



V94 Series

Lockshield Valves

Connections for heat exchangers, PN10, flat sealing

APPLICATION

V94 Series Lockshield Valves are used in the supply and return of heat exchangers in hydronic cooling and heating systems. They have the following functions:

- Shut-off: by closing the valve the flow through the heat exchanger is shut-off.
- Pre-setting: the flow through the heat exchanger can be throttled to meet system requirements

V9400 in DN15 (kvs 1,45) also supports draining over the valve when a draining adapter is used (accessory, not supplied with the valve).

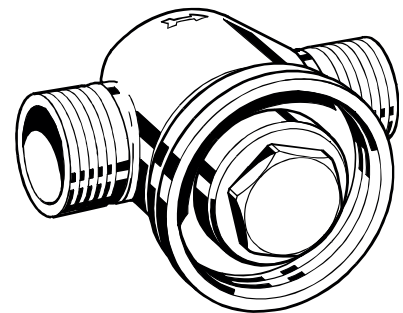
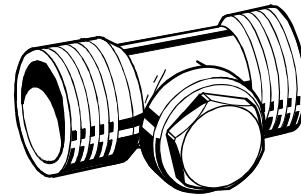
The valves have flat sealing external threads on inlet and outlet. Refer to chapter 'Accessories' further below for suitable union nuts and tailpieces.

FEATURES

- Robust, noise and flow optimised valve housing made of corrosion resistant red bronze
- Available with various k_{VS} -values
- Optional flow direction
- Shut-off and pre-setting functions
- V9400 also with draining function

SPECIFICATIONS

Medium:	Water or glycol-water mixture
pH-value:	8 - 9.5
Operating temperature:	2...130 °C (36...266 °F)
Operating pressure:	max. 10 bar (156 P.S.I.)
k_{VS} (C_{VS})-value:	1.7...5.0 (1.98...5.81) see Table 2
Leakage rate:	0.02 % of k_{VS} -value
Rangeability:	50:1



DESIGN

- Valve housing PN10, DN15 with $\frac{3}{4}$ " external threads, DN20 with 1" external threads or DN25 with $1\frac{1}{4}$ " external threads, flat sealing
- Valve insert
- Protection cap

MATERIALS

- Valve housing made of red bronze RG5 according to DIN 1705 (G-CuSn5ZnPb), V9400 additionally matt nickel-plated
- Valve insert made of brass with EPDM O-rings
- Protection cap made of brass with Teflon sealing, V9400 additionally nickel-plated

