



**3 / VALVES**

## BALL VALVES



### CONSTRUCTIVE FEATURES

All of Luxor ball valves are manufactured in CW 617 N brass and compatible with Luxor manifolds and components. Given the wide range of dimensions and models, they suit a variety of application needs.

Luxor ball valves' pivot pin is installed from the inside. This system, known as "explosion-proof", prevents the pivot pin and its sealing system from escaping, while making external tampering impossible as well. Ball valves feature two elastomeric O-ring seals, chosen for their high resistance to ageing. As prescribed by Italian decree on drinking water supply D.M. 174/2004, the valves are machined after the nickel-plating phase, thus ensuring hygiene and an appreciable aesthetic result.

### TECHNICAL DATA



Max temperature

90 °C



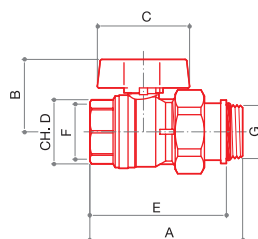
Max pressure

10 bar



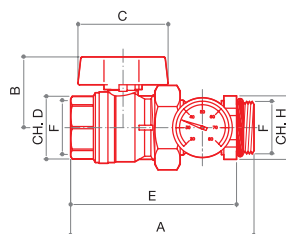
Materials

CW617N



Nickel plated full-flow ball valve, blue or red handle, with fitting article CR 498 with o-ring for connection to manifold.

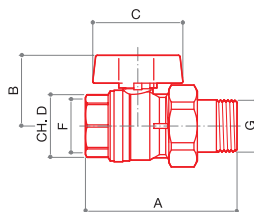
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559772B	G 1/2	69	40	48	25	61	G 1/2	G 1/2	-	-	210	10	80
68559772R	G 1/2	69	40	48	25	61	G 1/2	G 1/2	-	-	210	10	80
68559805B	G 3/4	90	39	60	33	80	G 3/4	G 3/4	-	-	370	10	80
68559805R	G 3/4	90	39	60	33	80	G 3/4	G 3/4	-	-	370	10	80
68559807B	G 1"	89	43	60	41	78	G 1"	G 1"	-	-	467	5	40
68559807R	G 1"	89	43	60	41	78	G 1"	G 1"	-	-	467	5	40
68559825B	G1"1/4	123	53	72	50	109	G 1"1/4	G 1"1/4	-	-	907	3	24
68559825R	G1"1/4	123	53	72	50	109	G 1"1/4	G 1"1/4	-	-	907	3	24



### VC 471/A

Ball valve with blue or red handle and thermometer (range 0 °C÷80 °C) for connection to manifolds series CD.

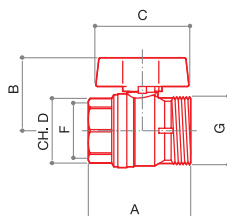
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559800B	G 1"	115	43	60	41	104	G 1"	-	37	-	562	4	32
68559800R	G 1"	115	43	60	41	104	G 1"	-	37	-	562	4	32



**VC 472**

Nickel plated full-flow ball valve, with blue or red handle and fitting.

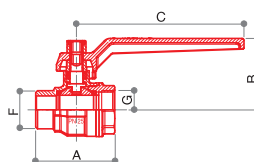
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559774B	G 1/2	73	40	48	25	-	G 1/2	G 1/2	-	-	205	10	80
68559774R	G 1/2	73	40	48	25	-	G 1/2	G 1/2	-	-	205	10	80
68559806B	G 3/4	91	39	60	33	-	G 3/4	G 3/4	-	-	365	10	80
68559806R	G 3/4	91	39	60	33	-	G 3/4	G 3/4	-	-	365	10	80
68559808B	G 1"	95	43	60	41	-	G 1"	G 1"	-	-	487	5	40
68559808R	G 1"	95	43	60	41	-	G 1"	G 1"	-	-	487	5	40
68559818B	G1"1/4	126	53	72	50	-	G 1"1/4	G 1"1/4	-	-	904	3	24
68559818R	G1"1/4	126	53	72	50	-	G 1"1/4	G 1"1/4	-	-	904	3	24



**VC 475**

Nickel plated full-flow ball valve, without pipe union, with blue or red handle.

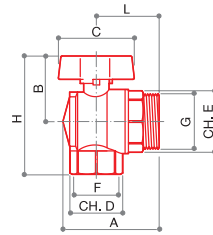
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559770B	G 1/2F x G 3/4M	45	40	48	25	-	G 1/2	G 1/2	-	-	138	10	80
68559770R	G 1/2F x G 3/4M	45	40	48	25	-	G 1/2	G 1/2	-	-	138	10	80
68559811B	G 3/4F x G 1"M	59	39	60	33	-	G 3/4	G 1"	-	-	252	10	80
68559811R	G 3/4F x G 1"M	59	39	60	33	-	G 3/4	G 1"	-	-	252	10	80
68559809B	G 1"F x G1"1/4M	61	43	60	41	-	G 1"	G 1"1/4	-	-	311	5	40
68559809R	G 1"F x G1"1/4M	61	43	60	41	-	G 1"	G 1"1/4	-	-	311	5	40
68559804B	G1"1/4F x G1"1/2M	87	53	72	50	-	G 1"1/4	G 1"1/2	-	-	666	3	24
68559804R	G1"1/4F x G1"1/2M	87	53	72	50	-	G 1"1/4	G 1"1/2	-	-	666	3	24



**VC 476**

Nickel plated full-flow ball valve, without pipe union, with blue or red lever.

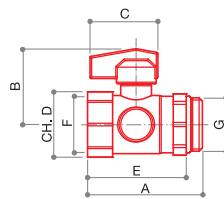
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559829B	G 1"1/2	91	75	150	-	-	G 1"1/2	G 1"1/2	-	-	1400	2	16
68559829R	G 1"1/2	91	75	150	-	-	G 1"1/2	G 1"1/2	-	-	1400	2	16



**VS 470**

Nickel plated full-flow ball valve, without pipe union, with blue or red handle.  
\*ARTICLE DISCONTINUED.

