

Chapter 5

Distribution systems

HKV - 2013A - VA Pre-assembled manifold



With micrometric control and flow meters
Stainless steel: corrosion-resistant
Easy to install: supplied pre-assembled

WATTS®

Chapter 5.1

Radiant panel systems

PRE-ASSEMBLED MANIFOLDS

ISOTHERM

Mixing, pumping and fixed-point control unit for radiant panel systems. The unit is suitable for direct connection to HKV2013 series pre-assembled manifolds.

The system can be supplied at boiler temperature (70÷80°C) and have the outlets at controlled low temperature.

The unit consists of:

- 3-way thermostatic with setting range of 30÷42°C;
- Wilo Yonos para 15/6 electric circulation pump;
- adjustable safety thermostat for pump cut-out;
- panel flow precision thermometer;
- suitable for maximum power of approximately 10 kW.

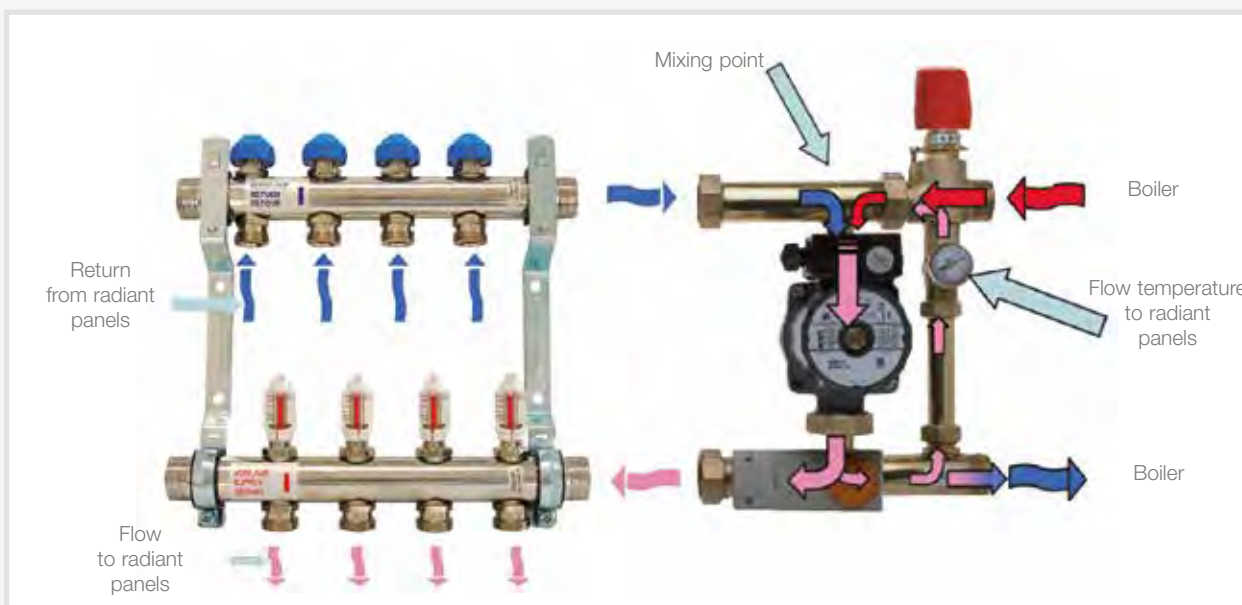
Maximum operating temperature: 90°C. PN 10.



Part Number	Operating max temp.	Qty/Box	Box/Carton
10026289	90°C	1	1

Dimensions at the end of the section.

TECHNICAL NOTE - ISOTHERM DIAGRAM



MIXING VALVE AND PIPES FOR RADIANT SYSTEMS

63C - AQUAMIX

Thermostatic mixing valve for radiant panel systems with 10 setting positions and fixed bypass against overtemperature. Setting range: 25÷50°C. Maximum differential pressure: 2 bar.

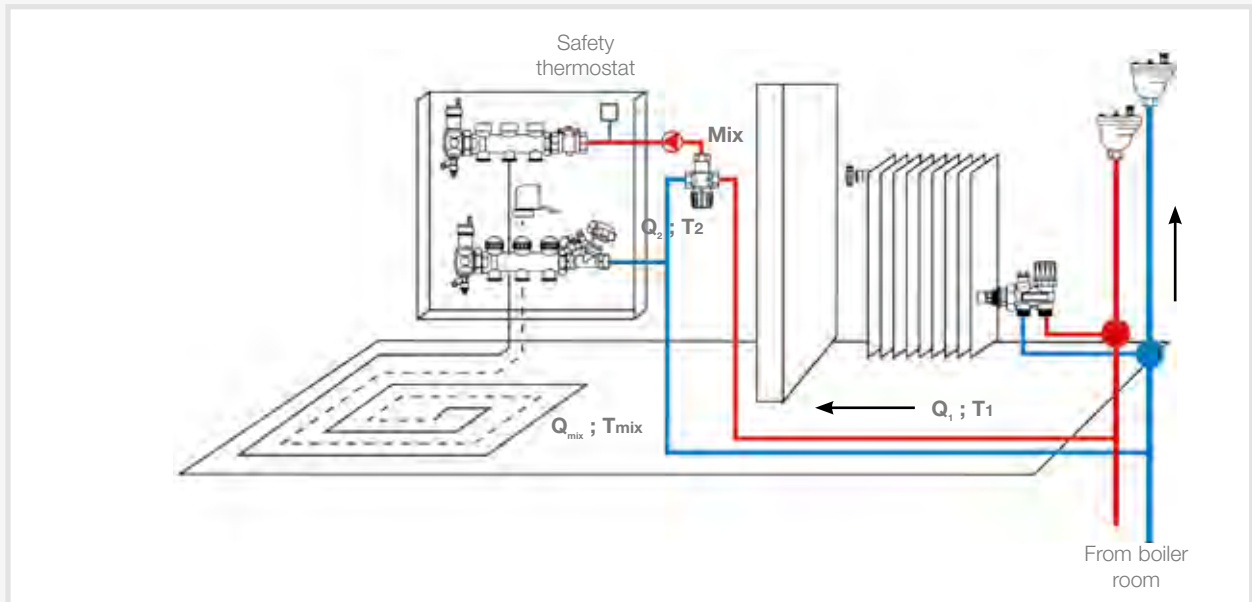


Part Number	DN	Qty/Box	Box/Carton
6310C34	3/4" FF	1	36
6311C1	1" FF	1	36

Dimensions at the end of the section.