DIMENSIONS

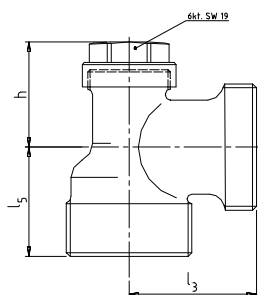


Fig. 1 V9400 angle

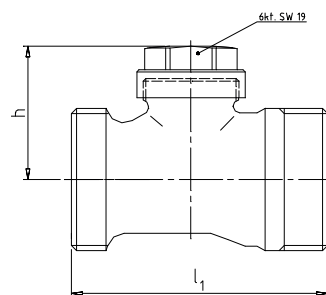


Fig. 2 V9400 straight

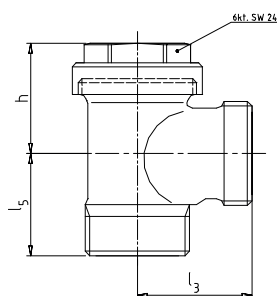


Fig. 3 V9441 angle

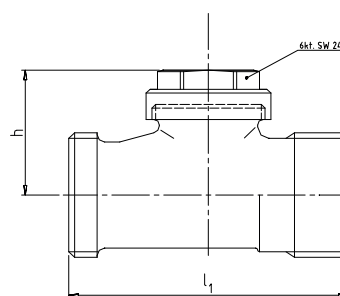


Fig. 4 V9441 straight

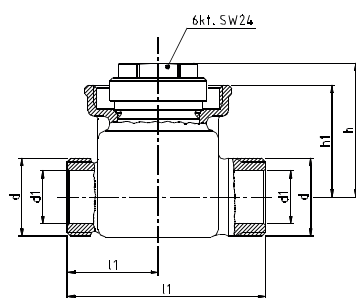


Fig. 5 V9440 straight

Tab. 1 Dimensions

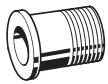

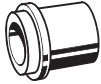


Item:	DN:	Connection:	l ₁ :	l ₃ :	l ₅ :	h:	Spanner size cap:
V9400 angle	15	1/2"	-	29	26	25	19
	20	3/4"	-	34	29	29	19
V9400 straight	15	1/2"	51	-	-	32	19
	20	3/4"	59	-	-	32	19
V9441 angle	15	1/2"	-	29	26	28	24
V9441 straight	15	1/2"	66	-	-	33	24
V9440 straight	20	1"	75	-	-	45	24

Note: All dimensions in mm unless stated otherwise.