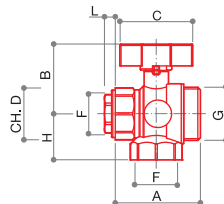
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559810B	G 1" F x G 1" 1/4 M	72	50	57	39	43	G 1"	G 1" 1/4	90	47	582	5	40
68559810R	G 1" F x G 1" 1/4 M	72	50	57	39	43	G 1"	G 1" 1/4	90	47	582	5	40
68559776B*	G 1" 1/4 F x G 1" 1/2 M	-	-	-	-	-	G 1" 1/4	G 1" 1/2	-	-	810	3	24
68559776R*	G 1" 1/4 F x G 1" 1/2 M	-	-	-	-	-	G 1" 1/4	G 1" 1/2	-	-	810	3	24



**VCG 480**

Nickel-plated ball valve with swivel male and blue or red handle.

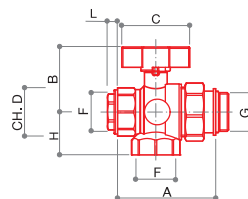
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559719B	G 1"	71	42	42	38	61	G 1"	G 1"	-	-	368	5	40
68559719R	G 1"	71	42	42	38	61	G 1"	G 1"	-	-	368	5	40



**VCS 476**

Straight and angle nickel plated ball valve with blue or red handle.

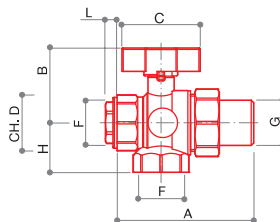
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559711B	G 1" F x G 1" 1/4 M	66,5	55	62	38	-	G 1"	G 1" 1/4	36	9	510	5	40
68559711R	G 1" F x G 1" 1/4 M	66,5	55	62	38	-	G 1"	G 1" 1/4	36	9	510	5	40



**VCS 478**

Straight and angle nickel plated ball valve with red/blue handle and fitting CR 498 with o-ring for connection to manifold.

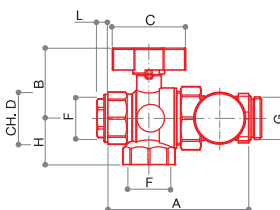
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559715B	G 1"	82	55	62	38	-	G 1"	G 1"	36	9	658	5	40
68559715R	G 1"	82	55	62	38	-	G 1"	G 1"	36	9	658	5	40



**VCS 477**

Straight and angle nickel-plated ball valve with blue or red handle and fitting.

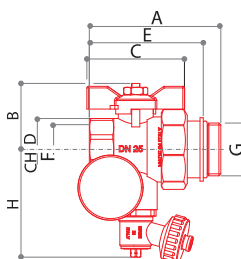
CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559713B	G 1"	99	55	62	38	-	G 1"	G 1"	36	9	684	5	40
68559713R	G 1"	99	55	62	38	-	G 1"	G 1"	36	9	684	5	40



**VCS 479**

Straight and angle nickel-plated ball valve with blue or red handle and thermometer (range 0 °C ÷ 80 °C) for manifolds series CD.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559717B	G 1"	110	55	62	38	-	G 1"	G 1"	36	9	766	4	32
68559717R	G 1"	110	55	62	38	-	G 1"	G 1"	36	9	766	4	32



**VC 481**

Multipurpose water inlet ball valve with manual air vent, blue or red butterfly handle and CR 498 fitting with O-ring for manifold connection, complete with 0°C ÷80°C thermometer.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68559722B	G 1"	81	41	60	38	70	G 1"	G 1"	70	-	645	4	32
68559722R	G 1"	81	41	60	38	70	G 1"	G 1"	70	-	645	4	32

## BYPASS VALVES FOR HEATING SYSTEMS



### TECHNICAL DATA



Brass parts  
materials  
CW614N



Gaskets OR  
EPDM



Spring  
AISI 302

### FUNCTION

Bypass valves are essential in all distribution systems with 2-way zone valves or heating bodies with adjustment valves, which enable, under certain circumstances, to bypass a circuit.

The recirculation guaranteed by the valve prevents the pump from working under improper conditions, thus avoiding imbalances among circuits operating in parallel and annoying noise caused by the increased speed of the fluid flowing through the adjustment devices.

Bypass valves VB 755 was specifically designed to be easily used with Luxor manifolds and their accessories.

This bypass valve can be installed on a variety of devices, the only requirement is the presence of two opposed G 1/2 female threads.

### INSTALLATION INSTRUCTIONS

Insert the bypass valve between the inlet and the outlet pipe, downstream of the circulation pump.

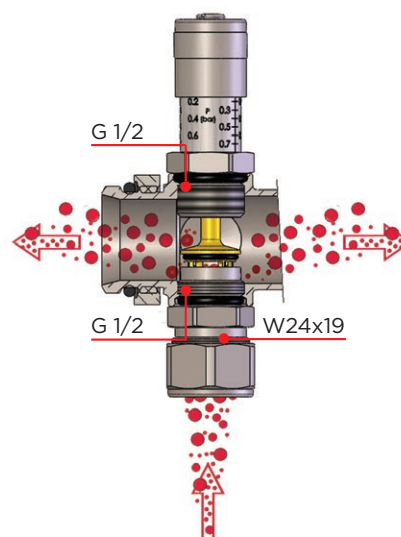
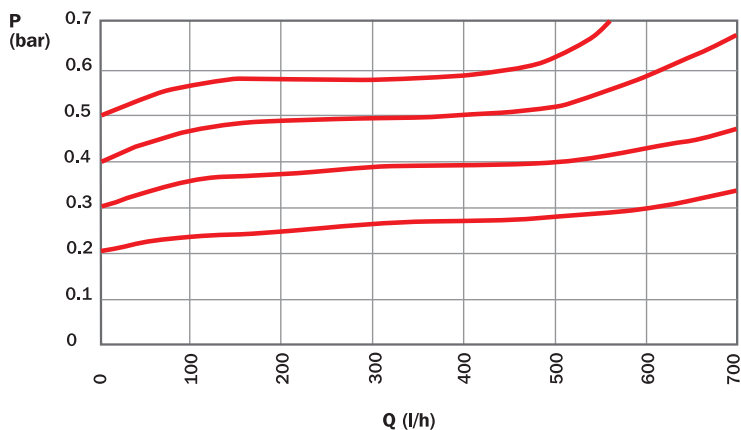
As shown in the above picture, the valve consists of two parts:

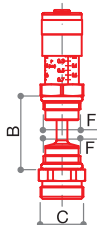
- valve seat with inlet fitting;
- adjusting element with scale from 0,2 to 0,7 bar.

