



Thermal System Solutions



**2024**  
Product Range



## More than 50 years of Innovation, Made in Italy

For over 50 years we have not only been designing and producing Valves ,control systems for heating systems, servomotors and integrated systems, but we also have always been committed to find new solutions and to sha innovative ideas.

We are always present with our products in the international markets, so we monitor constantly the evolution of European Directives , the context where the market needs arise, constantly trying to transform our knowledge into practical solutions.

We are always alongside the manufacturers of HVAC units, designers and installers of thermomechanical plants and heat generators. We are present with our own widespread international network in order to provide customers with the most effective solutions and ensure constantly the wellknown "MUT quality", in the product and in the service.

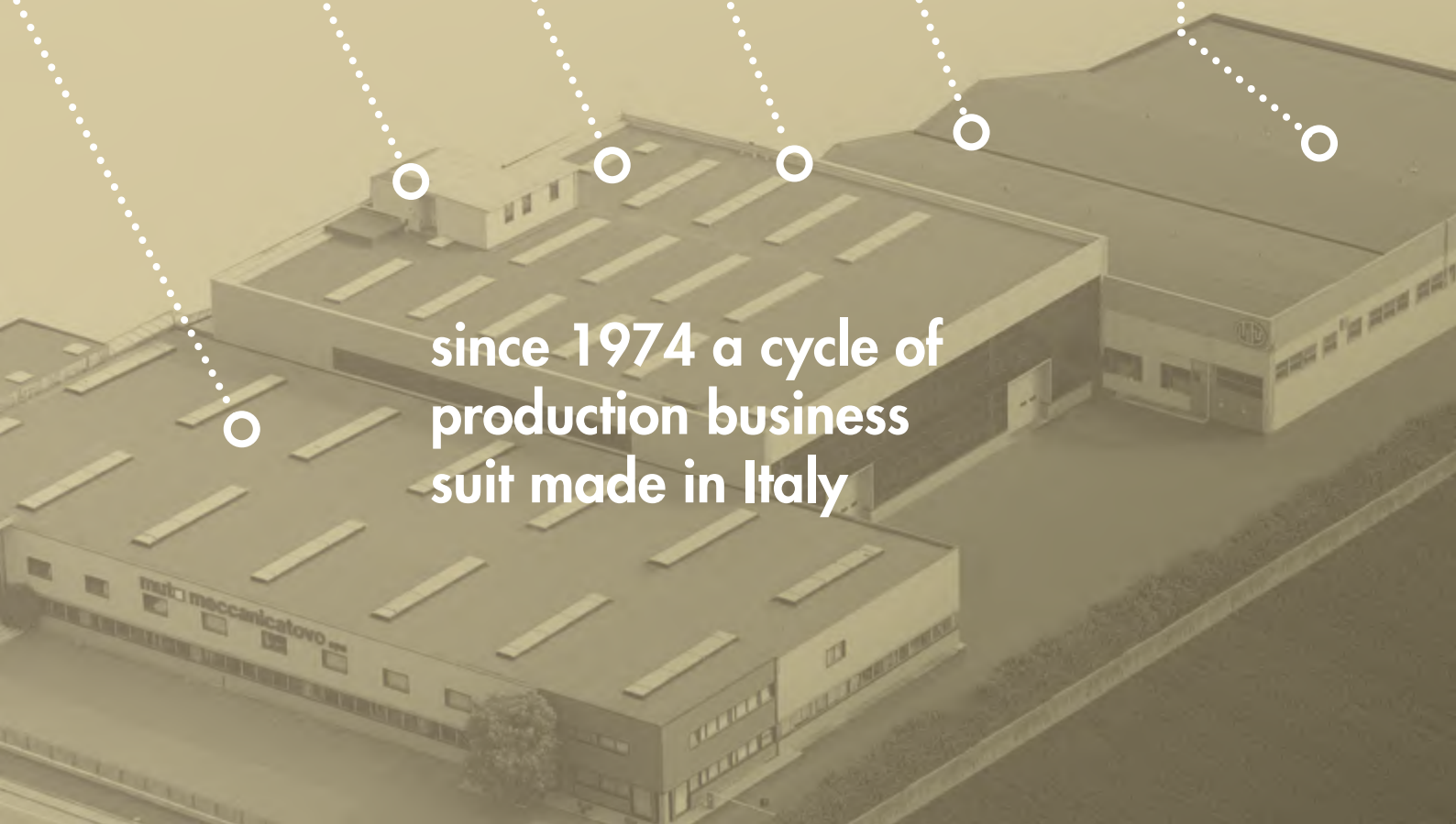


**100%**  
MADE IN  
**ITALY**





since 1974 a cycle of  
production business  
suit made in Italy



# PRODUCT INDEX



1	ZONE VALVES	TMO	VMR	SF	SFC	SFCF	VS	VS3P-L	VS6 MULTIPLE	PAG.	8		
2	MIXER AND DIVERTER VALVES	VM 3000	VM / VF 1000	VM / VDM 2000	VMX	MK	MKDN			PAG.	100		
3	THERMOSTATIC MIXING/DIVERTING VALVES	RA	RAJ	RAW	VTD	N-ICEMUT				PAG.	154		
4	SAFETY VALVES	MSV								PAG.	166		
5	DIVERTER AND PRESSURE VALVES	VDE	VDP	SFS	SBP	SFP	VPR			PAG.	170		
6	CONTROL UNITS	EQUITERM								PAG.	182		
7	“FAN-COIL VALVES”	F2V	FV3	V3B						PAG.	184		
8	BOOSTER UNITS	BOOSTER UNITS GRD/GRM/GRT MANIFOLDS 2+1/3+1		BOOSTER UNITS HP GRD HP/GRMHP/GRT HP DADA DADA X		BOOSTER UNITS HP 1”½ GRD HP/GRM HP/GRT HP ACCESORIES FOR BOOSTER UNITS				PAG.	192		
9	INERTIAL STORAGE	SPACEMUT SPACEMUT X	A24	INERTIAL STORAGE						PAG.	214		
10	AIR/MUD SEPARATORS	DF SUPER COMPACT DS BRASS	DF TOTEM DS STEEL	DF SUPER COMPACT PLUS DF - DF/DS BRASS    DF/DS IS STEEL	DF COMPACT MAGNUM DF STEEL	DF COMPACT DF/DS STEEL	DG GAS SEPARATOR HP DF/DS C STEEL    DF/DS MAMMUT			PAG.	222		
11	HYDRAULIC SEPARATOR	COMBIMUT	ECO/F - ECO/FL - ECO/FX		ECO FLM	MAM-MUT	RP			PAG.	284		
12	MANIFOLDS										PAG.	302	
13	FLANGES-DAMPERS										PAG.	312	
14	WATER HEAT EXCHANGERS										PAG.	318	
15	MUT BIOMASSA	TM 3000	TDA 3000	TM 2000	BLUMUT	BLUMUT COMPACT				PAG.	320		
16	MUT SOLAR HT (HIGH TEMPERATURE)	TDS 3000	RAX	RA	RAJ	KIT SOLAR	VTD	RAW SOLAR	VMR	SF	BOOSTER UNITS GRD SOLAR	PAG.	344
17	MOTOR-VALVE COMPATIBILITY TABLE										PAG.	378	

# ICONS LEGEND

## FIELD OF APPLICATION

HEATING



COOLING



SANITARY



HOT/COLD



SOLAR



BIOMASS



## N° OF WAYS

2 WAYS



3 WAYS



4 WAYS



## FUNCTION

MIXING 3-WAY



MIXING 4-WAY



DIVERTING 3-WAY



INTERCEPTOR



## OPERATION

MANUALLY OPERATED



MOTORIZED



MOTORISABLE



THERMOSTATIC



## TECHNICAL SPECIFICATION

SUPPLY



POWER COSUMPTION



AUXILIARY CONTACTS



WORKING PRESSURE



NOMINAL PRESSURE



DIFFERENTIAL PRESSURE



WORKING FLUID



TEMPERATURE



FLOWS' TEMPERATURE



AMBIENT TEMPERATURE



CLOSING TIME



OPENING TIME



OPENING



CABLE LENGTH



KVS



CONNECTION TYPE



INSULATION CLASS



PROTECTION CLASS



MAX PERCENT OF GLYCOL



CONNECTIONS



THERMAL INSULATION



MAGNETIC



LEAKAGE



# TMO RANGE

## BALL ZONE VALVES

TMO valves are motorized ball zone valves to be applied in heating/cooling/sanitary systems to control the water flow. They can be used either as diverting valves or mixing valves. The high hydraulic performance level of this particular series of valves, combined with reduced dimensions and practical on-site operation, make them especially suitable for zone systems.

The new TMO ball zone valves are equipped with the antilock valve "smart automatic unlock" system.

Available in 2-ways or 3-ways versions, in many configurations and connections size.

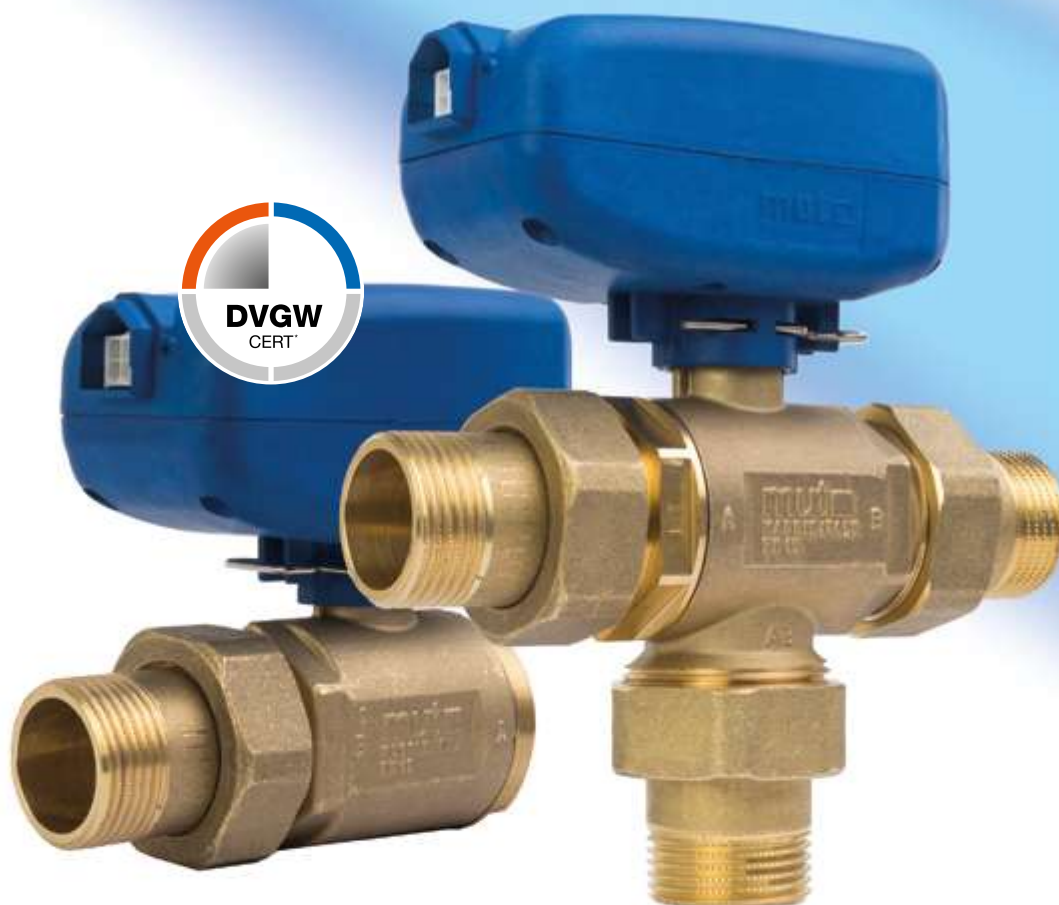




## SERIE TMO

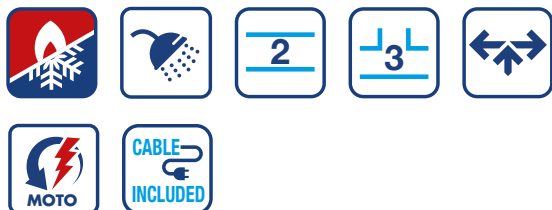
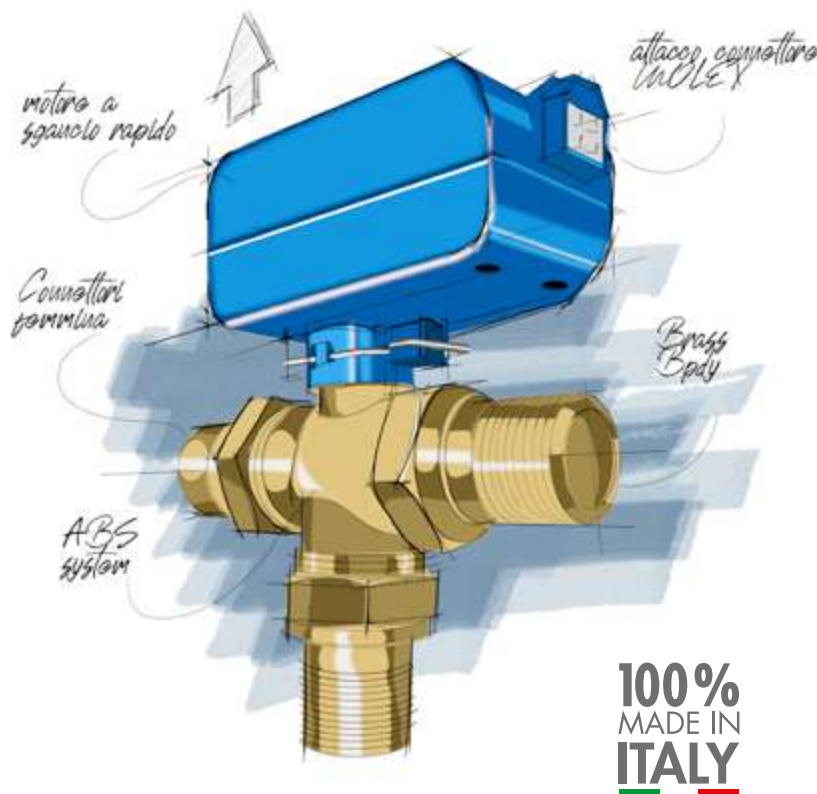


## SERIE TMO XL



# TMO RANGE

## MOTORIZED BALL ZONE VALVES



### TECHNICAL DATA



Type of movement  
SPDT = 2-pole external electrical control  
SPST = Unipolar external electrical control  
(with built-in relay)



Type of movement  
Auxiliary micro



Max. differential pressure  
250 kPa, with class A seal (EN 12266-1)



Nominal pressure  
PN10



Insulation class  
II Ref. European Directive EN60730



Protection rating  
IP 40 Ref. European Standard IEC EN 60529



Commutation time  
15 s (90 °)



Commutation time  
15 s (90 °)



Commutation time  
6 s (180 °)



Commutation time  
6 s (180 °)



Cable length  
1000 mm



Type of electrical connection: MOLEX Minifit JR6



Flows' temperature limits  
2 ÷ 90 °C [max]



Working Fluid  
Water, water and glycol [max 50%]



Connections  
Threaded - ISO 228/1



Supply  
230V o 24V

## CONTENTS

Use your smartphone  
to read the qr code,  
so you can see the  
multimedia contents



TECHNICAL  
DATASHEET  
TMO 2 WAY



TECHNICAL  
DATASHEET  
TMO 3 WAY

# PLUS PRODUCT

## "ABS" AS STANDARD

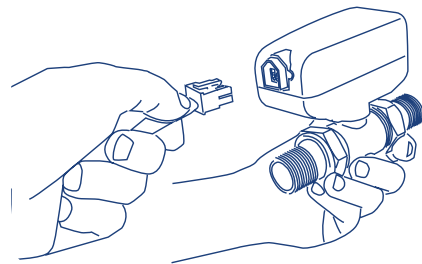
The new TMO ball zone valve is equipped with an intelligent anti-lock valve "smart automatic unlock" system:  
No more emergency interventions for system blockage!



## PLUG & PLAY

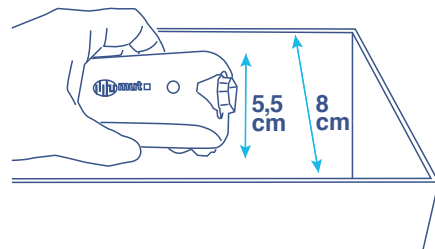
Thanks to the fast MOLEX connector you can connect the valve to the electrical system without having to manage electric contacts or cables

Available with 230V or 24V power supply



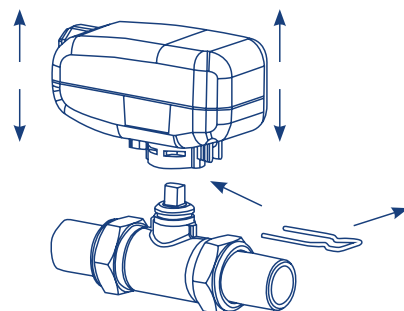
## COMPACT!

