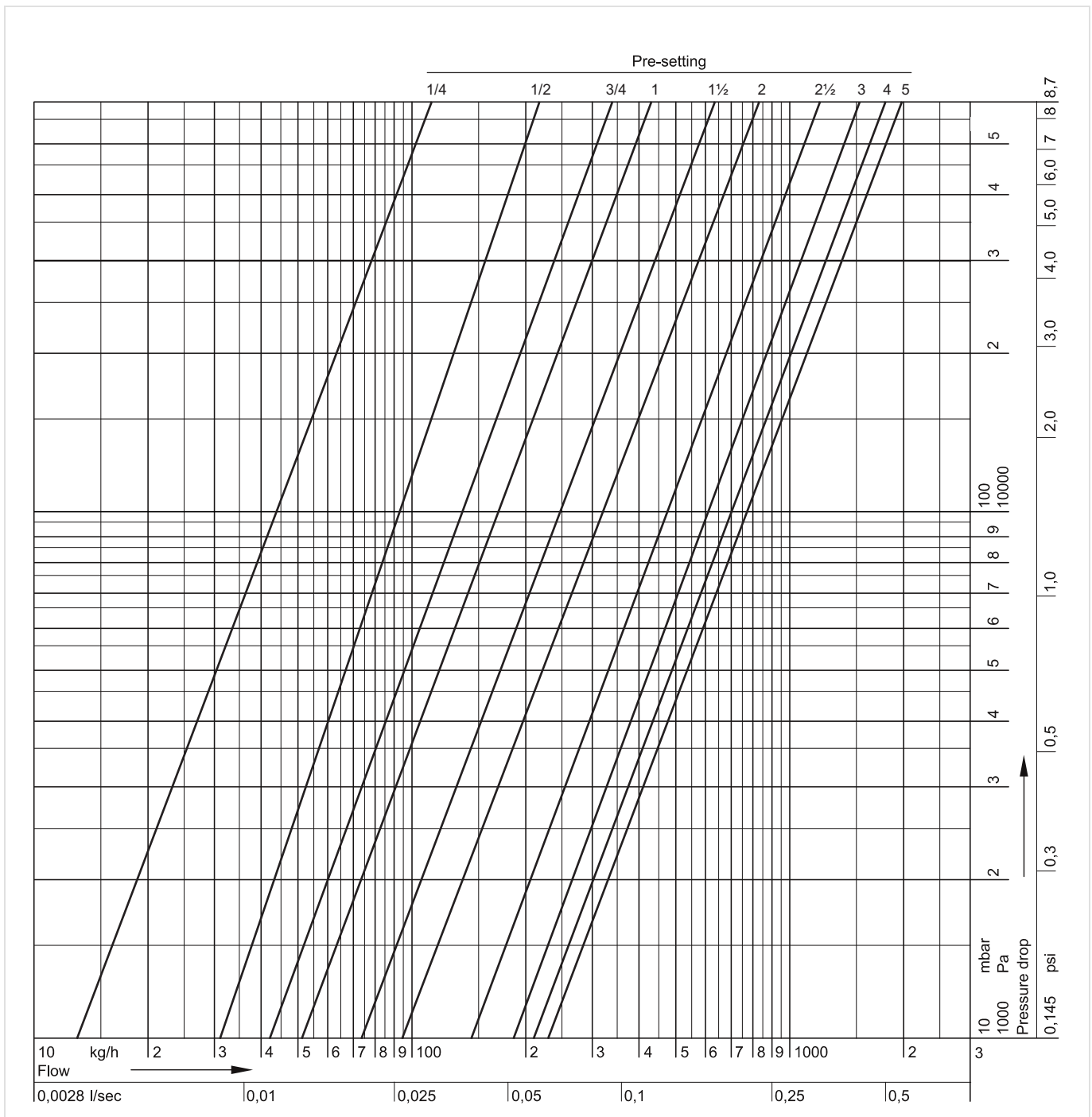
Turns of presetting screw	1/4	1/2	1	1 1/2	2	3	4	5.5 = open = k_{VS}
k_v -value	0.11	0.23	0.48	0.66	0.78	1.10	1.42	1.84
cv -value	0.13	0.26	0.56	0.77	0.91	1.27	1.64	2.12