Please note: the fitting must be exclusively installed on the fluid inlet side.

### ADJUSTMENT

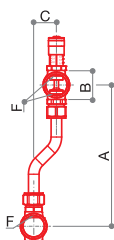
Turn the knob until the edge is aligned with the required value on the graduated scale marked on the valve body.





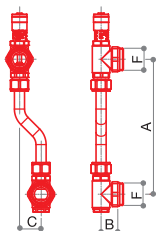
**VB 755**  
Bypass valve.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68512109	CD G 1"	-	41	W24x19	-	-	G 1/2	-	-	-	158	10	80
68512110	CD G 1"1/4	-	51	W24x19	-	-	G 1/2	-	-	-	182	10	80



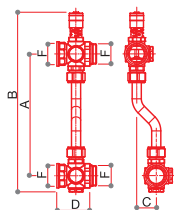
**VB 750**  
Bypass valve.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68512101	CD G 1" x 200 mm	200	41	32	-	-	G 1/2	-	-	-	330	8	64
68512115	CD G 1" x 250 mm	250	41	32	-	-	G 1/2	-	-	-	350	8	64
68512102	CD G 1"1/4 x 200 mm	200	51	32	-	-	G 1/2	-	-	-	330	8	64



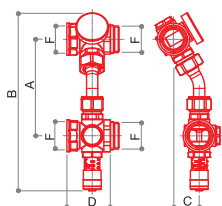
**VB 751**  
Bypass valve with terminals for manifolds.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68512103	G 1" x 200 mm	200	25	32	-	-	G 1"	-	-	-	400	5	40
68512116	G 1" x 250 mm	250	25	32	-	-	G 1"	-	-	-	420	4	32



**VB 752**  
Bypass valve with pipe unions for ball valve with or without thermometer.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68512105	G 1" x 200 mm	200	295	32	54	-	G 1"	-	-	-	766	3	24
68512117	G 1" x 250 mm	250	295	32	54	-	G 1"	-	-	-	820	3	24



**VB 753**  
Bypass valve kit for high temperature GM 1192.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68512108	G1"	120	223	32	54	-	G 1"	-	-	-	784	3	24



## AIR VENT VALVES



### TECHNICAL DATA

Max temperature	Max temperature (solar system version)	Max pressure	Max discharge pressure
110 °C	200 °C	10 bar	6 bar

### INSTALLATION AND USE

VS air vent valves boast an excellent air flow rate and are essential to release air bubbles from heating systems. Whilst providing a high air flow capacity, their compact size enables to install VS air vent valves on gas wall-hung boilers as well as on manifolds and wherever air needs to be released from piping.

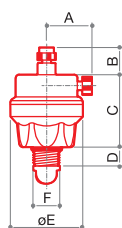
The valve allows for full air evacuation either automatically or manually, depending on the model.

The valve shall be installed in an upright position at all points in the heating system where air is likely to collect.

In order for automatic valves to operate, the brass plug shall be loosened.

When combined with check valve VS 605, automatic air vent valves may be removed without draining the system.

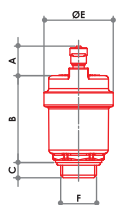
Automatic air vent valves are also available in a version for solar systems with a maximum operating temperature of 200°C.



### VS 602

G 3/8 automatic and manual float air vent valve reduced type. Nickel plated.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
67790310N	G 3/8	25	15	40	10	40	G 3/8	-	-	-	148	15	120

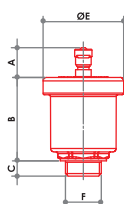


### VS 604/A

Automatic air vent valve.



CODE	SIZE	FINISH	A	B	C	D	E	F	G	H	L			
67790300	G 3/8	YELLOW	17	50	9	-	40	G 3/8	-	-	-	138	10	100
67790700	G 1/2	YELLOW	17	50	9	-	40	G 1/2	-	-	-	138	10	100
67790300N	G 3/8	NICKEL PLATED	17	50	9	-	40	G 3/8	-	-	-	138	10	100
67790700N	G 1/2	NICKEL PLATED	17	50	9	-	40	G 1/2	-	-	-	138	10	100



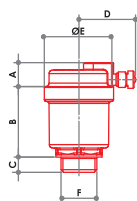
### VS 601

Automatic air vent valve medium type.






CODE	SIZE	A	B	C	D	E	F	G	H	L			
67790117	G 3/8	17	50	9	-	46	G 3/8	-	-	-	154	10	100
67790121	G 1/2	17	50	9	-	46	G 1/2	-	-	-	154	10	100
67790127	G 3/4	17	50	9	-	46	G 3/4	-	-	-	154	10	100

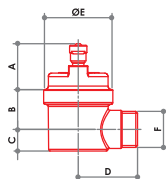


**VS 603**

Automatic air vent valve with side discharge.




Testing  
100%

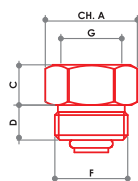
CODE	SIZE	A	B	C	D	E	F	G	H	L			
67790417	G 3/8	14	41	9	34	40	G 3/8	-	-	-	160	10	100
67790421	G 1/2	14	41	9	34	40	G 1/2	-	-	-	160	10	100

**VS 606**

Automatic air vent valve with side discharge.

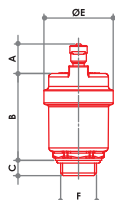
Testing  
100%




CODE	SIZE	A	B	C	D	E	F	G	H	L			
67790517	G 3/8	27	23	13	35	40	G 3/8	-	-	-	162	10	100
67790521	G 1/2	27	23	13	35	40	G 1/2	-	-	-	162	10	100

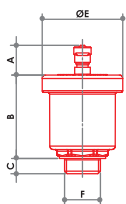
**VS 605**

Check valve for automatic air vent valve.

