EMMETI

Full

Valves and lockshields

Index

Qualitative guarantee in production

The highly automated production system of the Full valve and lockshields makes it possible to achieve a high standard of quality while ensuring consistency in constructive and fluid mechanics characteristics for an entire lot of production.
The seal test is carried out during the automatic assembly phase on every single piece with the use of a special electro-pneumatic station. Further tests are run at the hydraulic station to check performance in critical operating conditions.

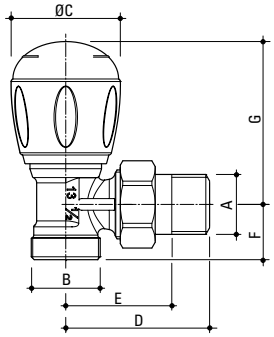
The range

The Full valves are available in the following versions: Manual, Thermostatizable, Thermostatic with or without radiator seal O-ring.
– Straight and Right-angle with copper, PEX, multi-layer PP, PB connection pipe.
– Straight and Right-angle with steel connection pipe.

Application

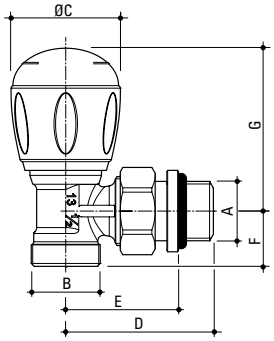
The valves and lockshields are used for connection and interception of radiators, thermal convectors, and fan coil units that operate on hot or cold water, or on glycol. They can be installed on any kind of pipe: copper, galvanized steel, plastic or multi-layer tubes, using the relative seal systems.

Full valve manually regulation, right-angle



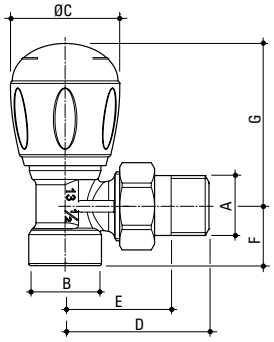
Full manual right-angle valve for copper pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	24x19	37,5	46	35	19	55
1/2″	1/2″	24x19	37,5	44	33	19	55
3/8″	3/8″	1/2"	37,5	46	35	19	55
1/2″	1/2″	1/2"	37,5	44	33	19	55



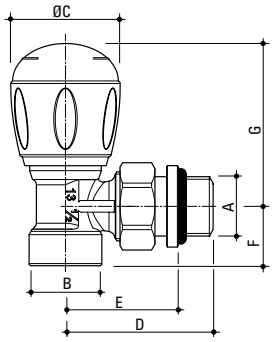
Full manual right-angle valve for copper pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	24x19	37,5	51	41	19	55
1/2″	1/2″	24x19	37,5	49	39	19	55
3/4″	3/4″	3/4"	37,5	60	50	22	55
3/8″	3/8″	1/2"	37,5	51	41	19	55
1/2″	1/2″	1/2"	37,5	49	39	19	55



Full manual right-angle valve for steel pipe

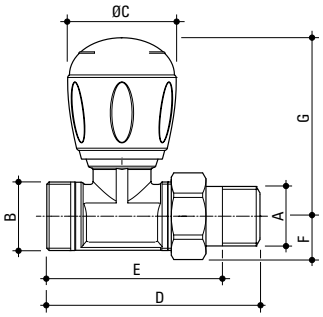
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	3/8″	37,5	46	35	23	55
1/2″	1/2″	1/2″	37,5	44	33	23	55



Full manual right-angle valve for steel pipe with tang radiator connection with O-ring

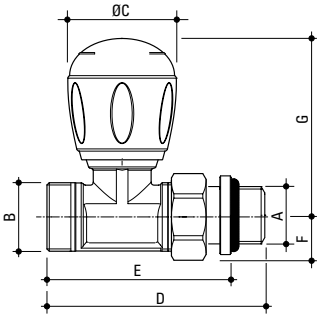
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	3/8″	37,5	51	41	23	55
1/2″	1/2″	1/2″	37,5	49	39	23	55
3/4″	3/4″	3/4"	37,5	60	50	25,5	55

Full valve manually regulation, straight



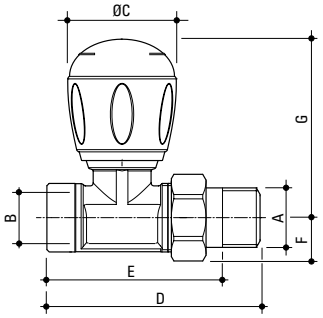
Full manual straight valve for copper pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	37,5	65	54	14	67
1/2"	1/2"	24x19	37,5	70	59	15	67
1/2"	1/2"	1/2"	37,5	70	59	15	67



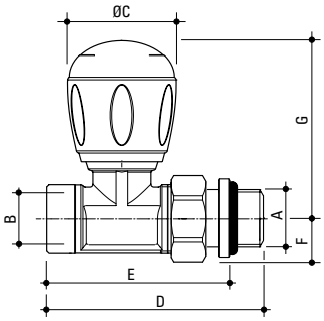
Full manual straight valve for copper pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	37,5	70	60	14	67
1/2"	1/2"	24x19	37,5	75	65	15	67
1/2"	1/2"	1/2"	37,5	75	65	15	67



Full manual straight valve for steel pipe

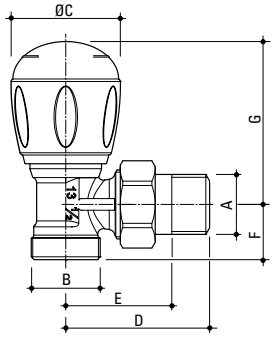
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
1/2"	1/2"	1/2"	37,5	70	59	15	67



Full manual straight valve for steel pipe with tang radiator connection with O-ring

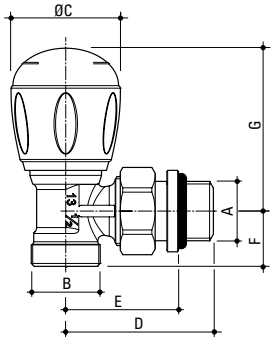
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
1/2"	1/2"	1/2"	37,5	75	65	15	67

Full valve Thermostatizable, right-angle



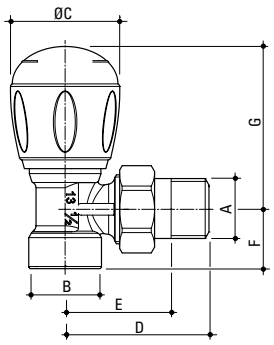
Full thermostatizable right-angle valve for copper pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	24x19	37,5	46	35	19	59
1/2″	1/2″	24x19	37,5	44	33	19	59
3/8″	3/8″	1/2"	37,5	46	35	19	59
1/2″	1/2″	1/2"	37,5	44	33	19	59



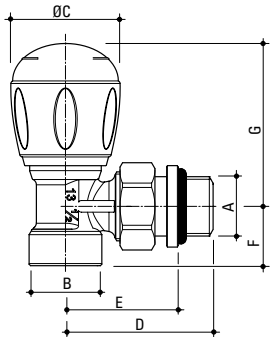
Full thermostatizable right-angle valve for copper pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	24x19	37,5	51	41	19	59
1/2″	1/2″	24x19	37,5	49	39	19	59
3/4″	3/4″	3/4"	37,5	60	50	22	59
3/8″	3/8″	1/2"	37,5	51	41	19	59
1/2″	1/2″	1/2"	37,5	49	39	19	59



Full thermostatizable right-angle valve for steel pipe

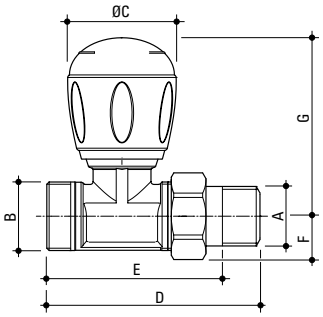
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	3/8″	37,5	46	35	23	59
1/2″	1/2″	1/2″	37,5	44	33	23	59



Full thermostatizable right-angle valve for steel pipe with tang radiator connection with O-ring

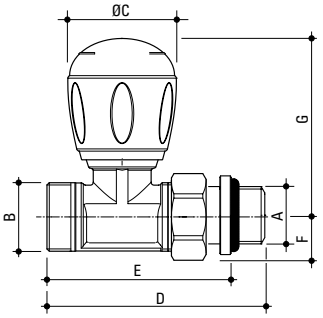
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	3/8″	37,5	51	41	23	59
1/2″	1/2″	1/2″	37,5	49	39	23	59
3/4″	3/4″	3/4"	37,5	60	50	25,5	59

Full valve thermostatizable, straight



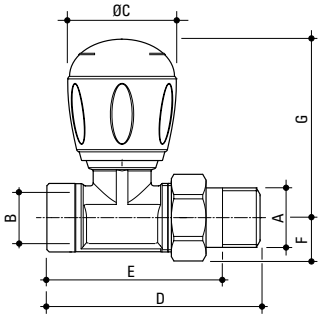
Full thermostatizable straight valve for copper pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	37,5	65	54	14	67
1/2"	1/2"	24x19	37,5	70	59	15	67
1/2"	1/2"	1/2"	37,5	70	59	15	67



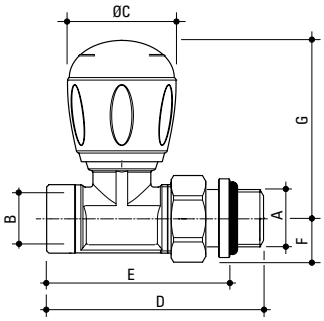
Full thermostatizable straight valve for copper pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	37,5	70	60	14	67
1/2"	1/2"	24x19	37,5	75	65	15	67
1/2"	1/2"	1/2"	37,5	75	65	15	67



Full thermostatizable straight valve for steel pipe

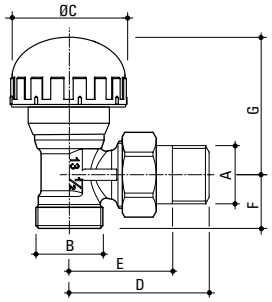
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
1/2"	1/2"	1/2"	37,5	70	59	15	67



Full thermostatizable straight valve for steel pipe with tang radiator connection with O-ring

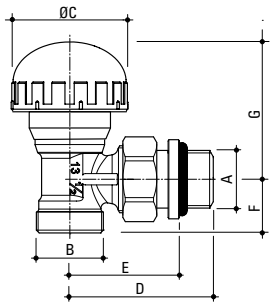
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
1/2"	1/2"	1/2"	37,5	75	65	15	67