Its compactness (width of only 55 mm) allows installation inside very small wall recessed boxes



## QUICK RELEASE

TMO has a quick release system that allows the connection to the motor, leaving the valve connected to the hydraulic circuit



## VERSATILE

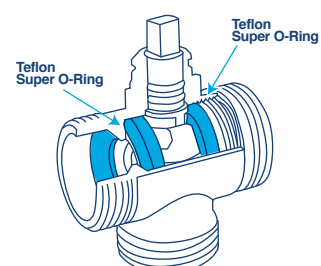
Available on 2-ways (open/close) or 3-way s(mixer or diverter) with G 1/2", 3/4", 1" male connections



\* DVGW CERT. DM0497

## PTFE SEALINGS®

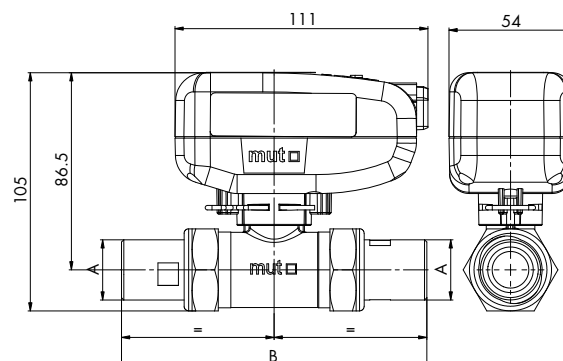
PTFE reinforced sealings are an added guarantee that MUT provides you for prolonged use without "jamming" problems



# SIZE DATA

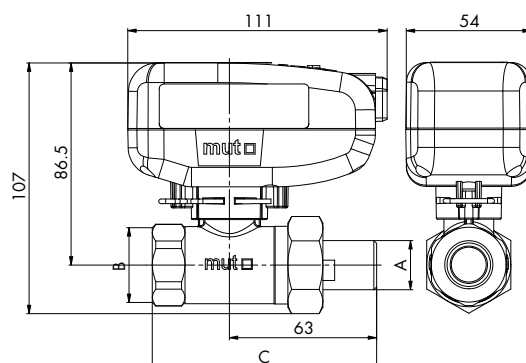
## TMO 2 WAY MM

CODE	A	B	N° RELAY	MOD.	PN
7.030.01852	G1/2" B	126	1	SPST	10
7.030.01853	G1/2" B	126	-	SPDT	10
7.030.01854	G3/4" B	134	1	SPST	10
7.030.01855	G3/4" B	134	-	SPDT	10
7.030.01856	G1" B	156	1	SPST	10
7.030.01857	G1" B	156	-	SDPT	10



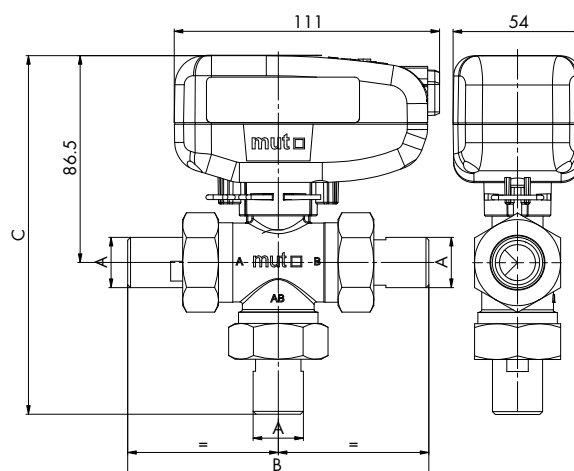
## TMO 2 WAY FM

CODE	A	B	N° RELAY	MOD.	PN	PN
7.030.01858	G1/2" B	G1/2"	96	1	SPST	10
7.030.01859	G1/2" B	G1/2"	96	-	SPDT	10
7.030.01860	G3/4" B	G3/4"	100	1	SPST	10
7.030.01861	G3/4" B	G3/4"	100	-	SPDT	10
7.030.01862	G1" B	G1"	114	1	SPST	10
7.030.01863	G1" B	G1"	114	-	SDPT	10



## TMO 3 WAY MMM

CODE	A	B	N° RELAY	MOD.	PN	PN
7.030.01864	G1/2" B	126	150	1	SPST	10
7.030.01865	G1/2" B	126	150	-	SPDT	10
7.030.01866	G3/4" B	134	154	1	SPST	10
7.030.01867	G3/4" B	134	154	-	SPDT	10
7.030.01868	G1" B	156	165	1	SPST	10
7.030.01869	G1" B	156	165	-	SDPT	10





\* DVGW CERT. DM0497



- MALE - MALE PIPE CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR

# TMO 2 WAY

BALL VALVES WITH MOTORIZED ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01852	TMO 15-2MM SPST M1S	2-way valve - 230 V - with male - male pipe connections - 6-pole molex cable - G 1/2 with relay	1/2"	10	10	1	5
7.030.01853	TMO 15-2MM SPDT M1S	2-way valve - 230 V - with male - male pipe connections - 6-pole molex cable - G 1/2	1/2"	10	10	1	5
7.030.01854	TMO 20-2MM SPST M1S	2-way valve - 230 V - with male - male pipe connections - 6-pole molex cable - G 3/4 with relay	3/4"	10	10	1	5
7.030.01855	TMO 20-2MM SPDT M1S	2-way valve - 230 V - with male - male pipe connections - 6-pole molex cable - G 3/4	3/4"	10	10	1	5
7.030.01856	TMO 25-2MM SPST M1S	2-way valve - 230 V - with male - male pipe connections - 6-pole molex cable - G 1 with relay	1"	10	10	1	5
7.030.01857	TMO 25-2MM SPDT M1S	2-way valve - 230 V - with male - male pipe connections - 6-pole molex cable - G 1	1"	10	10	1	5

## SPECIFICATIONS

- With 6-pole MOLEX cable

\* DVGW CERT. DMQ497



- MALE - FEMALE PIPE CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR

## TMO 2 WAY

### BALL VALVES WITH MOTORIZED ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01858	TMO 15-2MF SPST M1S	2-way valve - 230 V - with male - female pipe connections - 6-pole molex cable - G 1/2 with relay	1/2"	10	10	1	5
7.030.01859	TMO 15-2MF SPDT M1S	2-way valve - 230 V - with male - female pipe connections - 6-pole molex cable - G 1/2	1/2"	10	10	1	5
7.030.01860	TMO 20-2MF SPST M1S	2-way valve - 230 V - with male - female pipe connections - 6-pole molex cable - G 3/4 with relay	3/4"	10	10	1	5
7.030.01861	TMO 20-2MF SPDT M1S	2-way valve - 230 V - with male - female pipe connections - 6-pole molex cable - G 3/4	3/4"	10	10	1	5
7.030.01862	TMO 25-2MF SPST M1S	2-way valve - 230 V - with male - female pipe connections - 6-pole molex cable - G 1 with relay	1"	10	10	1	5
7.030.01863	TMO 25-2MF SPDT M1S	2-way valve - 230 V - with male - female pipe connections - 6-pole molex cable - G 1	1"	10	10	1	5

## SPECIFICATIONS

- With 6-pole MOLEX cable



- 6 - POLE MOLEX CABLE WITH RELAY

# ACTUATORS

## ACTUATOR FOR TMO 2-WAY VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01870	ATM-2 SPST M1S	Actuator for 2-way valves - 230 V - 6-pole molex cable with relay	1	5
7.030.01871	ATM-2 SPDT M1S	Actuator for 2-way valves - 230 V - 6-pole molex cable	1	5
7.030.01872	ATM-2 SPST M1S	Actuator for 2-way valves - 24 V - 6-pole molex cable with relay	1	5
7.030.01873	ATM-2 SPDT M1S	Actuator for 2-way valves - 24 V - 6-pole molex cable	1	5



- WITHOUT CONNECTIONS

# TMO 2 WAY

## BALL VALVES



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01878	VTM 25-2E	2-way valve - without connections - G 1	1"	1	5

\* DVGW CERT. DMQ497



• MALE - MALE PIPE CONNECTIONS

## TMO 2 WAY

### BALL VALVES



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01879	VTM 15-2MM	2-way valve - with male-male pipe connections - G 1/2	1/2"	1	5
7.030.01880	VTM 20-2MM	2-way valve - with male-male pipe connections - G 3/4	3/4"	1	5
7.030.01881	VTM 25-2MM	2-way valve - with male-male pipe connections - G 1	1"	1	5

\* DVGW CERT. DMQ497



• MALE - FEMALE PIPE CONNECTIONS

## TMO 2 WAY

### BALL VALVES



CODE	MODEL	DESCRIPTION	SIZE	PACK.	PACKAGING
7.030.01882	VTM 15-2MF	2-way valve - with male-female pipe connections - G 1/2	1/2"	1	5
7.030.01883	VTM 20-2MF	2-way valve - with male-female pipe connections - G 3/4	3/4"	1	5
7.030.01884	VTM 25-2MF	2-way valve - with male-female pipe connections - G 1	1"	1	5





- MALE - MALE - MALE PIPE CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR

# TMO 3 WAY

BALL VALVES WITH MOTORIZED ACTUATORS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01864	TMO 15-MMM SPST M1S	3-way valve - 230 V - with 3 male connections - 6-pole molex cable - G ½ with relay	1/2"	10	5	1	5
7.030.01865	TMO 15-MMM SPDT M1S	3-way valve - 230 V - with 3 male connections - 6-pole molex cable - G ½	1/2"	10	5	1	5
7.030.01866	TMO 20-MMM SPST M1S	3-way valve - 230 V - with 3 male connections - 6-pole molex cable - G 3/4 with relay	3/4"	10	5	1	5
7.030.01867	TMO 20-MMM SPDT M1S	3-way valve - 230 V - with 3 male connections - 6-pole molex cable - G 3/4	3/4"	10	5	1	5
7.030.01868	TMO 25-MMM SPST M1S	3-way valve - 230 V - with 3 male connections - 6-pole molex cable - G 1 with relay	1"	10	5	1	5
7.030.01869	TMO 25-MMM SPDT M1S	3-way valve - 230 V - with 3 male connections - 6-pole molex cable - G 1	1"	10	5	1	5

## SPECIFICATIONS

- With 6-pole MOLEX cable



# ACTUATOR

## ACTUATORS FOR TMO 3 WAY BALL VALVES



- WITH 6-POLE MOLEX CABLE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01874	ATM-3 SPST M1S	Actuator for 3-way valves- 230 V - 6-pole molex cable with relay	1	5
7.030.01875	ATM-3 SPDT M1S	Actuator for 3-way valves- 230 V - 6-pole molex cable	1	5
7.030.01876	ATM-3 SPST M1S	Actuator for 3-way valves- 24 V - 6-pole molex cable with relay	1	5
7.030.01877	ATM-3 SPDT M1S	Actuator for 3-way valves- 24 V - 6-pole molex cable	1	5



# INSULATION KIT

## FOR TMO 2 WAY BALL VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03050	Insulation Kit TMO-2	Insulation Kit TMO 2 Way- 3Pcs	1	3
7.030.03051	Insulation Kit TMO-3	Insulation Kit TMO 3 Way- 3Pcs	1	3



## TMO 3 WAY

### BALL VALVES



- WITHOUT CONNECTIONS



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01885	VTM 25E	3-way valve - without connections - G 1	1"	1	5



## TMO 3 WAY

### BALL VALVES



- MALE CONNECTIONS
- WITH CONNECTIONS



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01886	VTM 15 MMM	3-way valve - with 3 male connections - G 1/2	1/2"	1	5
7.030.01887	VTM 20 MMM	3-way valve - with 3 male connections - G 3/4	3/4"	1	5
7.030.01888	VTM 25 MMM	3-way valve - with 3 male connections - G 1	1"	1	5



## 6-POLE CABLE


















### FOR TMO BALL VALVES MOLEX CONNECTIONS

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.00434	Cable VMR/TMO	6-pole cable x 0.75 for version with M1S	1000 mm	1	5

# TMO RANGE XL

## MOTORIZED BALL ZONE VALVES

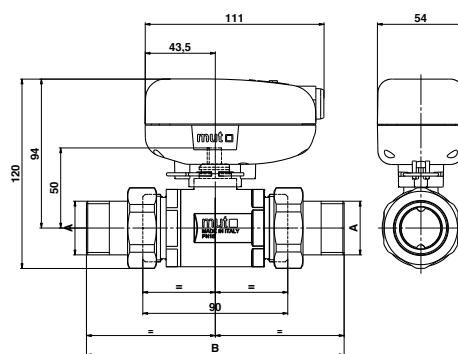
### TECHNICAL DATA

 Nominal pressure PN16	 Protection rating IP 40 Ref. European Standard IEC EN 60529
 Max. differential pressure 6 bar	 Type of electrical connection MOLEX Minifit JR6
 Connections Threaded - ISO 228/1	 Cable length 1000 mm
 Full passage valve (DN25)	 Supply 230V ~ 24V
 Flows' temperature limits 2 ÷ 90 °C [max]	 Commutation time 15 s (90 °)
 Working Fluid Water, water and glycol [max 50%]	 Commutation time 15 s (90 °)
 Type of movement SPDT = 2-pole external electrical control SPST = Unipolar external electrical control (with built-in relay)	 Commutation time 25 s (180 °)
 Type of movement Auxiliary micro	 Commutation time 25 s (180 °)
 Insulation class II Ref. European Directive EN60730	

## SIZE DATA

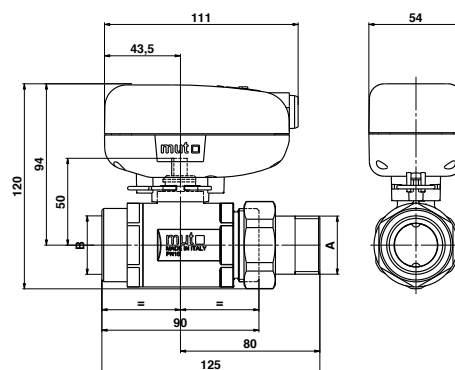
### TMO 2 WAY MM XL

CODE	A	B	N° RELAY	MOD.	PN
7.030.02772	G1" B	160	1	SPST	16
7.030.02773	G1" B	160	-	SPDT	16
7.030.02807	G1" B	-	-	SPST	16



### TMO 2 WAY MF XL

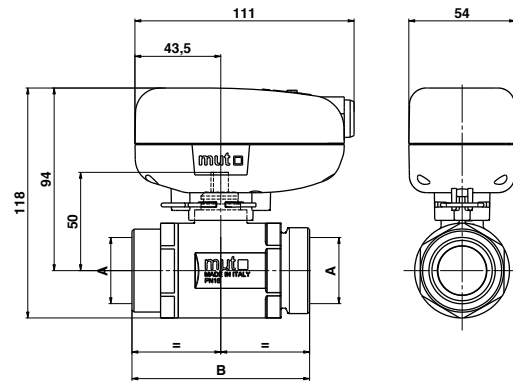
CODE	A	B	N° RELAY	MOD.	PN
7.030.02784	G1" B	G1"	1	SPST	16
7.030.02785	G1" B	G1"	-	SPDT	16
7.030.02809	G1" B	G1"	-	-	16





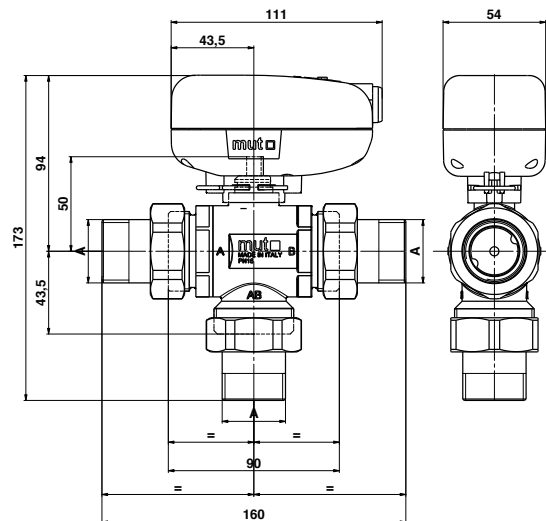
## TMO 2 WAY XL

CODE	A	B (mm)	N° RELAY	MOD.	PN
7.030.02788	G1"	90	1	SPST	16
7.030.02789	G1"	90	-	SPDT	16
7.030.02803	G1" ¼B	90	1	SPST	16
7.030.02804	G1" ¼B	90	-	SPDT	16
7.030.02792	G1"	90	-	-	16
7.030.02776	G1" ¼B	90	-	-	16
7.030.03072	G1"½	94	1	SPST	16
7.030.03073	G1"½	94	-	SPDT	16
7.030.03152	G1"½	94	-	-	16



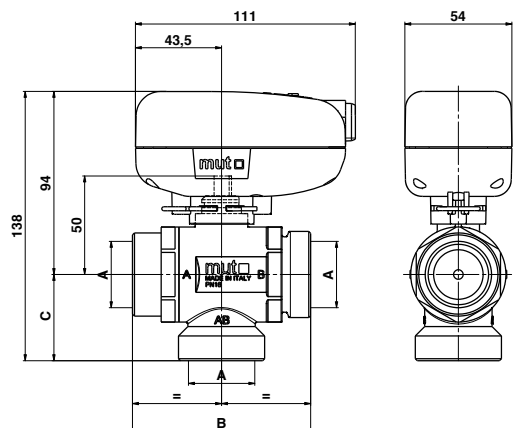
## TMO 3 WAY MMM XL

CODE	A	N° RELAY	MOD.	PN
7.030.02777	G1" B	1	SPST	16
7.030.02780	G1" B	-	SPDT	16
7.030.02808	G1" B	-	-	16



## TMO 3 WAY XL

CODE	A	B (mm)	C (mm)	N° RELAY	MOD.	PN
7.030.02793	G1"	90	43,5	1	SPST	16
7.030.02794	G1"	90	43,5	-	SPDT	16
7.030.02805	G1" 1/4B	90	43,5	1	SPST	16
7.030.02806	G1" 1/4B	90	43,5	-	SPDT	16
7.030.02797	G1"	90	43,5	-	-	16
7.030.02783	G1" 1/4B	90	43,5	-	-	16
7.030.02923	G1"½	94	45,5	1	SPST	16
7.030.02924	G1"½	94	45,5	-	SPDT	16
7.030.03151	G1"½	94	45,5	-	-	16