TECHNICAL NOTE - AQUAMIX DIAGRAM

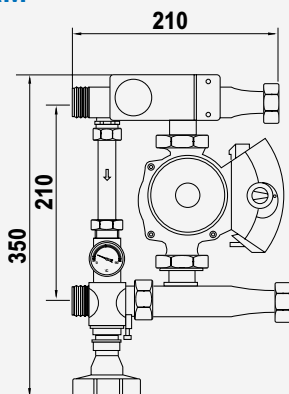
Example configuration of AQUAMIX valve for radiant panel system with distribution manifold unit (Serie 822MM-822MR) complete with balancing valve (Serie FO-BV) in housing.



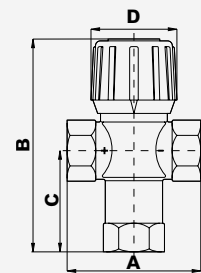
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OVERALL DIMENSIONS

ISOTHERM



63C



DN	A	B	C	D
3/4"	70	107	52	45
1.	80	110	55	45

Chapter 5.2

Modul systems

ZONE VALVES

571T

Two-way bronze zone valve, normally closed (NC). ON/OFF operation with an electrothermal actuator (580T Series) with bayonet fitting for connection to body. PN 10. Maximum differential pressure (Series 580T): 1.5 bar. Operating temperature range: 4÷100°C. Disc stroke: 4mm.



Part Number	DN	Kvs	Stroke	Qty/Box	Box/Carton
571T34	3/4" FF	5,5	4mm	1	30

Dimensions at the end of the section.

560T

Three-way bronze zone valve, normally closed (NC). ON/OFF operation with an electrothermal actuator (580T Series) with bayonet fitting for connection to body. PN 10. Max. differential pressure (580T Series): 1.5 bar. Operating temperature range: 4÷100°C. Disc stroke: 4mm. Predisposed for fitting a 566T series bypass setting valve. To connect the zone valve and the setting valve to the Modul coplanar manifolds, use 565T Series eccentric unions.



Part Number	DN	Kvs	Kvs By-pass	Qty/Box	Box/Carton
560T1	1" FF	6,8	3,6	1	30

Dimensions at the end of the section.

561T

4-way normally closed (NC) zone valve with bronze connections and built-in bypass setting system. ON/OFF operation with an electrothermal actuator (580T Series) with bayonet fitting for connection to body. PN 10. Max. differential pressure (580T Series): 1.5 bar. Operating temperature range: 4÷100°C. Disc stroke: 4 mm. To connect the zone valve to the Modul coplanar manifolds, use 531C series eccentric unions.

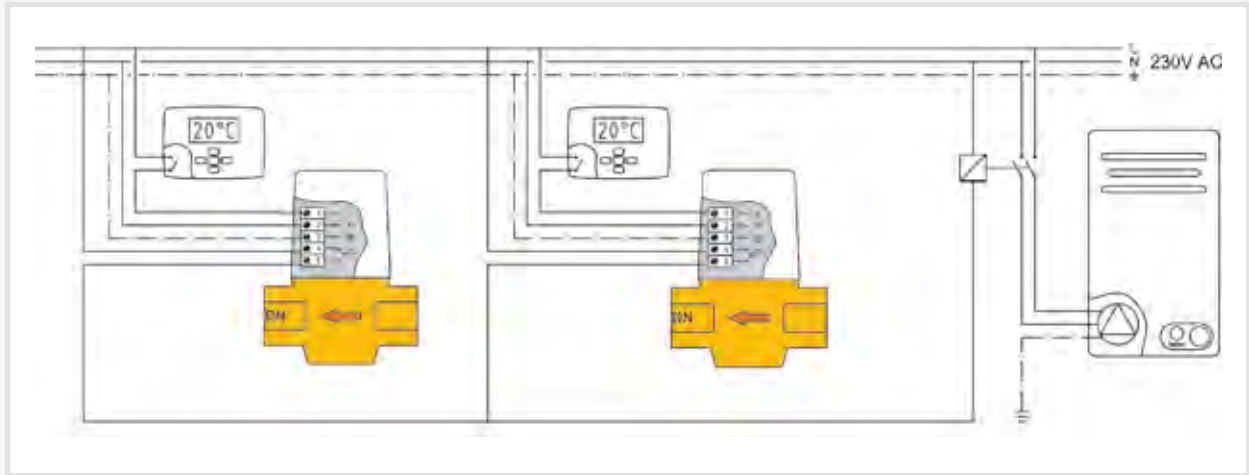


Part number	Dn	Kvs	Kvs By-pass	Qty/Box	Box/Carton
561T1	1" FF	6,8	3,6	1	16

Dimensions at the end of the section.

TECHNICAL NOTE - Electrical connections for 571T, 560T and 561T Series zone valves for multi-zone installation

When a heat generator supplies multiple heating zones, it is possible to use the auxiliary contacts of the 580T Series to reduce energy wastage caused by the unnecessary operation of pumps or generators. When the thermostats (and hence the heating zones) require heat, the zone valves open, and the auxiliary contacts close, thus switching the heat generator pump on. When heat is no longer required, the auxiliary contacts open and switch the pump off. The rating of the auxiliary contacts is limited, as shown in the diagram. You are advised to use an auxiliary relay to connect the pump.