Full valve thermostatic, right-angle



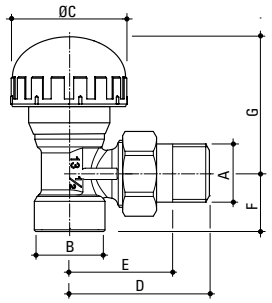
Full thermostatic right-angle valve for copper pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	24x19	37,5	46	35	19	45
1/2″	1/2″	24x19	37,5	44	33	19	45
3/8″	3/8″	1/2"	37,5	46	35	19	45
1/2″	1/2″	1/2"	37,5	44	33	19	45



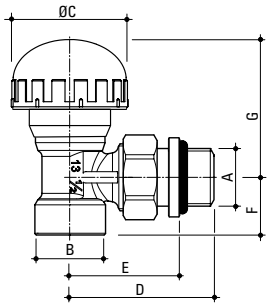
Full thermostatic right-angle valve for copper pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	24x19	37,5	51	41	19	45
1/2″	1/2″	24x19	37,5	49	39	19	45
3/4″	3/4″	3/4"	38	60	50	22	42
3/8″	3/8″	1/2"	37,5	51	41	19	45
1/2″	1/2″	1/2"	37,5	49	39	19	45



Full thermostatic right-angle valve for steel pipe

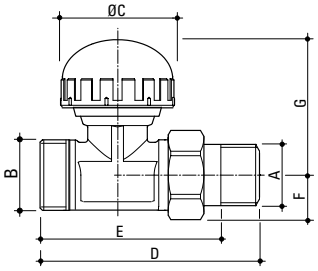
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	3/8″	37,5	46	35	23	45
1/2″	1/2″	1/2″	37,5	44	33	23	45



Full thermostatic right-angle valve for steel pipe with tang radiator connection with O-ring

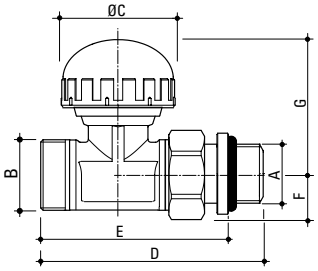
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8″	3/8″	3/8″	37,5	51	41	23	45
1/2″	1/2″	1/2″	37,5	49	39	23	45
3/4″	3/4″	3/4"	38	60	50	25,5	42

Full valve thermostatic, straight



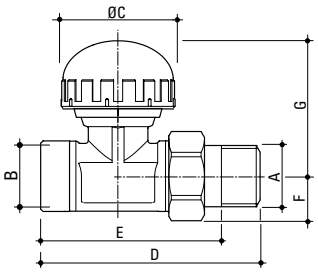
Full thermostatic straight valve for copper pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	37,5	65	54	14	53
1/2"	1/2"	24x19	37,5	70	59	15	53
1/2"	1/2"	1/2"	37,5	70	59	15	53



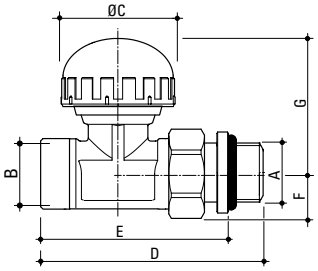
Full thermostatic straight valve for copper pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	37,5	70	60	14	53
1/2"	1/2"	24x19	37,5	75	65	15	53
1/2"	1/2"	1/2"	37,5	75	65	15	53



Full thermostatic straight valve for steel pipe

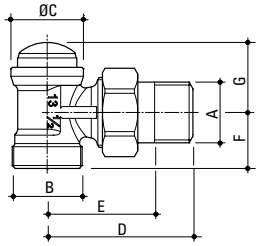
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
1/2"	1/2"	1/2"	37,5	70	59	15	67



Full thermostatic straight valve for steel pipe with tang radiator connection with O-ring

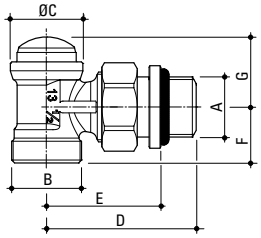
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
1/2"	1/2"	1/2"	37,5	75	65	15	67

Full lockshield, right-angle



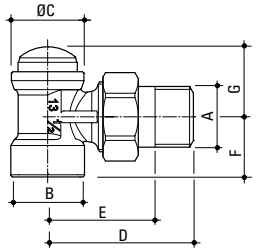
Full right-angle lockshield for copper pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	24,6	46	35	19	24
1/2"	1/2"	24x19	24,6	44	33	19	24
3/8"	3/8"	1/2"	24,6	46	35	19	24
1/2"	1/2"	1/2"	24,6	44	33	19	24



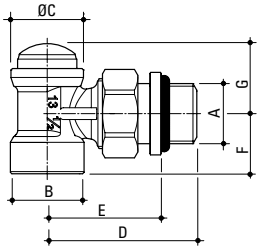
Full right-angle lockshield for copper pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	24,6	51	41	19	24
1/2"	1/2"	24x19	24,6	49	39	19	24
3/4"	3/4"	3/4"	25	60	50	22	24
3/8"	3/8"	1/2"	24,6	51	41	19	24
1/2"	1/2"	1/2"	24,6	49	39	19	24



Full right-angle lockshield for steel pipe

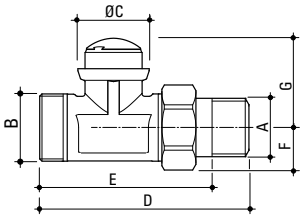
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	3/8"	24,6	46	35	23	24
1/2"	1/2"	1/2"	24,6	44	33	23	24



Full right-angle lockshield for steel pipe with tang radiator connection with O-ring

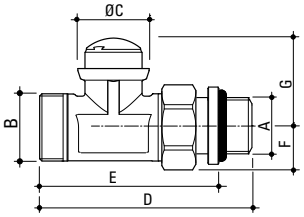
Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	3/8"	24,6	51	41	23	24
1/2"	1/2"	1/2"	24,6	49	39	23	24
3/4"	3/4"	3/4"	25	60	50	25,5	24

Full lockshield, straight



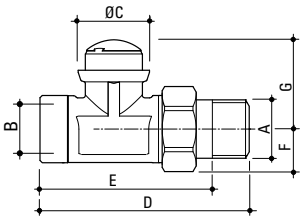
Full straight lockshield for copper pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	24,6	65	54	14	32
1/2"	1/2"	24x19	24,6	70	59	15	32
1/2"	1/2"	1/2"	24,6	70	59	15	32



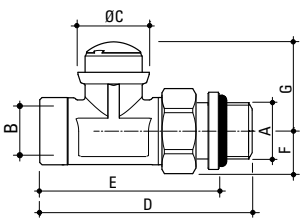
Full straight lockshield for copper pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
3/8"	3/8"	24x19	24,6	70	60	14	24
1/2"	1/2"	24x19	24,6	75	65	15	24
1/2"	1/2"	1/2"	24,6	75	65	15	24



Full straight lockshield for steel pipe

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
1/2"	1/2"	1/2"	24,6	70	59	15	32

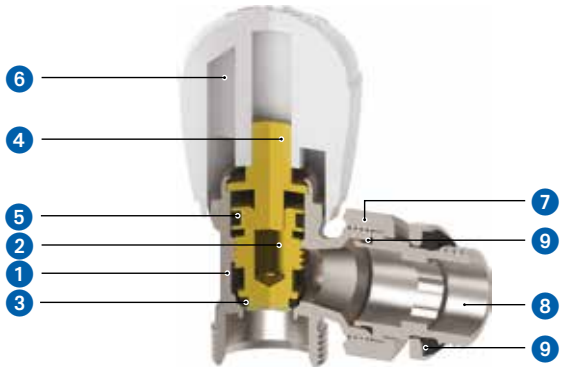


Full straight lockshield for steel pipe with tang radiator connection with O-ring

Size	A	B	ØC	D	E	F	G
			mm	mm	mm	mm	mm
1/2"	1/2"	1/2"	24,6	75	65	15	32

Construction and technical data Full valve

Valve manually regulation right-angle



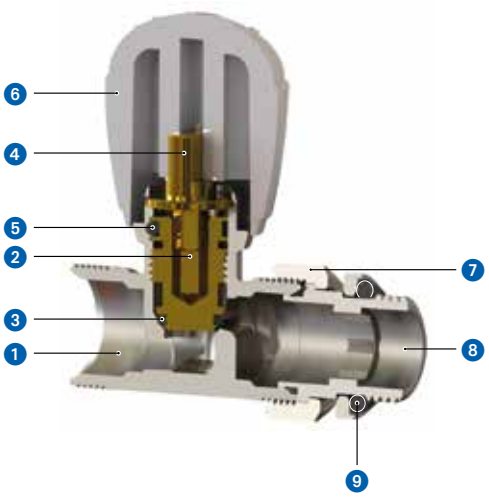
Construction

1. Body nickel-plated brass TN UNI EN 12165 CW617N
2. Shutter in brass TN UNI EN 12164 CW614N
3. Shutter seal O-ring in EPDM
4. Brass rod TN UNI EN 12164 CW614N
5. Shutter seal O-ring in EPDM
6. Knob in white ABS RAL 9003
7. Nut nickel-plated brass TN UNI EN 12165 CW617N
8. Tang nickel-plated brass TN UNI EN 12164 CW614N
9. O-ring for tang steadying in NBR

Note:
The tang is also available with NBR O-ring

Technical data
Maximum operating pressure: 10 bar
Maximum differential pressure: 6 bar
Maximum operating temperature: +100 °C
Large capacity

Valve manually regulation straight



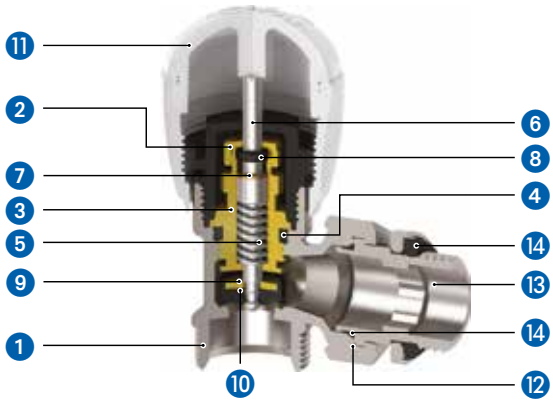
Construction

1. Body nickel-plated brass TN UNI EN 12165 CW617N
2. Shutter in brass TN UNI EN 12164 CW614N
3. Shutter seal O-ring in EPDM
4. Brass rod TN UNI EN 12164 CW614N
5. Shutter seal O-ring in EPDM
6. Knob in white ABS RAL 9003
7. Nut nickel-plated brass TN UNI EN 12165 CW617N
8. Tang nickel-plated brass TN UNI EN 12164 CW614N
9. O-ring for tang steadying in NBR

Note:
The tang is also available with NBR O-ring

Technical data
Maximum operating pressure: 10 bar
Maximum differential pressure: 6 bar
Maximum operating temperature: +100 °C
Large capacity