\* DVGW CERT. DM0497



## TMO 2 WAY XL

### BALL VALVES WITH MOTORIZED ACTUATOR



- MALE - MALE PIPE CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02772	TMO XL 25-2MM SPST M1S	2-way valve - 230 V - with male - male pipe connections - 6-pole molex cable - G 1" M - with relay	G1"	16	38	1	1
7.030.02773	TMO XL 25-2MM SPDT M1S	2-way valve - 230 V - with male - male pipe connections - 6-pole molex cable - G 1" M	G1"	16	38	1	1

\* DVGW CERT. DM0497



## TMO 2 WAY XL

### BALL VALVES WITH MOTORIZED ACTUATOR



- WITHOUT CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02803	TMO XL 32-2E SPST M1S	2-way valve - 230 V - without connections - 6-pole molex cable - G 1" 1/4 M - with relay	G1"1/4	16	38	1	1
7.030.02804	TMO XL 32-2E SPDT M1S	2-way valve - 230 V - without connections - 6-pole molex cable - G 1" 1/4 M - with relay	G1"1/4	16	38	1	1
7.030.03072	TMO XL 40-2E SPST M1S	2-way valve - 230 V - with relay - 15 sec. - - without connections - 6-pole molex cable - G1"1/2	G1"1/2	16	38	1	1
7.030.03073	TMO XL 40-2E SPDT M1S	2-way valve - 230 V - 15 sec. - without connections - 6-pole molex cable - G1"1/2	G1"1/2	16	38	1	1

## SPECIFICATIONS

- With 6-pole MOLEX cable

\* DVGW CERT. DM0497



# TMO 2 WAY XL

BALL VALVES WITH MOTORIZED ACTUATOR



- MALE - FEMALE CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02784	TMO XL 25-2MF SPST M1S	2-way valve - 230 V - with male - female pipe connections - 6-pole molex cable - G 1"MF - with relay	G1"	16	38	1	1
7.030.02785	TMO XL 25-2MF SPDT M1S	2-way valve - 230 V - with male - female pipe connections - 6-pole molex cable - G 1"MF	G1"	16	38	1	1

\* DVGW CERT. DM0497



# TMO 2 WAY XL

BALL VALVES WITH MOTORIZED ACTUATOR



- WITHOUT CONNECTIONS
- FEMALE - FEMALE CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02788	TMO XL 25-2 SPST M1S	2-way valve - 230 V - without connections - 6-pole molex cable - G 1" F - with relay	G1"	16	38	1	1
7.030.02789	TMO XL 25-2 SPDT M1S	2-way valve - 230 V - without connections - 6-pole molex cable - G 1" F	G1"	16	38	1	1

## SPECIFICATIONS

- With 6-pole MOLEX cable

\* DVGW CERT. DM0497



# TMO 2 WAY XL

BALL VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02792	VTM XL 25-2	2-way valve - without connections - G1"1/4 M	G1"	16	38	1	1
7.030.02776	VTM XL 32-2E	2-way valve - without connections - G1"1/4 F	G1"1/4	16	38	1	1
7.030.03152	VTM XL 40-2E	2-way valve - without connections - G1"1/2 M	G1"1/2	16	38	1	1

\* DVGW CERT. DM0497



# TMO 2 WAY XL

BALL VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02807	VTM XL 25-2 MM	2-way valve - with connections - G1" M	G1"	16	38	1	1
7.030.02809	VTM XL 25-2 MF	2-way valve - with connections - G1" MF	G1"	16	38	1	1

## SPECIFICATIONS

- With 6-pole MOLEX cable



# TMO 3 WAY XL

BALL VALVES WITH MOTORIZED ACTUATOR



- MALE - MALE PIPE CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02777	TMO XL 25MMM SPST M1S	3-way valve - 230 V - with 3 male connections - 6 pole molex cable - G1" - with relay	G1"	16	15,5	1	1
7.030.02780	TMO XL 25MMM SPDT M1S	3-way valve - 230 V - with 3 male connections - 6 pole molex cable - G1"	G1"	16	15,5	1	1



# TMO 3 WAY XL

BALL VALVES WITH MOTORIZED ACTUATOR



- WITHOUT CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02805	TMO XL 32E SPST M1S	3-way valve - 230 V - without connections - 6 pole molex cable - G1" 1/4 - with relay	G1"1/4	16	15,5	1	1
7.030.02806	TMO XL 32E SPDT M1S	3-way valve - 230 V - without connections - 6 pole molex cable - G1" 1/4	G1"1/4	16	15,5	1	1
7.030.02923	TMO XL 40E SPST M1S	3-way valve - 230 V - 230V - 25sec - with relayè - without connections - 6 pole molex cable - G1"1/2	G1"1/2	16	15,5	1	1
7.030.02924	TMO XL 40E SPDT M1S	3-way valve - 230 V - 230V - 25sec - without connections - 6 pole molex cable - G1"1/2	G1"1/2	16	15,5	1	1

## SPECIFICATIONS

- With 6-pole MOLEX cable



## TMO 3 WAY XL

BALL VALVES WITH MOTORIZED ACTUATORS



- WITHOUT CONNECTIONS
- AVAILABLE WITH 24 V ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02793	TMO XL 25 SPST M1S	3-way valve - 230 V - without connections - 6-pole molex cable - G1" F -with relay	G1"	16	15,5	1	1
7.030.02794	TMO XL 25 SPDT M1S	3-way valve - 230 V - without connections - 6-pole molex cable - G1" F	G1"	16	15,5	1	1



## TMO 3 WAY XL

BALL VALVES



- WITHOUT CONNECTIONS
- FEMALE - FEMALE OR MALE-MALE PIPE CONNECTIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02797	VTM XL 25	3-way valve - without connections - G1" F	G1"	16	15,5	1	1
7.030.02808	VTM XL 25 MMM	3-way valve - with connection - G1" M	G1"	16	15,5	1	1
7.030.02783	VTM XL 32E	3-way valve - without connections - G1"1/4 M	G1"1/4	16	15,5	1	1
7.030.03151	VTM XL 40E	3-way valve - without connections - G1"1/2 M	G1"1/2	16	38	1	1



## INSULATION KIT

FOR BALL VALVES TMO XL 2 WAY AND 3 WAY

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02964	Insulation Kit TMO 2 XL	Thermal insulation kit TMO XL 2 way	1	3
7.030.02965	Insulation Kit TMO 3 XL	Thermal insulation kit TMO XL 3 way	1	3





# ACTUATOR

ACTUATORS FOR TMO 2 WAY BALL VALVES



- WITH 6-POLE MOLEX CABLE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01870	ATM-2 SPST M1S	Actuator for 2-way valves - 230 V - 6-pole molex cable - with relay	1	5
7.030.01871	ATM-2 SPDT M1S	Actuator for 2-way valves - 230 V - 6-pole molex cable	1	5
7.030.01872	ATM-2 SPST M1S	Actuator for 2-way valves - 24 V - 6-pole molex cable - with relay	1	5
7.030.01873	ATM-2 SPDT M1S	Actuator for 2-way valves - 24 V - 6-pole molex cable	1	5



# ACTUATOR

ACTUATORS FOR TMO 3 WAY BALL VALVES



- WITH 6-POLE MOLEX CABLE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02908	ATM-3 SPST M1S	Actuator for 3-way valves - 230 V - 180/25 - 6-pole molex cable - with relay	1	5
7.030.02909	ATM-3 SPDT M1S	Actuator for 3-way valves - 230 V - 180/25 - 6-pole molex cable	1	5
7.030.02910	ATM-3 SPST M1S	Actuator for 3-way valves - 230 V - 180/25 - 6-pole molex cable - with relay	1	5
7.030.02911	ATM-3 SPDT M1S	Actuator for 3-way valves - 230 V - 180/25 - 6-pole molex cable	1	5



# 6-POLE CABLE

FOR TMO BALL VALVES MOLEX CONNECTIONS

CODE	MODEL	DESCRIPTION	MIS	PACK	PACKAGING
7.030.00434	Cable VMR/TMO	6-pole cable x 0.75 for version with M1S	1000 mm	1	5

# VMR RANGE

ZONE VALVES WITH SHUTOFF

VMR valves are motorized valves used in home applications and small installations to control the flow of hot and cold water.

They can be connected as deviator or mixer valves in central heating or cooling systems.

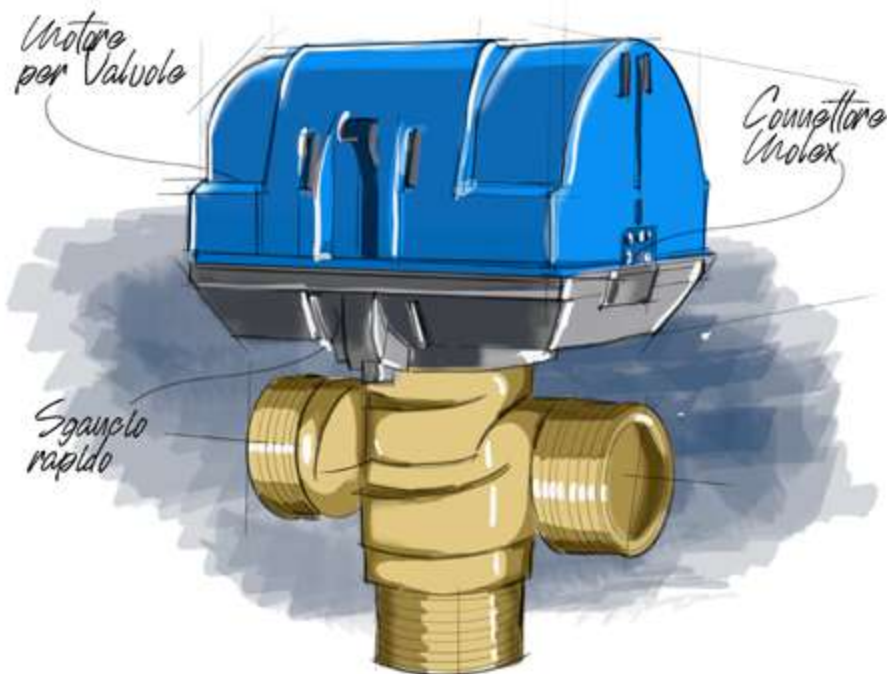




**100%**  
MADE IN  
**ITALY**

# VMR RANGE

## ZONE VALVES WITH SHUTOFF



**100%**  
MADE IN  
ITALY



### TECHNICAL DATA



Type of movement  
SPDT, SPST, 3 modulating points  
according to the model



Max. differential pressure  
4 bar



Nominal pressure  
PN10



Insulation class  
II Ref. European Standard EN60730



Protection rating  
IP 40 Ref. European Standard IEC EN 60529



Way commutation time  
6 sec.



Way commutation time  
6 sec.



Flows' temperature limits  
5 ÷ 110 °C [max]



Working fluid  
Water, water and glycol [max. 50%]



Connections  
Threaded - ISO 228-1



Supply  
230V (24V o 110V on request)

## CONTENTS

Use your smartphone  
to read the qr code,  
so you can see the  
multimedia contentS



TECHNICAL DATASHEET  
VMR 2 WAY



TECHNICAL DATASHEET  
VMR 3 WAY

# VALVES RANGE



VMR 2 WAY  
female connections  
SPDT - SPST



VMR 2 WAY  
male connections  
SPDT - SPST



VMR 2 WAY  
complete with nuts  
SPDT - SPST



VMR 3 WAY  
female connections  
SPDT - SPST



VMR 3 WAY  
male connections  
SPDT - SPST



VMR 3 WAY  
complete with nuts  
SPDT - SPST



VMR 3 WAY  
male connections  
BIDIRECTIONAL



VMR 3 WAY  
BELL SHAPE



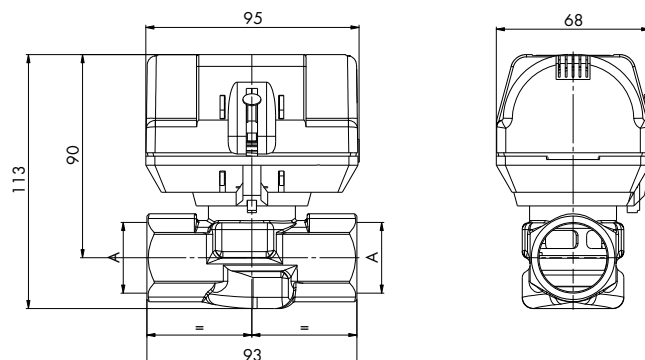
VMR 32E 3 WAY  
male connections  
SPST - SPDT  
BIDIRECTIONAL



# SIZE DATA

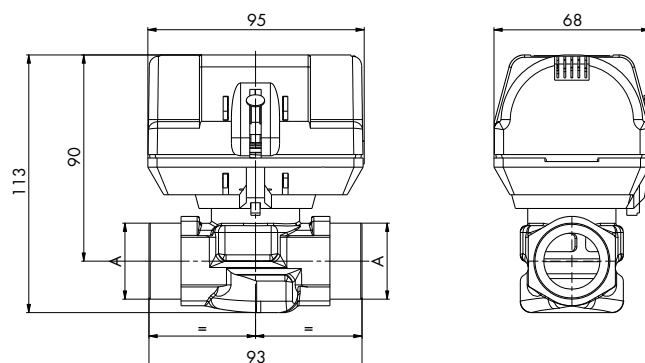
## VMR 2 WAY SPDT - SPST FEMALE CONNECTIONS

CODES		A	N° MICRO SWITCH	PN
SPDT	SPST			
7.030.01129	7.030.01163	G1/2"	-	10
7.030.00874	7.030.01136	G3/4"	-	10
7.030.00720	7.030.00866	G1"	-	10
7.030.01132	7.013.00613	G1/2"	1	10
7.030.00726	7.030.01131	G3/4"	1	10
7.030.00703	7.030.00738	G1"	1	10



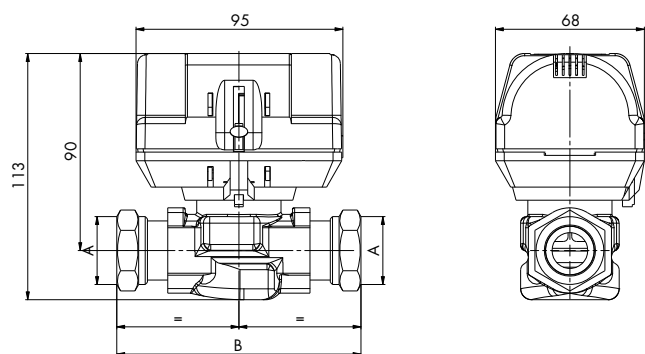
## VMR 2 WAY AND SPDT - SPST MALE CONNECTIONS

CODES		A	N° MICRO SWITCH	PN
SPDT	SPST			
7.013.00463	7.030.01192	G3/4" B	-	10
7.030.00653	7.030.01117	G1" B	-	10
7.030.01272	7.013.00704	G3/4" B	1	10
7.030.00671	7.030.01118	G1" B	1	10



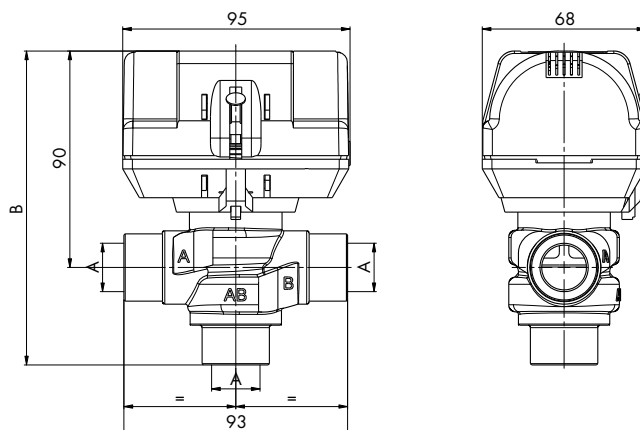
## VMR 2 WAY EB SPDT - SPST CONNECTIONS FOR COPPER PIPES

CODES		A	B	N° MICRO SWITCH	PN
SPDT	SPST				
7.013.00698	7.030.01219	Ø22	110	-	10
7.013.00308	7.013.00514	Ø28	120	-	10
7.013.00699	7.013.00456	Ø22	110	1	10
7.013.00700	7.013.00701	Ø28	120	1	10



## VMR 3 WAY SPDT - SPST FEMALE CONNECTIONS

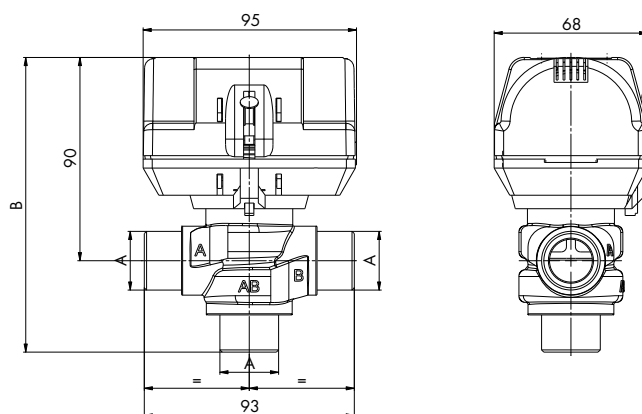
CODES		A	B	N° MICRO SWITCH	PN
SPDT	SPST				
7.030.00650	7.030.00707	G1/2"	131	-	10
7.030.00400	7.030.00540	G3/4"	131	-	10
7.030.00312	7.030.00314	G1"	136	-	10
7.030.00652	7.030.00766	G1/2"	131	1	10
7.030.00392	7.030.00550	G3/4"	131	1	10
7.030.00725	7.030.00699	G1"	136	1	10