580T

Two-position electrothermal actuator for 561T, 560T and 571T Series zone valves. Normally open (NO) auxiliary microswitch for supplementary controls (e.g. pump, metering). Anti-tamper device, can be lead-sealed.

Bayonet-fitting for connection to valve body. External manual opening control. Positioning time: 4-5 min. Power consumption: 20W (230V), 18W (24V).

Compliant with Directives LVD 2014/35/EU and EMC 2014/30/EU.



Part Number	Voltage	Protection	Positioning time	Qty/Box	Box/ Carton
580T220VX	230V	IP20	4-5min	1	10
580T24VX	24V	IP20	4-5min	1	10

Dimensions at the end of the section.

VU02

2-way brass zone valve, normally closed (NC). ON/OFF operation with ETE actuators. PN 16.

Maximum differential pressure: 1,5 bar.

Operating temperature: 4÷110°C. Disc stroke: 4mm.



Part Number	DN	Kvs	Qty/Box	Box/ Carton
VU0220	3/4" FF	4,0	1	40
VU0225	1" FF	6,5	1	36

Dimensions at the end of the section.

VU3

3-way brass zone valve, normally closed (NC). ON/OFF operation with ETE actuators. PN 16.

Maximum differential pressure: 1,5 bar.

Operating temperature: 4÷110°C. Disc stroke: 4mm.



Part Number	DN	Kvs	Kvs By-pass	Qty/Box	Box/ Carton
VU320	3/4" FF	4,0	2,8	1	40
VU325	1" FF	6,5	3,3	1	36

Dimensions at the end of the section.

VU4

T-fitting for creating a bypass in VU3 valves.

Part Number	DN	Qty/Box	Box/Carton
VU400	3/4" FF	1	30
VU401	1" FF	1	10



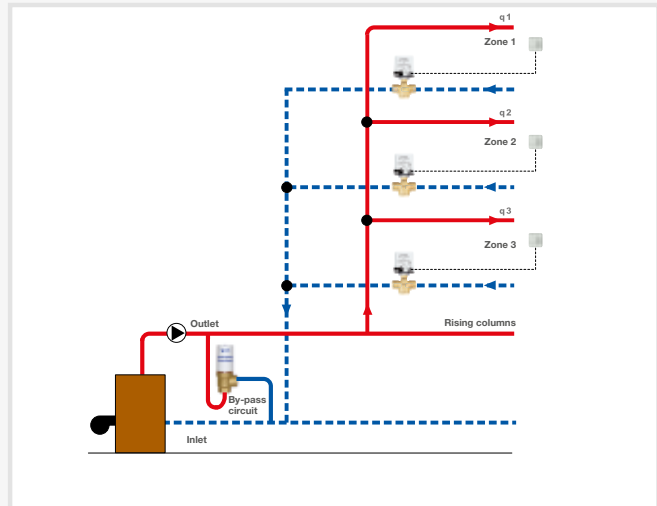
Dimensions at the end of the section.

TECHNICAL NOTE - Brass zone valve for fan coils

The VU zone control valves are automatic (NC) devices generally used for controlling flows of hot and cold water to heating and/or air conditioning systems in response to an ON/OFF control (also predisposed for ETM modulating actuators).

The electric actuator of the ETE thermal expansion servo-control with automatic limit switch is totally silent and reliable; simple bayonet fitting for connection to the valve body. A special device allows direct manual operation of the VU valve.

Avoid installing the valve with the servo-motor facing down (infiltration, condensation).



FAN COIL VALVES

2131

2-way brass valve for fan coils. ON/OFF operation with 22C, 22CX, 22CX5 and 26LC Series actuators. Maximum operating temperature. 110°C. Disc stroke: 2,5mm. PN 16. Fittings Series 840.

Part Number	DN	Kvs	Qty/Box	Box/Carton
213112	1/2" MM	1,7	1	100
213134	3/4" MM	2,8	1	100
21311	1" MM	4,5	1	36



Dimensions at the end of the section.

3131

3-way brass valve for fan coils. ON/OFF operation with 22C, 22CX, 22CX5 and 26LC Series actuators. Max. operating temperature: 110°C. Disc stroke: 2,5 mm. Can be used both as a mixing valve and diverter valve. PN 16. The Kvs and Kvs bypass values apply to use of the valve as a diverter. 840 Series fittings.

Part Number	DN	Kvs	Kvs By-pass	Qty/Box	Box/Carton
313112	1/2" MM	1,7	1,3	1	100
313134	3/4" MM	2,8	1,8	1	100
31311	1" MM	4,5	3,1	1	36



Dimensions at the end of the section.

4131

3-way 4-connection brass valve for fan coils. ON/OFF operation with 22C, 22CX, 22CX5 and 26LC Series actuators. Max. operating temperature: 110°C. Disc stroke: 2,5 mm. Can be used both as a mixing valve and diverter valve. PN 16.

Part Number	DN	Kvs	Kvs By-bass	Qty/Box	Box/Carton
413112	1/2" MM	1,7	1,3	1	100
413134	3/4" MM	2,8	1,8	1	36

Dimensions at the end of the section.

840

Soft seal connection unions with nut for 2131, 3131 and 4131 Series zone valves.

Part Number	DN	Qty/Box	Box/Carton
8401212GAS	1/2" X 1/2"	1	1

ACTUATORS

148SD2

Thermostatic actuator with remote immersion probe for flow control based on the temperature of the radiant panels or tanks or water-air heat exchangers.

Part Number	Bulb thickness	Bulb	Calibration	Qty/Box	Box/ Carton
148SD2070	12mm	66 mm	20-70 °C	1	100

Dimensions at the end of the section.

148SD12

Sheath for 148SD2 Series actuator sensor. With O-Ring.

