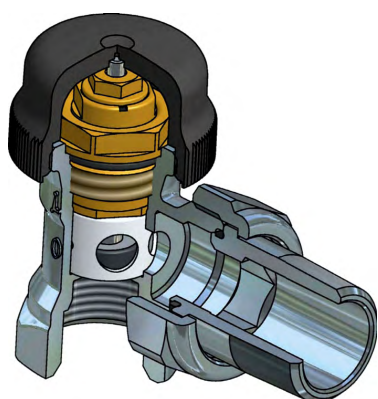


Adjustable Kv thermostatically controllable valves art. VD/VS/VCR/VCD/VCS xxxxN



Thermostatically controllable valves have the purpose to cut-off, throttle and regulate flow rate through the heating body, since they are ready for thermostatic, electrothermal or manual head. A classic application of these valve is to equip them with a thermostatic head, so to make zones independent of each other by allowing the temperature regulation of the single room; this provides highly comfortable conditions and energy saving at the same time, as required by current local and international standards. Series "N" valves feature a flow rate limiter consisting of an inner collar with six calibrated holes which limits the maximum flow rate to the heating body even when the valve is completely open: this is typical when using an on/off electrothermal head, or a manual head. Series "N" selectors have adjustable K_v value from 0.1 to 0.6. Each valve is equipped with a protecting cover that preserves the thread, completely closes the valve during system test, and allows nominal lift calibration. The thermostatic inserts can be inspected and, if necessary, the o-ring on the spindle can be replaced, even while the system is working.

■ TECHNICAL FEATURES

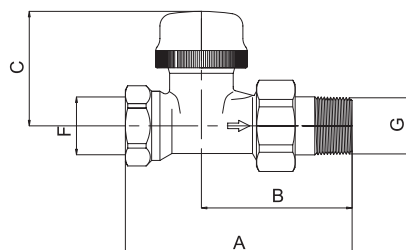
Max operating static pressure: 10 bar
Max operating temperature: 120 °C
Max differential pressure: 1 bar

■ MATERIALS

Valve body: CW617N
Other brass parts: CW617N
Rubber sealing parts: peroxide EPDM
Flow rate selector: PPA
Protecting cover: ABS
Steel parts (spring, washer and spindle): stainless steel

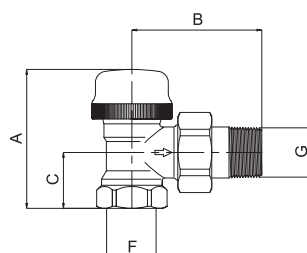
DIMENSIONS

Thermostatically controllable straight valve with iron pipe connection and adjustable K_v



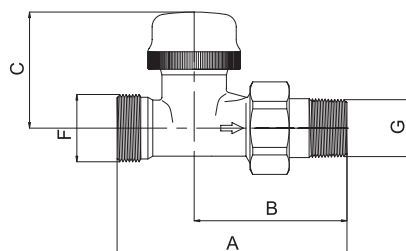
ART.	COD.	SIZE	A	B	C	F	G
VD 2101N	500888	DN 10	75	51	43.5	3/8"	3/8"
VD 2101N	500459	DN 15	82	55	43.5	1/2"	1/2"
VD 2101N	500382	DN 20	97.5	65.5	43.5	3/4"	3/4"

Thermostatically controllable angle valve with iron pipe connection and adjustable K_v



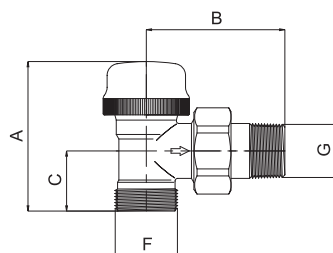
ART.	COD.	SIZE	A	B	C	F	G
VS 2102N	500870	DN 10	56.5	49	20	3/8"	3/8"
VS 2102N	500513	DN 15	59.5	53	23	1/2"	1/2"
VS 2102N	500384	DN 20	59.5	62.5	26	3/4"	3/4"

Thermostatically controllable straight valve with copper pipe connection and adjustable K_v



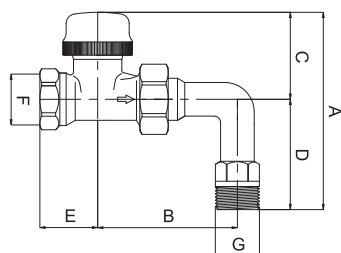
ART.	COD.	SIZE	A	B	C	F	G
VD 2103N	500477	M24	82	55	43.5	M24×1.5	1/2"
VD 2105N	500474	EUROKONUS	82	55	43.5	3/4"	1/2"

Thermostatically controllable angle valve with copper pipe connection and adjustable K_v