## VMR 3 WAY SPDT - SPST

MALE CONNECTIONS

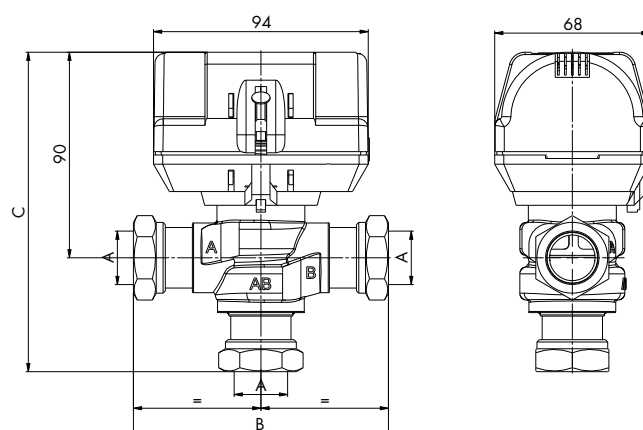
CODES		A	B	N° MICRO SWITCH	PN
SPDT	SPST				
7.030.00100	7.030.00185	G3/4" B	130	-	10
7.030.00101	7.030.01045	G1" B	135	-	10
7.030.00308	7.030.00332	G3/4" B	130	1	10
7.030.00692	7.030.00318	G1" B	135	1	10



## VMR 3 WAY EB SPDT - SPSTT

CONNECTIONS FOR COPPER PIPES

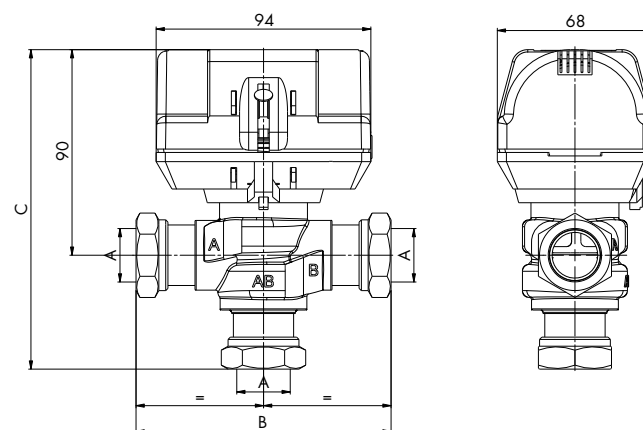
CODES		A	B	C	N° MICRO SWITCH	PN
SPDT	SPST					
7.030.00097	7.030.00269	Ø22	110	140	-	10
7.030.00546	7.030.00797	Ø28	130	154	-	10
7.013.00277	7.030.00330	Ø22	110	140	1	10
7.013.00695	7.030.00317	Ø28	130	154	1	10



## VMR 3 WAY AND C

CLICK CLACK

CODES	A	B	T [s]	PN
7.030.00197	G1" B	135	120	10
7.030.01137	G1" B	135	60	10
7.013.00705	G1" B	135	12	10
7.030.00056	G3/4" B	130	120	10
7.030.01190	G3/4" B	130	60	10
7.030.00784	G3/4" B	130	12	10

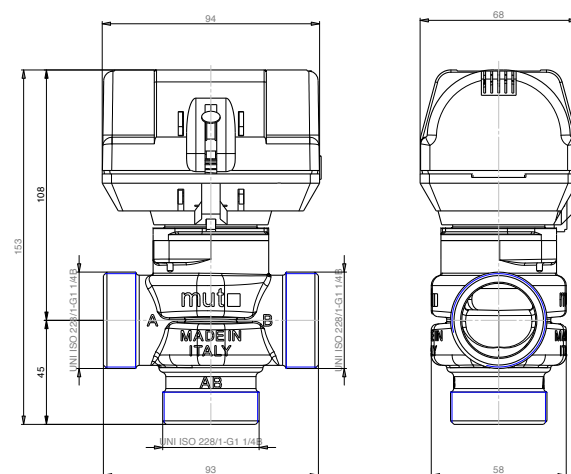


## VMR 3 WAY 32E SPDT - SPST

CODES		A	N° MICRO SWITCH
SPDT	SPST		
7.030.03341	7.030.03342	G1"¼ B	-
7.030.03343	7.030.03344	G1"¼ B	1

## VMR 3 WAY 32E SPDT

CODES	A
7.030.03376	G1"¼ B
7.030.03378	G1"¼ B
7.030.03379	G1"¼







- FEMALE CONNECTIONS
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR 2 WAY

CLICK - CLOCK 2-WAY ZONE VALVE \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01129	VMR 15-2 SPDT CR	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable	1/2"	10	3,0	1	1
7.030.00874	VMR 20-2 SPDT CR	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable	3/4"	10	5,3	1	1
7.030.00720	VMR 25-2 SPDT CR	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable	1"	10	6,0	1	1
7.030.01132	VMR 15-2 SPDT CR M1S	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable - with auxiliary micro	1/2"	10	3,0	1	1
7.030.00726	VMR 20-2 SPDT CR M1S	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable - with auxiliary micro	3/4 "	10	5,3	1	1
7.030.00703	VMR 25-2 SPDT CR M1S	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable - with auxiliary micro	1"	10	6,0	1	1

## SPECIFICATIONS

- SPDT external bipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price )
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



- MALE CONNECTIONS
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR 2 WAY

CLICK - CLOCK 2-WAY ZONE VALVE \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.013.00463	VMR 20-2E SPDT CR	2-way valve - 230 V - Male Gas connections - with fast coupling - no cable	3/4 "	10	5,3	1	5
7.030.00653	VMR 25-2E SPDT CR	2-way valve - 230 V - Male Gas connections - with fast coupling - no cable	1"	10	6,0	1	5
7.030.01272	VMR 20-2E SPDT CR M1S	2-way valve - 230 V - Male Gas connections - with fast coupling - no cable - with auxiliary micro	3/4"	10	5,3	1	5
7.030.00671	VMR 25-2E SPDT CR M1S	2-way valve - 230 V - Male Gas connections - with fast coupling - no cable - with auxiliary micro	1"	10	6,0	1	5

## SPECIFICATIONS

- SPDT external bipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



- CONNECTIONS FOR COPPER PIPES
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR 2 WAY

CLICK - CLOCK 2-WAY ZONE VALVE \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.013.00698	VMR 22-2EB SPDT CR	2-way valve - 230 V - with fast coupling - no cable -with connections for copper pipes - complete with nuts- ferrules	22 mm	10	5,3	1	5
7.013.00308	VMR 28-2B SPDT CR	2-way valve - 230 V - with fast coupling - no cable - with connections for copper pipes - complete with nuts - ferrules	28 mm	10	6,0	1	5
7.013.00699	VMR 22-2EB SPDT CR M1S	2-way valve - 230 V - with fast coupling - no cable with auxiliary micro - with connections for copper pipe- complete with nuts - ferrules	22 mm	10	5,3	1	5
7.013.00700	VMR 28-2B SPDT CR M1S	2-way valve - 230 V - with fast coupling - no cable with auxiliary micro - with connections for copper pipe - complete with nuts - ferrules	28 mm	10	6,0	1	5

## SPECIFICATIONS

- SPDT external bipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price )
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



- FEMALE CONNECTIONS
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPS (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR 2 WAY

CLICK - CLOCK 2-WAY ZONE VALVE \*<sup>1</sup> \*<sup>2</sup>



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01163	VMR 15-2 SPST CR	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable	1/2"	10	3,0	1	1
7.030.01136	VMR 20-2 SPST CR	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable	3/4"	10	5,3	1	1
7.030.00866	VMR 25-2 SPST CR	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable	1"	10	6,0	1	1
7.013.00613	VMR 15-2 SPST CR M1S	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable - with auxiliary micro	1/2"	10	3,0	1	1
7.030.01131	VMR 20-2 SPST CR M1S	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable - with auxiliary micro	3/4"	10	5,3	1	1
7.030.00738	VMR 25-2 SPST CR M1S	2-way valve - 230 V - Female Gas connections - with fast coupling - no cable - with auxiliary micro	1"	10	6,0	1	1

## SPECIFICATIONS

- SPST external unipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



- MALE CONNECTIONS
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR 2 WAY

CLICK - CLOCK 2-WAY ZONE VALVE \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01192	VMR 20-2E SPST CR	2-way valve - 230 V - Male Gas connections - with fast coupling - no cable	3/4"	10	5,3	1	5
7.030.01117	VMR 25-2E SPST CR	2-way valve - 230 V - Male Gas connections - with fast coupling - no cable	1"	10	6,0	1	5
7.013.00704	VMR 20-2E SPST CR M1S	2-way valve - 230 V - Male Gas connections - with fast coupling - no cable - with auxiliary micro	3/4"	10	5,3	1	5
7.030.01118	VMR 25-2E SPST CR M1S	2-way valve - 230 V - Male Gas connections - with fast coupling - no cable - with auxiliary micro	1"	10	6,0	1	5

## SPECIFICATIONS

- SPST external unipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price )
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



- CONNECTIONS FOR COPPER PIPES
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR 2 WAY

CLICK - CLOCK 2-WAY ZONE VALVES \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01219	VMR 22-2EB SPST CR	2-way valve - 230 V - with fast coupling - no cable - with connections for copper pipe - complete with nuts - ferrules	22 mm	10	5,3	1	5
7.013.00514	VMR 28-2B SPST CR	2-way valve - 230 V - with fast coupling - no cable - with connections for copper pipe - complete with nuts - ferrules	28 mm	10	6,0	1	5
7.013.00456	VMR 22-2EB SPST CR M1S	2-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipe - complete with nuts - ferrules	22 mm	10	5,3	1	5
7.013.00701	VMR 28-2B SPST CR M1S	2-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipe - complete with nuts - ferrules	28 mm	10	6,0	1	5

## SPECIFICATIONS

- SPST external unipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price )
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



- FEMALE CONNECTIONS
- BIPOLEAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR 3 WAY

CLICK - CLOCK 3-WAY ZONE VALVE \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00650	VMR 15 SPDT CR	3-way valve - 230 V - Female Gas connections - with fast coupling - no cable	1/2"	10	3,5	1	1
7.030.00400	VMR 20 SPDT CR	3-way valve - 230 V - Female Gas connections - with fast coupling - no cable	3/4"	10	7,0	1	1
7.030.00312	VMR 25 SPDT CR	3-way valve - 230 V - Female Gas connections - with fast coupling - no cable	1"	10	8,0	1	1
7.030.00652	VMR 15 SPDT CR M1S	3 way valve - 230 V - Gas connections Female - with fast coupling - no cable - with auxiliary micro	1/2"	10	3,5	1	1
7.030.00392	VMR 20 SPDT CR M1S	3 way valve - 230 V - Gas connections Female - with fast coupling - no cable - with auxiliary micro	3/4"	10	7,0	1	1
7.030.00725	VMR 25 SPDT CR M1S	3 way valve - 230 V - Gas connections Female - with fast coupling - no cable - with auxiliary micro	1"	10	8,0	1	1

## SPECIFICATIONS

- SPDT external bipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price )
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)





- MALE CONNECTIONS
- BIPOlar EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR 3 WAY

CLICK - CLOCK 3-WAY ZONE VALVE \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00100	VMR 20E SPDT CR	3 way valve - 230 V - Male gas connections - with fast coupling - no cable	3/4"	10	7,0	1	5
7.030.00101	VMR 25E SPDT CR	3 way valve - 230 V - Male gas connections - with fast coupling - no cable	1"	10	8,0	1	5
7.030.00308	VMR 20E SPDT CR M1S	3 way valve - 230 V - Male gas connections - with fast coupling - no cable - with auxiliary micro	3/4"	10	7,0	1	5
7.030.00692	VMR 25E SPDT CR M1S	3 way valve - 230 V - Male gas connections - with fast coupling - no cable - with auxiliary micro	1"	10	8,0	1	5

## SPECIFICATIONS

- SPDT external bipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



- CONNECTIONS FOR COPPER PIPES
- COMPLETE WITH NUTS
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR 3 WAY

CLICK - CLOCK 3-WAY ZONE VALVE \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00097	VMR 22EB SPDT CR	3-way valve - 230 V - with fast coupling - no cable - with connections for copper pipe - complete with nuts - ferrules	22 mm	10	7,0	1	5
7.030.00546	VMR 28B SPDT CR	3-way valve - 230 V - with fast coupling - no cable - with connections for copper pipe - complete with nuts - ferrules	28 mm	10	8,0	1	5
7.013.00277	VMR 22EB SPDT CR M1S	3-way valve - 230 V - with fast coupling - no cable - with connections for copper pipe - complete with nuts - ferrules	22 mm	10	7,0	1	5
7.013.00695	VMR 28B SPDT CR M1S	3-way valve - 230 V - with fast coupling - no cable - with connections for copper pipe - complete with nuts - ferrules	28 mm	10	8,0	1	5

## SPECIFICATIONS

- SPDT external bipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price je)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



- FEMALE CONNECTIONS
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR 3 WAY

CLICK - CLOCK 3-WAY ZONE VALVE \*1 \*2



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00707	VMR 15 SPST CR	3-way valve - 230 V - Female Gas connections - with fast coupling - no cable	1/2"	10	3,5	1	1
7.030.00540	VMR 20 SPST CR	3-way valve - 230 V - Female Gas connections - with fast coupling - no cable	3/4"	10	7,0	1	1
7.030.00314	VMR 25 SPST CR	3-way valve - 230 V - Female Gas connections - with fast coupling - no cable	1"	10	8,0	1	1
7.030.00766	VMR 15 SPST CR M1S	3 way valve - 230 V -Female Gas connections - with fast coupling - no cable - with auxiliary micro	1/2"	10	3,5	1	1
7.030.00550	VMR 20 SPST CR M1S	3 way valve - 230 V -Female Gas connections - with fast coupling - no cable - with auxiliary micro	3/4"	10	7,0	1	1
7.030.00699	VMR 25 SPST CR M1S	3 way valve - 230 V - Female Gas connections - with fast coupling - no cable - with auxiliary micro	1"	10	8,0	1	1

## SPECIFICATIONS

- SPST external unipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price je)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



## VMR 3 WAY

CLICK - CLOCK 3-WAY ZONE VALVE \*1 \*2



- MALE CONNECTIONS
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00185	VMR 20E SPST CR	3-way valve - 230 V - Male Gas connections - with fast coupling - no cable	3/4"	10	7,0	1	5
7.030.01045	VMR 25E SPST CR	3-way valve - 230 V - Male Gas connections - with fast coupling - no cable	1"	10	8,0	1	5
7.030.00332	VMR 20E SPST CR M1S	3-way valve - 230 V - Male Gas connections - with fast coupling - no cable- with auxiliary micro	3/4"	10	7,0	1	5
7.030.00318	VMR 25E SPST CR M1S	3-way valve - 230 V - Male Gas connections - with fast coupling - no cable- with auxiliary micro	1"	10	8,0	1	5



## VMR 3 WAY

CLICK - CLOCK 3-WAY ZONE VALVE \*1 \*2



- CONNECTIONS FOR COPPER PIPES
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00269	VMR 22EB SPST CR	3-way valve - 230 V - with fast coupling - no cable - with connections for copper pipe - complete with nuts - ferrules	22 mm	10	7,0	1	5
7.030.00797	VMR 28EB SPST CR	3-way valve - 230 V - with fast coupling - no cable - with connections for copper pipe - complete with nuts - ferrules	28 mm	10	8,0	1	5
7.030.00330	VMR 22EB SPST CR M1S	3-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipe	22 mm	10	7,0	1	5
7.030.00317	VMR 28B SPST CR M1S	3-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipe	28 mm	10	8,0	1	5

### SPECIFICATIONS

- SPST external unipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price |e)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



# VMR 3 WAY

## CLICK - CLOCK 3-WAY ZONE VALVE

### BIDIRECTIONAL 3 POINTS <sup>\*1</sup> <sup>\*2</sup>



- MALE CONNECTIONS
- AVAILABLE WITH 24 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00197	VMR 25E CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point 120"	1"	10	8,0	1	5
7.030.01137	VMR 25E CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point 60"	1"	10	8,0	1	5
7.013.00705	VMR 25E CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point 12"	1"	10	8,0	1	5
7.030.00056	VMR 20E CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point 120"	3/4"	10	8,0	1	5
7.030.01190	VMR 20E CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point 60"	3/4"	10	8,0	1	5
7.030.00784	VMR 20E CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point 12"	3/4"	10	8,0	1	5

## SPECIFICATIONS

- SPST external unipolar electric command
- Zone valves for heating and air conditioning systems
- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price )e)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



## VMR 3 WAY

CLICK - CLOCK 3-WAY ZONE VALVE BELL SHAPED



CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.013.00697	VMR	3-way bell valve	1	5



## MOTOR

COMPATIBLE WITH ZONE VALVE CLICK - CLOCK \*1 \*2



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.013.00055	MR SPDT CR	Valve motor VMR SPDT CR 230 V	230 V	1	5
7.013.00082	MR SPDT CR	Valve motor VMR SPDT CR 24 V	24 V	1	5
7.013.00163	MR SPDT CR M1S	Valve motor VMR SPDT CR 230 V with auxiliary micro	230 V	1	5
7.013.00299	MR SPDT CR M1S	Valve motor VMR SPDT CR 24 V with auxiliary micro	24 V	1	5
7.013.00401	MR SPST CR	Motor for VMR SPST CR valves with built-in relay 230 V	230 V	1	5
7.013.00342	MR SPST CR	Motor for VMR SPST CR valves with built-in relay 24 V	24 V	1	5
7.013.00647	MR SPST CR M1S	Motor for VMR SPST CR valves with built-in relay 230 V - with auxiliary micro	230 V	1	5
7.013.00422	MR SPST CR M1S	Motor for VMR SPST CR valves with built-in relay 24 V - with auxiliary micro	24 V	1	5
7.013.00540	MR B1	Valve motor VMR 230 V CR two-way 3 points	120"	1	5
7.013.00598	MR B2	Valve motor VMR 230 V CR two-way 3 points	12"	1	5
7.030.00805	MR MO	Valve motor VMR 24 V 0-10 modulating with pre-assembled cable	60"	1	5
7.030.00809	MR MO	Valve motor VMR 24 V 0-10 modulating with pre-assembled cable	12"	1	5