Part Number	Connection	Qty/Box	Box/ Carton
148SD122050	1/2"M	1	100
148SD122070	1/2"M	1	100



22C

Compact electrothermal actuator with ON/OFF operation compatible with thermostat-adaptable radiator valves, valves for fan coils and manifolds. Self-extinguishing polymer cap. M30x1,5 nickel-plated threaded brass ring-nut. Normally closed (NC). Normally open (NA). Stroke: 3.5mm. Disc thrust: 100N (NC version) - 80N (NO version). Room temperature: 0÷50°C. 4-wire version (NA4 – NC4) complete with auxiliary microswitch. Auxiliary contact rating: 700mA.

Compliant with: LVD 2014/35/EU, EMC 2014/30/EU. TÜV approved.

With $\varnothing = 7.2\text{mm}$ cable

Part Number	Voltage	Protection	Qty/Box	Box/Carton
22C24NC2	24V	IP44	1	10
22C230NA2	230V	IP44	1	10
22C24NA2	24V	IP44	1	10
22C230NA4	230V	IP44	1	10
22C24NA4	24V	IP44	1	10

With $\varnothing = 5.5\text{mm}$ cable

Part Number	Voltage	Protection	Qty/Box	Box/Carton
22C230NA2-5	230V	IP44	1	10

Dimensions at the end of the section.

22CX

Compact electrothermal actuator with ON/OFF operation compatible with thermostat-adaptable radiator valves, valves for fan coils and manifolds. Self-extinguishing polymer cap. M30x1.5 nickel-plated threaded brass ring-nut. Normally closed (NC). Normally open (NA). Stroke: 3,5 mm. Disc thrust: 100N (NC version) - 80N (NA version). Room temperature: 0÷50°C. 4-wire version (NA4 – NC4) complete with auxiliary microswitch. Auxiliary contact rating: 700mA.

Compliant with: LVD 2014/35/EU, EMC 2014/30/EU. TÜV approved.

Part Number	Voltage	Protection	Qty/Box	Box/Carton
22CX230NC2	230V	IP54	1	50
22CX24NC2	24V	IP54	1	50
22CX230NC4	230V	IP54	1	50
22CX24NC4	24V	IP54	1	50
22CX230NA2	230V	IP54	1	50

Dimensions at the end of the section.



26LC

Compact electrothermal actuator with ON/OFF operation compatible with thermostat-adaptable radiator valves, valves for fan coils and manifolds. Self-extinguishing plastic cap. M30x1.5 nickel-plated threaded brass ring-nut. Normally closed (NC) 24VAC and 230VAC low energy consumption. Stroke: 3.5mm. Cable is easy to remove thanks to safety-latch connector.

LED operating status indicator (ON/OFF). Version with 4-pole cable (NC4) complete with auxiliary microswitch (NA contact).

Compliant with: LVD 2014/35/EU, EMC 2014/30/EU. TÜV approved.

Part Number	Voltage	Microswitch	Qty/Box	Box/Carton
26LC230NC2	230V a.c.	no	1	50
26LC24NC2	24V a.c.	no	1	50
26LC230NC4	230V a.c.	sì	1	50
26LC24NC4	24V a.c.	sì	1	50

Dimensions at the end of the section.

EMUJC

Compact electronic actuator for terminal units. Three-point or proportional control signal. Connection to 2131, 3131 and 4131 Series valves by means of M30x1.5 threaded brass ring-nut. LED actuator operating status indicator: ON/OFF, travel limit reached, positioning in progress. Power cable length: 2m. Nominal thrust: 120N. Protection rating IP43. Room temperature: 0÷50°C.

Part Number	Command signal	Voltage	Power	Qty/Box	Box/ Carton
EMUJC-24	three point	24V	2,5VA	1	1
EMUJC-010	Proportional 0-10V (2-10V)	24V	2,5VA	1	1

Dimensions at the end of the section.

ETE

Electrothermal actuator with ON/OFF operation for VU zone valves. Normally open (NO) auxiliary microswitch for supplementary controls (e.g. pump, metering). Bayonet-fitting for connection to valve body. Manual control device. Consumption: 18W. Stroke: 4mm. Disc thrust: 250N. Positioning time: 4min.

Compliant with EN60730-1:95, EN60730-2-8:95 and subsequent additions.

Compliant with EMC 2014/30/EU.

Part Number	Voltage	Protection	Qty/Box	Box/Carton
ETE24BO	24V	IP20	1	30
ETE220BO	230V	IP20	1	30

Dimensions at the end of the section.

MODUL SINGLE MANIFOLDS

805M

Single modular CW617N brass manifold with pre-assembled gasket and locking nut.

Side outlets: 1/2"M-3/4"M. MF head connections: 3/4"-1"-1.1/4".

Part Number	DN	Outlets	Wheelbase	Qty/Box	Box/Carton
805M34TMN2	3/4"	2-1/2" M	35 mm	10	10
805M34TMN3	3/4"	3-1/2" M	35 mm	10	10
805M34TMN4	3/4"	4-1/2" M	35 mm	10	10
805M54TMN3	1.1/4"	3-1/2" M	50 mm	10	10
805M54TMN4	1.1/4"	4-1/2" M	50 mm	10	10
805M1TN2X	1"	2-1/2" M	50 mm	10	10
805M1TN3X	1"	3-1/2" M	50 mm	10	10

Dimensions at the end of the section.



807M

Single modular CW617N brass manifold.

Part Number	DN	Outlets	Wheelbase	Qty/Box	Box/ Carton
807MT234	3/4" FF	2-1/2" M	35 mm	10	10
807MT334	3/4" FF	3-1/2" M	35 mm	10	10
807MT434	3/4" FF	4-1/2" M	35 mm	10	10

Dimensions at the end of the section.



822MM

Single modular brass return manifold with pre-assembled gasket and locking nut. Built-in thermostat-adaptable control valves with 22C, 22CX, 22CX5 and 26LC Series electrothermal actuators. Side outlets: 1/2"M-3/4"M. MF head connections: 3/4"-1"-1.1/4". Differential pressure: 1.5 bar. Kvs outlets: 2.28. Centre distance 50mm.