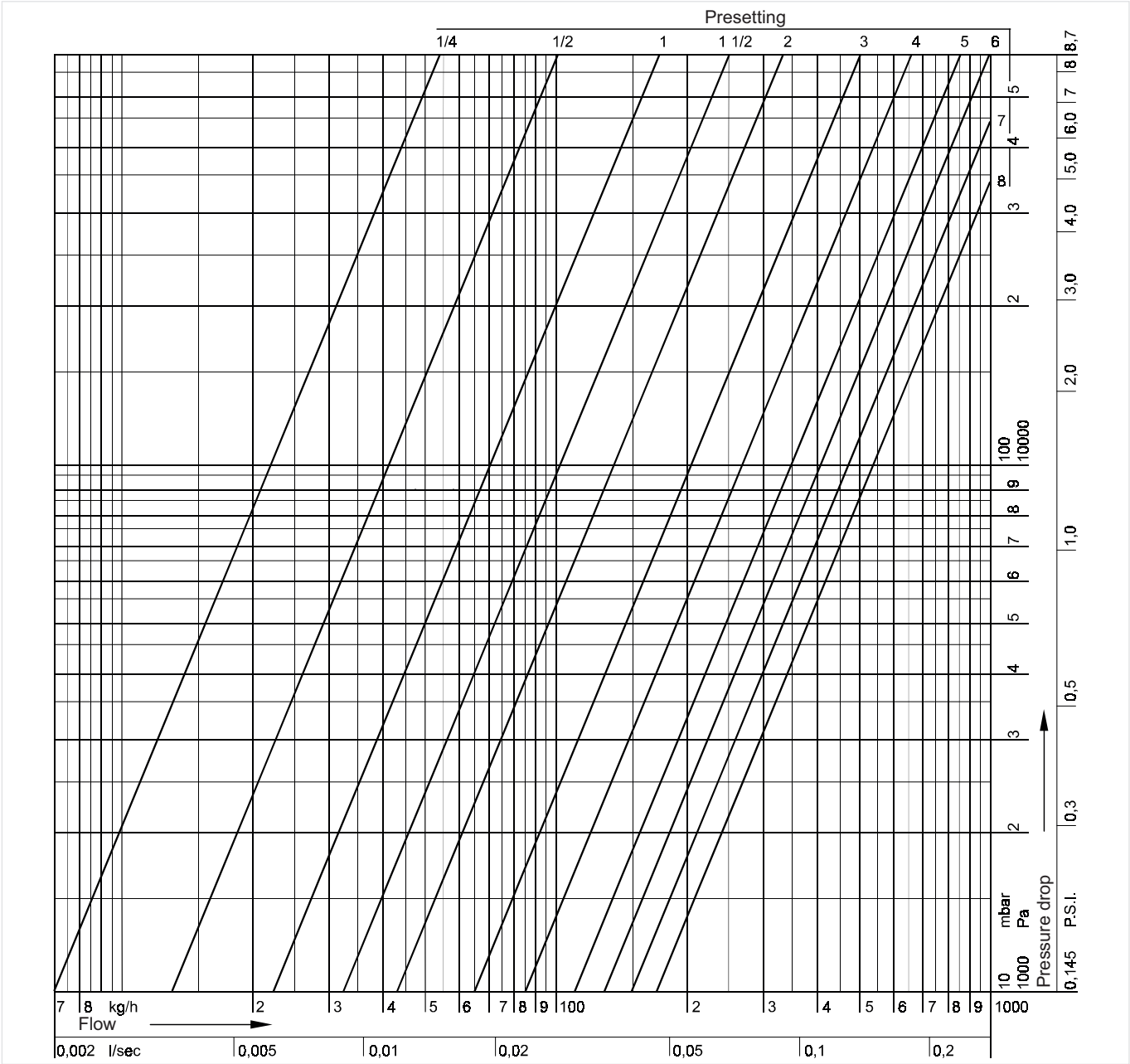
ORDERING INFORMATION

Type	Version	DN	k _{VS} -value	cv-value	OS-No.
V9400	angle	15	1.7	1.98	V9400EX015
	angle	20	1.7	1.98	V9400EX020
	straight	15	1.45	1.69	V9400DX015
	straight	20	1.50	1.74	V9400DX020
V9441	angle	15	4.0	4.65	V9441EX015
	straight	15	2.2	2.56	V9441DX015
V9440	straight	20	5.0	5.81	V9440DX020

ACCESSORIES

	Description	Dimension	Part No.
	VA5500 Externally threaded brass tailpiece, flat sealing		
	$\frac{3}{8}$ ", for valves DN10		VA5500A010
	$\frac{1}{2}$ ", for valves DN15		VA5500A015
	$\frac{3}{4}$ " for valves DN20		VA5500A020
	VA5090 PTFE sealing ring		
	for valves DN10		VA5090A010
	for valves DN15		VA5090A015
	for valves DN20		VA5090A020
	VA5930 Brass soldering tailpiece, flat sealing		
	12 mm, for valves DN10	12 mm	VA5930A012
	15 mm, for valves DN15	15 mm	VA5930A015
	22 mm, for valves DN20	22 mm	VA5930A020
	VA3300 Draining adapter		
			VA3300A001
	VA8300 Special tool		
	for V9400		VA8300A001