## SPECIFICATIONS

- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



## REPLACEMENT KIT

COMPATIBLE WITH ZONE VALVE CLICK - CLOCK

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.013.00381	KIT VMR	Shutoff set for 3-way valves	1	5
7.013.00312	KIT VMR	Shutoff set for 2-way valves	1	5
7.013.00188	KIT	Shutoff dismantling kit	1	5



## CABLE

COMPATIBLE WITH ZONE VALVE CLICK - CLOCK

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.013.00415	Cable VMR	3-pole cable x 0.75	1000 mm	1	5
7.030.00434	Cable VMR	6-pole cable x 0.75 for version with M1S	1000 mm	1	5
7.013.00159	Cable VMR	3-pole cable x 0.75	1500 mm	1	5
7.013.00134	Cable VMR	6-pole cable x 0.75 for version with M1S	1500 mm	1	5
7.030.01595	Cable VMR	3-pole cable x 0.75	2000 mm	1	5
7.030.01166	Cable VMR	6-pole cable x 0.75 for version with M1S	2000 mm	1	5

## SPECIFICATIONS

- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)





# VALVE BODY

2 WAY



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02082	VR 15-2	Body 2-way valve 1/2" Female	1/2"	10	3,0	1	5
7.013.00516	VR 20-2	Body 2-way valve 3/4" Female	3/4"	10	5,3	1	5
7.030.00884	VR 25-2	Body 2-way valve 1" Female	1"	10	8,0	1	5
7.013.00642	VR 202E	Body 2-way valve 3/4" Male	3/4"	10	5,3	1	5
7.030.01187	VR 25-2E	Body 2-way valve 1" Male	1"	10	8,0	1	5



# VALVE BODY

3 WAY



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00529	VR 20	Body 3-way valve 3/4" Female	3/4"	10	8,0	1	5
7.030.01165	VR 25	Body 3-way valve 1" Female	1"	10	8,0	1	5
7.030.00086	VR 20E	Body 3-way valve 3/4" Male	3/4"	10	8,0	1	5
7.013.00745	VR 25E	Body 3-way valve 1" Male	1"	10	8,0	1	5



# VMR 3 WAY 32E

## DIVERTER/MIXER VALVE



- MALE CONNECTIONS
- AVAILABLE WITH 24 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.03342	VMR 32E SPST	3-way valve - 230 V - male connections - with fast coupling- no cable - Tcom 6 sec	1" 1/4	10	12	1	5
7.030.03341	VMR 32E SPDT	3-way valve - 230 V - male connections - with fast coupling- no cable - Tcom 6 sec	1" 1/4	10	12	1	5
7.030.03344	VMR 32E SPST M1S	3-way valve - 230 V - male connections - with fast coupling- no cable - with auxiliary micro -Tcom 6 sec	1" 1/4	10	12	1	5
7.030.03343	VMR 32E SPDT M1S	3-way valve - 230 V - male connections - with fast coupling - no cable - with auxiliary micro - Tcom 6 sec	1" 1/4	10	12	1	5



# VMR 3 WAY 32E

## DIVERTER/MIXER VALVE



- MALE CONNECTIONS
- AVAILABLE WITH 24 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.03376	VMR 32E B2 CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point - Tcom 12 sec	1" 1/4	10	12	1	5
7.030.03377	VMR 32E B3 CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point - Tcom 60 sec	1" 1/4	10	12	1	5
7.030.03378	VMR 32E B1 CR	3-way valve - 230 V - with fast coupling - no cable - male connections - bidirectional 3 point - Tcom 120 sec	1" 1/4	10	12	1	5

## SPECIFICATIONS

- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price )
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



# MOTOR FOR VMR 32E

COMPATIBLE WITH ZONE VALVE CLICK - CLOCK <sup>\*1</sup> <sup>\*2</sup>



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.030.03337	MR SPDT CR	Valve motor VMR 32E SPDT CR 230V	230	1	5
7.030.03372	MR SPDT CR	Valve motor VMR 32E SPDT CR 24V	24	1	5
7.030.03339	MR SPDT CR M1S	Valve motor VMR 32E SPDT CR 230V with auxiliary micro	230	1	5
7.030.03375	MR SPDT CR M1S	Valve motor VMR 32E SPDT CR 24V with auxiliary micro	24	1	5
7.030.03338	MR SPST CR	Valve motor VMR 32E SPST CR 230V	230	1	5
7.030.03373	MR SPST CR	Valve motor VMR 32E SPST CR 24V	24	1	5
7.030.03340	MR SPST CR M1S	Valve motor VMR 32E SPST CR 230V with auxiliary micro	230	1	5
7.030.03374	MR SPST CR M1S	Valve motor VMR 32E SPST CR 24V with auxiliary micro	24	1	5
7.013.00540	MR B1	Valve motor VMR e VMR32E 230V CR bidirectional 3 point 120"	230	1	5
7.030.03379	MR B2	Valve motor VMR 32E 230V CR bidirectional 3 point 12"	230	1	5
7.030.01349	MR B3	Valve motor VMR e VMR32E 230V CR bidirectional 3 point 60"	230	1	5
7.030.03384	MR MO2	Valve motor VMR 32E 24V V 0-10 modulating with pre-assembled cable 12"	24	1	5
7.030.00805	MR MO3	Valve motor VMR e VMR32E 24V V 0-10 modulating with pre-assembled cable 60"	24	1	5

## SPECIFICATIONS

- \*1 All the valves of the VMR range can be supplied with a 24V motor (+€10 on list price)
- \*2 All the valves of the VMR range can be supplied with a fixed cable (for the codes, contact MUT)



# REPLACEMENT KIT

COMPATIBLE WITH ZONE VALVE CLICK - CLOCK

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03336	KIT VMR 32E	Shut-off assembly for 3-way valves	1	5
7.030.03380	KIT VMR 32E	Shutoff dismantling kit VMR 32E	1	5



# CABLE

COMPATIBLE WITH ZONE VALVE CLICK - CLOCK

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.013.00415	Cable VMR	Pole cable 3 poli x 0,75	1000 mm	1	5
7.030.00434	Cable VMR	Pole cable 6 poli x 0,75 for version with M1S	1000 mm	1	5
7.013.00159	Cable VMR	Pole cable 3 poli x 0,75	1500 mm	1	5
7.013.00134	Cable VMR	Pole cable 6 poli x 0,75 for version with M1S	1500 mm	1	5
7.030.01595	Cable VMR	Pole cable 3 poli x 0,75	2000 mm	1	5
7.030.01166	Cable VMR	Pole cable 6 poli x 0,75 for version with M1S	2000 mm	1	5



# VALVE BODY

VMR 32E

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.03335	32E	Body 3-way valve 1" 1/4 Male	1" 1/4	10	12	1	5

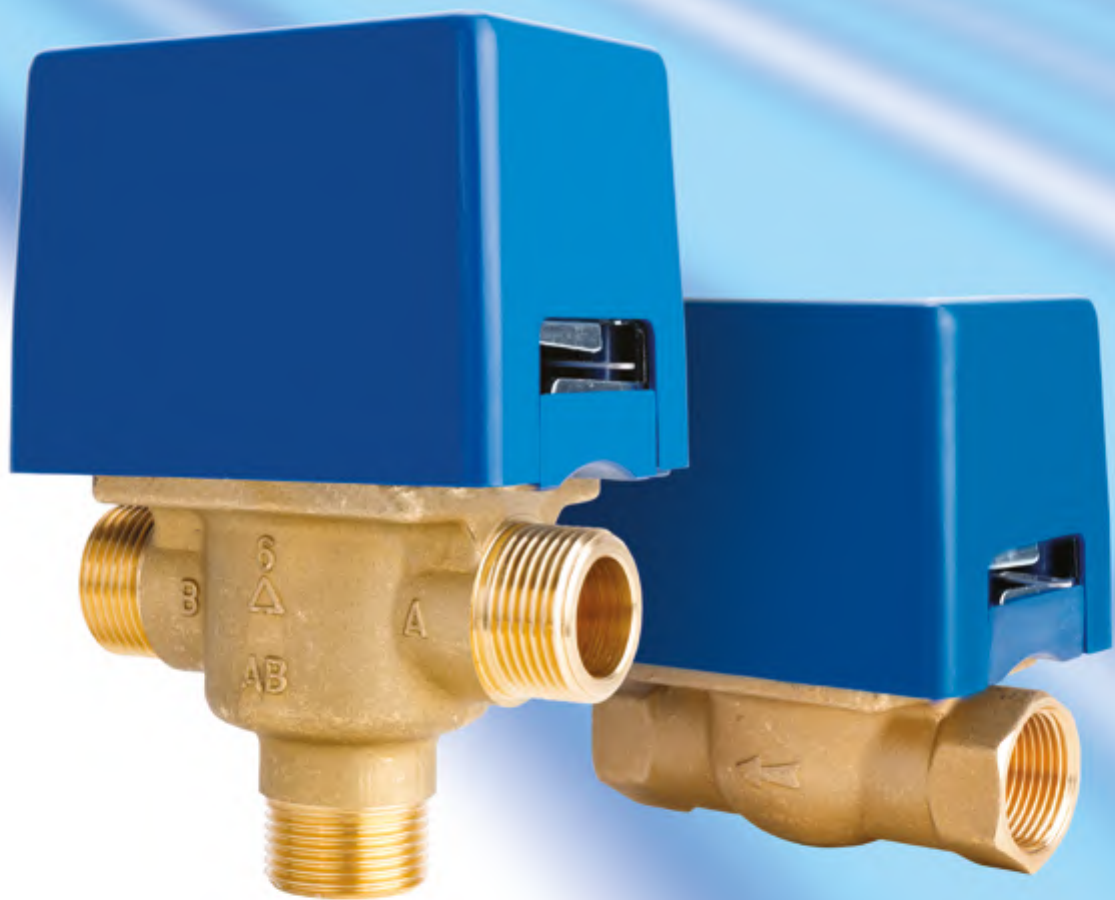
# SF RANGE

## BALL ZONE VALVES WITH SPRING RETURN

These are powered by an electric motor and can assume two operating positions depending on whether the motor is activated or not. One or two auxiliary switches can be installed on request. These are activated when the valve switches.

The valves are equipped with an external lever for manual positioning of the shut-off ball in a central position.

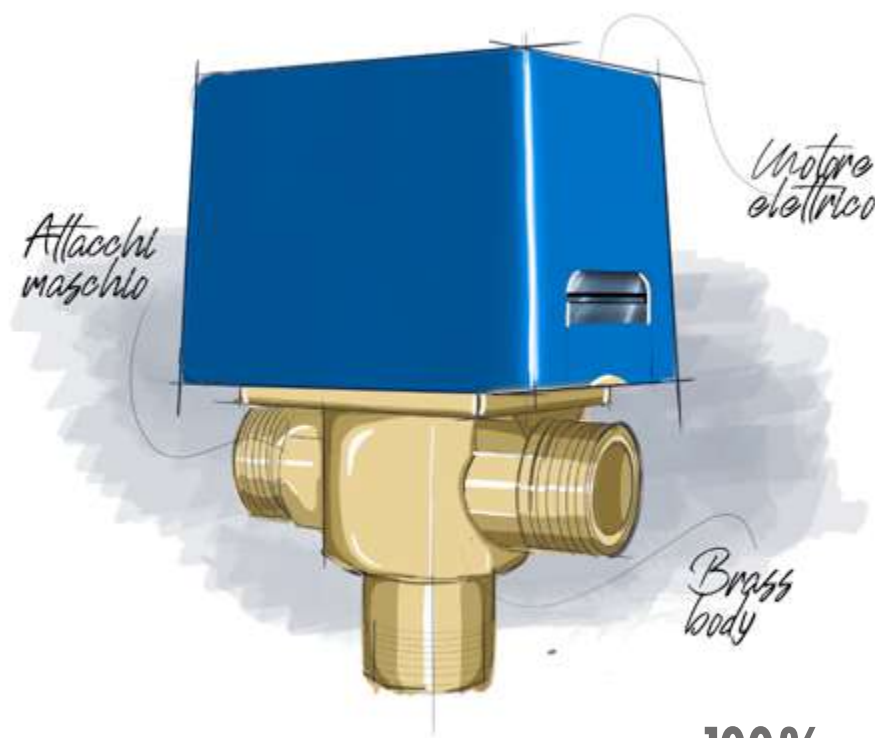




# SF RANGE

ZONE VALVE WITH PRING RETURN

CLICK - CLOCK



100%  
MADE IN  
ITALY



## TECHNICAL DATA



Type of movement  
Spring return



Max. differential pressure  
90.2 kPa (2 way); 62÷154 kPa (3 way)



Nominal pressure  
PN10



Insulation class  
II Ref. European Directive EN60730



Protection rating  
IP 22 Ref. European Directive IEC EN 60529



Way commutation time  
10 sec / 20 sec (2/3 way)



Way commutation time  
4 sec / 10 sec (2/3 way)



Flows' temperature limits  
5 ÷ 110 °C [max]



Cable length  
1000 mm



Connections  
Threaded - ISO 228-1



Supply  
230V ( 24V o 110V on request)

## CONTENTS

Use your smartphone  
to read the qr code,  
so you can see the  
multimedia contents



TECHNICAL DATASHEET  
SF 2 WAY



TECHNICAL DATASHEET  
SF 3 WAY



# VALVE RANGE

2



SF 2 WAY  
female connections



SF 2 WAY  
male connections



SF 2 WAY  
complete with nuts



SF 2 WAY  
complete with flanges

3



SF 3 WAY  
female connections



SF 3 WAY  
male connections



SF 3 WAY  
complete with nuts



SF 3 WAY  
prepared for flange



SF 3 WAY  
complete with flanges



SF 3 WAY MID POSITION  
female connections



SF 3 WAY MID POSITION  
male connections

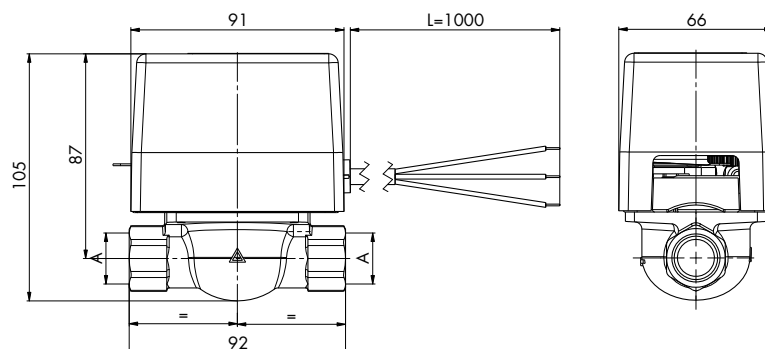


SF 3 WAY FLAT  
male connections

# SIZE DATA

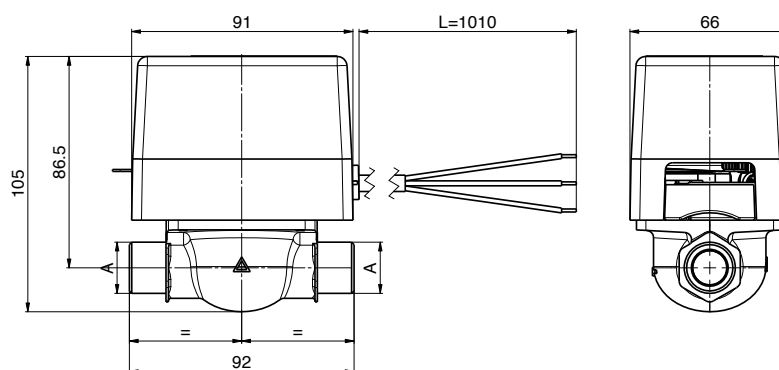
## SF 2 WAY FEMALE CONNECTIONS

CODE	A	N° MICRO SWITCH	PN
7.001.01574	G1/2"	-	10
7.001.01603	G3/4"	-	10
7.001.01639	G1"	-	10
7.001.01586	G1/2"	1	10
7.001.01618	G3/4"	1	10
7.001.01654	G1"	1	10



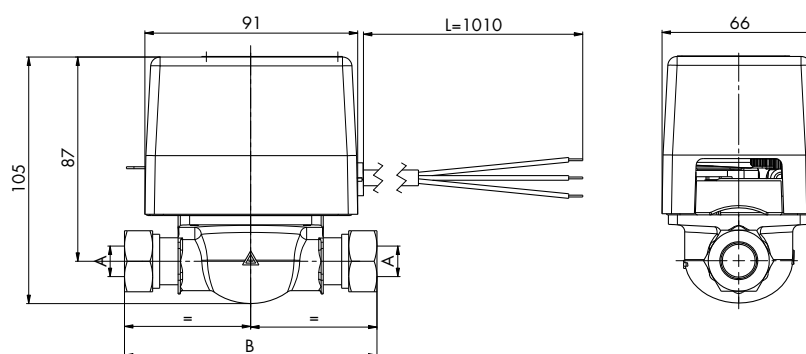
## SF 2 WAY MALE CONNECTIONS

CODE	A	N° MICRO SWITCH	PN
7.001.01724	G1/2" B	-	10
7.001.02066	G3/4" B	-	10
7.001.02283	G1" B	-	10
7.001.02517	G1/2" B	1	10
7.001.02286	G3/4" B	1	10
7.001.02195	G1" B	1	10