Part Number	DN	Outlets	Qty/Box	Box/ Carton
822MM1TMN2	1" MF	2-1/2" M	5	5
822MM1TMN3	1" MF	3-1/2" M	5	5
822MM1TMN4	1" MF	4-1/2" M	5	5
822MM1TM2	1" MF	2-3/4" M	5	5
822MM1TM3	1" MF	3-3/4" M	5	5
822MM1TM4	1" MF	4-3/4" M	5	5
822MM54TMN3	1.1/4" MF	3-1/2" M	5	5
822MM54TMN4	1.1/4" MF	4-1/2" M	5	5
822MM54TM3	1.1/4" MF	3-3/4" M	5	5
822MM54TM4	1.1/4" MF	4-3/4" M	5	5

Dimensions at the end of the section.



822MR

Single modular brass flow manifold with pre-assembled gasket, locking nut and built-in shut-off lockshields. Side outlets: 1/2"M - 3/4"M. MF head connections: 3/4"-1"-1.1/4". Kvs outlets: 2.61. Centre distance 50mm.

Part Number	DN	Outlets	Qty/Box	Box/ Carton
822MR1TMN2	1" MF	2-1/2" M	5	5
822MR1TMN3	1" MF	3-1/2" M	5	5
822MR1TMN4	1" MF	4-1/2" M	5	5
822MR1TM2	1" MF	2-3/4" M	5	5
822MR1TM3	1" MF	3-3/4" M	5	5
822MR1TM4	1" MF	4-3/4" M	5	5
822MR54TMN3	1.1/4" MF	3-1/2" M	5	5
822MR54TMN4	1.1/4" MF	4-1/2" M	5	5
822MR54TM3	1.1/4" MF	3-3/4" M	5	5
822MR54TM4	1.1/4" MF	4-3/4" M	5	5

Dimensions at the end of the section.



FLMR

Single modular brass flow manifold complete with FL flow meter for controlling and measuring the flow rate in the circuits, with pre-assembled gasket and locking nut. Side outlets: 3/4"M. MF head connections: 1"-1.1/4". Measuring range: 0-6 l/min. Differential pressure: 1,0 bar. Kvs outlets: 1,8. Centre distance 50mm.

Part Number	DN	Outlets	Qty/Box	Box/ Carton
FLMR1TM2	1"	2-3/4"	1	24
FLMR1TM3	1"	3-3/4"	1	16
FLMR1TM4	1"	4-3/4"	1	12

Dimensions at the end of the section.



FL

Device for controlling and measuring the flow rate in the individual circuits in FLMR manifolds. Measuring range: 0-6 l/min.

Part Number	Description	Qty/Box	Box/Carton
FLMR	Flowmeter	24	24

Dimensions at the end of the section.

MODUL COPLANAR MANIFOLDS

KHT-1

Pair of shut-off ball valves with precision thermometer (scale 0÷60°C) for HKV2013 Series manifolds. 1" Fx1" F connections, flat sealing nut.

Part Number	Description	Qty/Box	Box/Carton
3114065	Brass	1	1
3114065N	Brass nickel plated	1	1

ES-QS

Pair of terminal valves for HKV2013 Series manifolds with manual air vent device and 3/4" system fill/drain cock complete with safety plug. 1" F connection, flat sealing nut.

Part Number	Description	Qty/Box	Box/Carton
3036115	Brass	1	1
3036120N	Brass nickel plated	1	1

DFM38-A

Device for controlling and measuring the flow rate in the individual circuits in HKV2013 Series manifolds. Measuring range: 0-6 l/min. 3/8" connection.

Part Number	Description	Qty/Box	Box/Carton
10010893	Flowmeter	1	24

ACCESSORIES

823MP

Terminal fitting with pre-assembled gasket and locking nut. Equipped with: 2 x 1/2" connections for fitting the immersion thermometer.

Part Number	DN	Outlets	Connection	Qty/Box	Box/Carton
823MP13812	1"	1/2" e 3/8"	2+2	10	10

Dimensions at the end of the section.

210

Shut-off ball valve with three-piece union for manifold head connections. Maximum operating pressure: 25 bar up to 95°C; 16 bar up to 120°C.

Part Number	DN	Qty/Box	Box/Carton
2101212	1/2" MF	5	5
2103434	3/4" MF	5	5
21011	1" MF	5	5
210114114	1.1/4" MF	5	5

Dimensions at the end of the section.



823MT

Terminal for brass manifolds. Connections for air vent valve and for 3/8”F drain cock. Connection for additional outlet: 1/2”F.

Part Number	DN	Qty/Box	Box/Carton
823MT1	1” M	10	10
823MT114	1.1/4” M	10	10

Dimensions at the end of the section.



238

Drain cock with packing gland and hose fitting.

Part Number	DN	Qty/Box	Box/Carton
23814	1/4”	25	100
23838	3/8”	25	100

Dimensions at the end of the section.



290

Drain cock for boilers with hose fitting, plug and chain.

Part Number	DN connection	DN stopper	Qty/Box	Box/Carton
29038	3/8”	1/2”	10	200
29012	1/2”	3/4”	10	150
29034	3/4”	1”	10	100

Dimensions at the end of the section.



840MR

Universal telescopic brackets for assembling distribution units made up of 805M, 806M, 807M, E807M, 822MM, 822MR and FLMR Series modular manifolds with DN 3/4” to 1.1/4” and accessories. The brackets are equipped with plastic spacers in different sizes and colours for assembly to the U-mountings to adapt any type of manifold with height from min. 23 to max. 45.

The construction solution:

- makes it possible to have different centre distances between the flow and return manifolds according to system requirements: Min. 170 - Max. 270;
- makes the distribution unit quick and easy to install in the inspection box;
- facilitates the connection of copper, pex and multi-layer pipes to the side outlets, thanks to the inclination of the bottom bracket to be fixed to the inspection box;
- enables the distribution unit to be installed in the inspection box without rails, or to be wall-mounted, using 4 spacer feet at the ends of the brackets supplied.