Valve Thermostatizable right-angle



Construction

1. Body nickel-plated brass TN UNI EN 12165 CW617N
2. Collar in PA6 (30% FV)
3. Shutter in brass TN UNI EN 12164 CW614N
4. O-ring for shutter steadying in NBR
5. Spring in stainless steel AISI 302
6. Spindle in stainless steel AISI 304
7. Collar for body shutter in brass TN UNI EN 12164 CW614N
8. O-ring for shutter in EPDM
9. Washer of lock gasket in brass TN UNI EN 12164 CW614N
10. Shutter steadying in NBR
11. Knob in white ABS RAL 9003 in 2 pieces
12. Nut nickel-plated brass TN UNI EN 12165 CW617N
13. Tang nickel-plated brass TN UNI EN 12164 CW614N
14. O-ring for tang steadying in NBR

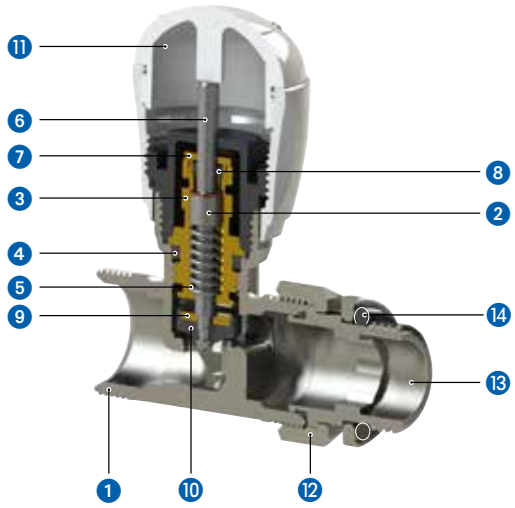
Note: The tang is also available with NBR O-ring

Can be used in conjunction with thermostatic and thermo-electric heads after the following steps:

- unscrew the upper part 11
- unscrew 2
- extract the lower part 11
- screw back in 2
- install the Thermostatic head

Technical data
Maximum operating pressure: 10 bar
Maximum differential pressure: 6 bar
Maximum operation temperature: +100 °C

Valve Thermostatizable straight



Construction

1. Body nickel-plated brass TN UNI EN 12165 CW617N
2. Collar in PA6 (30% FV)
3. Shutter in brass TN UNI EN 12164 CW614N
4. O-ring for shutter steadying in NBR
5. Spring in stainless steel AISI 302
6. Spindle in stainless steel AISI 304
7. Collar for body shutter in brass TN UNI EN 12164 CW614N
8. O-ring for shutter in EPDM
9. Washer of lock gasket in brass TN UNI EN 12164 CW614N
10. Shutter steadying in NBR
11. Knob in white ABS RAL 9003 in 2 pieces
12. Nut nickel-plated brass TN UNI EN 12165 CW617N
13. Tang nickel-plated brass TN UNI EN 12164 CW614N
14. O-ring for tang steadying in NBR

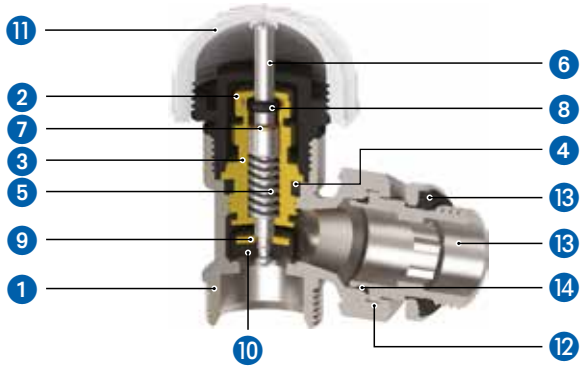
Note: The tang is also available with NBR O-ring

Can be used in conjunction with thermostatic and thermo-electric heads after the following steps:

- unscrew the upper part 11
- unscrew 2
- extract the lower part 11
- screw back in 2
- install the Thermostatic head

Technical data
Maximum operating pressure: 10 bar
Maximum differential pressure: 6 bar
Maximum operation temperature: +100 °C

Valve Thermostatic right-angle



Construction

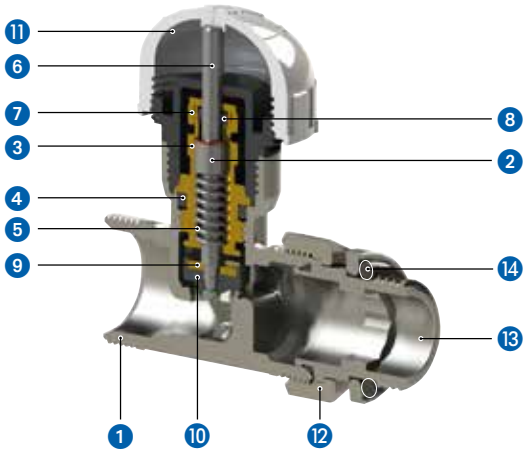
1. Body nickel-plated brass TN UNI EN 12165 CW617N
2. Collar in PA6 (30% FV)
2. Shutter in brass TN UNI EN 12164 CW614N
4. O-ring for shutter steadying in NBR
5. Spring in stainless steel AISI 302
6. Spindle in stainless steel AISI 304
7. Collar for body shutter in brass TN UNI EN 12164 CW614N
8. O-ring for shutter in EPDM
9. Washer of lock gasket in brass TN UNI EN 12164 CW614N
10. Shutter steadying in NBR
11. Knob in white ABS RAL 9003
12. Nut nickel-plated brass TN UNI EN 12165 CW617N
13. Tang nickel-plated brass TN UNI EN 12164 CW614N
14. O-ring for tang steadying in NBR

Note: The tang is also available with NBR O-ring

Note: can be used in conjunction with thermostatic Sensor heads and thermo-electric heads.

Technical data
Maximum operating pressure: 10 bar
Maximum differential pressure: 6 bar
Maximum operation temperature: +100 °C

Valve Thermostatic straight



Construction

1. Body nickel-plated brass TN UNI EN 12165 CW617N
2. Collar in PA6 (30% FV)
2. Shutter in brass TN UNI EN 12164 CW614N
4. O-ring for shutter steadying in NBR
5. Spring in stainless steel AISI 302
6. Spindle in stainless steel AISI 304
7. Collar for body shutter in brass TN UNI EN 12164 CW614N
8. O-ring for shutter in EPDM
9. Washer of lock gasket in brass TN UNI EN 12164 CW614N
10. Shutter steadying in NBR
11. Knob in white ABS RAL 9003
12. Nut nickel-plated brass TN UNI EN 12165 CW617N
13. Tang nickel-plated brass TN UNI EN 12164 CW614N
14. O-ring for tang steadying in NBR

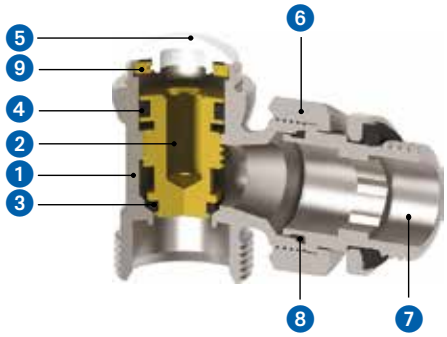
Note: The tang is also available with NBR O-ring

Note: can be used in conjunction with thermostatic Sensor heads and thermo-electric heads.

Technical data
Maximum operating pressure: 10 bar
Maximum differential pressure: 6 bar
Maximum operation temperature: +100 °C

Construction and technical data Full Lockshield

Lockshield right-angle



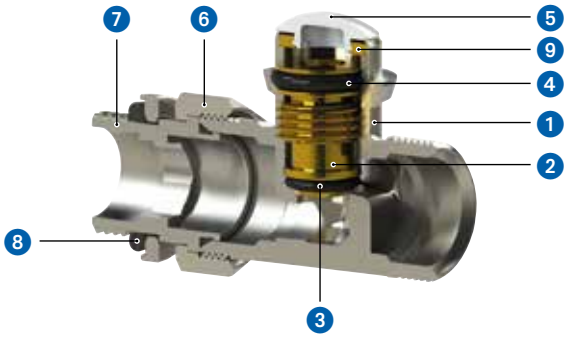
Construction

1. Body nickel-plated brass TN UNI EN 12165 CW617N
2. Shutter in brass TN UNI EN 12164 CW614N
3. O-ring for shutter steadying in NBR
4. Upper O-ring for shutter steadying in NBR
5. Cap in white ABS RAL 9003
6. Nut nickel-plated brass TN UNI EN 12165 CW617N
7. Tang nickel-plated brass TN UNI EN 12164 CW614N
8. O-ring for tang steadying in NBR
9. Collar brass UNI EN 12164 CW614N

Note:
The tang is also available with NBR O-ring

Technical data
Maximum operating pressure: 10 bar
Maximum differential pressure: 6 bar
Maximum operation temperature: +100 °C

Lockshield straight



Construction

1. Body nickel-plated brass TN UNI EN 12165 CW617N
2. Shutter in brass TN UNI EN 12164 CW614N
3. O-ring for shutter steadying in NBR
4. Upper O-ring for shutter steadying in NBR
5. Cap in white ABS RAL 9003
6. Nut nickel-plated brass TN UNI EN 12165 CW617N
7. Tang nickel-plated brass TN UNI EN 12164 CW614N
8. O-ring for tang steadying in NBR
9. Collar brass UNI EN 12164 CW614N

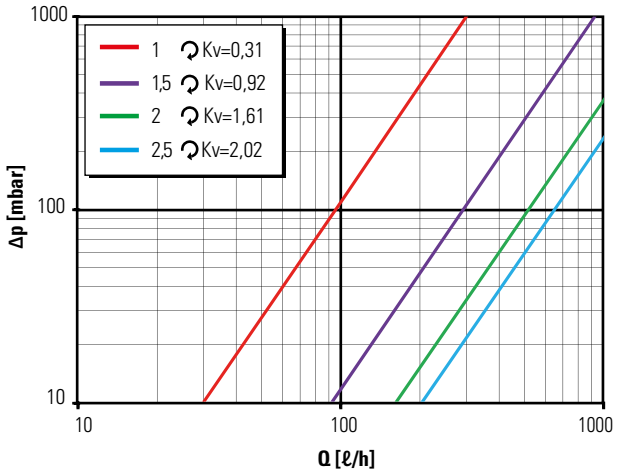
Note:
The tang is also available with NBR O-ring

Technical data
Maximum operating pressure: 10 bar
Maximum differential pressure: 6 bar
Maximum operation temperature: +100 °C