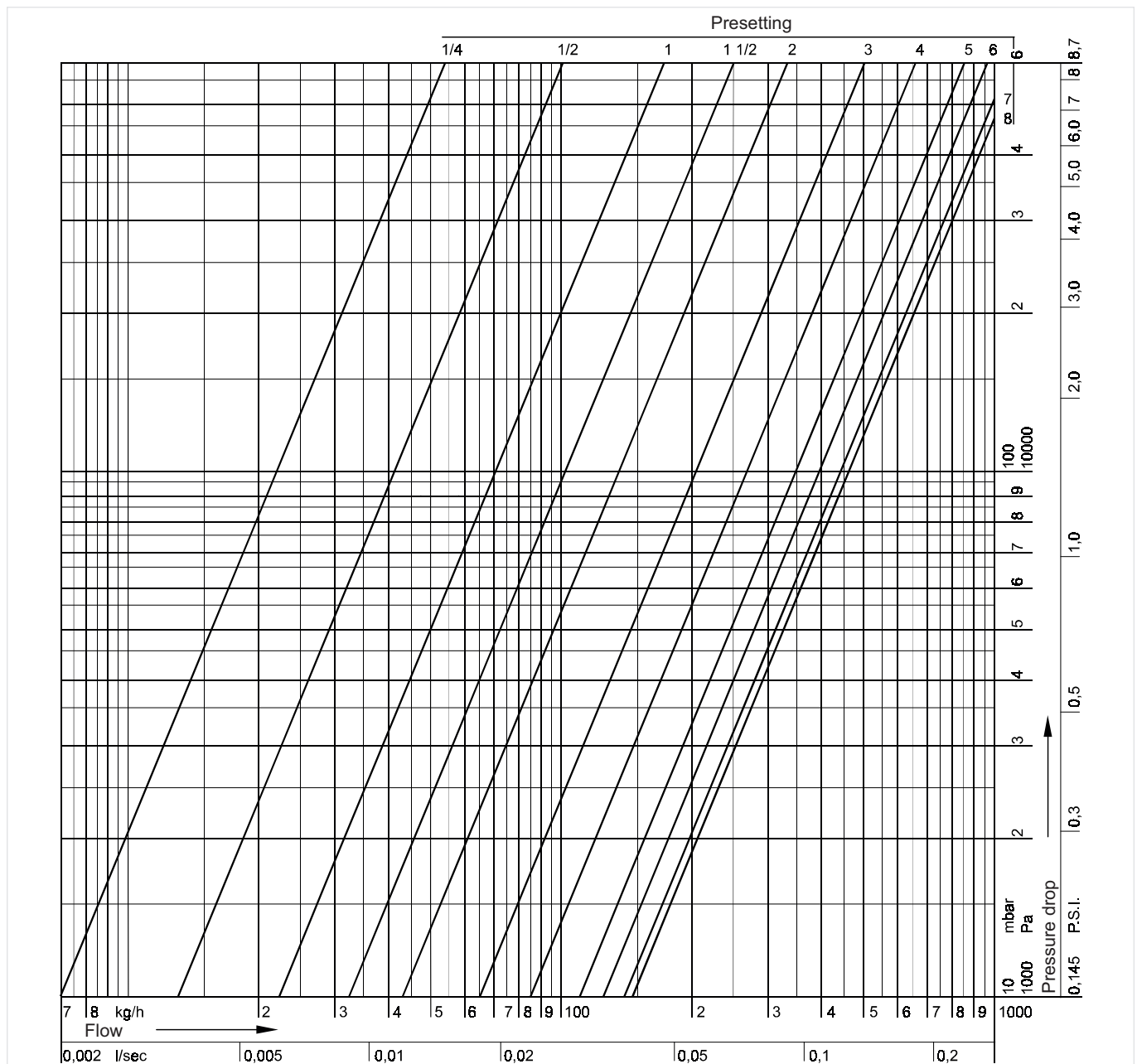
FLOW DIAGRAM V9400 ANGLE, DN15 AND DN20



Presetting	1/4	1/2	1	1 1/2	2	3	4	5	6	7	8
k _v -value	0.07	0.13	0.22	0.32	0.43	0.65	0.85	1.10	1.30	1.50	1.70
cv-value	0.08	0.15	0.26	0.37	0.50	0.76	0.99	1.28	1.51	1.74	1.98

Note: Flow data is only valid for water with a temperature of 5...30°C (41...86°F). When other temperatures or liquids are used the data may vary – see Reference Sheet ‘Calculation of Flow Data’ (EN0H-0221GE25).