These spacer feet must not be used with inspection boxes with rails.

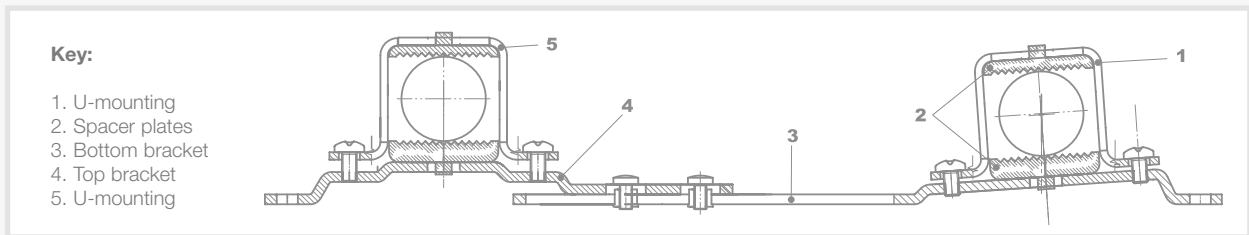
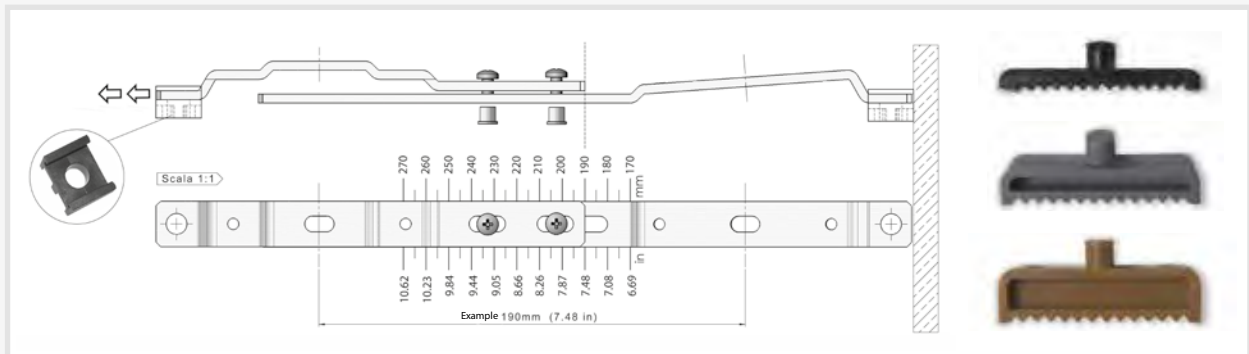
The package includes fixing screws:

- Qty. 4 M6x14
- Qty. 4 M6x164 M6x20

Part Number	Qty/Box	Box/Carton
840MR80	1	10

Dimensions at the end of the section.





Use of spacer plates:

Black, Grey, Beige.

Spacer plate selection table with dimensions of Watts manifold

Model	DN	Centre distance	Dimensions	Plates
805M	3/4"	35	24	BEIGE/BEIGE
805M	1.	35	30	BEIGE/BEIGE
805M	1.	50	31	BLACK/BEIGE
805M	1.1/4"	50	41	BLACK/GREY
807M	3/4"	35	30	BEIGE/BEIGE
822MM	1.	50	39	BLACK/GREY
822MR	1.	50	39	BLACK/GREY
FLMR	1.	50	39	BLACK/GREY
822MM	1.1/4"	50	45	BLACK/GREY
822MR	1.1/4"	50	45	BLACK/GREY
FLMR	1.1/4"	50	45	BLACK/GREY

FLOAT-TYPE AIR VENT VALVES

MKV - MICROVENT

Vertical automatic air vent valve. CW617N brass body and cover, with O-Ring. Maximum operating pressure: 10 bar. Maximum operating temperature: 110°C. Also suitable for water with additive (glycol up to 30%).

Model 0251310 is complete with RIA automatic shut-off valve.

Part Number	DN	Qty/Box	Box/Carton
0251210	3/8"	10	120

Dimensions at the end of the section.



RIA

Automatic shut-off valve for MVD, MV, MKV and MKL Series air vent valves. Complete with device for total, rapid drainage of water from the valve.

Part Number	DN	Qty/Box	Box/Carton
0259010	3/8"x3/8"	10	400
0259016	3/8"x1/2"	10	400

Dimensions at the end of the section.



2161C - FLOATVENT

Vertical automatic air vent valve, with O-Ring. Suitable for installation on the head connections of coplanar manifolds. CW617N brass body. Maximum pressure: 10 bar. Maximum temperature: 110°C. Suitable for water with additive (glycol up to 50%).

Part Number	DN	Qty/Box	Box/Carton
2161C38	3/8"	1	60
2161C12	1/2"	1	60
2161C34	3/4"	1	60
2161C1	1"	1	60

Dimensions at the end of the section.



2311C - CHECKVENT

Pre-sealed check valve for 2161C38 vertical automatic air vent valve.

Part Number	DN	Qty/Box	Box/Carton
2311C38	3/8"	50	300

Dimensions at the end of the section.



MXV - MAXIVENT

High-flow automatic air vent valve. Equipped with manual vent valve. Cast iron body and cover with epoxy paint finish. Maximum operating pressure: 12 bar. Maximum operating temperature: 115°C. 3/8" air outlet connection.

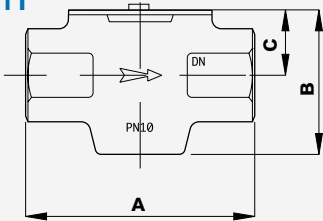
Part Number	DN	Qty/Box	Box/Carton
0253020	3/4"	1	1
0253025	1"	1	1
0253032	1.1/4"	1	1

Dimensions at the end of the section.