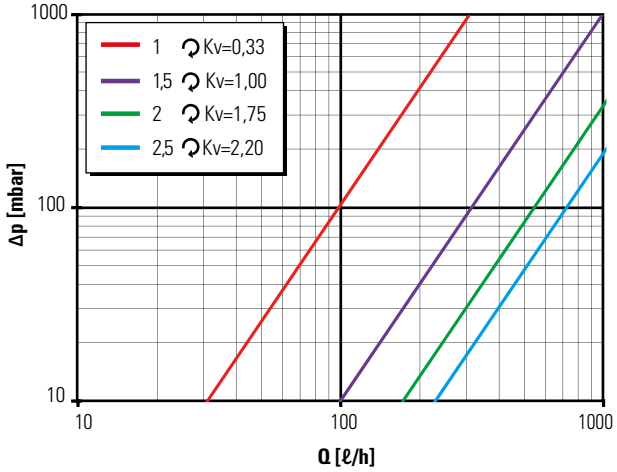
Pressure drops

Full manually valve and lockshield

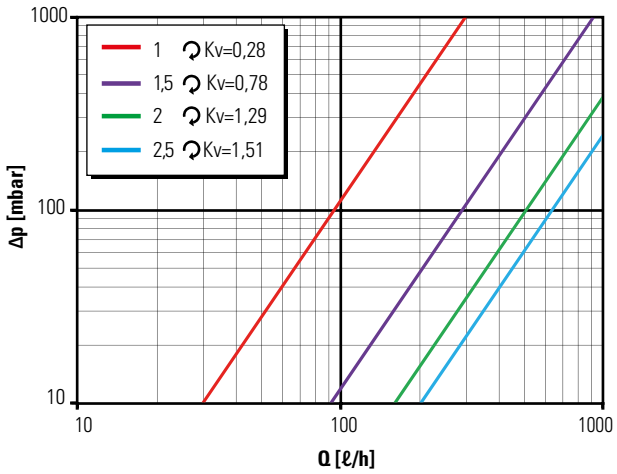
Right-angle valves and lockshields 3/8" and 1/2"



Right-angle valve and lockshield 3/4"

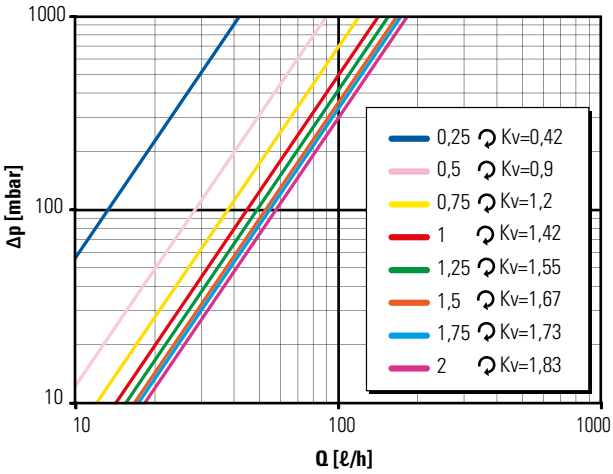


Straight valves and lockshields 3/8" and 1/2"

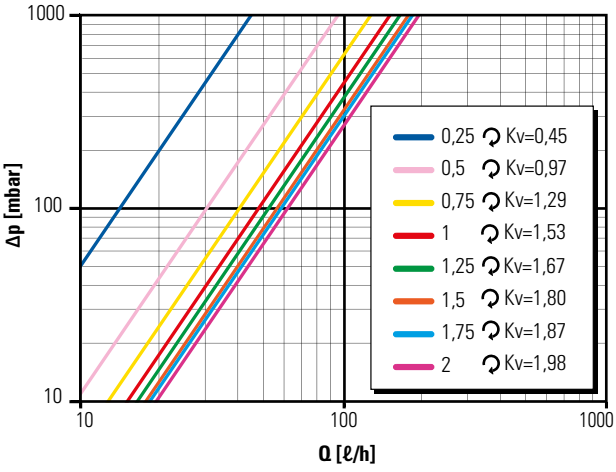


Full thermostatizable valve

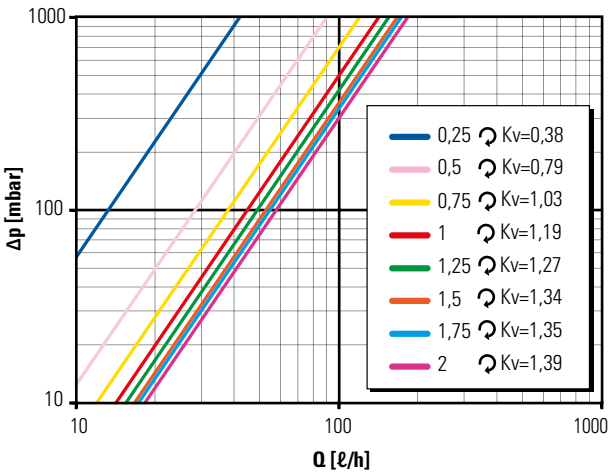
Right-angle valves 3/8" and 1/2"



Right-angle valve 3/4"



Straight valves 3/8" and 1/2"

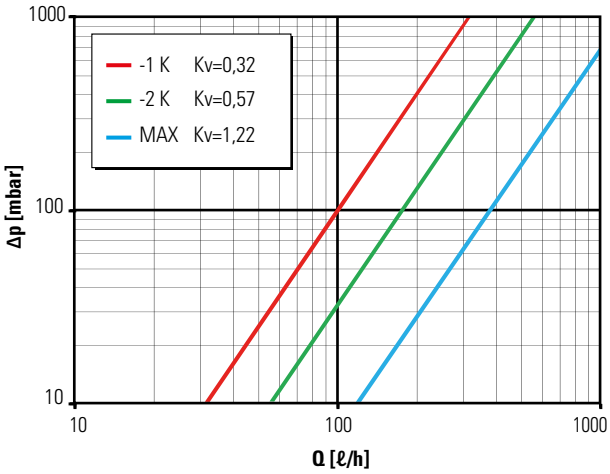


Note: ↻ no. of turns for opening adjustment device.

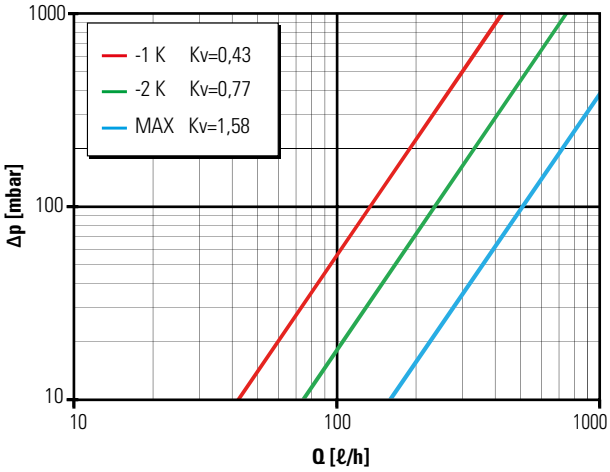
Pressure drops

Full thermostatic valves + Sensor Thermostatic head

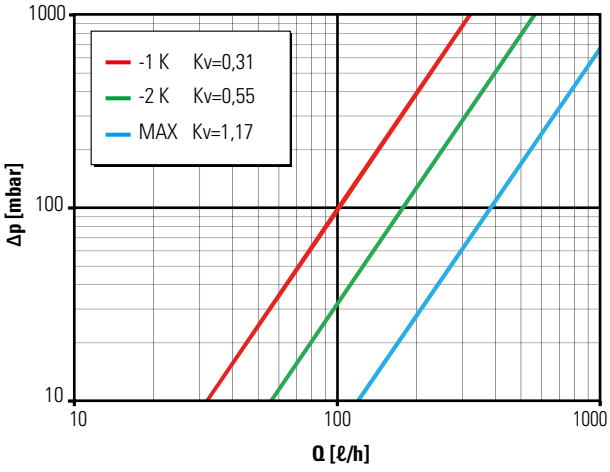
Right-angle valves 3/8" and 1/2"



Right-angle valve 3/4"



Straight valves 3/8" and 1/2"



Note: ↻ no. of turns for opening adjustment device.

Calculation example

Calculation of the pressure drop Δp with a water flow rate Q of 300 ℓ/h determined by right-angle valve 1/2", a fully-open, and right-angle lockshields with open of 2 turns.

From pressure drops diagrams:

- Right-angle valve (fully-open)

$$Q = 300\ \ell/h \qquad Kv = 2{,}02 \rightarrow \Delta p = \left(\frac{0{,}3}{2{,}02}\right)^2 = 22\ \text{mbar}$$

- Right-angle lockshields (open of 2 turns)

$$Q = 300\ \ell/h \qquad Kv = 1{,}61 \rightarrow \Delta p = \left(\frac{0{,}3}{1{,}61}\right)^2 = 35\ \text{mbar}$$

$$\Delta p = \Delta p_1 + \Delta p_2 = 22 + 35 = 57\ \text{mbar}$$

Kv represents the flow rate Q in m^3/h with a Δp of 1 bar.

$$Kv = Q / \sqrt{\Delta p}$$

The relation which connects Δp [bar] to flow rate Q [m^3/h] is the following:

$$\Delta p = Q^2 / Kv^2$$

Full kit

Full kit
Manually right-angle valve + lockshield 1/2"
and connection for multi-layer pipe

Description

Full manually right-angle valve for copper pipe 1/2"
+ lockshield for copper pipe 1/2"
+ n° 2 monoblocco seals for multi-layer pipe Ø 16 mm

Supplied in sachet + box

Full kit
Manually right-angle valve with O-ring + lockshield 1/2" with O-ring
and connection for multi-layer pipe

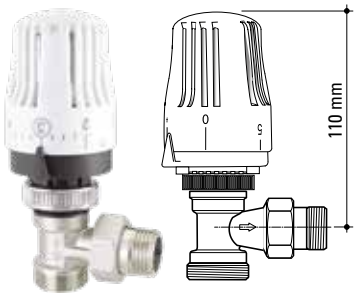
Description

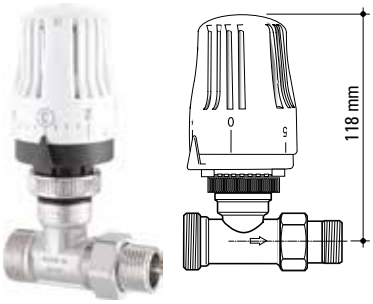
Full manually right-angle valve for copper pipe 1/2" with O-ring
+ lockshield for copper pipe 1/2" with O-ring
+ n° 2 monoblocco seals for multi-layer pipe Ø 16 mm