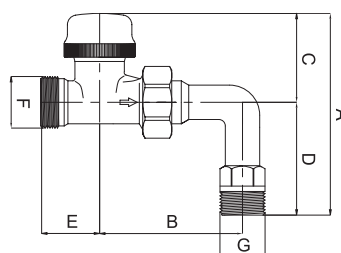
ART.	COD.	SIZE	A	B	C	F	G
VS 2104N	500516	M24	59.5	53	23	M24×1.5	1/2"
VS 2106N	500806	EUROKONUS	59.5	53	23	3/4	1/2"

Thermostatically controllable straight valve with iron pipe connection, angle pipe union fitting and adjustable K_v



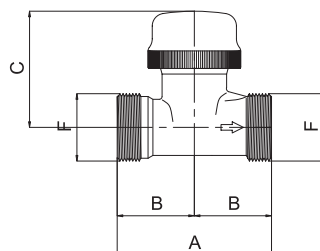
ART.	COD.	SIZE	A	B	C	D	E	F	G
VD 2111N	500480	DN 15	96	66.5	43.5	52.5	27.5	1/2"	1/2"

Thermostatically controllable straight valve with copper pipe connection, angle pipe union fitting and adjustable K_v



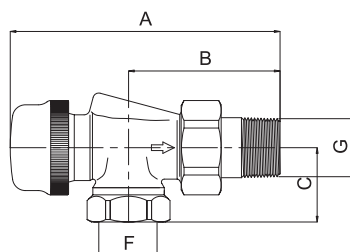
ART.	COD.	SIZE	A	B	C	D	E	F	G
VD 2113N	500494	M24	96	66.5	43.5	52.5	27.5	M24×1.5	1/2"
VD 2115N	500497	EUROKONUS	96	66.5	43.5	52.5	27.5	3/4	1/2"

Thermostatically controllable straight valve with no fitting, with EUROKONUS connection and adjustable K_v



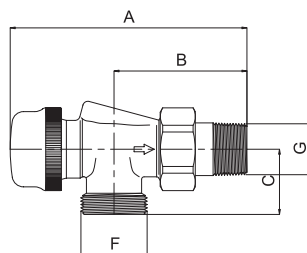
ART.	COD.	SIZE	A	B	C	F
VD 2127N	500891	EUROKONUS	55	27.5	43.5	3/4"

Thermostatically controllable reversed body valve with iron pipe connection and adjustable K_v



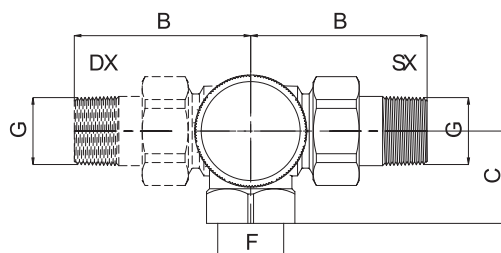
ART.	COD.	SIZE	A	B	C	F	G
VCR 2132N	500810	DN 15	96.5	53.5	26	1/2"	1/2"

Thermostatically controllable reversed body valve with iron pipe connection and adjustable K_v



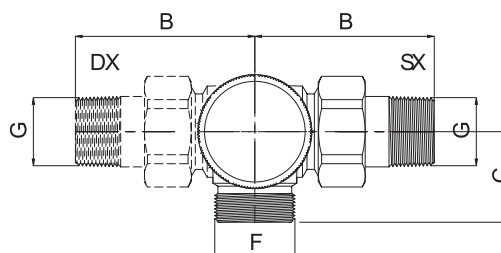
ART.	COD.	SIZE	A	B	C	F	G
VCR 2134N	500824	M24	96.5	53.5	26	M24×1.5	1/2"
VCR 2136N	500827	EUROKONUS	96.5	53.5	26	3/4"	1/2"

Thermostatically controllable coaxial (right or left) valve with iron pipe connection and adjustable K_v



ART.	COD.	SIZE	B	C	F	G
VCD 2162N DX	500546	DN 15	53.5	27	1/2"	1/2"
VCS 2162N SX	500547	DN 15	53.5	27	1/2"	1/2"