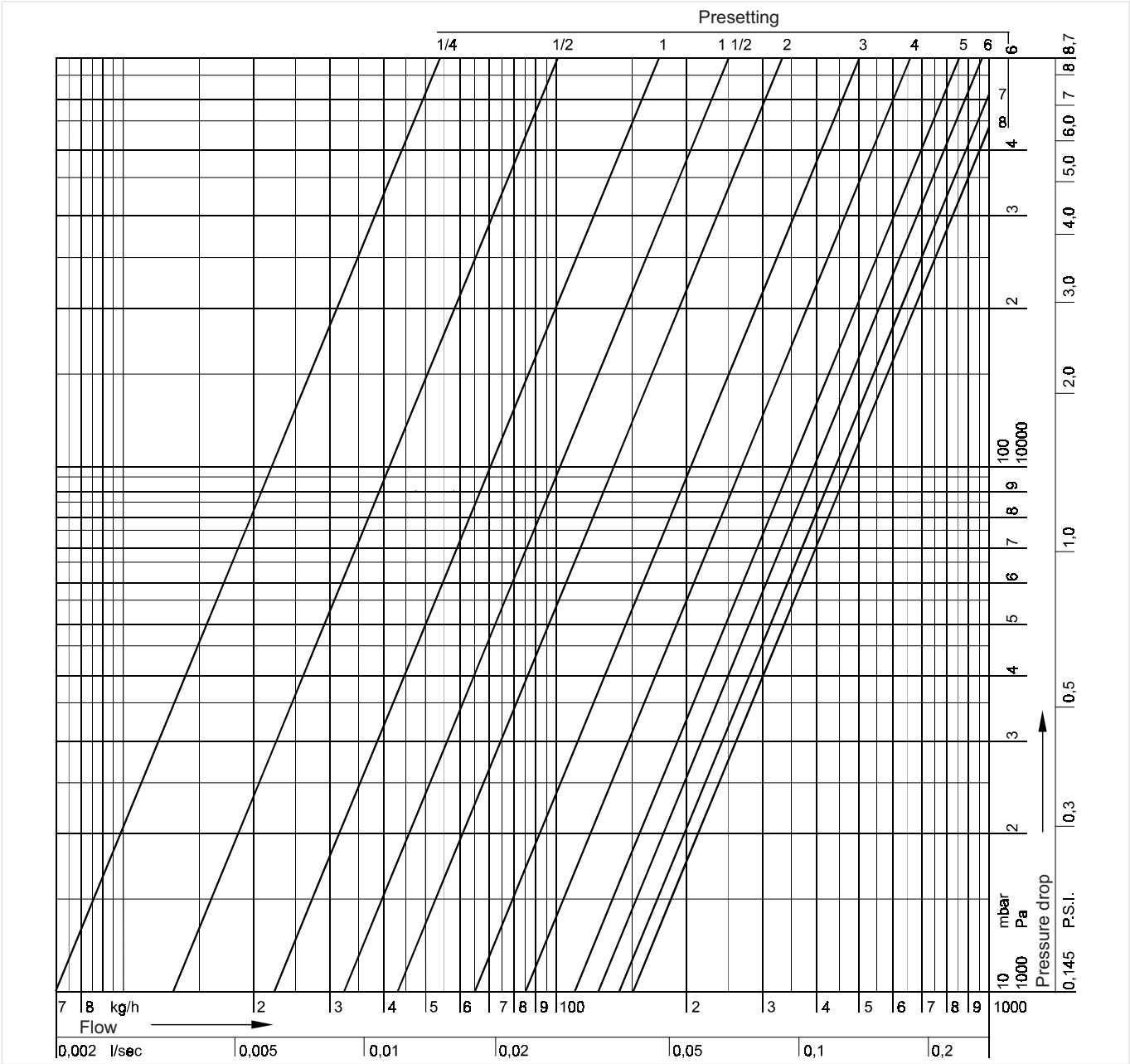
FLOW DIAGRAM V9400 STRAIGHT, DN15



Presetting	1/4	1/2	1	1 1/2	2	3	4	5	6	7	8
k_v-value	0.07	0.13	0.22	0.32	0.43	0.65	0.85	1.10	1.25	1.40	1.45
cv-value	0.08	0.15	0.26	0.37	0.50	0.76	0.99	1.28	1.45	1.63	1.69

Note: Flow data is only valid for water with a temperature of 5...30°C (41...86°F). When other temperatures or liquids are used the data may vary – see Reference Sheet 'Calculation of Flow Data' (EN0H-0221GE25).