Supplied in sachet + box

Sensor Thermostatic head

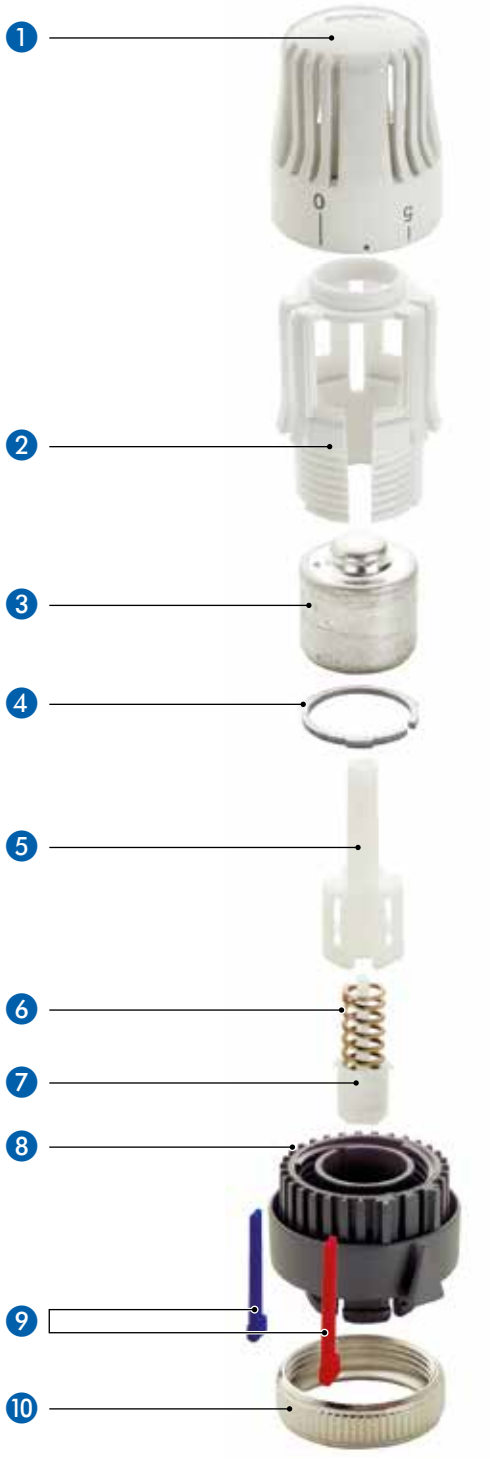
Can be used in conjunction with Full thermostatic and thermostatizable valves





Construction

1. ABS control knob white RAL 9003
2. Basket in reinforced PA 6.6
3. Thermostatic sensor with fluid expansion
4. Ring in spring steel
5. Spindle in natural acetalyc resin (POM)
6. Spring in nickel steel class D UNI 3823
7. Rod in natural acetalyc resin (POM)
8. Base in reinforced PA 6.6
9. Pin for limiting temperature blue and red in acetalyc resin (POM)
10. Fastening ring nut M30x1,5 made of brass TN UNI EN 12164 CW614N nickel finish



Technical data

- Maximum operating temperature: 10 bar
- Maximum differential pressure: 1 bar
- Influence of differential pressure: 0,3 k
- Maximum ambient temperature: 40 °C
- Maximum water temperature: 100 °C
- Maximum storage temperature: -10 ÷ +50 °C
- Range of regulation: 7 ÷ 28 °C
- Nominal climb: 0,22 mm/k
- Hysteresis: 0,6 k
- Antifreeze action: 7 °C
- Autority: 0,88
- Influence water temperature: 1 k
- Time of reaction: 25 minutes

Setting of the room temperature

0	✱	1	2	3	4	5
Closed	7 °C (*)	12 °C	16 °C	20 °C	24 °C	28 °C

(*) Antifreeze

Numbers from 0 to 5 are maked on the rotating knob.
Each on of these numbers corresponds to an established temperature. The distances between the single numbers correspond to intermediate temperatures. With the help of the table that is provided ahead, you will find an approximate correspondance between the scale on the knob and the respective temperatures.

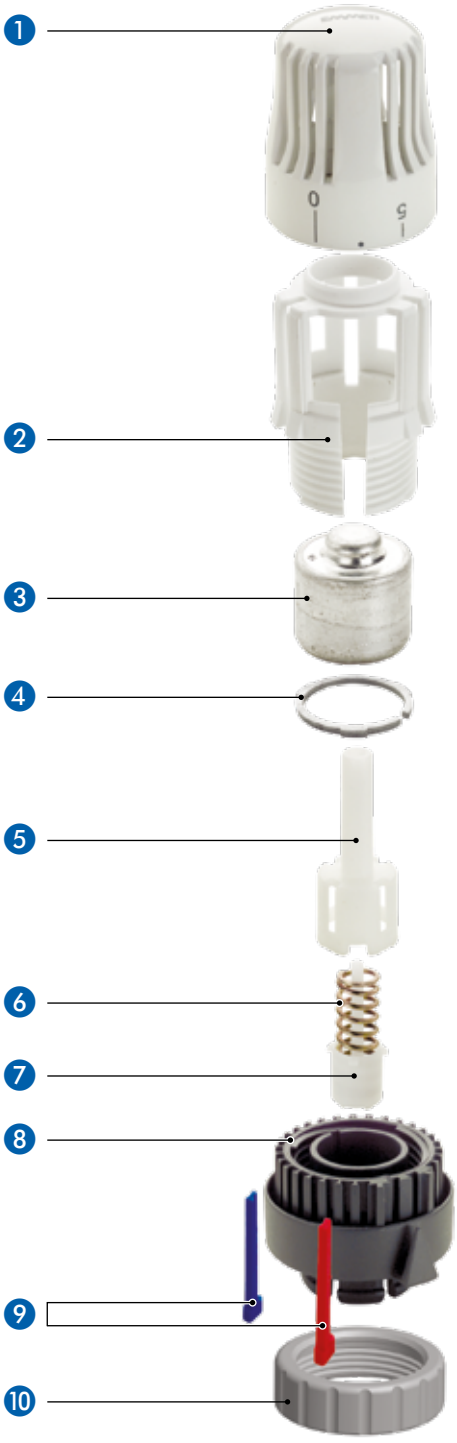
Safety band for thermostatic heads

Sensor Eco Thermostatic head

Can be used in conjunction with Full thermostatic and thermostatizable valves

Construction

1. ABS control knob white RAL 9003
2. Basket in reinforced PA 6.6
3. Thermostatic sensor with fluid expansion
4. Ring in spring steel
5. Spindle in natural acetalyc resin (POM)
6. Spring in nickel steel class D UNI 3823
7. Rod in natural acetalyc resin (POM)
8. Base in reinforced PA 6.6
9. Pin for limiting temperature blue and red in acetalyc resin (POM)
10. Fastening ring nut M30x1,5 made of PA 6.6 (50%FV)



Technical data of connection between Sensor Eco Thermostatic head and Full thermostatizable and thermostatic valves

• Maximum operating temperature:	10 bar
• Maximum differential pressure:	1 bar
• Influence of differential pressure:	0,3 k
• Maximum ambient temperature:	40 °C
• Maximum water temperature:	100 °C
• Maximum storage temperature:	-10 ÷ +50 °C
• Range of regulation:	7 ÷ 28 °C
• Nominal climb:	0,22 mm/k
• Hysteresis:	0,6 k
• Antifreeze action:	7 °C
• Nominal rating right-angle Full valves:	180 l/h
• Autority:	0,88
• Influence water temperature:	1 k
• Time of reaction:	25 minutes

Setting of the room temperature

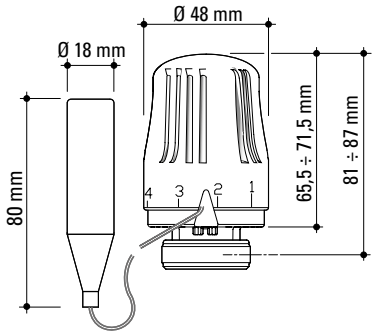
0	✱	1	2	3	4	5
Closed	7 °C (*)	12 °C	16 °C	20 °C	24 °C	28 °C

(*) Antifreeze

Numbers from 0 to 5 are maked on the rotating knob.
Each on of these numbers corresponds to an established temperature. The distances between the single numbers correspond to intermediate temperatures. With the help of the table that is provided ahead, you will find an approximate correspondance between the scale on the knob and the respective temperatures.

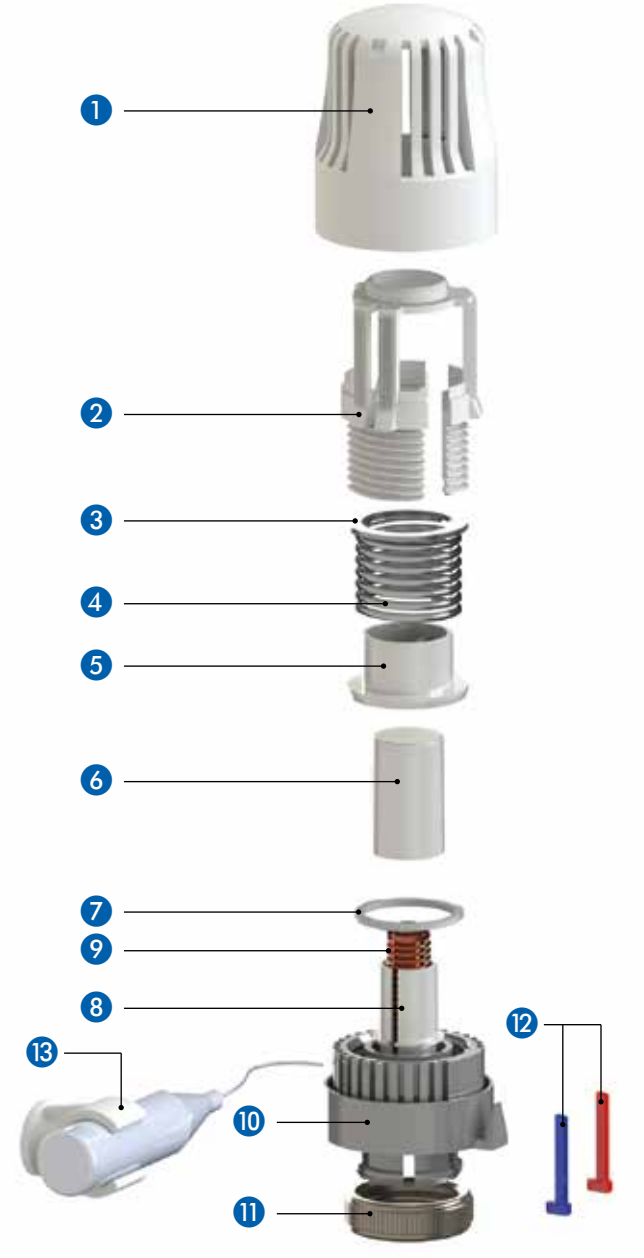
Sensor R Thermostatic head with remote sensor