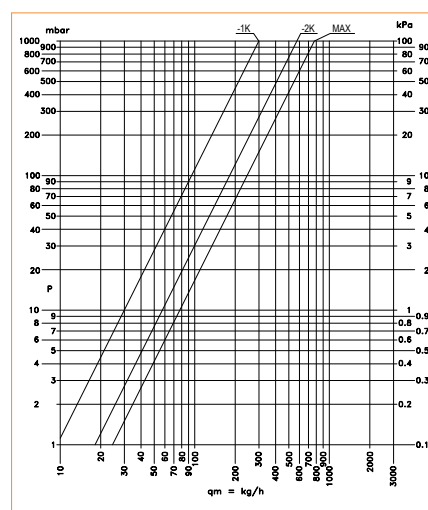
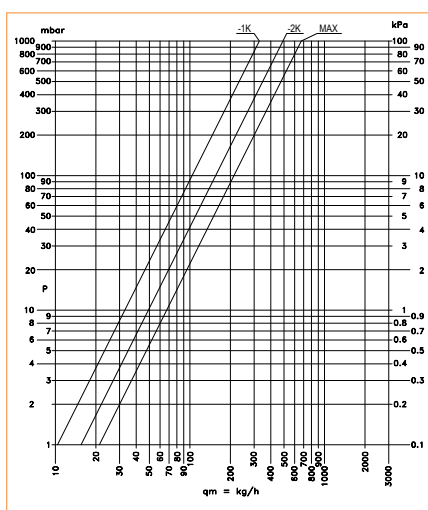
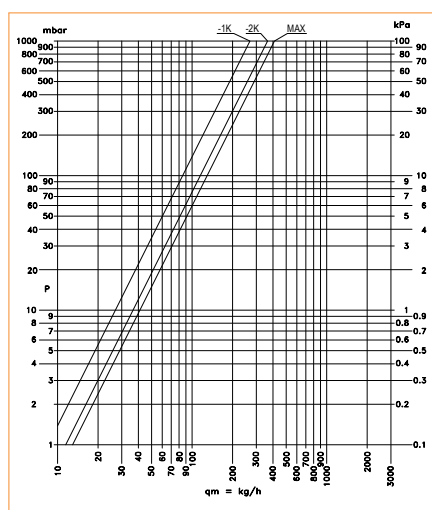
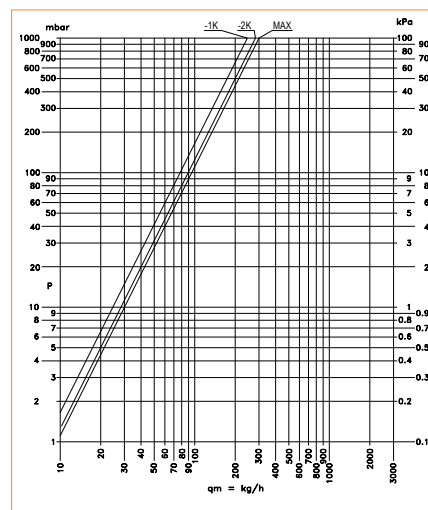
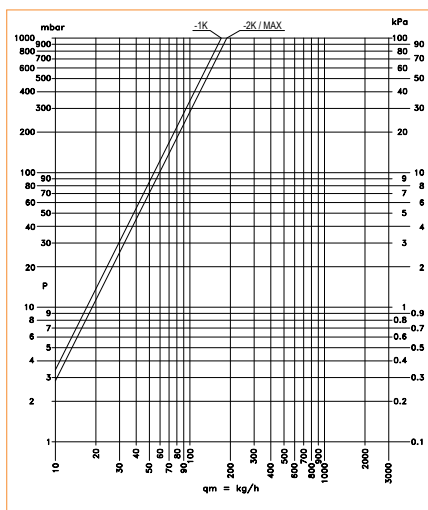
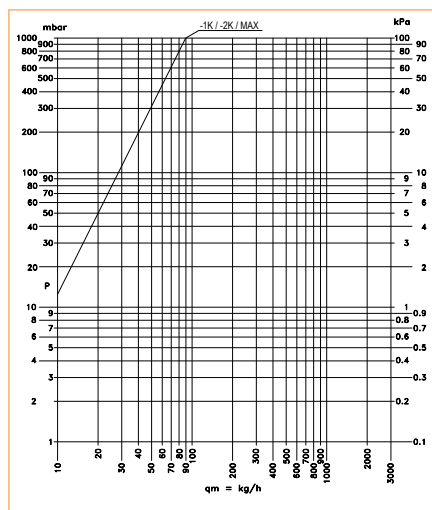
Thermostatically controllable coaxial (right or left) valve with copper pipe connection and adjustable K_v

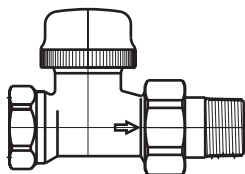


ART.	COD.	SIZE	B	C	F	G
VCD 2164N DX	500428	M24	53.5	27	M24×1.5	1/2"
VCS 2164N SX	500436	M24	53.5	27	M24×1.5	1/2"
VCD 2166N DX	500431	EUROKONUS	53.5	27	3/4"	1/2"
VCS 2166N SX	500519	EUROKONUS	53.5	27	3/4"	1/2"