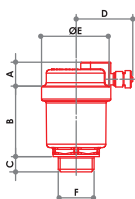
CODE	SIZE	FINISH	A	B	C	D	E	F	G	H	L			
67791200	G 3/8F x G 3/8M	YELLOW	19	-	12	9	-	G 3/8	G 3/8	-	-	18	100	800
67791400	G 3/8F x G 1/2M	YELLOW	23	-	12	9	-	G 1/2	G 3/8	-	-	40	100	800
67791600	G 1/2F x G 1/2M	YELLOW	23	-	12	9	-	G 1/2	G 1/2	-	-	30	100	800
67791200N	G 3/8F x G 3/8M	NICKEL PLATED	19	-	12	9	-	G 3/8	G 3/8	-	-	18	100	800
67791400N	G 3/8F x G 1/2M	NICKEL PLATED	23	-	12	9	-	G 1/2	G 3/8	-	-	40	100	800
67791600N	G 1/2F x G 1/2M	NICKEL PLATED	23	-	12	9	-	G 1/2	G 1/2	-	-	30	100	800

**VS 604/S**Automatic air vent valve.  
200°C - 10 bar.Testing  
100%

CODE	SIZE	A	B	C	D	E	F	G	H	L			
67791017	G 3/8	17	50	9	-	40	G 3/8	-	-	-	138	10	100
67791021	G 1/2	17	50	9	-	40	G 1/2	-	-	-	138	10	100




**VS 601/S**Automatic air vent valve medium type.  
200°C - 10 bar.Testing  
100%

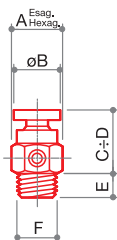
CODE	SIZE	A	B	C	D	E	F	G	H	L			
67790817	G 3/8	17	50	9	-	46	G 3/8	-	-	-	154	10	100
67790821	G 1/2	17	50	9	-	46	G 1/2	-	-	-	154	10	100
67790827	G 3/4	17	50	9	-	46	G 3/4	-	-	-	154	10	100

**VS 603/S**

Automatic air vent valve with side discharge. 200°C - 10 bar.




Testing  
100%

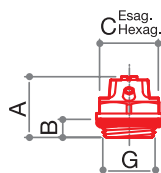
CODE	SIZE	A	B	C	D	E	F	G	H	L			
67790917	G 3/8	14	41	9	34	40	G 3/8	-	-	-	160	10	100
67790921	G 1/2	14	41	9	34	40	G 1/2	-	-	-	160	10	100

**VS 610**

Manual air vent valve with brass hand-wheel.




Testing  
100%

CODE	SIZE	A	B	C	D	E	F	G	H	L			
67793000	G 1/8	13	14	20	23	7	G 1/8	-	-	-	20	100	800
67793500	G 1/4	13	14	17	19	7	G 1/4	-	-	-	20	100	800
67794000	G 3/8	16	14	17	19	7	G 3/8	-	-	-	30	100	800

**VS 620**

Manual air vent valve with white ABS upper part, o-ring on thread, rotating drain.

Testing  
100%

CODE	SIZE	A	B	C	D	E	F	G	H	L			
67795417	G 3/8	21	7	19	-	-	-	G 3/8	-	-	21	100	800
67795421	G 1/2	21	8	22	-	-	-	G 1/2	-	-	24	100	800

**CH 620**





Butterfly key for valve VS 620.

CODE	SIZE			
67795400	-	1	200	-

## RELIEF VALVES



## TECHNICAL DATA

			
Temperature range	Operating pressure	Opening overpressure	Blowdown
5 ÷ 110 °C	according to setting	20%	20%

## CONSTRUCTIVE FEATURES

Relief valves are used to control pressure in heat generators in heating systems and hot water build-ups in sanitary installations and water facilities. Once the set pressure is reached, the valve opens and discharges in the atmosphere, thus preventing the pressure in the system to rise to levels which may be dangerous for its components.

## OPERATING PRINCIPLE

The obturator is opposed by a C72 steel calibrated spring which is preloaded according to the set pressure chosen depending on the system's maximum allowable operating pressure. Once the set pressure is reached, the obturator rises and opens the outlet completely. If the pressure decreases, the valve closes within the set tolerance values.

The diameter of the outlet connection shall be equal to the valve size or higher, so as to facilitate the needed discharge of potential.

According to Italian standards, ordinary relief valves may be installed on generators with a potential of less than 35 kW.

## INSTALLATION

Relief valves may be installed either vertically or horizontally, but not upside down, in order to prevent impurities from depositing and causing malfunctioning.

Relief valves must be installed on the top of the generator, on the nearest inlet pipe or within the maximum distance prescribed by applicable standards. No shut-off valve shall be installed between the relief valve and the generator.

The valve must be sized properly before the installation in accordance with existing regulations governing specific applications. Relief valves shall not be employed for purposes other than their intended use.




Relief valves must be installed by qualified technical personnel in accordance with current regulations.

The relief valve must be installed respecting the direction of flow shown by the arrow on the valve body.



## VS 910




Ordinary relief valve with diaphragm  
1/2 x 1/2 F/F.

CODE	SIZE	bar			
67795001	1/2 x 1/2 F/F	1,5	110	10	100
67795002		1,8	110	10	100
67795003		2	110	10	100
67795004		2,5	110	10	100
67795005		3	110	10	100
67795006		3,5	110	10	100
67795007		4	110	10	100
67795008		5	110	10	100
67795009		6	110	10	100
67795010		7	110	10	100
67795011		8	110	10	100
67795012		10	110	10	100






## VS 911

Ordinary relief valve with diaphragm  
1/2 x 1/2 M/F.

CODE	SIZE	bar			
67795014	1/2 x 1/2 M/F	1,5	120	10	100
67795015		1,8	120	10	100
67795016		2	120	10	100
67795017		2,5	120	10	100
67795018		3	120	10	100
67795019		3,5	120	10	100
67795020		4	120	10	100
67795021		5	120	10	100
67795022		6	120	10	100
67795023		7	120	10	100
67795024		8	120	10	100
67795025		10	120	10	100




**VS 920**

Ordinary relief valve with diaphragm  
3/4 x 3/4 F/F.