Can be used in conjunction with Full thermostatic and thermostatizable valves



Construction

1. Adjustment knob in ABS white RAL 9003
2. Basket in reinforced PA 6.6
3. Washer aluminum
4. Steel spring 172 SGB
5. Cup acetal natural
6. Stem acetal natural
7. Ring spring steel
8. Pusher acetal natural
9. Thermostat sensor liquid expansion
10. Base in reinforced PA 6.6
11. Fastening ring nut M30x1,5 made of brass TN UNI EN 12164 CW614N nickel finish
12. Limiters adjustment blue and red acetal
13. Clip in polyethylene for wall fixing



Technical data

- Maximum operating temperature: 10 bar
- Maximum differential pressure: 1 bar
- Maximum ambient temperature: 40 °C
- Maximum water temperature: 100 °C
- Maximum storage temperature: -10 ÷ +50 °C
- Range of regulation: 7 ÷ 28 °C
- Nominal climb: 0,22 mm/k
- Antifreeze action: 7 °C
- Capillary length: 2 m

Setting of the room temperature

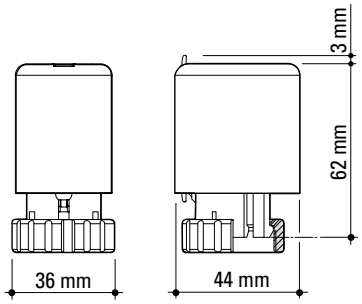
0	✳	1	2	3	4	5
Closed	7 °C (*)	12 °C	16 °C	20 °C	24 °C	28 °C

(*) Antifreeze

Numbers from 0 to 5 are maked on the rotating knob.
Each on of these numbers corresponds to an established temperature. The distances between the single numbers correspond to intermediate temperatures. With the help of the table that is provided ahead, you will find an approximate correspondance between the scale on the knob and the respective temperatures.

Control T Electro-thermic head normally closed

Can be used in conjunction with Full thermostatic and thermostatizable valves

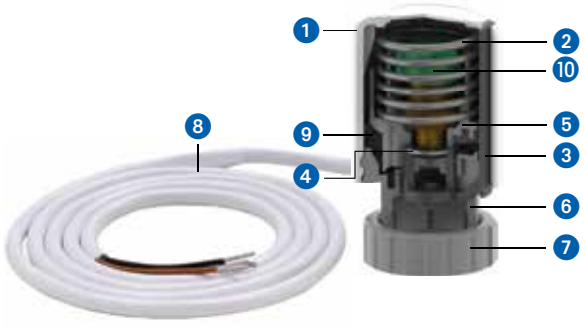


Size

230 Vac, available also with brass ring nut
24 Vac
230 Vac with end switch (4 A 250 Vac), available also with brass ring nut
24 Vac with end switch (4 A 250 Vac)

Construction

1. Polycarbonate case
2. Stainless steel spring
3. Indicator PPA (35% FV)
4. Steel radial stop ring
5. Brass shelf TN UNI EN 12164 CW614N
6. Polycarbonate base
7. Fastening ring nut M30x1,5 in PA 66 (50% FV)
8. PVC cable
9. Microswitch 4 A
10. Wax expansion electrothermal actuator



Technical Data

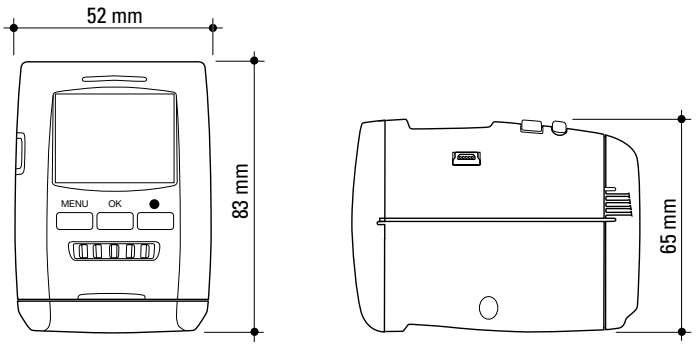
The valve opens upon receiving the command from the thermostat.

- Absorption 3,45 VA (230 Vac) / 3 VA (24 Vac)
- Protection IP 40 (IP 44 vertical position)
- Cable length: 1 m
- End switch: 4 A 250 Vac
- Breakaway current: 0,35 A (24 Vac model) / 0,25 A (230 Vac model)
- Closing/opening time: 5-6 min

Electronic stand alone programmable thermostatic actuator for radiator valves with programming stick

Can be used in conjunction with Full thermostatic and thermostatizable valves

Electronic programmable thermostatic actuator for installation on radiator thermostat valves for the adjustment of the ambient temperature. The device acts on the valve itself, opening it partially in function of the difference between the set temperature and the temperature detected. The function keys, the wheel and the LCD display allow for direct programming on the device.
To facilitate the operation, you can use the special mini USB programming stick which allows for the programming, in graphical form, directly on your PC.



Construction

1. Display for programming
2. Function keys:
   - MENU' (MENU) (to access the main menu)
   - OK (OK) (to confirm the settings)
   - CLOCK (to access the clock functions)
3. Selection wheel
4. Mini USB port for programming via programming stick (Compatibility with USB 1.1 or 2.0 ports - Windows Xp or later)
5. Battery compartment

Technical data

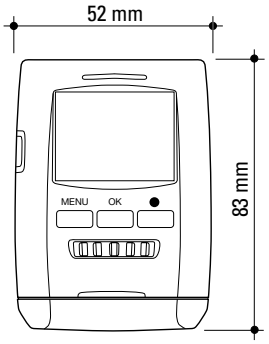
- Power supply: 2 batteries 1,5 V (AA type)
- Autonomy: 5 years (with low battery indication; estimated but not guaranteed)
- Operation:
  - manual, with temperature set using the wheel
  - automatic, with two temperature levels (comfort and economy), weekly programming
- Maximum number of daily switching (automatic operation): 4 in comfort and 4 in economy
- Holiday function, which adjusts to a temperature (or valve closure) for a set period
- Window function, with valve closure in case the window is open
- Keylock function
- Dimensions: 52 x 83 x 65 mm
- Degree of protection: IP30
- Operating temperature: 0 ÷ 50 °C
- Storage temperature: -20 °C ÷ +70 °C
- Connection valve: M30x1,5

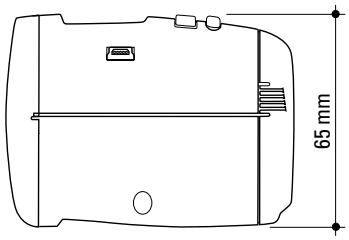
Delegated Regulation (EU) n. 811/2013; annex IV-3:
- Class of the temperature control device: Class 4: Class IV
- Contribution of the temperature control device to the seasonal energy efficiency of environment heating in %: 2%

Electronic radio frequency programmable thermostatic actuator for radiator valves

Can be used in conjunction with Full thermostatic and thermostatizable valves

Electronic radio frequency programmable thermostatic actuator which receives the operating parameters directly from the Emmeti radio frequency programmable thermostat, operating like a normal remote actuator.
It is installed directly on the thermostatic radiator valve, opening it partially in function of the difference between the set temperature and the temperature detected.
In required, the device can also operate independently since it can be programmed using the keyboard.





Construction

1. Display for programming
2. Function keys:
   - MENU' (MENU) (to access the main menu)
   - OK (OK) (to confirm the settings)
   - CLOCK (to access the clock functions)
3. Selection wheel
4. Battery compartment
5. Integrated radio frequency module

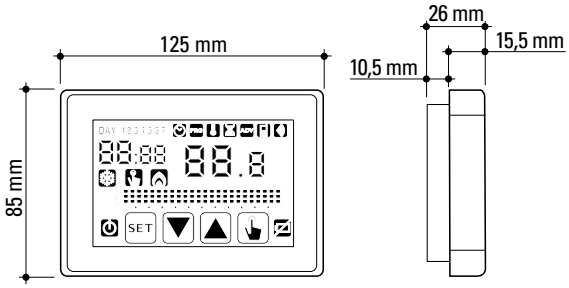
Technical data

- Power supply: 2 batteries 1,5 V (AA type)
- Autonomy: 5 years (with low battery indication; estimated but not guaranteed)
- Operation:
  - Radio frequency, in combination with the radiofrequency thermostat Emmeti
  - manual, with temperature set using the wheel
  - automatic, with two temperature levels (comfort and economy), weekly programming
- Maximum number of daily switching (automatic operation): 4 in comfort and 4 in economy
- Holiday function, which adjusts to a temperature (or valve closure) for a set period
- Window function, with valve closure in case the window is open
- Keylock function
- Dimensions: 52 x 83 x 65 mm
- Degree of protection: IP30
- Operating temperature: 0 ÷ 50 °C
- Storage temperature: -20 °C ÷ +70 °C
- Connection valve: M30x1,5

Delegated Regulation (EU) n. 811/2013; annex IV-3:
- Class of the temperature control device: Class 4: Class IV
- Contribution of the temperature control device to the seasonal energy efficiency of environment heating in %: 2%

Radio frequency touch screen weekly programmable thermostat

Radio frequency touch screen weekly programmable thermostat to be combined with the radio frequency programmable thermostat actuators for radiator valves; this allows to control one or more radiators.



Construction

1. Plastic base for wall-mounting or covering the box 503
2. Wide backlit touch screen display to view the operating status, time, day and temperature measured
3. Touch screen keyboard to program the device

Technical data

Power supply: 2 x 1.5 V (AAA type)
Power reserve (to change batteries): 1 minute
Summer/Winter mode
Automatic programming with:
- 7 programs for winter operation (changeable)
- 7 programs for summer operation (changeable)

Temperature adjustment ON/OFF or proportional
5 settable temperatures:
- T1, T2, T3 in automatic mode
- Tm in manual mode
- Toff in off mode (anti-freeze temperature, excludable)

Minimum adjustment interval: 1 hour
Communication delay settable between 15, 30 or 45 minutes (independent for each hour)
Keylock with password
Summer/winter time change automatic
Display with blue backlight (active at the touch of a button)

Technical data

Battery powered: 2 alkaline 1,5 V batteries (AAA type) not supplied
Fixing: wall mounting or covering the box 503
Weekly programming
Operating mode: summer / winter / off
Type of control: ON / OFF or proportional or setpoint sending for autonomous management of the radiofrequency actuator
Differential: 0,1 ÷ 1 °C
Settings temperature: 3 + manual + antifreeze
Settings setpoint: 2 ÷ 35 °C
Measured temperature resolution: 0,1 °C
Measurement precision: 0,5 °C
Antifreeze temperature (excludable): 1 ÷ 10 °C
Programming resolution: 1 hour
Ignition delay: 15, 30 or 45 minutes
Watch accuracy: ± 1 s/giorno
Operating temperature: 0 ÷ 50 °C
Storage temperature: -10 ÷ 65 °C
Operating humidity: 20% ÷ 90% RH non-condensing
Degree of protection: IP40

Delegated Regulation (EU) n. 811/2013; annex IV-3:
- Class of the temperature control device: Class 4: Class IV
- Contribution of the temperature control device to the seasonal energy efficiency of environment heating in %: 2%

Example of configuration

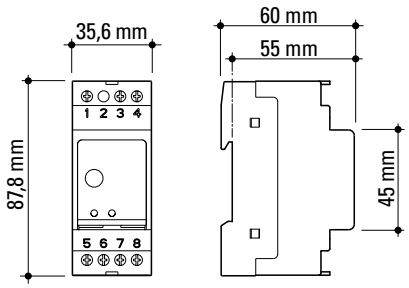
Radio frequency programmable thermostat + Electronic radio frequency programmable thermostatic actuators
(Application: centralized radiator system)

Crono RF

Radiator 1 **Radiator 2** **Radiator 3** **Radiator 4** **Radiator 5** **Radiator n**

1-channel DIN rail radio frequency actuator with fixed delay

Radio frequency actuator that receives the actuation command directly from the Emmeti electronic radio frequency thermostat, operating as a normal remote actuator, installed on a DIN rail for boiler management, for example. Actuation occurs 5 minutes after the actuator has received the command from the thermostat.