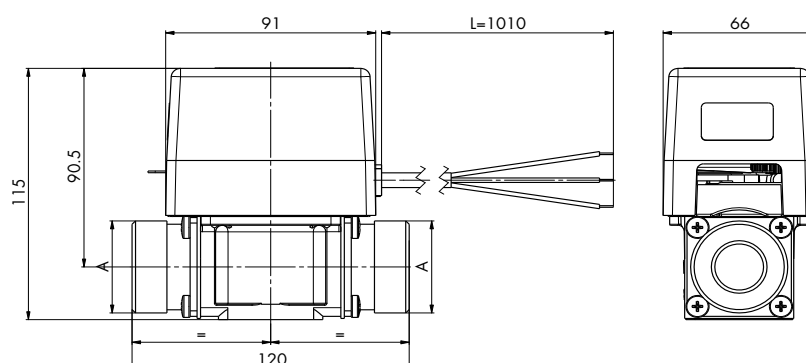
## SF 2 WAY CONNECTIONS FOR COPPER PIPES

CODE	A	B	N° MICRO SWITCH	PN
7.001.01693	Ø15	107	-	10
7.001.01682	Ø16	107	-	10
7.001.01704	Ø20	107	-	10
7.001.02844	Ø28	120	-	10
7.001.01699	Ø15	107	1	10
7.001.01685	Ø16	107	1	10
7.001.02777	Ø20	107	1	10
7.001.02778	Ø28	120	1	10



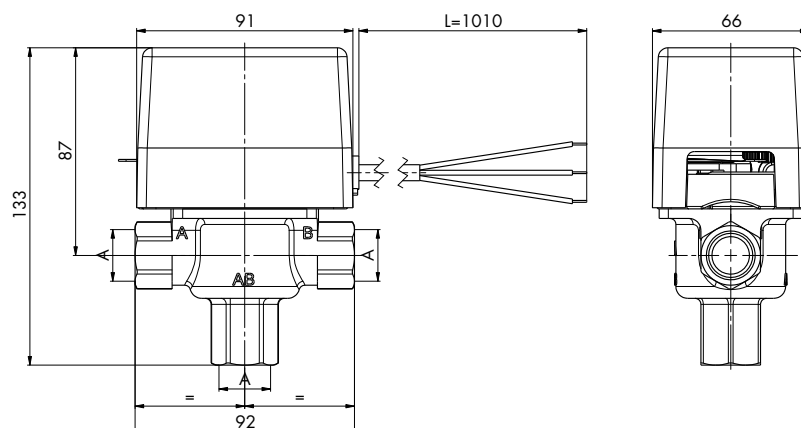
## SF 2 WAY WITH FLANGES

CODE	A	N° MICRO SWITCH	PN
7.030.00321	G 1"1/4 B	-	10
7.030.00349	G 1"1/4 B	1	10



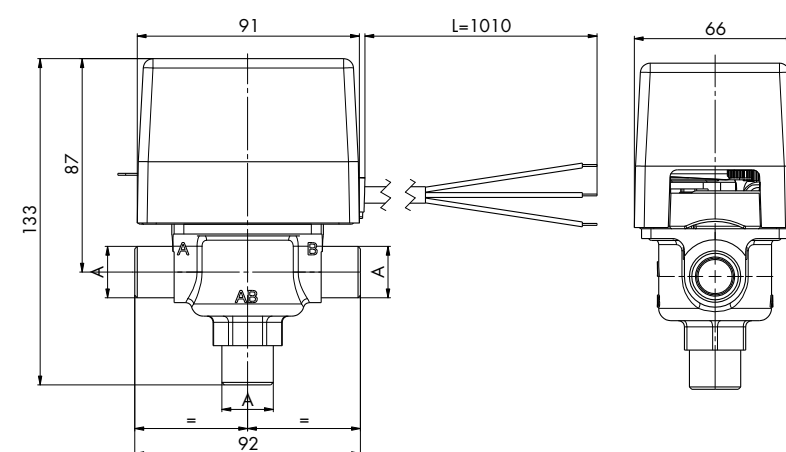
## SF 3 WAY FEMALE CONNECTIONS

CODE	A	N° MICRO SWITCH	PN
7.001.01739	G1/2"	-	10
7.001.01770	G 3/4"	-	10
7.001.01808	G1"	-	10
7.001.01753	G1/2"	1	10
7.001.01787	G3/4"	1	10
7.001.01827	G1"	1	10



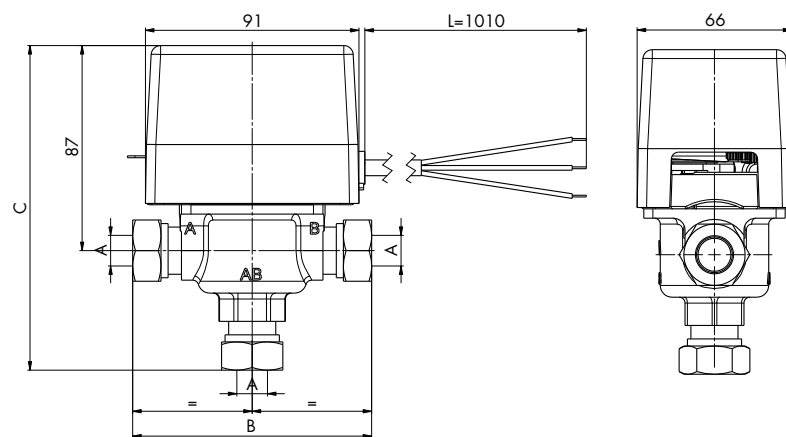
## SF 3 WAY MALE CONNECTIONS

CODE	A	N° MICRO SWITCH	PN
7.001.02097	G1/2" B	-	10
7.001.01913	G 3/4" B	-	10
7.001.01954	G1" B	-	10
7.001.02762	G1/2" B	1	10
7.001.01935	G3/4" B	1	10
7.001.01969	G1" B	1	10



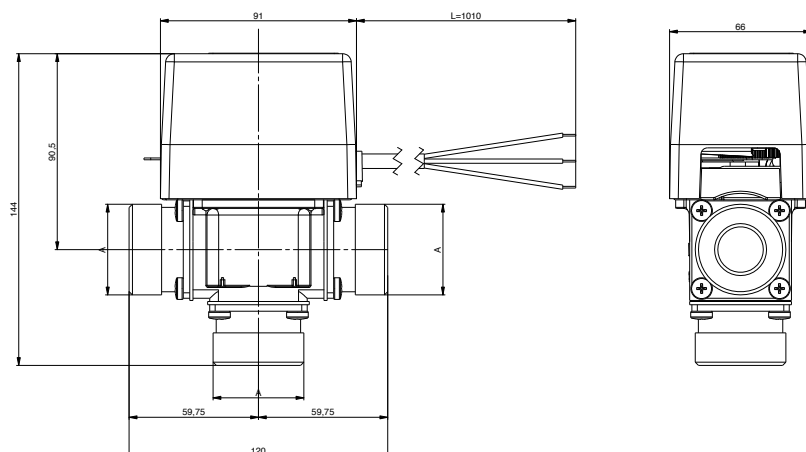
## SF 3 WAY CONNECTIONS FOR COPPER PIPES

CODE	A	B	C	N° MICRO SWITCH	PN
7.001.01876	Ø15	106	137	-	10
7.001.01861	Ø16	106	137	-	10
7.001.01888	Ø22	106	139	-	10
7.001.01846	Ø28	120	148	-	10
7.001.02511	Ø15	106	137	1	10
7.001.01855	Ø16	106	137	1	10
7.001.01895	Ø22	106	139	1	10
7.001.02780	Ø28	120	148	1	10



## SF 3 WAY WITH FLANGES

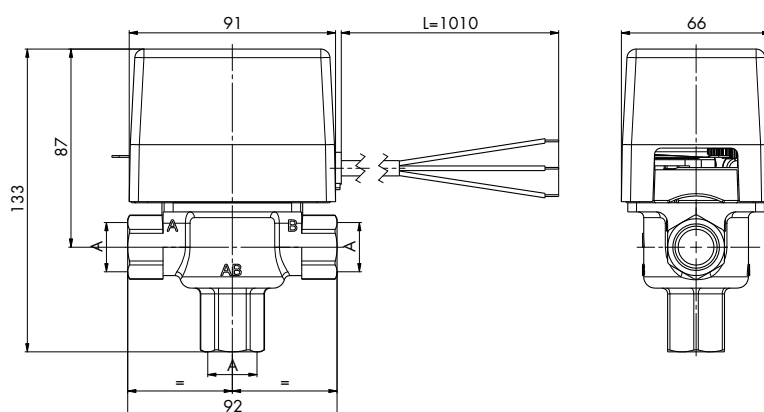
CODE	A	N° MICRO SWITCH	PN
7.030.00343	G1" 1/4 B	-	10
7.030.00347	G1" 1/4 B	1	10



# SIZE DATA

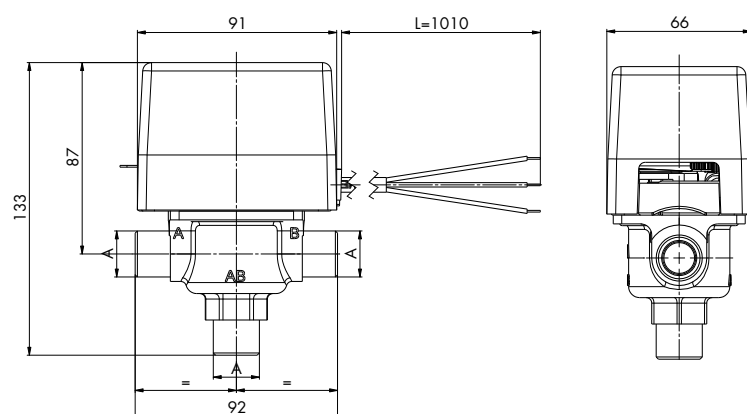
## SF 3 WAY MID POSITION FEMALE CONNECTIONS

CODE	A	PN
7.001.01767	G1/2"	10
7.001.01803	G3/4"	10
7.001.01844	G1"	10



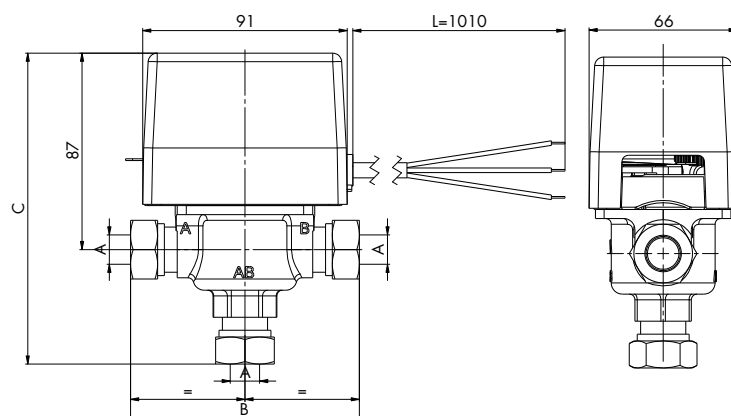
## SF 3 WAY MID POSITION MALE CONNECTIONS

CODE	A	N° MICRO SWITCH	PN
7.001.02748	G1/2" B	-	10
7.001.01952	G3/4" B	-	10
7.001.01981	G1" B	-	10



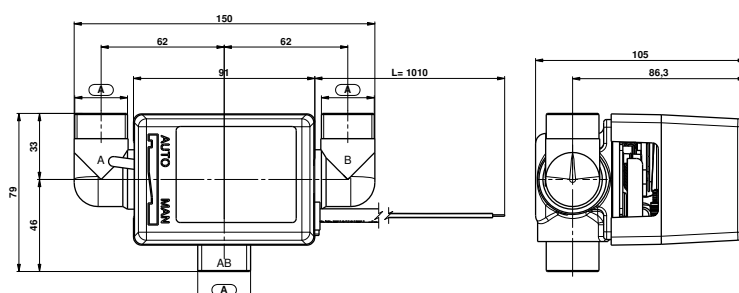
## SF 3 WAY MID POSITION ATTACCHI TUBO RAME

CODE	A	B	C	PN
7.001.02587	Ø15	106	137	10
7.001.01875	Ø16	106	137	10
7.001.01911	Ø22	120	139	10
7.001.02591	Ø28	120	148	10



## SF 3 WAY FLAT CONFIGURATION VALVE WITH MALE THREADED CURVES

CODE	A	PN
7.030.03070	3/4"	10







- FEMALE CONNECTIONS
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF 2 WAY

ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.01574	SF 15-2	2-way valve - 230 V - Female Gas connections	1/2"	10	6,0	1	1
7.001.01603	SF 20-2	2-way valve - 230 V - Female Gas connections	3/4"	10	8,0	1	1
7.001.01639	SF 25-2	2-way valve - 230 V - Female Gas connections	1"	10	10,0	1	1
7.001.01586	SF 15-2 M1	2-way valve - 230 V - Female Gas connections with auxiliary micro for the 24 V version use the code 7.001.01584	1/2"	10	6,0	1	1
7.001.01618	SF 20-2 M1	2-way valve - 230 V - Female Gas connections with auxiliary micro for the 24 V version use the code 7.001.01615	3/4"	10	8,0	1	1
7.001.01654	SF 25-2 M1	2-way valve - 230 V - Female Gas connections with auxiliary micro for the 24 V version use the code 7.001.01652	1"	10	10,0	1	1

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.



- MALE CONNECTIONS
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF 2 WAY

### ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.01724	SF 15-2 E	2-way valve - 230 V - Male Gas connections	1/2"	10	6,0	1	5
7.001.02066	SF 20-2 E	2-way valve - 230 V - Male Gas connections	3/4"	10	8,0	1	5
7.001.02283	SF 25-2 E	2-way valve - 230 V - Male Gas connections	1"	10	10,0	1	5
7.001.02517	SF 15-2 E M1	2-way valve - 230 V Male gas connections with auxiliary micro	1/2"	10	6,0	1	5
7.001.02286	SF 20-2 E M1	2-way valve - 230 V Male gas connections with auxiliary micro	3/4"	10	8,0	1	5
7.001.02195	SF 25-2 E M1	2-way valve - 230 V Male gas connections with auxiliary micro	1"	10	10,0	1	5

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.





- CONNECTIONS FOR COPPER PIPES
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF 2 WAY

ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.01693	SF 15-2 EB	2-way valve - 230 V - connections for copper - pipes complete with nuts - ferrules	15 mm	10	6,0	1	5
7.001.01682	SF 16-2 EB	2-way valve - 230 V - connections for copper - pipes complete with nuts - ferrules	16 mm	10	6,0	1	5
7.001.01704	SF 20-2 EB	2-way valve - 230 V - connections for copper - pipes complete with nuts - ferrules	22 mm	10	8,0	1	5
7.001.02844	SF 25-2 B	2-way valve - 230 V - connections for copper - pipes complete with nuts - ferrules	28 mm	10	10,0	1	5
7.001.01699	SF 15-2 EB M1	2-way valve - 230 V - connections for copper pipe with auxiliary micro - complete with nuts	15 mm	10	6,0	1	5
7.001.01685	SF 16-2 EB M1	2-way valve - 230 V - connections for copper pipe with auxiliary micro - complete with nut	16 mm	10	6,0	1	5
7.001.02777	SF 20-2 EB M1	2-way valve - 230 V - connections for copper pipe with auxiliary micro - complete with nut	22 mm	10	8,0	1	5
7.001.02778	SF 25-2 B M1	2-way valve - 230 V - connections for copper pipe with auxiliary micro - complete with nut	28 mm	10	10,0	1	5

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.



- COMPLETE WITH FLANGES
- AVAILABLE WITH 24 V AND 110 V MOTOR

# SF 2 WAY

ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00321	SF BASE	2-way valve - 230 V - complete with flanges	1" 1/4	10	10,0	1	5
7.030.00349	SF BASE M1	2-way valve - 230 V - complete with flanges with auxiliary micro	1" 1/4	10	10,0	1	5

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.



- FEMALE CONNECTIONS
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF 3 WAY

ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.01739	SF 15	3-way valve - 230 V - Female gas connections	1/2"	10	6,6	1	1
7.001.01770	SF 20	3-way valve - 230 V - Female gas connections	3/4"	10	8,0	1	1
7.001.01808	SF 25	3-way valve - 230 V - Female gas connections	1"	10	12,6	1	1
7.001.01753	SF 15 M1	3-way valve - 230 V - Female gas connections with auxiliary micro	1/2"	10	6,6	1	1
7.001.01787	SF 20 M1	3-way valve - 230 V - Female gas connections with auxiliary micro	3/4"	10	8,0	1	1
7.001.01827	SF 25 M1	3-way valve - 230 V - Female gas connections with auxiliary micro	1"	10	12,6	1	1

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.



- MALE CONNECTIONS
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF 3 WAY

### ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.02097	SF 15 E	3-way valve - 230 V - Male Gas connections	1/2"	10	6,6	1	5
7.001.01913	SF 20 E	3-way valve - 230 V - Male Gas connections	3/4"	10	8,0	1	5
7.001.01954	SF 25 E	3-way valve - 230 V - Male Gas connections	1"	10	12,6	1	5
7.001.02762	SF 15 E M1	3-way valve - 230 V Male gas connections with auxiliary micro	1/2"	10	6,6	1	5
7.001.01935	SF 20 E M1	3-way valve - 230 V Male gas connections with auxiliary micro	3/4"	10	8,0	1	5
7.001.01969	SF 25 E M1	3-way valve - 230 V Male gas connections with auxiliary micro	1"	10	12,6	1	5

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.