CODE	SIZE	bar			
67795027	3/4 x 3/4 F/F	1,5	170	10	100
67795028		1,8	170	10	100
67795029		2	170	10	100
67795030		2,5	170	10	100
67795031		3	170	10	100
67795032		3,5	170	10	100
67795033		4	170	10	100
67795034		6	170	10	100
67795035		7	170	10	100
67795036		8	170	10	100
67795037	10	170	10	100	




**VS 930**

Ordinary relief valve with diaphragm 1"  
x 1" F/F.

CODE	SIZE	bar			
67795039	1" x 1" F/F	1,5	250	10	100
67795040		1,8	250	10	100
67795041		2,5	250	10	100
67795042		3	250	10	100
67795043		4	250	10	100
67795044		6	250	10	100




**VS 912**

Ordinary relief valve with diaphragm  
1/2 x 1/2 F/F with 1/4 socket for  
manometer.

CODE	SIZE	bar			
67795046	1/2 x 1/2 F/F	1,5	130	10	100
67795047		1,8	130	10	100
67795048		2	130	10	100
67795049		2,5	130	10	100
67795050		3	130	10	100
67795051		3,5	130	10	100
67795052		4	130	10	100
67795053		6	130	10	100

**VS 913**

Ordinary relief valve with diaphragm  
1/2 x 1/2 M/F with 1/4 socket for  
manometer.

CODE	SIZE	bar			
67795055	1/2 x 1/2 M/F	1,5	135	10	100
67795056		1,8	135	10	100
67795057		2	135	10	100
67795058		2,5	135	10	100
67795059		3	135	10	100
67795060		3,5	135	10	100
67795061		4	135	10	100
67795062		6	135	10	100

## THERMOSTATIC MIXING VALVE



### TECHNICAL DATA

Maximum inlet temperature 85 °C	Max static pressure 10 bar	Max dynamic pressure 5 bar	Max differential pressure between the inlets 0.5 bar
Adjustment range 30 °C ÷ 65 °C	Adjustment tolerance ± 2 °C	Press-forged parts materials CW617N UNI EN 12165:2016	Stainless steel parts materials AISI 302
			Gaskets OR EPDM

### CONSTRUCTIVE FEATURES

Press-forged parts consist of brass with limited lead content in compliance with the current regulations: CW617N UNI EN 12165:2016.

All o-rings are produced in peroxide cured EPDM.

Stainless steel components in AISI 302.

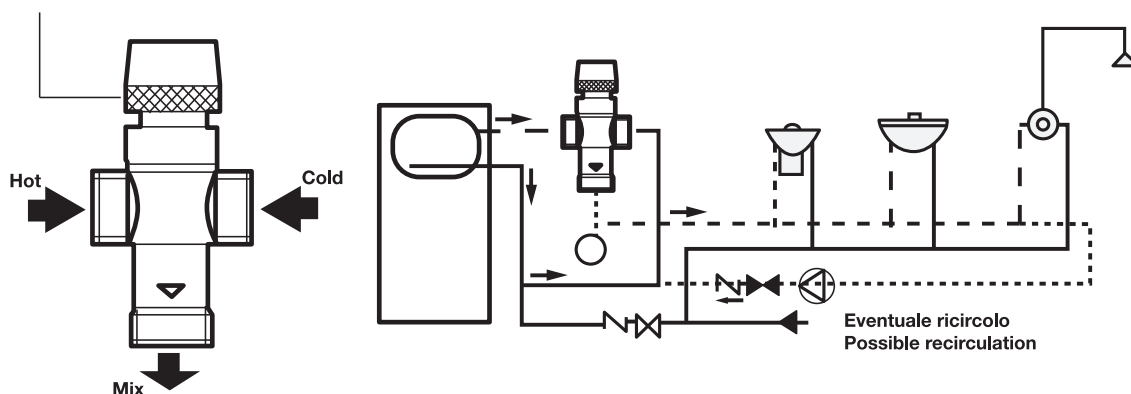
Wax thermosensitive element.

### APPLICATIONS

Thanks to its thermostatic element, the thermostatic mixing valve allows to maintain a constant pre-set water temperature in case of pressure and temperature variation at the inlets.

Its use is of great importance in distribution systems for sanitary water, where it is vital to prevent high temperature water coming from the boiler from causing burns to the users. The mixing valve is provided with a built-in anti-scald device which immediately stops the flow if cold water pressure drops.

Dado blocco manopola  
Handle locking nut



### FUNCTION

The thermostatic mixing valve can be installed either vertically or horizontally.

Observe the connections shown on the body and in the picture:

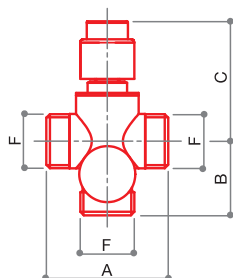
- Hot (H) red dot: Hot Water
- Cold (C) blue dot: Cold Water
- Mix: Mixed Water

If the water pressure is higher than 5 bar, it is advisable to

install a pressure reducer.

If the difference of temperature between hot and cold water is considerably different, it is advisable to install check valves on the inlets. If there is dirt in the water supply, it is advisable to install filters art. RF 5008.

The valve can lock the set temperature simply by turning the nut towards the body. The screw is placed under the handle, in order to prevent tampering.



### VM 660

Thermostatic mixing valve with mixing on the third way.

Integrated wax sensor with regulation range 30 °C ± 65 °C. In compliance with D.M. 174/2004.



CODE	SIZE	A	B	C	D	E	F	G	H	L			
68753420	G 1"	74	45	65	-	-	G 1"	-	-	-	690	1	-

## MIXING VALVE



### APPLICATIONS

The 3-way valve VM 652 can be used as a diverter or mixing valve in heating and air conditioning systems using water or water-glycol **max** 30%.

The valve VM 650 is specifically intended for use in radiant panel heating systems. It works similarly to a 2-way thermostatic valve with an open bypass on the return from the radiant panel. The way B-AB is always open.

3-way valves series VM are usually open and can be used in combination with the thermostatic valve art. TT 2351 as fixed point mixers in heating systems, or electrically controlled with heads series TE and actuators series SM.