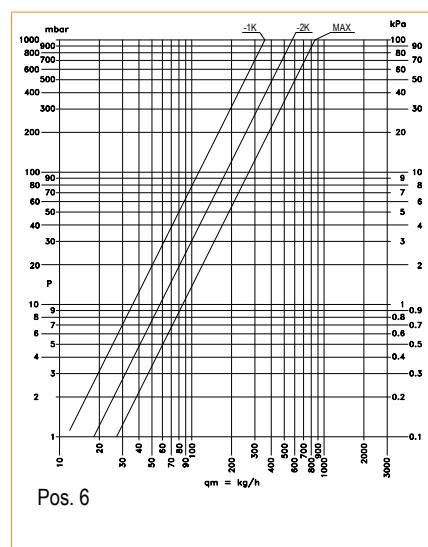
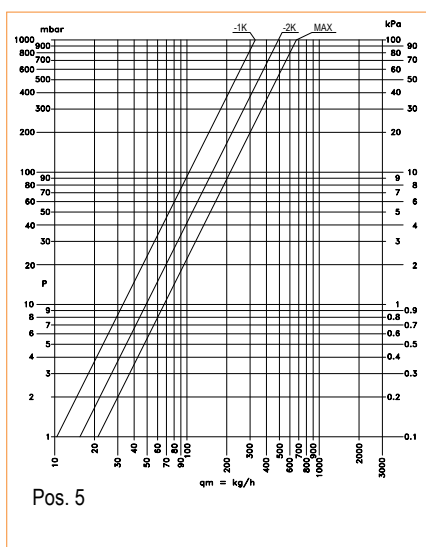
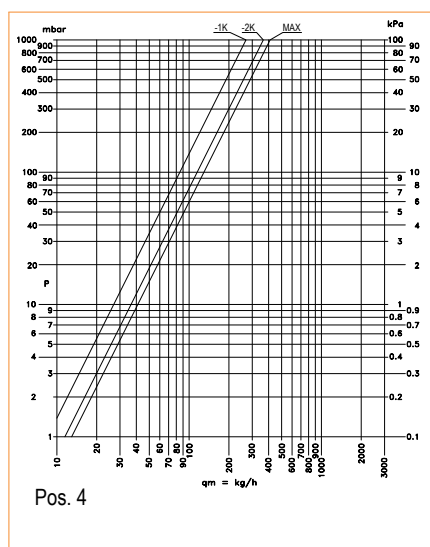
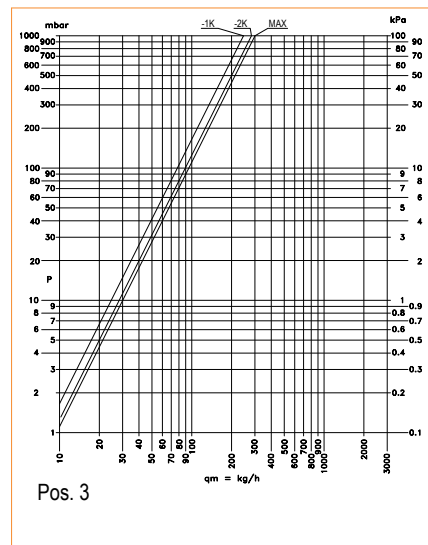
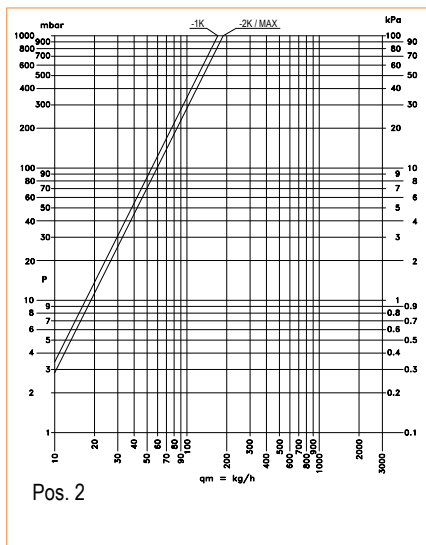
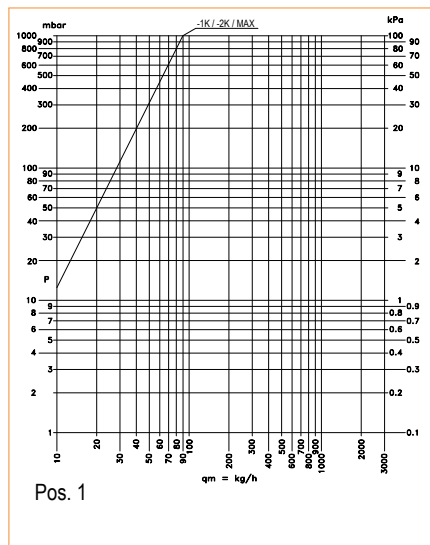
HYDRAULIC FEATURES

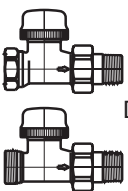
VD 2101N (DN 10)