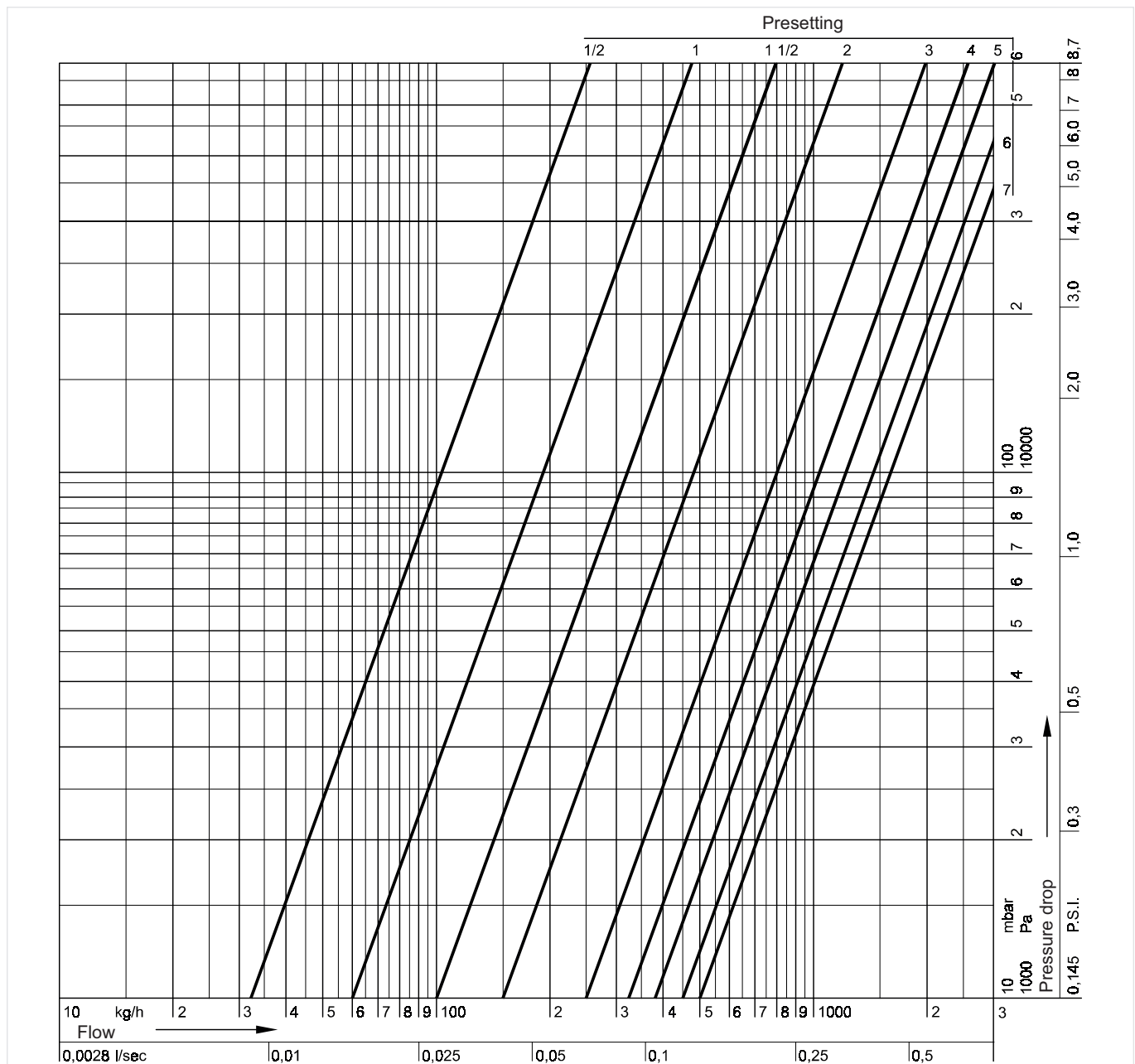
FLOW DIAGRAM V9400 STRAIGHT, DN20



Presetting	1/4	1/2	1	1 1/2	2	3	4	5	6	7	8
k _v -value	0.07	0.13	0.22	0.32	0.43	0.65	0.85	1.10	1.25	1.40	1.50
cv-value	0.08	0.15	0.26	0.37	0.50	0.76	0.99	1.28	1.45	1.63	1.74