- CONNECTIONS FOR COPPER PIPES
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF 3 WAY

ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.01876	SF 15 EB	3-way valve - 230 V connections for copper pipes complete with nuts - ferrules	15 mm	10	6,6	1	5
7.001.01861	SF 16 EB	3-way valve - 230 V connections for copper pipes complete with nuts - ferrules	16 mm	10	6,6	1	5
7.001.01888	SF 20 EB	3-way valve - 230 V connections for copper pipes complete with nuts - ferrules	22 mm	10	8,0	1	5
7.001.01846	SF 25 B	3-way valve - 230 V - connections for copper pipes complete with nuts - ferrules	28 mm	10	12,6	1	5
7.001.02511	SF 15 EB M1	3-way valve - 230 V - connections for copper pipes with auxiliary micro - complete with nuts - ferrules	15 mm	10	6,6	1	5
7.001.01865	SF 16 EB M1	3-way valve - 230 V - connections for copper pipes with auxiliary micro - complete with nuts - ferrules	16 mm	10	6,6	1	5
7.001.01895	SF 20 EB M1	3-way valve - 230 V - connections for copper pipes with auxiliary micro - complete with nuts - ferrules	22 mm	10	8,0	1	5
7.001.02780	SF 25 B M1	3-way valve - 230 V - connections for copper pipes with auxiliary micro - complete with nuts - ferrules	28 mm	10	12,6	1	5

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.



## SF 3 WAY

ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



- CONNECTIONS PREPARED FOR FLANGE
- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.01998	SF BASE	3-way valve - 230 V - connections prepared for flange	-	10	12,6	1	5
7.001.02006	SF BASE M1	3-way valve - 230 V - connections prepared for flange with auxiliary micros	-	10	12,6	1	5



## SF 3 WAY

ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



- COMPLETE WITH FLANGES
- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00343	SF BASE	3-way valve - 230 V - complete with flanges	1" 1/4	10	12,6	1	5
7.030.00347	SF BASE M1	3-way valve - 230 V - complete with flanges with auxiliary micros	1" 1/4	10	12,6	1	5

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.



## SF 3 WAY MID POSITION

### ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



- FEMALE CONNECTIONS
- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.01767	SF 15-MID	3-way valve Mid-Position - 230 V - Fem. Gas connections	1/2"	10	6,6	1	5
7.001.01803	SF 20-MID	3-way valve Mid-Position - 230 V - Fem. Gas connections	3/4"	10	8,0	1	5
7.001.01844	SF 25-MID	3-way valve Mid-Position - 230 V - Fem. Gas connections	1"	10	12,6	1	5



## SF 3 WAY MID POSITION

### ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



- MALE CONNECTIONS
- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.02748	SF 15-E MID	3-way valve Mid-Position - 230 V - Male gas connections	1/2"	10	6,6	1	5
7.001.01952	SF 20-E MID	3-way valve Mid-Position - 230 V - Male gas connections	3/4"	10	8,0	1	5
7.001.01981	SF 25-E MID	3-way valve Mid-Position - 230 V - Male gas connections	1"	10	12,6	1	5

## SPECIFICATIONS

- For heating and air conditioning systems
- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT)) - Minimum order 5 pcs.





## SF 3 WAY MID POSITION

### ZONE VALVE WITH SPRING RETURN CLICK - CLOCK



- CONNECTIONS DESIGNED FOR FLANGES
- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.02587	SF 15-EB MID	3-way valve Mid-Position - 230 V connections for copper pipes - complete with nuts - ferrules	15 mm	10	6,6	1	5
7.001.01875	SF 16-EB MID	3-way valve Mid-Position - 230 V connections for copper pipes - complete with nuts - ferrules	16 mm	10	6,6	1	5
7.001.01911	SF 20-EB MID	3-way valve Mid-Position - 230 V connections for copper pipes - complete with nuts - ferrules	22 mm	10	8,0	1	5
7.001.02591	SF 25-B MID	3-way valve Mid-Position - 230 V connections for copper pipes - complete with nuts - ferrules	28 mm	10	12,6	1	5



## SF 3 WAY FLAT

### ZONE VALVE WITH MALE THREADED BENDS



- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.03070	SF20E-F C	3-way diverter valve, flat configuration with male threaded curves - 230 V	3/4"	10	8.0	1	5

## SPECIFICATIONS

- Max  $\Delta P$  diff.  $\leq 1$  bar
- \*All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT)) - Minimum order 5 pcs.



## MICROSWITCH KIT

WITH 5 WIRES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.001.02025	KIT M1	Auxiliary micro kit with 5 wires - cable gland - spacer nuts - SPST	1	5
7.001.02029	KIT M1S	Auxiliary micro kit with 6 wires - cable gland - spacer nuts - SPDT	1	5



## MOTOR

COMPLETE WITH CONNECTIONS



CODE	MODEL	PACK	PACKAGING
6.001.00703	Motor - 230 V - complete with connections	1	5
6.001.01432	Motor - 24 V - complete with connections	1	5



## MOTOR

COMPLETE WITH PLATE AND CONNECTIONS



CODE	MODEL	PACK	PACKAGING
6.001.01464	Motor - 230 V - complete with plate for 2-way valve	1	5
6.001.01450	Motor - 24 V - complete with plate for 2-way valve	1	5
6.001.01485	Motor - 230 V - complete with plate for 2-way Basic SF and SFC	1	5
6.001.00910	Motor - 230 V - complete with plate for 3-way valve	1	5
6.001.01448	Motor - 24 V complete with plate for 3-way valve	1	5



## INSULATION KIT

### THERMAL INSULATION SHELLS

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02532	Insulation Kit	Thermal insulation kit SF20-2 F G 3/4"	G 3/4"	1	3
7.030.02530	Insulation Kit	Thermal insulation kit SF25-2 F G 1"	G 1"	1	3
7.030.02555	Insulation Kit	Thermal insulation kit SF20 F G 3/4" (3 WAY)	G 3/4"	1	3
7.030.02549	Insulation Kit	Thermal insulation kit SF25 F G 1" (3 WAY)	G 1"	1	3



## COMFORT KIT

### WITH AUXILIARY MICROSWITCH



- AVAILABLE WITH 24 V AND 110 V MOTOR

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01791	Kit Comfort	Comfort kit with auxiliary micro	DN20	1	1
7.030.01792	Kit Comfort	Comfort Deluxe kit with auxiliary micro	DN20	1	1



## YOKE

### FOR 2-WAY AND 3-WAY VALVE



- AVAILABLE 24 V AND 110 V

CODE	MODEL	SIZE	PACK	PACKAGING
7.001.01561	Mount for 3-way valves - 230 V	1/2"-3/4"	1	5
7.001.01227	Mount for 3-way valves - 230 V with auxiliary micro	1/2"-3/4"	1	5
7.001.01563	Mount for 3-way valves - 230 V	1"	1	5
7.001.01228	Mount for 3-way valves - 230 V with auxiliary micro	1"	1	5
7.001.01559	Mount for 2-way valves - 230 V	1/2"-3/4"-1"	1	5
7.001.01224	Mount for 2-way valve - 230 V with auxiliary micro	1/2"-3/4"-1"	1	5
7.001.00958	Mount for 2-way Basic SF valve and SFC 230 V	1"	1	5
7.001.01392	Mount for 2-way Basic SF valve and SFC 230 V with auxiliary micro	1"	1	5

# SFC RANGE

## ZONE VALVES WITH SPRING RETURN

These valves are powered by an electric motor and can be in two different operating positions depending on whether the motor is charged or not. An auxiliary switch can be installed on request and activated when the valve is switched. Valves are equipped with an external lever for manual positioning of the shut-off ball in a central position. They also have a built-in by-pass to balance the hydraulic circuit when the valve is closed.



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### TECHNICAL DATA



Type of movement  
Spring return



Max. differential pressure  
61.8 kPa



Nominal pressure  
PN10



Insulation class  
II Ref. European Directive EN60730



Protection rating  
IP 22 Ref. European Directive IEC EN 60529



Way commutation time  
20 sec



Way commutation time  
6 s



Flows' temperature limits  
5 ÷ 110 °C [max]



Cable length  
1000 mm



Connections  
Threaded - ISO 228-1



Supply  
230V (24V o 110V on request)



TECHNICAL DATASHEET



## SFC 4 WAY

VALVES FOR COPLANAR MANIFOLDS \*



- MALE CONNECTIONS
- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.001.01012	SFC 25	4-way zone valve with built-in by-pass for balancing the hydraulic head - Male Gas connections 1" - std distance between axes 50 mm - 230 V	1"	10	10,0	1	5
7.001.01031	SFC 25 M1	4-way zone valve with built-in by-pass for balancing the hydraulic head - Male Gas connections 1" - std distance between axes 50 mm - 230 V with auxiliary micro	1"	10	10,0	1	5



## YOKE

FOR SFC VALVE



- AVAILABLE WITH 24 V AND 110 V MOTOR

CODE	MODEL	SIZE	PACK	PACKAGING
7.001.00958	Mount for valves SFC - 230 V	1"	1	5
7.001.01392	Mount for valves SFC - 2230 V with auxiliary micro	1"	1	5

## SPECIFICATIONS

- All the valves in the SF series can be supplied with 24 V and 110 V motors (+20 € from list price)  
(for the codes, contact MUT) - Minimum order 5 pcs.



# MOTOR

COMPLETE WITH PLATE AND CONNECTIONS



CODE	MODEL	PACK	PACKAGING
6.001.01485	Motor - 230 V - complete with plate for SF Base 2 way and for SFC	1	5



# PIPE UNION COUPLING

COMPATIBLE WITH SFC VALVE

CODE	DESCRIPTION	PACK	PACKAGING
7.001.01558	Pipe union - 1" Male / 1" Female	1	10
7.001.01036	Pipe union - 3/4" Male / 1" Female	1	10



# SPACER

COMPATIBLE WITH SFC VALVE

CODE	DESCRIPTION	SIZE	PACK	PACKAGING
7.001.01547	Spacer for distance between axes	52 mm	1	10
7.001.01548	Spacer for distance between axes	55 mm	1	10
7.001.01549	Spacer for distance between axes	57 mm	1	10
7.001.01550	Spacer for distance between axes	60 mm	1	10
7.001.01551	Spacer for distance between axes	65 mm	1	10







# SFCF RANGE

## ZONE VALVES WITH SPRING RETURN

These valves are moved by an electric motor and they can take on two operation positions according to whether the motor is being powered or not. An auxiliary switch that is activated during valve switching is available on request. The valves have an external lever for placing the shut-off manually in the central position. In addition, the PLUS version has an adjustable by-pass and a manometric pressure intake for balancing the hydraulic circuit when the valve is closed.



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### TECHNICAL DATA



Type of movement  
Spring return



Max. differential pressure  
61.8 kPa



Nominal pressure  
PN10



Insulation class  
II Ref. European Directive EN60730



Protection rating  
IP 20 Ref. European Directive IEC EN 60529



Way commutation time  
20 sec



Way commutation time  
6 s



Flows' temperature limits  
5 ÷ 110 °C [max]



Cable length  
1000 mm



Connections  
Threaded - ISO 228-1



Supply  
230V (24V o 110V on request)



TECHNICAL DATASHEET



## SFCF 3 WAY

VALVES FOR COPLANAR MANIFOLDS \*



- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01559	SFCF 25E	SFCF 25E 230 V valve	1"	10	8,5	1	5
7.030.01528	SFCF 25E	SFCF 25E 230 V plus valve	1"	10	8,5	1	5



## SFCF 3 WAY

VALVES FOR COPLANAR MANIFOLDS \*



- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01623	SFCF 25E M1	SFCF 25E M1 valve 230 V with auxiliary micro	1"	10	8,5	1	5
7.030.01622	SFCF 25E M1	SFCF 25E M1 valve 230 V plus with auxiliary micro	1"	10	8,5	1	5

## SPECIFICATIONS

- All the valves of the SF and SFC ranges can be supplied with a 24V and 110V motor (+€20 on list price) (for the codes, contact MUT) Minimum quantity 5 pcs

# VS RANGE

## BALL ZONE VALVE WITH FULL PASSAGE

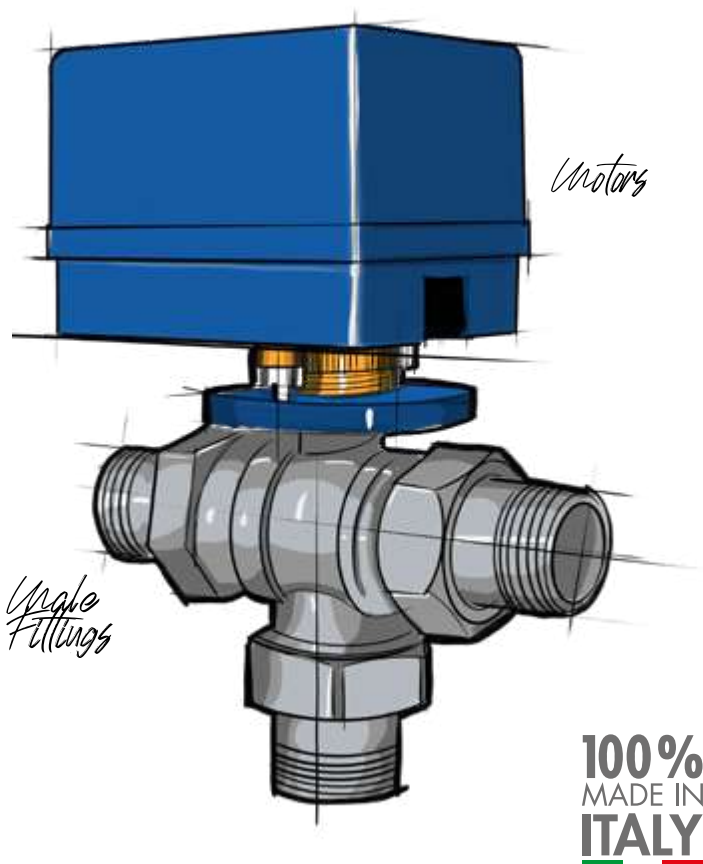
The ball valve is the most common and used fluid interception device in hydraulic piping. Its operation is based on a 90 degree rotation of a spherical block fitted with cylindrical hole coaxial with the flow. The valve allows the passage or the total blocking of the flow and in some cases even its regulation. A total passage ball valve, i.e., where the passage diameter equal to the internal diameter of upstream and downstream pipe, has a small capacity loss equal to that of the pipe (if the valve is completely open).





# VS RANGE

## BALL ZONE VALVE WITH FULL PASSAGE



### TECHNICAL DATA



Type of movement  
3 points with auxiliary micro



Max. differential pressure  
6 bar



Nominal pressure  
PN16



Insulation class  
II Ref. European Directive EN60730



Protection rating  
IP 40 Ref. European Directive CEI EN 60529



Way commutation time  
55 - 120 sec.



Flows' temperature limits  
5 ÷ 110 °C [max]



Cable length  
1100 mm



Connections  
Threaded - ISO 228-1



Supply  
230V or 24 V



## CONTENTS

Use your smartphone  
to read the qr code,  
so you can see the  
multimedia contents



TECHNICAL DATASHEET

# VALVES RANGE



VS 2 WAY + MOTOR V70



VS 2 WAY + MOTOR V200



VS 3 WAY + MOTOR V200  
full passage in by pass

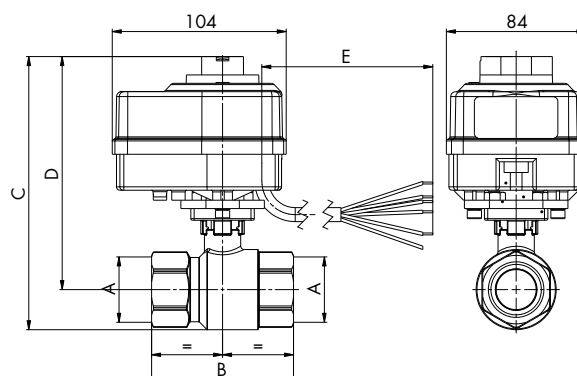


VS 3 WAY + MOTOR V200  
full passage

# SIZE DATA

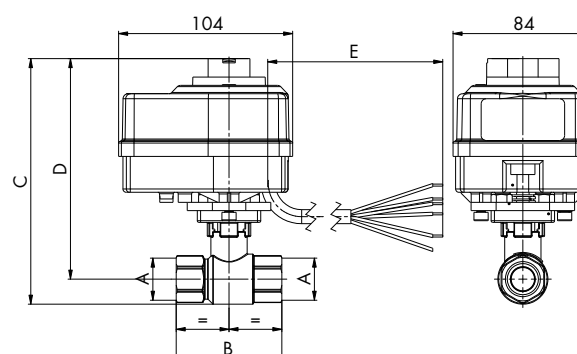
## VS 2 WAY 230 V

CODE	A	B	C	D	E	N° MICRO SWITCH	MOTOR
7.030.01690	G1/2"	63	147	132	950	1	V70F 50S 230 M1
7.030.01692	G3/4"	70	155	135.5	950	1	V70F 50S 230 M1
7.030.01694	G1"	85	163	140	950	1	V70F 50S 230 M1
7.030.01696	G1"1/4	94	204	175.5	1020	1	V200F 120S 230 M1
7.030.01698	G1"1/2	108	222	186.5	1020	1	V200F 120S 230 M1
7.030.01679	G1/2"	63	150	132.5	1620	-	V70F 50S 230
7.030.01681	G3/4"	70	157.5	138	1620	-	V70F 50S 230
7.030.01683	G1"	85	166	142	1620	-	V70F 50S 230
7.030.01686	G1"1/4	94	204	175.5	1020	-	V200F 120S 230
7.030.01688	G1"1/2	108	222	186.5	1020	-	V200F 120S 230