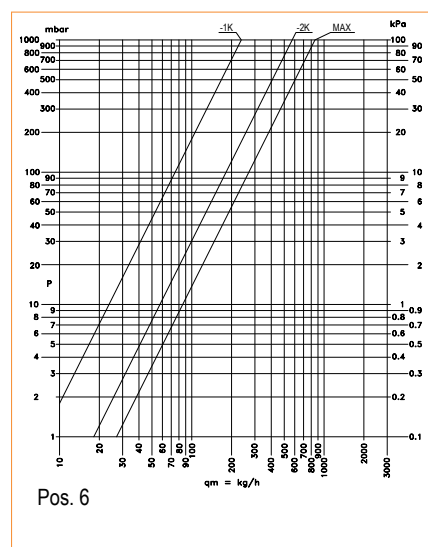
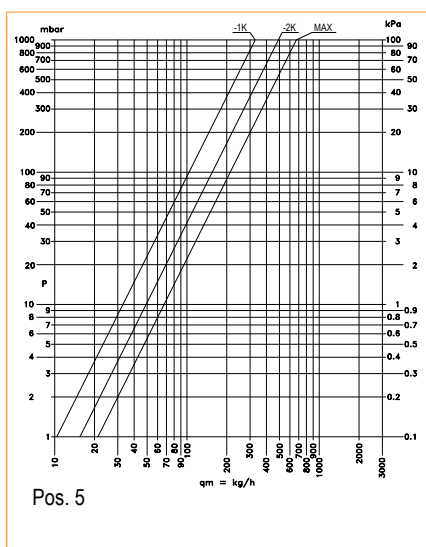
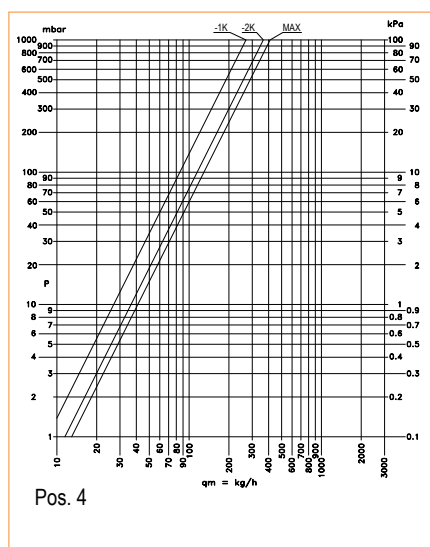
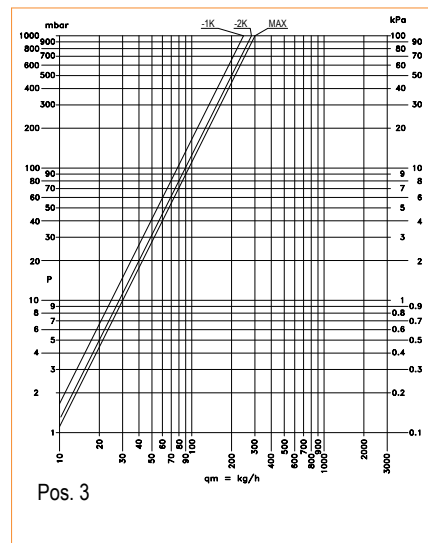
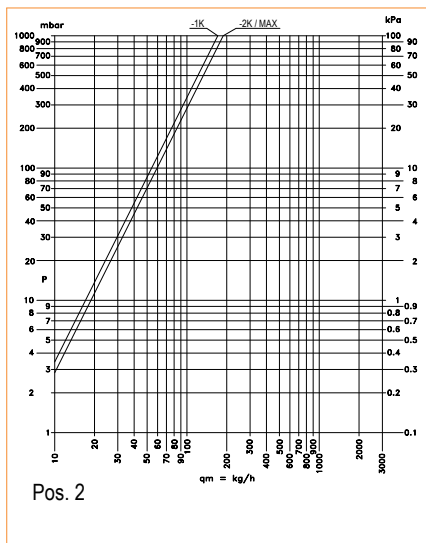
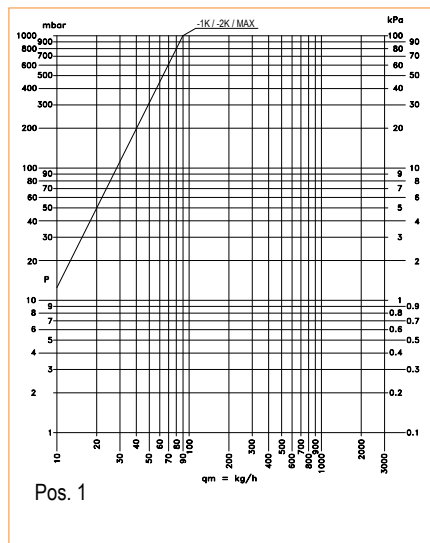
ART. VD2101N + T3000 + T5000		Pp	qmN (kg/h)	$kv_1(\Delta t = -1K)$	$kv_2(\Delta t = -2K)$	qm max (kg/h)	a
 D: 0,45 K	DN10	6	180 ±10%	0.30	0.57	240	0.40
		5	155 ±10%	0.32	0.49	210	0.41
		4	115 ±15%	0.27	0.36	130	0.19
		3	90 ±15%	0.25	0.28	95	0.09
		2	60 ±20%	0.17	0.19	60	0
		1	30 ±40%	0.09	0.09	30	0