### SPECIAL FEATURES

VM valves offer:

- high Kvs values;
- a precise modulation thanks to the stroke and shape of the obturator, which can immediately open both the direct passage and the bypass, thus securing flow modulation all along the stroke. (VM 652)
- very low leakage even when used in systems with high differential pressure.

### TECHNICAL DATA

Maximum allowed leakage with max ΔP

- 0.05% of the Kvs for the straight passage
- 0.1% of the Kvs for the bypass

Kvs through the lower bypass around 30% of the straight passage

Way A-AB flow Kvs 3.5 - maximum allowed ΔP 0.8 bar

Way B-AB flow Kvs 2.6 - maximum allowed ΔP 1.8 bar



Max temperature

120 °C



Max pressure

16 bar



Press-forged parts materials  
CW617N  
UNI EN  
12165:2016



Obturator materials  
CW614N  
UNI EN  
12164:2016



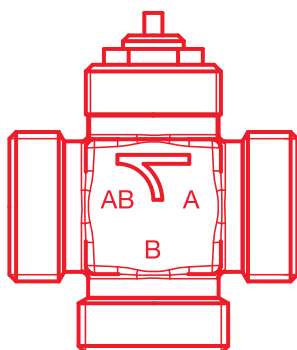
Stainless steel parts materials  
AISI 303



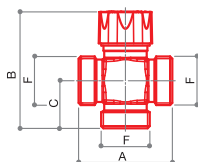
Gaskets OR  
EPDM

### FUNCTION

The mixing valves VM650-652 can be installed either vertically or horizontally position. Observe the connections on the body and in the picture.



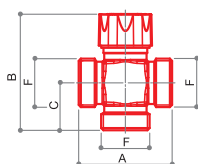
VM 650		VM 652			
MIXING VALVE		MIXING VALVE		DIVERTER VALVE	
A	inlet 1	A	inlet 1	AB	inlet
B	inlet 2	B	inlet 2	A	outlet 1
AB	mixed (bypass way B-AB)	AB	mixed	B	outlet 2
<b>Kvs (m<sup>3</sup>/h)</b>		<b>Kvs (m<sup>3</sup>/h)</b>		<b>Kvs (m<sup>3</sup>/h)</b>	
A-AB = 3,5		A-AB = 3,5		AB-A = 3,9	
B-AB = 2,6		B-AB = 2,6		AB-B = 2,8	
<b>ΔP MAX (bar)</b>		<b>ΔP MAX (bar)</b>		<b>ΔP MAX (bar)</b>	
A-AB = 0,8		A-AB = 0,8		AB-A = 3,5	
B-AB = -		B-AB = 1,8		AB-B = 1	



### VM 650

Thermostatic mixing valve with lateral mixing and bypass.

CODE	SIZE	A	B	C	D	E	F	G	H	L	⚖️	📦	📦
68753411	G 1"	64	80	35	-	-	G 1"	-	-	-	346	1	30



### VM 652

Thermostatic mixing valve with lateral mixing.

CODE	SIZE	A	B	C	D	E	F	G	H	L	⚖️	📦	📦
68753413	G 1"	64	80	35	-	-	G 1"	-	-	-	260	1	30

## DIVERTING ZONE VALVES



### CONSTRUCTIVE FEATURES

VZ diverting zone valves are solid brass valves, specifically designed to be easily and quickly automated through electric actuators; they are compact and can be installed even in 80 mm deep cabinets.

### TECHNICAL DATA

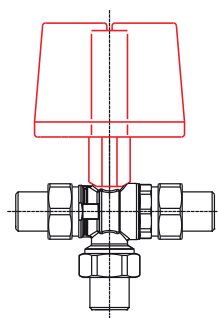
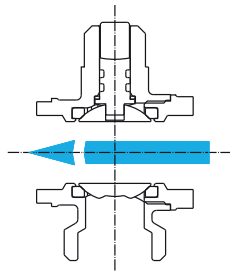
Temperature range (valve)	Temperature range (actuator)	Working pressure
-20 °C ÷ +130 °C	-20 °C ÷ +70 °C	according to model