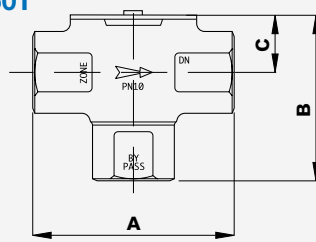
OVERALL DIMENSIONS

571T



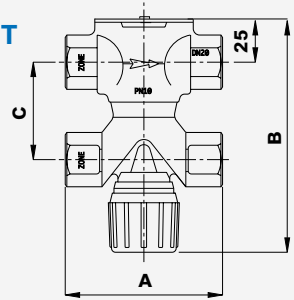
DN	A	B	C
3/4"	90	61	25
1.	100	61	25
1.1/4"	103	59	25

560T



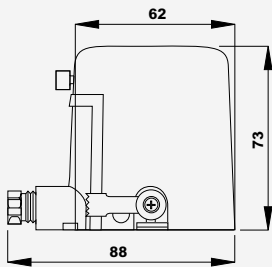
DN	A	B	C
3/4"	90	78	25
1"	100	78	25

561T

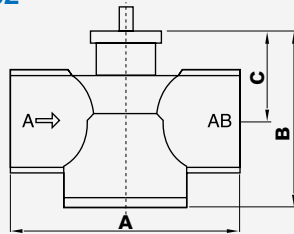


DN	A	B	C
3/4"	90	130	50
1"	100	140	60

580T

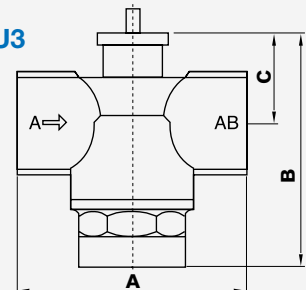


VU02



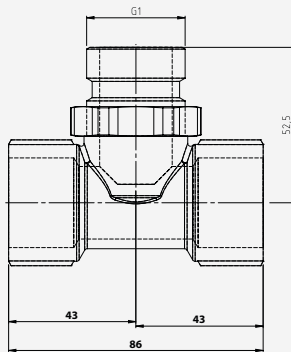
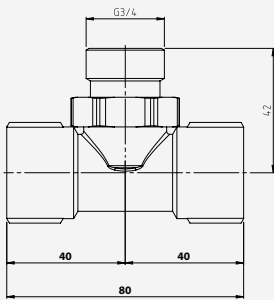
DN	A	B	C
3/4"	78	61	30
1"FF	83	61	30

VU3

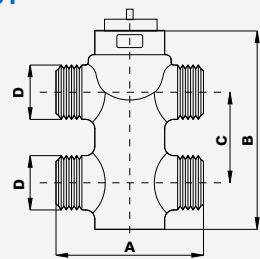


DN	A	B	C
3/4"FF	78	77	30
1"FF	83	77	30

VU4



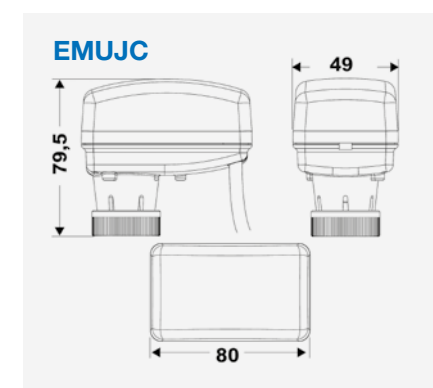
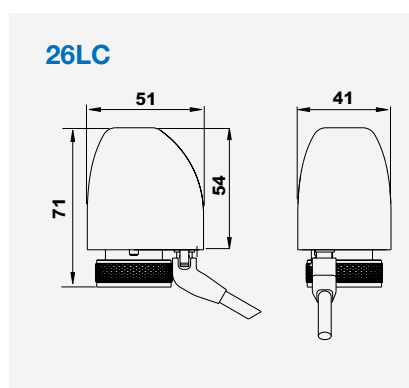
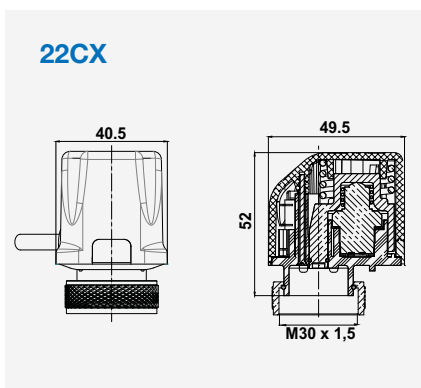
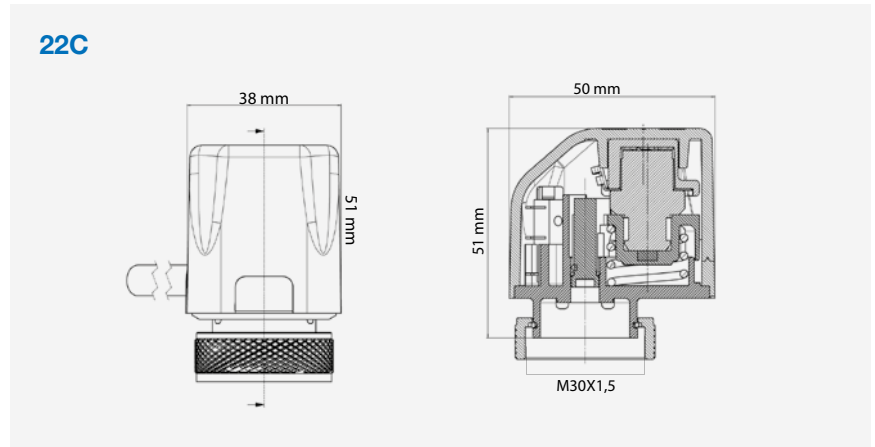
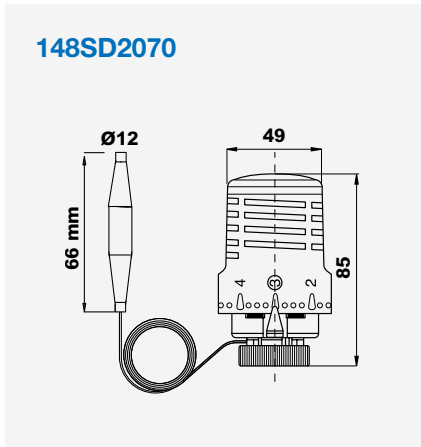
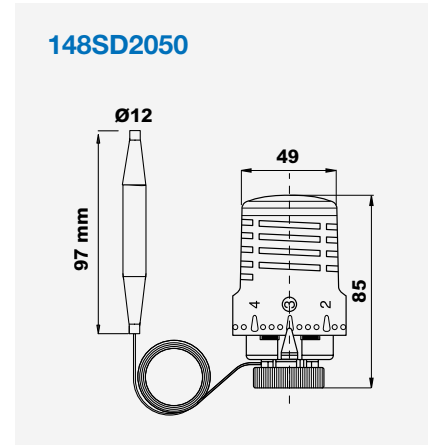
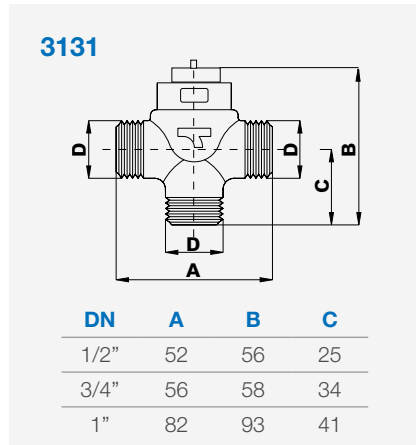
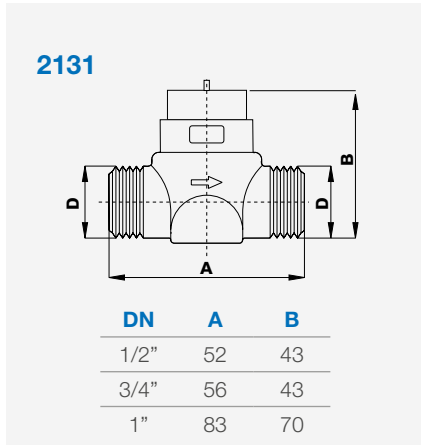
4131