Flow Diagram for Lockshield Straight, DN15



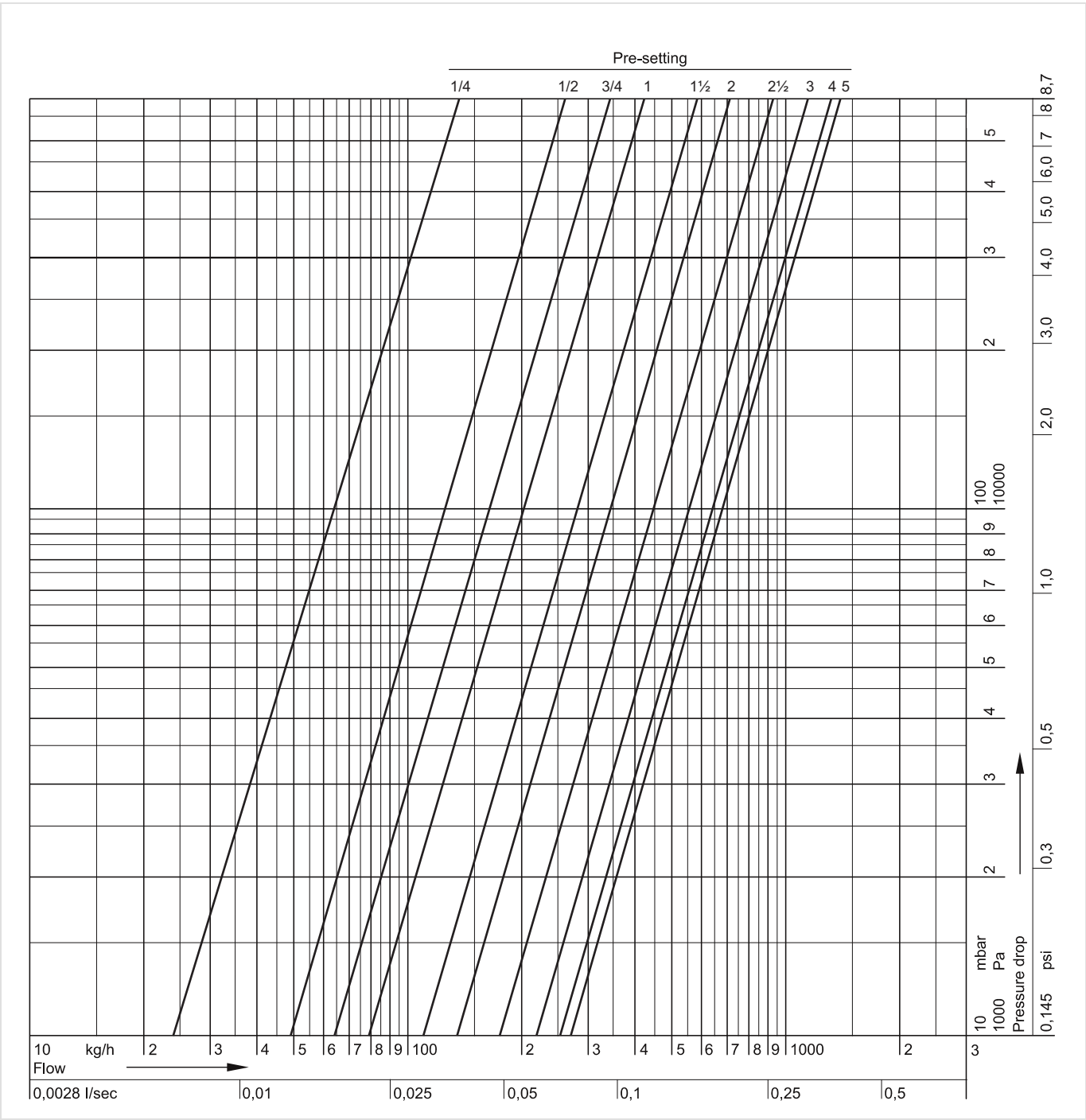
Turns of presetting screw	1/4	1/2	1	1 1/2	2	3	4	5.5 = open = k _{VS}
k _V -value	0.18	0.35	0.56	0.80	0.93	1.20	1.35	1.47
cv-value	0.21	0.41	0.64	0.92	1.07	1.39	1.56	1.70