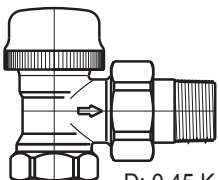
VD 2101N (DN 15-DN 20), VD 2103N, VD 2105N



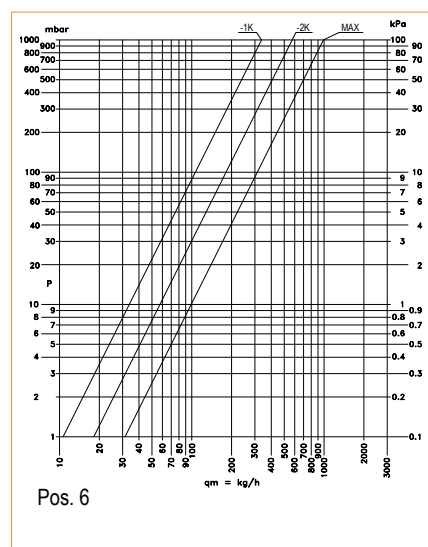
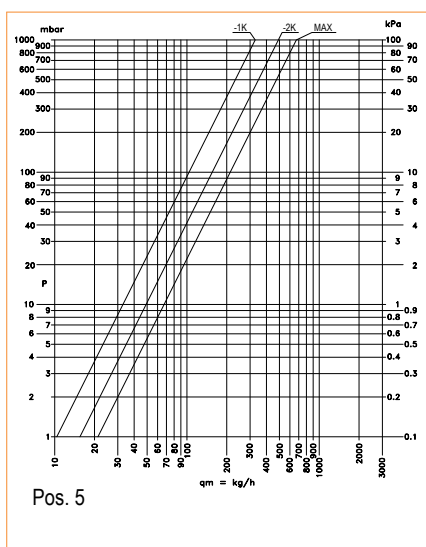
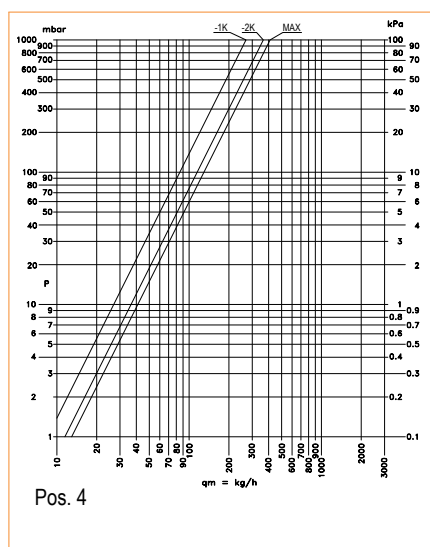
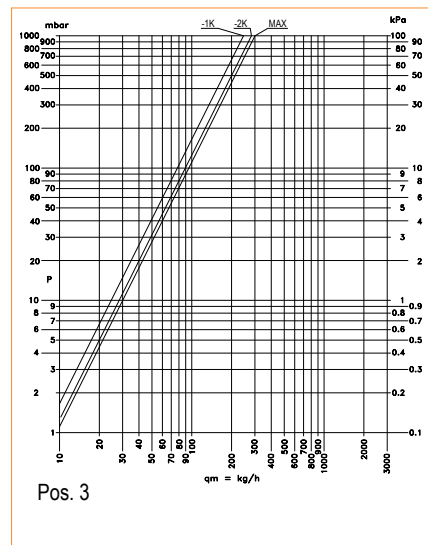
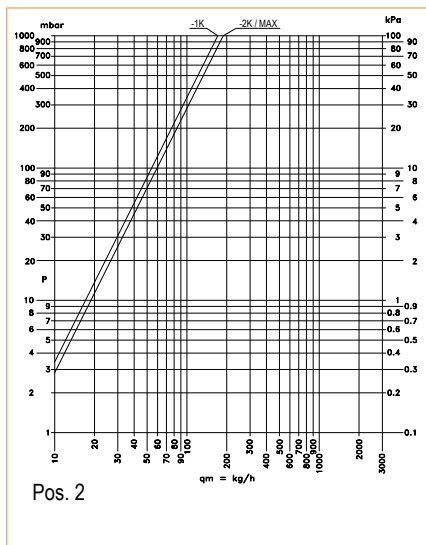
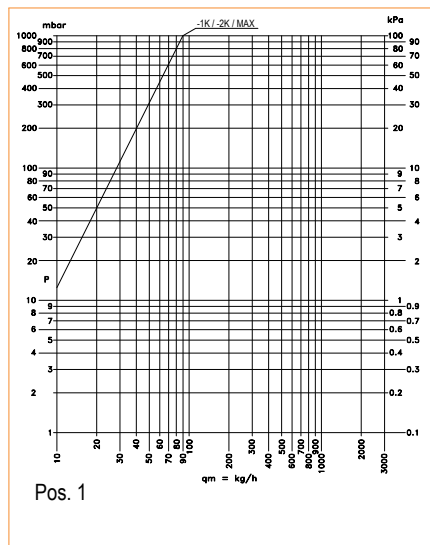
ART. VD2101N + T3000 ART. VD2103N*/5N* + T5000		Pp	qm N (kg/h)	k _{v1} (Δt = -1 K)	k _{v2} (Δt = -2 K)	qm max (kg/h)	a
 D: 0,45 K	DN15	6	180 ±10%	0.35	0.57	270	0.51
		5	155 ±10%	0.32	0.49	210	0.41
		4	115 ±15%	0.27	0.36	130	0.19
	DN20	3	90 ±15%	0.25	0.28	95	0.09
		2	60 ±20%	0.17	0.19	60	0
		1	30 ±40%	0.09	0.09	30	0