### HYDRAULIC SCHEMES

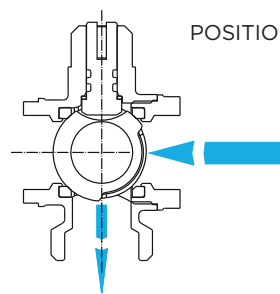
VZ702

Three-way bypass diagram

POSITION 1

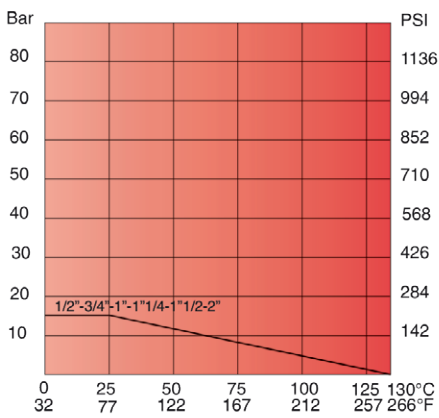


POSITION 2

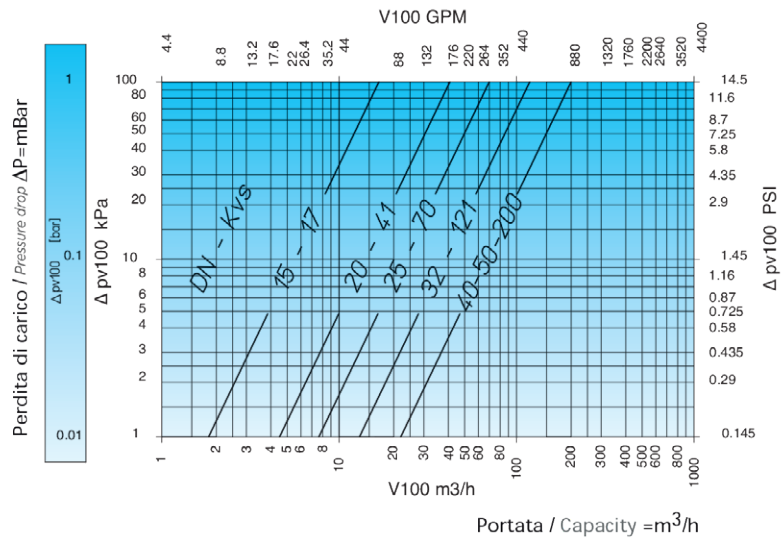


### FLOW RATE CHART

**PRESSURE / TEMPERATURE DIAGRAM**  
(test carried out with water)



**PRESSURE DROP DIAGRAM**  
(for H<sub>2</sub>O applications)





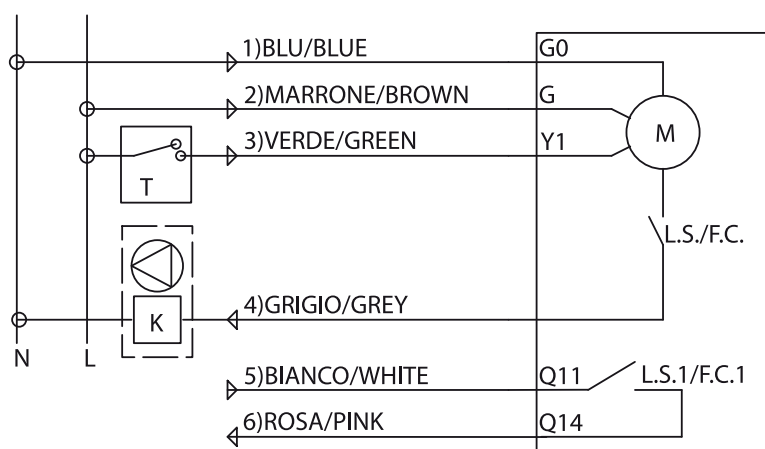
## ACTUATOR FEATURES

<b>Body and cover</b>	Nylon 6
<b>Electric supply</b>	230V 50-60Hz
<b>Power consumption</b>	3,5 Watt
<b>Input signal</b>	2 Points / SPST / On-Off / with internal relay
<b>Torque</b>	13 Nm max
<b>Valve connection</b>	Quick Mounting
<b>Run-time</b>	60 Sec / 90°

<b>Actuator type</b>	Bidirectional
<b>Angle of rotation</b>	90°
<b>Degree of protection</b>	IP54
<b>Working temperature</b>	-20 / +70 °C
<b>Connection</b>	6 wires cable
<b>Output signal</b>	230V 50-60Hz 200VA
<b>Aux. contact</b>	250V 10A (AC1)

## ELECTRICAL CONNECTIONS

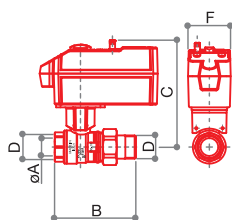
### SM700






- 1 BLUE** - NEUTRAL 230V 50/60Hz  
**2 BROWN** - LINE 230V 50/60Hz (3,5W)  
**3 GREEN** - LINE TO OPEN / NO LINE TO CLOSE  
**4 GREY** - LINE WITH OPEN VALVE  
**5 WHITE** - COMMON AUX. CONTACT  
**6 PINK** - N.O. AUX. CONTACT

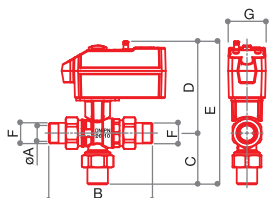
- N** - NEUTRAL (SN)  
**L** - LINE (SP)  
**T** - THERMOSTAT (RELAY)  
**K** - PUMP RELAY  
**F.C.** - LIMIT SWITCH 230VAC 10A (AC1)  
**F.C.1** - AUX. CONTACT 250VAC 10A (AC1)  
**M** - MOTOR

WIRE COLOUR	DIRECTION	DESCRIPTION	CONNECTION
1 BLUE	IN	Neutral	Power supply voltage neutral connection
2 BROWN	IN	Line	Power supply voltage line connection
3 GREEN	IN	Opening / Closing	When power supply voltage line is connected to green wire the valve opens, otherwise the valve closes
4 GREY	OUT	Phase With Opened Valve	With opened valve, presence of phase on grey wire
5 WHITE	COMMON	Limit Switch	Aux.contact switch common
6 PINK	OUT	Limit Switch	Aux.contact switch n.o.



**VZ 700**

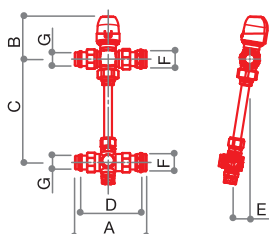
Zone valve F-M with compact electric actuator.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68812700	G 3/4	20	92	121	G 3/4	-	48	-	-	-	1250	1	-
68813400	G 1"	25	105	127	G 1"	-	48	-	-	-	1430	1	-
68814200	G 1 1/4	32	123	133	G 1 1/4	-	48	-	-	-	1720	1	-




**VZ 702**

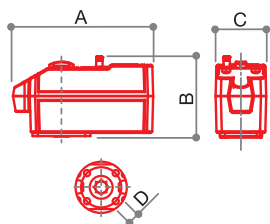
3-way zone valve with bypass on third way, with compact electric actuator.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68822700	G 3/4	20	133	66	118	183	G 3/4	48	-	-	1480	1	-
68823400	G 1"	25	151	70	122	192	G 1"	48	-	-	1950	1	-



**VZ 712**

Diverting kit for manifolds series CD with check valve on the bypass. Max flow 1800 l/h (Kv 3.5).

CODE	SIZE	A	B	C	D	E	F	G	H	L			
68763603	G 1"	138	83	200	118	32	G 1"	G 3/4	-	-	1400	1	8

**SM 700**

Electric actuator for zone valves VZ 700 and VZ 702.

CODE	SIZE	A	B	C	D	E	F	G	H	L			
69011720	230 V - ON/OFF	133	68	48	9	-	-	-	-	-	480	1	-

## DEMAX

### MAGNETIC DIRT SEPARATOR FOR HEATING SYSTEM



Energy-saving issues as well as the rational use of resources are very current topics; therefore it is necessary to keep the heating circuit efficient by using a magnetic dirt separator filter placed on the return pipe to capture the impurities present in the heat carrier fluid and avoid any damage they could cause to the heating system.