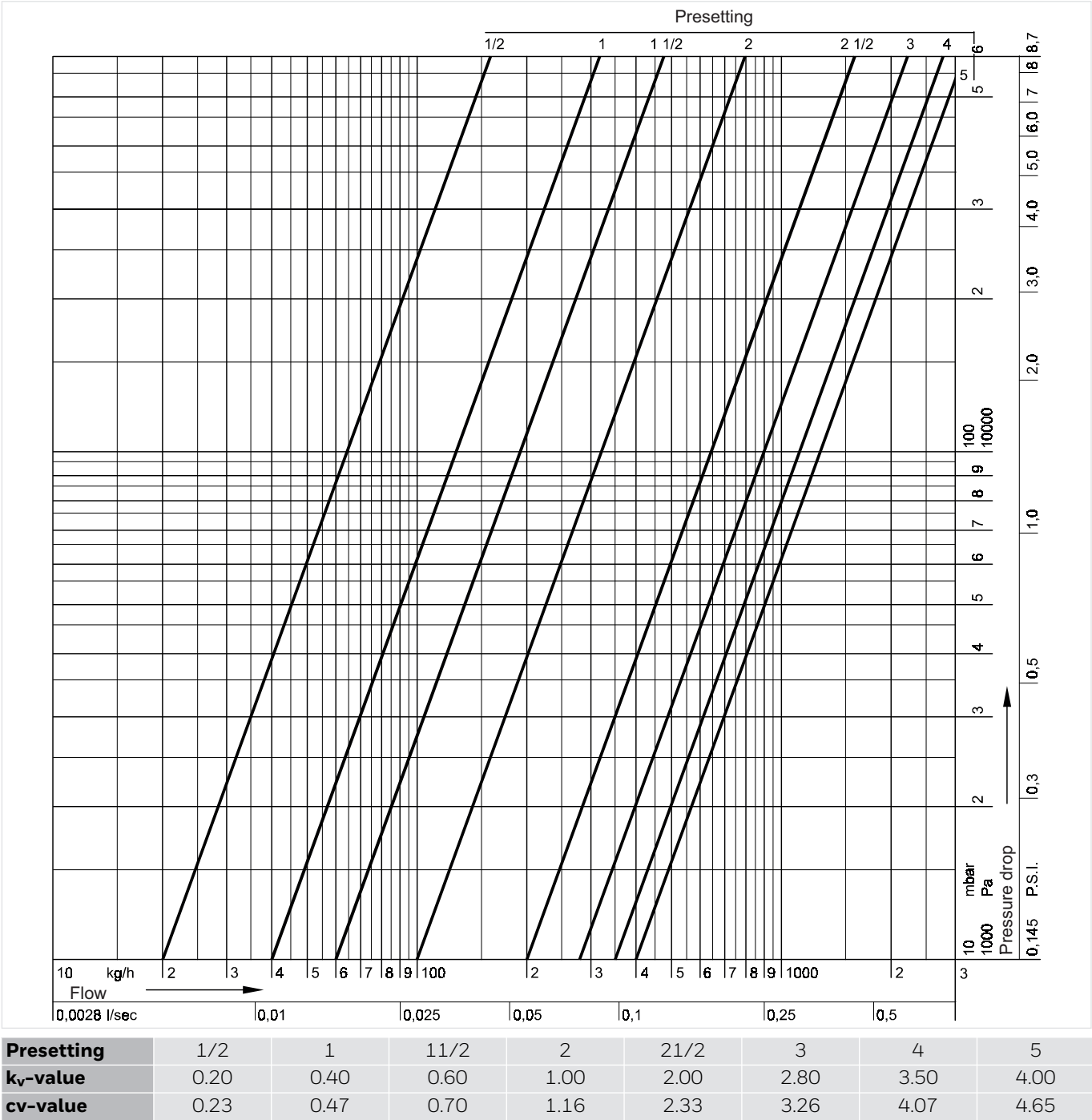
Note: Flow data is only valid for water with a temperature of 5...30°C (41...86°F). When other temperatures or liquids are used the data may vary – see Reference Sheet ‘Calculation of Flow Data’ (EN0H-0221GE25).