Flow Diagram for Lockshield Angle, DN20



Turns of presetting screw	1/4	1/2	1	1 1/2	2	3	4	5.5 = open = k_{VS}
k_V -value	0.12	0.27	0.59	0.79	1.05	1.52	1.92	2.37
c_V -value	0.13	0.32	0.68	0.91	1.21	1.75	2.21	1.73

Flow Diagram for Lockshield Straight, DN20



Turns of presetting screw	1/4	1/2	1	1 1/2	2	3	4	5.5 = open = k _{VS}
k _V -value	0.15	0.27	0.52	0.72	0.89	1.18	1.47	1.81
cv-value	0.17	0.31	0.60	0.83	1.03	1.36	1.70	2.09

Dimensions and Ordering Information

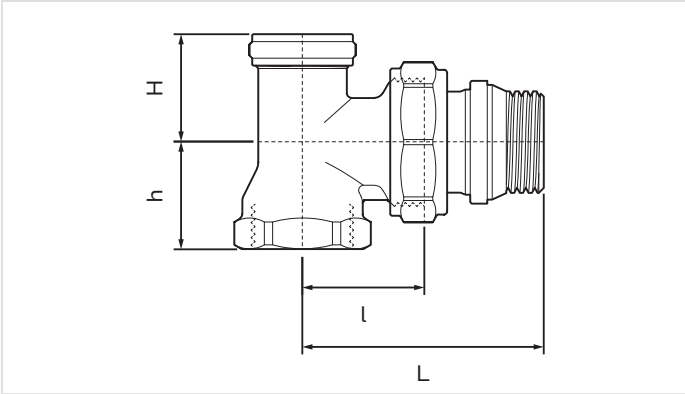


Fig. 3. Straight

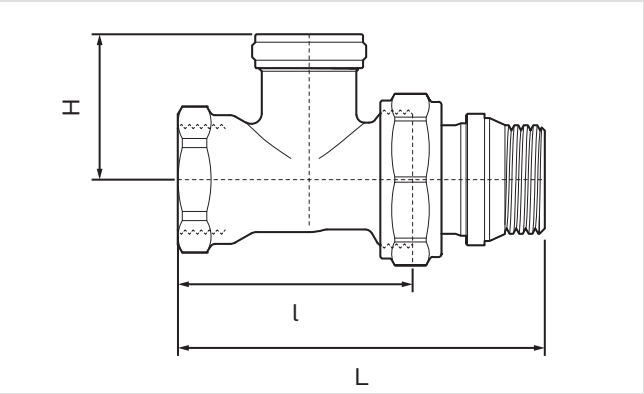


Fig. 4. Angled

Type	DN	Pipe connection	k _{VS} -value	L	l	H	h	Item No.
Angle	10	G 3/8"	1.48	47	25	22	22	V2300E0010
	15	G 1/2"	1.84	49	25	22	22	V2300E0015
	20	G 3/4"	2.37	57	30	22	22	V2300E0020
Straight	10	G 3/8"	0.89	68	46	28	-	V2300D0010
	15	G 1/2"	1.47	69	46	28	-	V2300D0015
	20	G 3/4"	1.81	80	53	27	-	V2300D0020

Tab. 1 V2300: Bodies with internal threads and metal-to-metal radiator tailpieces

Type	DN	Pipe connection	k _{VS} -value	L	l	H	h	Item No.
Angle (Fig. 3)	10	G 3/8"	1.20	48	25	22	22	V2330E0010
	15	G 1/2"	1.84	50	25	22	22	V2330E0015
	20	G 3/4"	2.37	57	30	22	22	V2330E0020
Straight (Fig. 4)	10	G 3/8"	0.81	69	46	28	-	V2330D0010
	15	G 1/2"	1.47	70	46	28	-	V2330D0015
	20	G 3/4"	1.81	80	53	27	-	V2330D0020

Tab. 2 V2330: Bodies with internal threads and soft sealing radiator tailpieces

Note: All dimensions in mm unless stated otherwise.