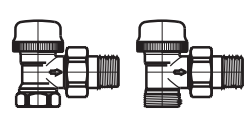
VS 2102N (DN 10)



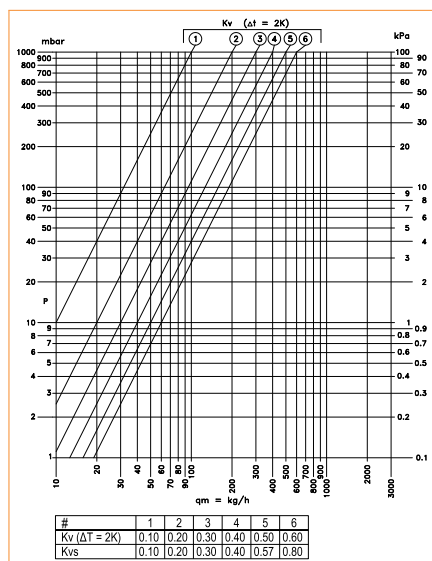
ART. VS2102N + T3000 + T5000		Pp	qm N (kg/h)	k_{v1} ($\Delta t = -1K$)	k_{v2} ($\Delta t = -2K$)	qm max (kg/h)	a
 D: 0,45 K	DN10	6	180 ±10%	0.33	0.57	270	0.51
		5	155 ±10%	0.32	0.49	210	0.41
		4	115 ±15%	0.27	0.36	130	0.19
		3	90 ±15%	0.25	0.28	95	0.09
		2	60 ±20%	0.17	0.19	60	0
		1	30 ±40%	0.09	0.09	30	0