FLOW DIAGRAM V9440 AND V9441 ANGLE



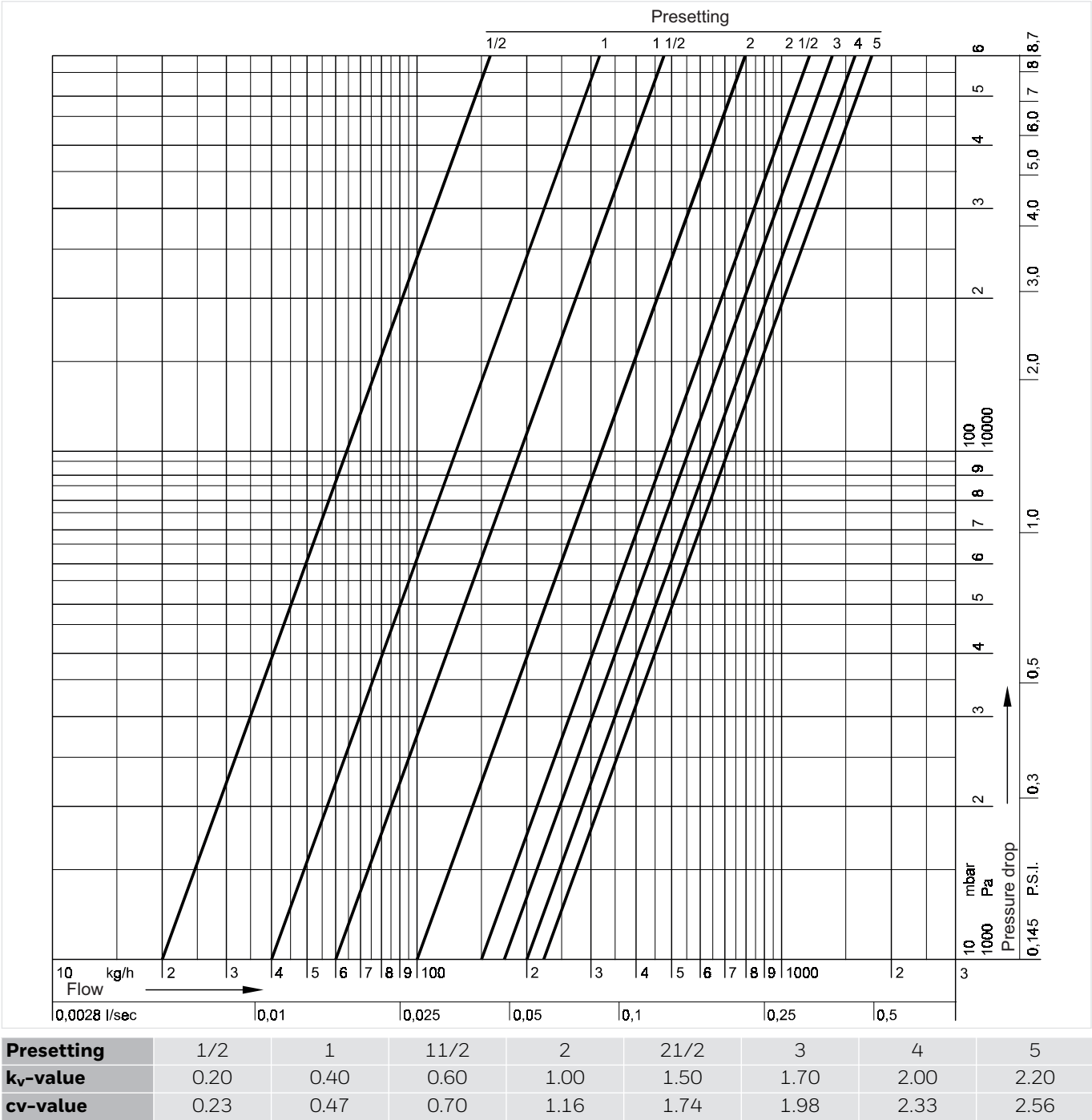
Note: Flow data is only valid for water with a temperature of 5...30°C (41...86°F). When other temperatures or liquids are used the data may vary – see Reference Sheet 'Calculation of Flow Data' (EN0H-0221GE25).

FLOW DIAGRAM V9441 ANGLE



Note: Flow data is only valid for water with a temperature of 5...30°C (41...86°F). When other temperatures or liquids are used the data may vary – see Reference Sheet ‘Calculation of Flow Data’ (EN0H-0221GE25).

FLOW DIAGRAM V9441 STRAIGHT



Note: Flow data is only valid for water with a temperature of 5...30°C (41...86°F). When other temperatures or liquids are used the data may vary – see Reference Sheet 'Calculation of Flow Data' (EN0H-0221GE25).

For more information
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