This device must be installed on the heating circuit, and once positioned, it is necessary to fill the heating system up again, emptying the air in excess.

The main technical data are:

- It prevents the risk of obstruction of the heating circuit pipes and its components.
- Should the boiler be replaced, the dirt separator filter can be mounted on the new one.

#### TECHNICAL DATA



Max temperature  
65 °C



Room temperature  
+5°C ...+ 50°C



Water working pressure  
1,0 ÷ 2,0 bar



Maximum water pressure  
3,0 bar

Water content in the heating circuit: ~ 0,2 l

Magnet: Ø12x60 mm, 4500 gauss

Width: 101,5 mm

Height: 116,5 mm

Net weight: 175 g

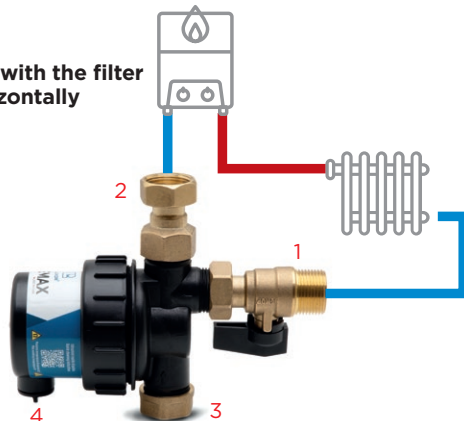
Fittings supplied: G3/4

#### OPERATING SCHEME

The dirt separator filter can be installed in two different ways (horizontally or vertically) in order to be suitable to the majority of the domestic hydraulic circuits already existing as well as the new ones.

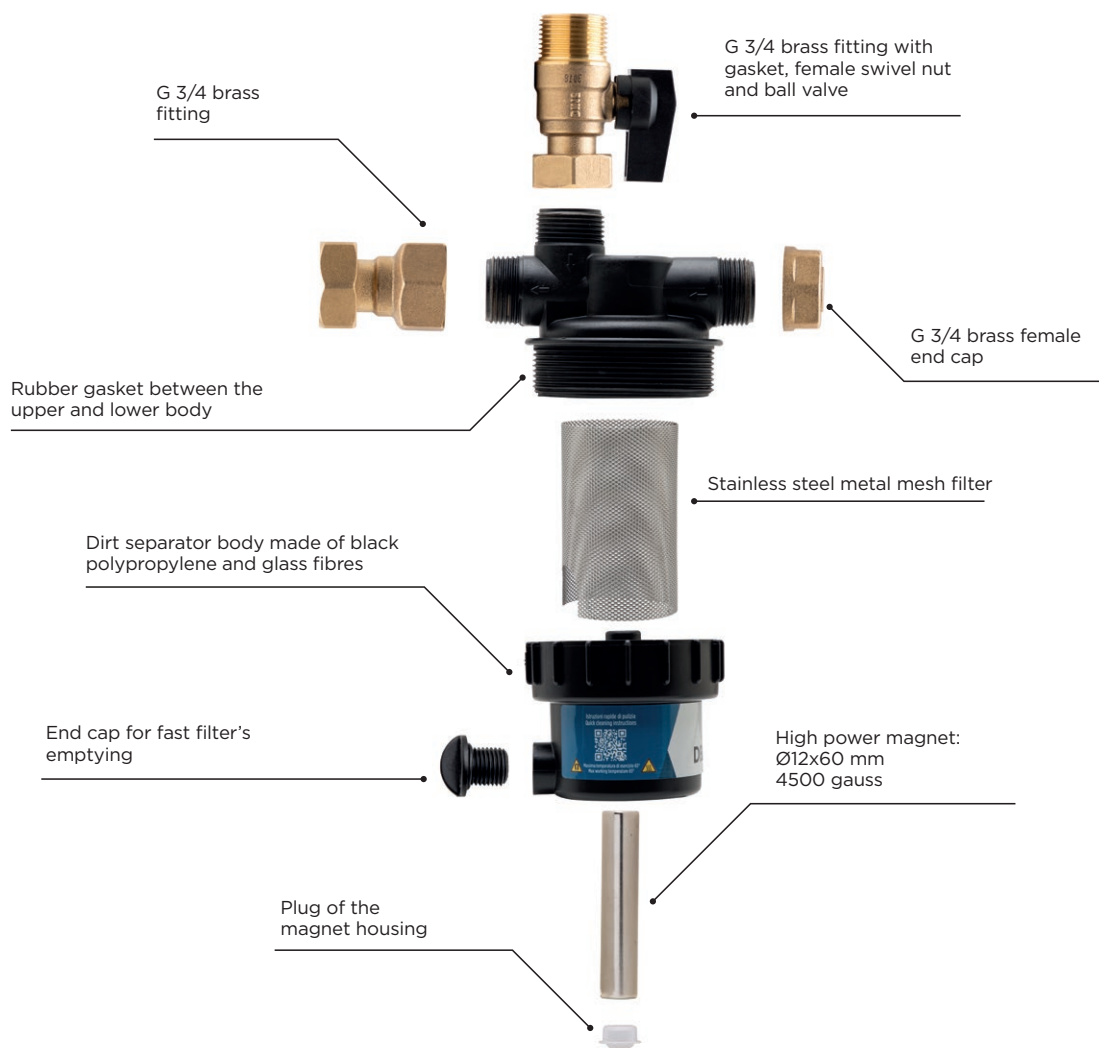
- 1) Heating system return circuit / dirt separator filter inlet
- 2) Dirt separator filter outlet / towards the boiler
- 3) Position of G 3/4 brass female end cap
- 4) Position of M12 grey plastic end cap for filter's emptying.

Installation with the filter placed horizontally



Installation with the filter placed vertically





### OPERATING PRINCIPLE

The water flow returning from the heating system passes through the inlet fitting of the dirt separator filter, then it flows through the internal area where there is the magnet and the stainless steel metal mesh and goes out through the outlet fitting of the dirt separator filter.

## MAGNETIC DIRT SEPARATOR FOR HEATING SYSTEM



### DM 2018

Magnetic dirt separator for heating system.

CODE	SIZE			
68550010	G 3/4	542	1	6