Construction

1. Green LED indicating the operating status
2. Red LED indicating the relay status
3. SET button for programming and resetting the channel

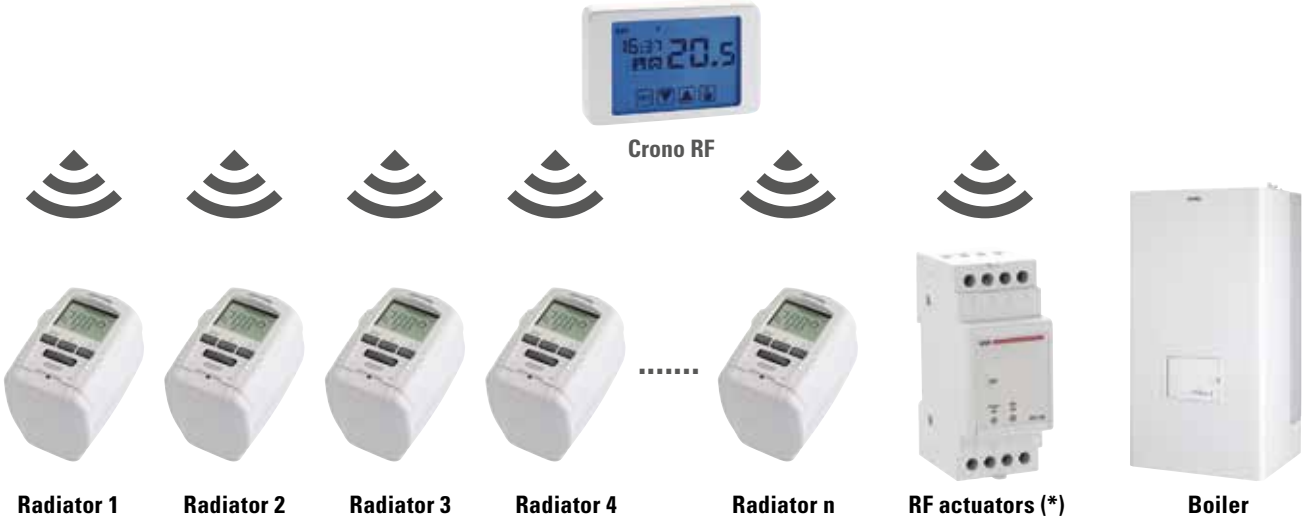
Technical data

Power supply: 230 Vac (-15%/+10%) 50/60 Hz
Outputs:
- 1 relay with 8A 250 Vac changeover contact with resistive load
- Activation with a fixed delay of 5 minutes after receiving the command from the Emmeti radio frequency chronothermostat, and instantaneous deactivation
- Connection to an external antenna (optional)

Maximum distance from the transmitter: 30 metres in a residential domestic environment
Operating temperature: 0 ÷ 50 °C
Storage temperature: -10 ÷ 65 °C
Installation on DIN rail - Measurement: 2 DIN modules
Protection degree: IP40
Conformity with EU Directives:
- Low Voltage (LVD)
- Electromagnetic Compatibility (EMC)

Example of configuration

Radio frequency programmable thermostat + Electronic radio frequency programmable thermostatic actuators + 1-channel DIN rail radio frequency actuator with fixed delay

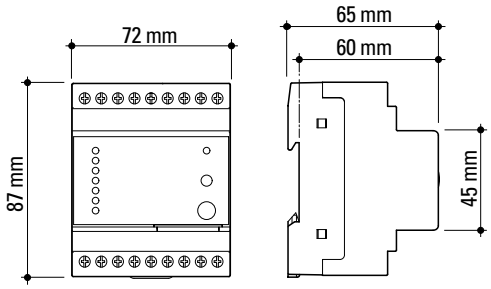


(*) 1-channel DIN rail radio frequency actuator for boiler consensus with 5 min. delay

6-channel DIN rail radio frequency actuator, with additional contact with settable delay

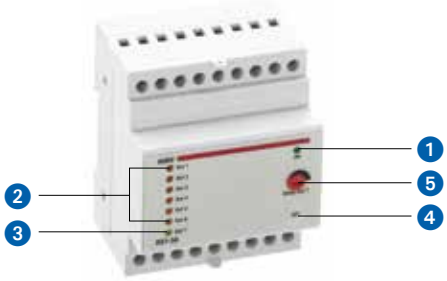
Electronic 6-channel radio frequency actuator, each channel can receive the actuation command directly from an Emmeti radio frequency thermostat.

The actuator operates as a normal remote actuator, installed on a DIN rail for boiler management, for example.
Actuation of the additional contact occurs after a set time (since 3 seconds to 5 minutes) from the time when at least one channel of the actuator has received the first command from an Emmeti radio frequency thermostat paired with the corresponding channel.



Construction

1. Green LED indicating the device status (power on)
2. Red LEDs indicating the outputs status (1-6)
3. Yellow LED indicating the output status (7)
4. SET button for programming and resetting the channels
5. Trimmer for setting relay 7 switching delay



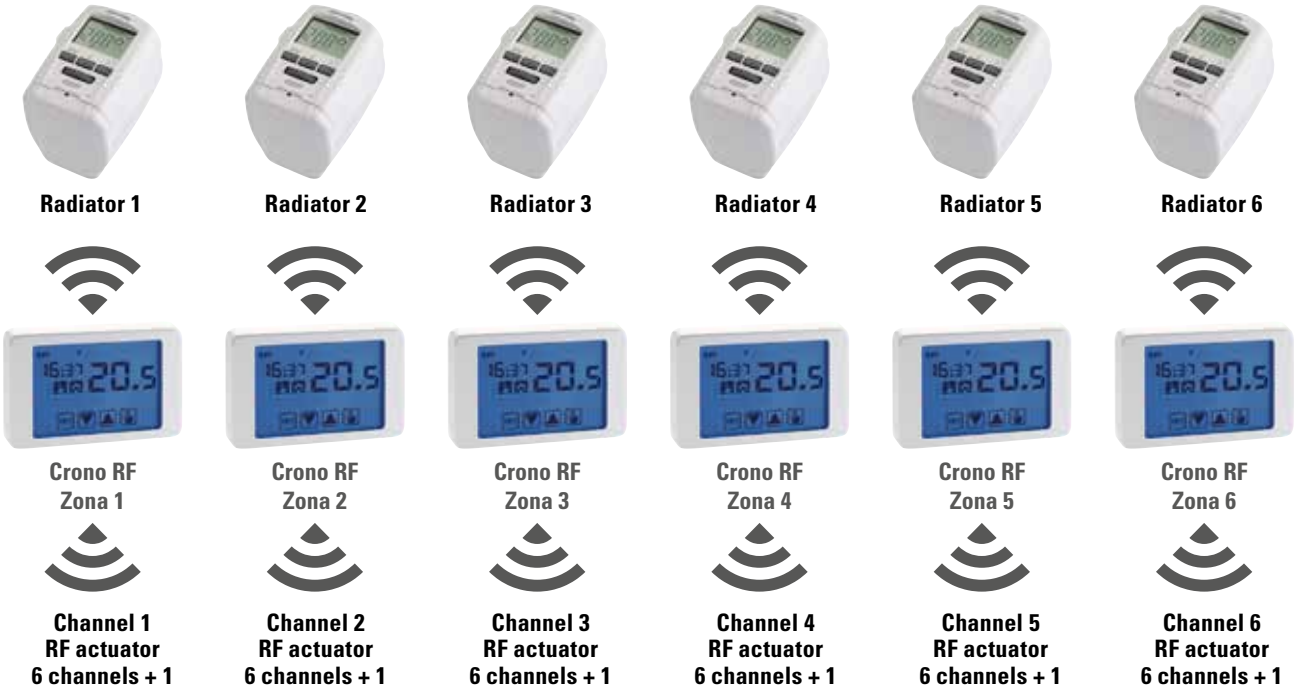
Technical data

Power supply: 230 Vac (-15%/+10%) 50/60 Hz
Absorption: 3 W (8 VA)
Outputs:
- 6 relays with 5A / 250 Vac contact normally open
- 1 relay with 5A / 250 Vac contact normally open with settable delay
- connection to an external antenna (optional)
Switching delay of relay 7 that can be set between 3 seconds and 5 minutes with the trimmer
Maximum distance from the transmitter: 30 metres in a residential domestic environment
Cable terminals with a maximum cross-section of 6 mm^2
Operating temperature: 0 ÷ 50 °C
Storage temperature: -10 ÷ 65 °C
Operating humidity: 20 ÷ 90% non-condensing
Installation on DIN rail
Measurement: 4 DIN modules
Protection degree: IP20
Insulation: reinforced between front and all other terminals
Suitable for NC electrothermic heads, both for 230 Vac power supply, and for 24 Vac power supply.