DN	A	B	C
1/2"	52	83	35
3/4"	56	96	50

5

OVERALL DIMENSIONS



OVERALL DIMENSIONS

ETE

E807M

DN	Side outlets	L
3/4"	2	92
3/4"	3	127
3/4"	4	162

805M

DN	DL	L	A	B	C	D
3/4"	2x1/2"	98	28.5	35	34.5	28
3/4"	3x1/2"	133	28.5	35	34.5	28
3/4"	4x1/2"	168	28.5	35	34.5	28
1"	2x1/2"	97	24	35	38	33
1"	3x1/2"	132	24	35	38	33
1"	4x1/2"	167	24	35	38	33
1"	2x1/2"	114.5	24.5	50	41	33
1"	3x1/2"	164.5	24.5	50	41	33
1"	4x1/2"	214.5	24.5	50	41	33
1"	2x3/4"	114.5	24.5	50	41	33
1"	3x3/4"	164.5	24.5	50	41	33
1"	4x3/4"	214.5	24.5	50	41	33
1.1/4"	3x1/2"	168.5	27.5	50	41	36
1.1/4"	4x1/2"	218.5	27.5	50	41	36
1.1/4"	3x3/4"	168.5	27.5	50	41	36
1.1/4"	4x3/4"	218.5	27.5	50	41	36

822MM/822MME

DN	L	L	L	A	B	C	D	E
		2 Outlets	3 Outlets	4 Outlets				
3/4"	115	165	215	37.5	50	27.5	29	72
1"	115	169	215	40	50	24.5	33	80
1.1/4"	-	169	219	41	50	24.5	33	86

822MR/822MRE

DN	L	L	L	A	B	C	D	E
		2 Outlets	3 Outlets	4 Outlets				
3/4"	115	165	215	37.5	50	27.5	29	72
1"	115	169	215	40	50	24.5	33	72
1.1/4"	-	169	219	41	50	27.5	36	77

807M

DN	Side outlets	L
3/4"	2	80
3/4"	3	115
3/4"	4	150

FLMR/FLMRE/FL

DN	L	L	L	A	B	C	D	E
		2 Outlets	3 Outlets	4 Outlets				
1"	114	164	214	40	50	24.5	33	72
1.1/4"	-	168	218	41	50	27.5	36	77

OVERALL DIMENSIONS

210

DN	A	B	C
1/2"	46	50	76
3/4"	46	53	94
1"	66	65	109
1.1/4"	66	70	128

HKV 2013-VA

No. of outlets	L
2	160
3	210
4	260
5	310
6	360
7	410
8	460
9	510
10	560
11	610
12	660

825M

DN	Side outlets	L	A	B	C	D	E	F
3/4"	2 x 2	125	45	35	31	50	18	28.5
3/4"	4 x 4	195	45	35	31	50	18	28.5
3/4"	6 x 6	265	45	35	31	50	18	28.5
3/4"	8 x 8	335	45	35	31	50	18	28.5
1"	4 x 4	215	55	35	34	60	21	35.5
1"	6 x 6	285	55	35	34	60	21	35.5
1"	8 x 8	355	55	35	34	60	21	35.5
1"	10 x 10	425	55	35	34	60	21	35.5

823MT

DN	A	B	C	D
1"	61.5	42	19.5	49
1.1/4"	63.5	42	19.5	49

209

238

DN	A	B
1/4"	28	47
3/8"	28	47

823MP

DN	A	B	C	D	E
1\"/>					

210

DN	A	B	C
1/2"	46	50	76
3/4"	46	53	94
1"	66	65	109
1.1/4"	66	70	128

290

DN	A	B
1/8"	25	60
1/2"	30	75
3/8"	40	90

OVERALL DIMENSIONS