VS 2102N (DN 15- DN 20), VS 2104N, VS 2106N

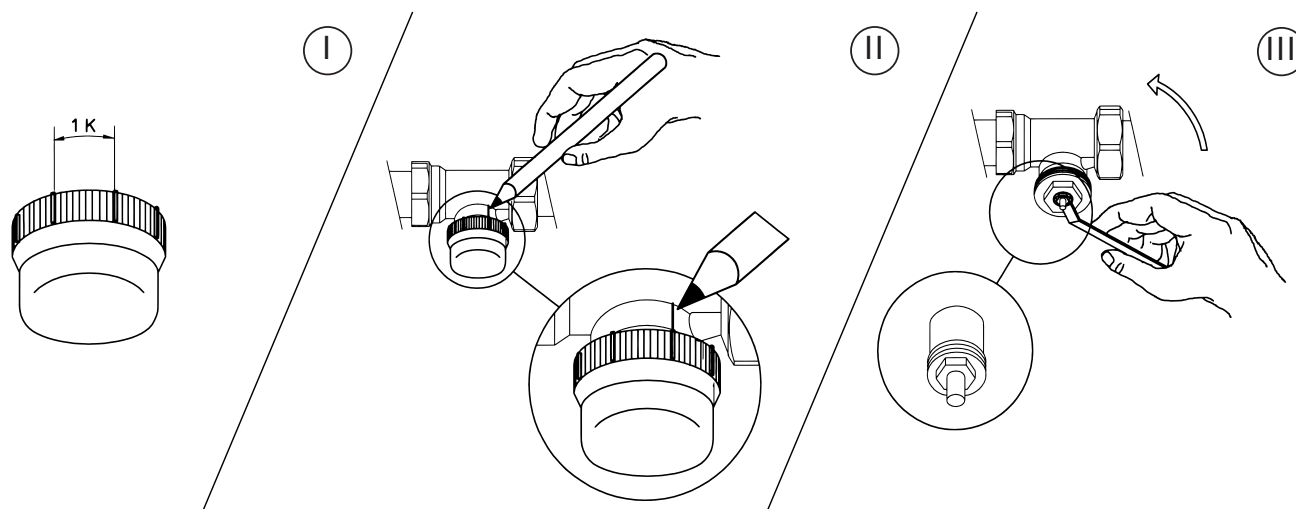


ART. VS2102N + T3000 ART. VS2104N*/6N* + T5000		Pp	qm N (kg/h)	k _{v1} (Δt = -1 K)	k _{v2} (Δt = -2 K)	qm max (kg/h)	a
 D: 0,45 K	DN15	6	180 ±10%	0.32	0.57	305	0.61
		5	155 ±10%	0.32	0.49	210	0.41
		4	115 ±15%	0.27	0.36	130	0.19
		3	90 ±15%	0.25	0.28	95	0.09
	DN20	2	60 ±20%	0.17	0.19	60	0
		1	30 ±40%	0.09	0.09	30	0

VD 2111N, VD 2113N, VD 2115N, VD 2127N, VCR 2132N, VCR2134N, VCR 2136N, VCD 2162N, VCS 2162N, VCD 2164N, VCS 2164N, VCD 2166N, VCS 2166N



■ OPERATING INSTRUCTIONS



Protecting cover (Fig.I)

- Preserves thread during installation;
- Allow to completely close the valve;
- Allow calibration of nominal lift.

Calibration of nominal lift (Fig.II)

1. Screw the cover manually up to mechanical stop;
2. Draw on the valve body a reference line corresponding to one of the cover notches;
3. Unscrew the cover by 4 notches.

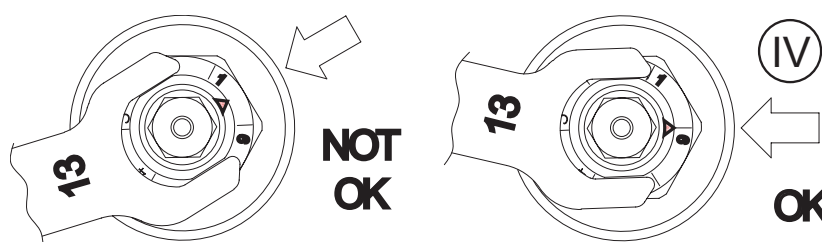
Spindle seal (Fig.III)

The seal system can be easily replaced without draining the plant:

1. Unscrew the hexagonal head nut (8 mm) with a spanner, and replace it, included the stainless steel spindle;
2. Mount the nut and screw tightly.

Kv pre-regulation (Fig.IV)

Pre-regulate flow rate with a 13 mm spanner until the indicator matches the desired position. Note: it is not possible to choose an intermediate position between two of the indicated ones.



NOTES

Thermostatically controllable valves (except valves with iron pipe connection in DN 10 and DN 20 sizes, and art. VD 2111N, VD 2113N, VD 2115N and VD 2127N) are available in the following versions:

- standard → catalogue code
- with soft-seal pipe union fitting → catalogue code + suffix "RC";
- with soft-seal pipe union fitting reduced 3/8 M → catalogue code + suffix "RCR".

Example - Straight thermostatically controllable valve with iron pipe connection, size DN 15

- standard version → 500459
- version with soft-seal pipe union fitting → 500459RC;
- version with reduced 3/8 M soft-seal pipe union fitting → 500459RCR.

CERTIFICATIONS

I.V.A.R. systems consisting of thermostatic head + series "N" valves with adjustable Kv 0.1 ÷ 0.6 in the following are certified according to the European standard EN 215:2004/A1:2006.

	VALVE ART.	SIZE	HEAD
	VD 2101N	DN 10 - DN 15 - DN 20	T 3000, T 5000
	VS 2102N	DN 10 - DN 15 - DN 20	T 3000, T 5000
	VD 2103N	M24(*)	T 3000, T 5000
	VS 2104N	M24(*)	T 3000, T 5000
	VD 2105N	EK(*)	T 3000, T 5000
	VS 2106N	EK(*)	T 3000, T 5000

(*) The connection is not included in Annex A of EN 215:2004/A1:2006 standard

■ ACCESSORIES



DH 01. Thermostatic head (chrome, steel, white, black, gold or silver coloured surface).



T 3000. Thermostatic head with integrated command and sensor. Adjustment field 6.5÷28 °C.



T 5000. Thermostatic head with integrated command and sensor. Adjustment field 6.5÷28 °C.



T 1000. Thermostatic head with integrated command and sensor. Adjustment field 6.5÷27.5 °C.



T 3010. Thermostatic head with integrated command and remote wall sensor. Adjustment field 6.5÷28 °C.



T 5020. Thermostatic head with integrated command and remote wall sensor. Adjustment field 6.5÷28 °C.



TM 3052. Brass nut manual head.



TE 3040-TE 3041. Normally closed two-wire electrothermal head (230 V or 24 V).

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