Compliant with EU Directives:
- Low voltage (LVD)
- Electromagnetic compatibility (EMC)

Example of configuration
Radio frequency chronothermostat + radio frequency chronothermostat actuators + 6-channel DIN rail radio frequency actuator, with additional contact with settable delay

(Application: autonomous system with multi-zone radiators (up to 6 zones)



Monoblocco seals and screw fittings

Monoblocco seal 24x19 for copper pipe

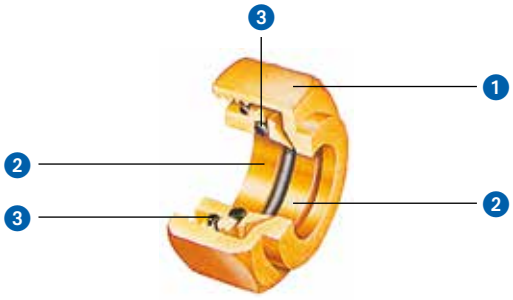
Size

Ø 10	Ø 12	Ø 14	Ø 15	Ø 16

Standard seal 24x19 for copper pipe

Size

Ø 18



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. Metal components in brass TN UNI EN 12164 CW614N
3. O-ring fitting in NBR

Technical data

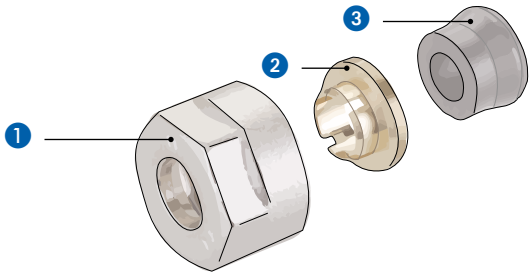
Maximum pressure: 10 bar
Maximum temperature: 100 °C

Size	Maximum torque [Nm]
10	30÷35
12	35÷40
14	40÷45
15	40÷45
16	45÷50
18 standard seal	50÷55
Monoblocco blid seals (plug)	30÷35

Seal 3/4" Eurocone for copper pipe

Size

Ø 12	Ø 14	Ø 15	Ø 16



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. Adapter in brass TN UNI EN 12164 CW614N
3. Ogive in EPDM peroxide

Technical data

Maximum pressure: 10 bar
Maximum temperature: 120 °C

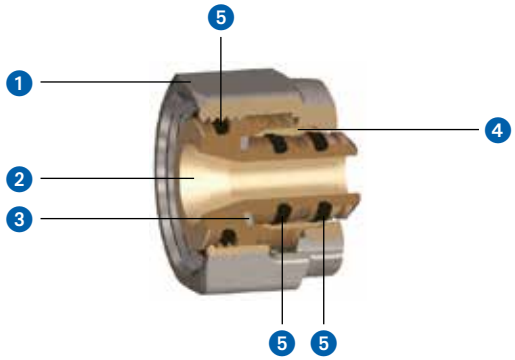
Size	Maximum torque [Nm]	
12	35÷45 (*)	68÷80 (**)
14	35÷45 (*)	68÷80 (**)
15	35÷45 (*)	68÷80 (**)
16	35÷45 (*)	68÷80 (**)

(*) Annealed copper tube
(**) Semi-hard copper tube

Monoblocco seal 24x19 for multilayer pipe

Size

12x1,6	14x2	16x2	16x2,25
18x2	20x2	20x2,5	



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. Adaptor in brass TN UNI EN 12164 CW614N
3. Ring in PTFE
4. Serrated hose-clamp in brass TN UNI EN 12164 CW614N
5. O-ring seals in EPDM

Technical data

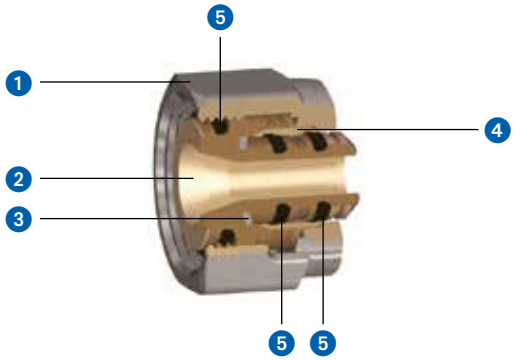
Maximum pressure: 10 bar
Maximum temperature: 100 °C

Size	Maximum torque [Nm]
12 x 1,6	30÷35
14 x 2	30÷35
16 x 2	30÷35
16 x 2,25	30÷35
18 x 2	30÷35
20 x 2	30÷35
20 x 2,5	30÷35

Monoblocco seal 3/4" Eurocone for multilayer pipe

Size

16x2	20x2



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. Adaptor in brass TN UNI EN 12164 CW614N
3. Ring in PTFE
4. Serrated hose-clamp in brass TN UNI EN 12164 CW614N
5. O-ring seals in EPDM

Technical data

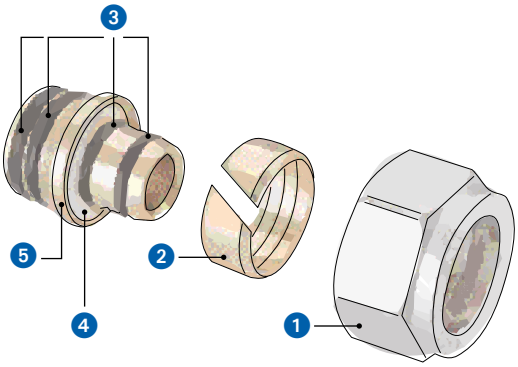
Maximum pressure: 10 bar
Maximum temperature: 100 °C

Size	Maximum torque [Nm]
16 x 2	30÷35
20 x 2	40÷45

G 1/2" seal for multilayer pipe

Size

16x2



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. Serrated hose-clamp in brass TN UNI EN 12164 CW614N
3. O-Ring seals in EPDM
4. Washer in PTFE
5. Adapter in brass TN UNI EN 12164 CW614N

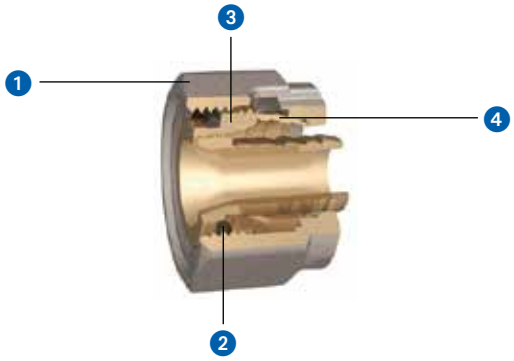
Technical data

Maximum pressure (at 95 °C): 10 bar
Maximum temperature: 95 °C

Monoblocco seal 24x19 for plastic, PEX, PERT, PP pipe

Size

12x1	12x2	15x1,7	16x1,5
16x2	16x2,2	17x2	20x2



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. O-Ring seals in EPDM
3. Adapter in brass TN UNI EN 12164 CW614N
4. Serrated hose-clamp in brass TN UNI EN 12164 CW614N

Technical data

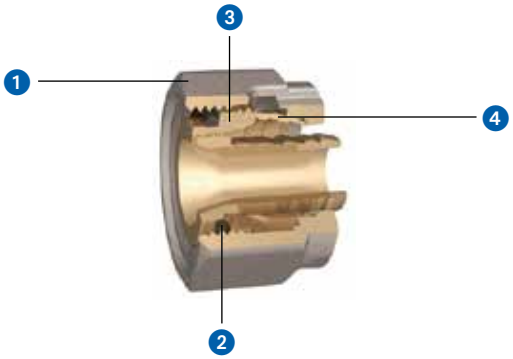
Maximum pressure: 10 bar
Maximum temperature: 100 °C

Size	Maximum torque [Nm]
12 x 1	30÷35
12 x 2	30÷35
15 x 1,7	30÷35
16 x 1,5	30÷35
16 x 2	30÷35
16 x 2,2	30÷35
17 x 2	30÷35
20 x 2	30÷35

Monoblocco seal 3/4" Eurocone for plastic, PEX, PERT pipe

Size

12 x 2 (with O-ring)	16 x 2 (with O-ring)
17 x 2 (with O-ring)	20 x 2 (with O-ring)



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. O-Ring seals in EPDM
3. Adaptor in brass TN UNI EN 12164 CW614N
4. Serrated hose-clamp in brass TN UNI EN 12164 CW614N

Technical data

Maximum pressure: 10 bar
Maximum temperature: 100 °C

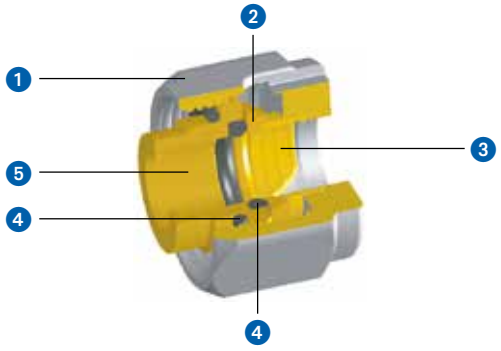
Size	Maximum torque [Nm]
12 x 2 (con o-ring)	30÷35
16 x 2 (con o-ring)	30÷35
17 x 2 (con o-ring)	35÷40
20 x 2 (con o-ring)	35÷40

Monoblocco seal 24x19 for plastic pipe PB

Size

Ø 15

When using Emmeti compression fittings for Polybutylene pipe, please ansure you use the plastic pipe insert provided for by the manufacturer of the pipe you are using.



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. Ghiera in ottone TN UNI EN 12164 CW614N
3. Serrated hose-clamp in brass TN UNI EN 12164 CW614N
4. O-ring seals in EPDM
5. Adaptor in brass TN UNI EN 12164 CW614N

Technical data

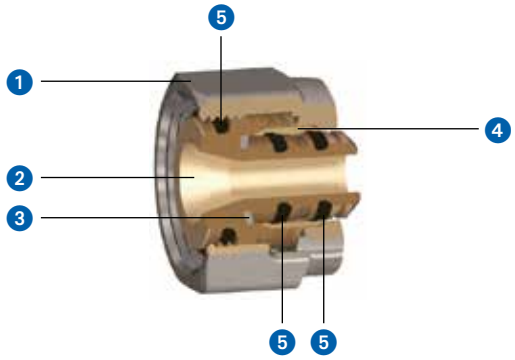
Maximum pressure: 10 bar
Maximum temperature: 100 °C

Size	Maximum torque [Nm]
15	30÷35

Three-pieces seal 24x19 and 3/4" Eurocone for PEX, PERT and Multi-layer pipe

Size

Range 24x19	12 x 2	14 x 2
	16 x 2	17 x 2
Range 3/4" Eurocone	12 x 2	14 x 2
	16 x 2	17 x 2
	20 x 2	



Construction

1. Nut in nickel-plated brass TN UNI EN 12165 CW617N
2. Adaptor in brass TN UNI EN 12164 CW614N
3. Ring in PTFE
4. Serrated hose-clamp in brass TN UNI EN 12164 CW614N
5. O-ring seals in EPDM

Technical data

Maximum pressure: 10 bar
Maximum temperature: 100 °C

Size	Maximum torque [Nm]
12 x 2	30÷35
14 x 2	30÷35
16 x 2	30÷35
17 x 2	30÷35
20 x 2	35÷40

Note

Respect the environment!
For a correct disposal, the different materials must be divided and collected according to the regulations in force.

The data contained in this publication are subject to change in every time, for technical and commercial requirements.
Emmeti are not responsible for eventual errors or inexactitudes.

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