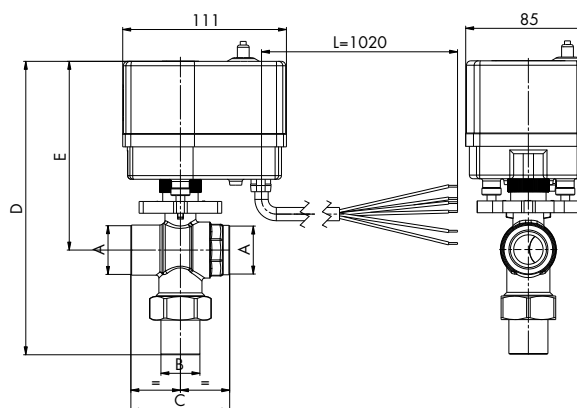
## VS 2 WAY 24 V

CODE	A	B	C	D	E	N° MICRO SWITCH	MOTOR
7.030.01689	G1/2"	63	147	132	950	1	V70F 50S 24 M1
7.030.01691	G3/4"	70	155	136	950	1	V70F 50S 24 M1
7.030.01693	G1"	85	163	140	950	1	V70F 50S 24 M1
7.030.01695	G1"1/4	94	215	186.5	1020	1	V200F 120S 24 M1
7.030.01697	G1"1/2	108	222	186.5	1020	1	V200F 120S 24 M1
7.030.01678	G1/2"	63	150	136	1620	-	V70F 50S 24
7.030.01680	G3/4"	70	157.5	138	1620	-	V70F 50S 24
7.030.01682	G1"	85	166	142	1620	-	V70F 50S 24
7.030.01685	G1"1/4	94	218	190	1020	-	V200F 120S 24
7.030.01687	G1"1/2	108	222	186.5	1020	-	V200F 120S 24



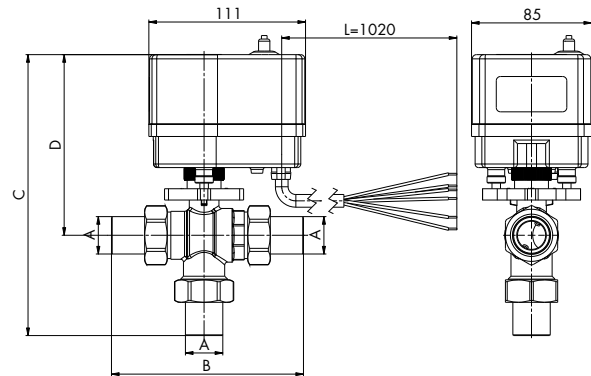
## VS 3 WAY 230 V TOTAL PASSAGE

CODE	A	B	C	D	E	N° MICRO SWITCH	MOTOR
7.030.01715	G3/4"	G3/4"B	67	200	128	1	V200F 120S 230V M1
7.030.01716	G1"	G1"B	82	208	132	1	V200F 120S 230V M1
7.030.01717	G3/4"	G3/4"B	82	208	132	-	V200F 120S 230V
7.030.01718	G1"	G1"B	82	208	132	-	V200F 120S 230V



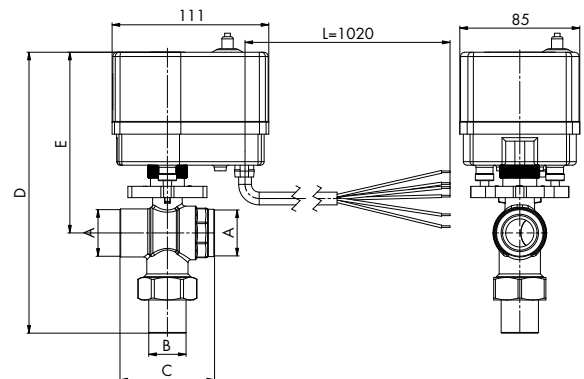
## VS 3 WAY 230 V MMM IN BY PASS

CODE	A	B	C	D	N° MICRO SWITCH	MOTOR
7.030.01699	G3/4"B	136	200	128	1	V200F 120S 230V M1
7.030.01701	G1"B	152.5	210	132	1	V200F 120S 230V M1
7.030.01719	G3/4"B	136	200	128	-	V200F 120S 230V
7.030.01720	G1"B	152.5	210	132	-	V200F 120S 230V



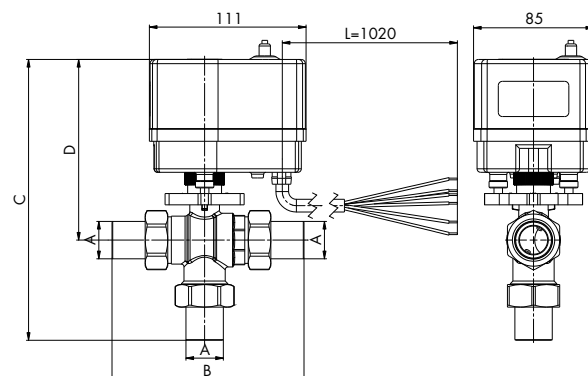
## VS 3 WAY 24 V FFM TOTAL PASSAGE

CODE	A	B	C	D	E	N° MICRO SWITCH	MOTOR
7.030.01700	G3/4"	G3/4"B	67	200	128	1	V200F 120S 24V M1
7.030.01721	G1"	G1"B	82	208	132	1	V200F 120S 24V M1
7.030.01724	G3/4"	G3/4"B	67	200	128	-	V200F 120S 24V
7.030.01725	G1"	G1"B	82	208	132	-	V200F 120S 24V



## VS 3 WAY 24 V MMM IN BY PASS

CODE	A	B	C	D	N° MICRO SWITCH	MOTOR
7.030.01722	G3/4"B	136	200	128	1	V200F 120S 24V M1
7.030.01723	G1"B	152.5	210	132	1	V200F 120S 24V M1
7.030.01726	G3/4"B	136	200	128	-	V200F 120S 24V
7.030.01727	G1"B	152.5	210	132	-	V200F 120S 24V







- WITH MOTOR V70
- FEMALE - FEMALE CONNECTIONS
- WITH OR WITHOUT AUXILIARY MICRO

## VS 2 WAY

### BALL VALVE WITH ELECTRIC ACTUATOR 230V



CODE	MODEL	DESCRIPTION	SIZE	MOTOR	PACK	PACKAGING
7.030.01690	VS 15 F-F M1	Full passage VS valve female - female 230 V M1 with micro	1/2"	V70F 50S 230 M1	1	1
7.030.01692	VS 20 F-F M1	Full passage VS valve female - female 230 V M1 with micro	3/4"	V70F 50S 230 M1	1	1
7.030.01694	VS 25 F-F M1	Full passage VS valve female - female 230 V M1 with micro	1"	V70F 50S 230 M1	1	1
7.030.01679	VS 15 F-F	VS total flow valve female - female 230 V	1/2"	V70F 50S 230	1	1
7.030.01681	VS 20 F-F	VS total flow valve female - female 230 V	3/4"	V70F 50S 230	1	1
7.030.01683	VS 25 F-F	VS total flow valve female - female 230 V	1"	V70F 50S 230	1	1

## SPECIFICATIONS

- Bypass transit



- WITH MOTOR V200
- FEMALE - FEMALE CONNECTIONS
- WITH OR WITHOUT AUXILIARY MICRO

# VS 2 WAY

BALL VALVE WITH ELECTRIC ACTUATOR 230V



CODE	MODEL	DESCRIPTION	SIZE	MOTOR	PACK	PACKAGING
7.030.01696	VS 32 F-F M1	Full passage VS valve female - female 230 V M1 with micro	1"1/4	V200F 120S 230 M1	1	1
7.030.01698	VS 40 F-F M1	Full passage VS valve female - female 230 V M1 with micro	1"1/2	V200F 120S 230 M1	1	1
7.030.01686	VS 32 F-F	VS total flow valve female - female 230 V	1"1/4	V200F 120S 230	1	1
7.030.01688	VS 40 F-F	VS total flow valve female - female 230 V	1"1/2	V200F 120S 230	1	1

## SPECIFICATIONS

- Bypass transit



- WITH MOTOR V70
- FEMALE- FEMALE CONNECTIONS
- WITH OR WITHOUT AUXILIARY MICRO

## VS 2 WAY

BALL VALVE WITH ELECTRIC ACTUATOR 24V



CODE	MODEL	DESCRIPTION	SIZE	MOTOR	PACK	PACKAGING
7.030.01689	VS 15 F-F M1	Full passage VS valve female - female 24 V M1 with micro	1/2"	V70F 50S 24 M1	1	1
7.030.01691	VS 20 F-F M1	Full passage VS valve female - female 24 V M1 with micro	3/4"	V70F 50S 24 M1	1	1
7.030.01693	VS 25 F-F M1	Full passage VS valve female - female 24 V M1 with micro	1"	V70F 50S 24 M1	1	1
7.030.01678	VS 15 F-F	VS total flow valve female - female 24 V	1/2"	V70F 50S 24	1	1
7.030.01680	VS 20 F-F	VS total flow valve female - female 24 V	3/4"	V70F 50S 24	1	1
7.030.01682	VS 25 F-F	VS total flow valve female - female 24 V	1"	V70F 50S 24	1	1

## SPECIFICATIONS

- Bypass transit



- WITH MOTOR V200
- FEMALE - FEMALE CONNECTIONS
- WITH OR WITHOUT AUXILIARY MICRO

# VS 2 WAY

## BALL VALVE WITH ELECTRIC ACTUATOR 24V



CODE	MODEL	DESCRIPTION	SIZE	MOTOR	PACK	PACKAGING
7.030.01695	VS 32 F-F M1	Full passage VS valve female - female 24 V M1 with micro	1"1/4	V200F 120S 24 M1	1	1
7.030.01697	VS 40 F-F M1	Full passage VS valve female - female 24 V M1 with micro	1"1/2	V200F 120S 24 M1	1	1
7.030.01685	VS 32 F-F	VS total flow valve female - female 24 V	1"1/4	V200F 120S 24	1	1
7.030.01687	VS 40 F-F	VS total flow valve female - female 24 V	1"1/2	V200F 120S 24	1	1

## SPECIFICATIONS

- Bypass transit



- WITH MOTOR V200
- FEMALE - FEMALE - MALE CONNECTIONS

## VS 3 WAY

### BALL VALVE WITH ELECTRIC ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	MOTOR	PACK	PACKAGING
7.030.01715	VS 3 - 20	3-way VS valve DN 20 - FFM Total passage 230V with M1 micro	3/4"	V200F 120S 230 V M1	1	1
7.030.01716	VS 3 - 25	3-way VS valve DN 25 - FFM Total passage 230V with M1 micro	1"	V200F 120S 230 V M1	1	1
7.030.01717	VS 3 - 20	3-way VS valve DN 20 - FFM Total passage 230V	3/4"	V200F 120 S 230 V	1	1
7.030.01718	VS 3 - 25	3-way VS valve DN 25 - FFM Total passage 230V	1"	V200F 120 S 230 V	1	1

## SPECIFICATIONS

- Bypass transit



- WITH MOTOR V200
- MALE - MALE - MALE CONNECTIONS

VS 3 WAY

BALL VALVE WITH ELECTRIC ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	MOTOR	PACK	PACKAGING
7.030.01699	VS 3 - 20E	3-way VS valveDN 20 - MMM By-pass passage 230V with M1 micro	3/4"	V200F 120S 230 V M1	1	1
7.030.01701	VS 3 - 25E	3-way VS valveDN 25 - MMM By-pass passage 230V with M1 micro	1"	V200F 120S 230 V M1	1	1
7.030.01719	VS 3 - 20E	3-way VS valveDN 20 - MMM By-pass passage 230V	3/4"	V200F 120 S 230 V	1	1
7.030.01720	VS 3 - 25E	3-way VS valveDN 25 - MMM By-pass passage 230V	1"	V200F 120 S 230 V	1	1

SPECIFICATIONS

- Bypass transit



- WITH MOTOR V200
- FEMALE - FEMALE - MALE CONNECTIONS

## VS 3 WAY

### BALL VALVE WITH ELECTRIC ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	MOTOR	PACK	PACKAGING
7.030.01700	VS 3 - 20	3-way VS valve DN 20 - FFM Total passage- 24V - with M1 micro	3/4"	V200F 120 S 24 V M1	1	1
7.030.01721	VS 3 - 25	3-way VS valve DN 25 - FFM Total passage- 24V - with M1 micro	1"	V200F 120 S 24 V M1	1	1
7.030.01724	VS 3 - 20	3-way VS valve DN 20 - FFM Total passage- 24V	3/4"	V200F 120 S 24 V	1	1
7.030.01725	VS 3 - 25	3-way VS valve DN 25 - FFM Total passage- 24V	1"	V200F 120 S 24 V	1	1

## SPECIFICATIONS

- Bypass transit



- WITH MOTOR V200
- MALE - MALE - MALE CONNECTIONS

## VS 3 WAY

BALL VALVE WITH ELECTRIC ACTUATOR



CODE	MODEL	DESCRIPTION	SIZE	MOTOR	PACK	PACKAGING
7.030.01722	VS 3 - 20E	3-way VS valve DN 20 - MMM By-pass passage - 24V - with M1 micro	3/4"	V200F 120 S 24 V M1	1	1
7.030.01723	VS 3 - 25E	3-way VS valve DN 25- MMM By-pass passage - 24V - with M1 micro	1"	V200F 120 S 24 V M1	1	1
7.030.01726	VS 3 - 20E	3-way VS valve DN 20 - MMM By-pass passage - 24V	3/4"	V200F 120 S 24 V	1	1
7.030.01727	VS 3 - 25E	3-way VS valve DN 25 - MMM By-pass passage - 24V	1"	V200F 120 S 24 V	1	1

## SPECIFICATIONS

- Bypass transit



# VS 3P-L RANGE

## 3-WAY MOTORIZED DIVERTER BALL ZONE VALVES

VS 3 P-L three-way valves are motorized ball diverter valves - full bore to L- that allow the deviation of the heat transfer fluid distributed in heating circuit /air conditioning circuit. (Central common way AB) Their use is particularly indicated in water heating/ cooling distribution systems thanks to the following peculiarities:

- High flow rates.
- Absence of leakage.
- Ability to operate with high differential pressures
- Possibility of having an indication if the valve is open or closed by means of an indicator.
- It can be operated manually if necessary
- Low pressure drops
- Equipped (as standard) with auxiliary micro switch
- Pre-installed electric cable

The valve head is removable without affecting the hydraulic system, thus ensuring high flexibility and rapidity for the maintenance of the valve itself.





**DN 25 - DN 32**




















**DN 40 - DN 50**

# VS 3P-L RANGE

## 3-WAY MOTORIZED DIVERTER BALL ZONE VALVES

### TECHNICAL DATA

	Valve operation time Diverter (AB: common way)		Connections Threaded - ISO 228/1
	Type of drive control SPDT=2-pole external electrical control; 3 points		Supply 230 Vac (on request 24 Vac) – 50/60Hz
	Max. differential pressure 6 bar		Absorbed power 4 W (max)
	Nominal pressure PN16		Auxiliary contacts capacity 3 (1) A, 250 V
	Flows' temperature limits -10 ÷ 120 °C [max]		Way commutation time 50s (±10s) (90°) DN25-32 ; 100s (±20s) (90°) DN40-50
	Working fluid Water, water and glycol [max 50%] (UNI8065:2019) (VDI 2035)		Type of electrical connection DN25/32 - Poly Cable:: 6 x 0.75 , ength 1m DN40/50 - Cable less
	Maximum ambient temperature -10 ÷ 50°C [max]		Insulation class II Ref. European Standard EN60730
	Leakage Kvs = see in the table tab.1 for dimension		Protection rating IP54 rif. European Directive EN 60730
	Full passage valve a L: DN25, DN32, DN40, DN50		



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TECHNICAL DATASHEET



- WITH MOTOR V200
- FEMALE THREADED CONNECTIONS
- WITH OR WITHOUT AUXILIARY MICRO

## VS 3P-L - DN 25 - DN 32

BALL VALVE WITH ELECTRIC ACTUATOR 230V



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	MOTOR	PACK	PACKAGING
7.030.02919	VS 3 P-L 25	Ball valve 3 way a L - female thread - 230V- 230V - 50 sec	1"	16	15,5	V200F 50S 230 M1	1	1
7.030.02920	VS 3 P-L 32	Ball valve 3 way a L - female thread - 230V- 230V - 50 sec	1"-1/4"	16	21,2	V200F 50S 230 M1	1	1



- WITH MOTOR
- FEMALE THREADED CONNECTIONS
- WITH OR WITHOUT AUXILIARY MICRO

## VS 3P-L - DN 40 - DN 50

BALL VALVE WITH ELECTRIC ACTUATOR 230V

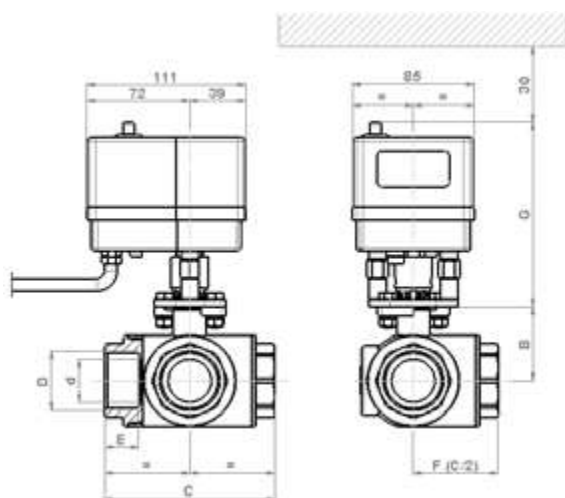


CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	MOTOR	PACK	PACKAGING
7.030.02921	VS 3 P-L 40	Ball valve 3 way a L - female thread - 230V - 100 sec	1"1/2	16	38	M1000-100S 230V-M1	1	1
7.030.02922	VS 3 P-L 50	Ball valve 3 way a L - female thread - 230V - 230V - 100 sec	2"	16	52	M1000-100S 230V-M1	1	1

# VS 3P-L - DN 25 - DN 32

## SIZE DATA

THE CODES IN THE TABLE RELATE TO THE IN A VERSIONS 230 V - Dimension [mm]



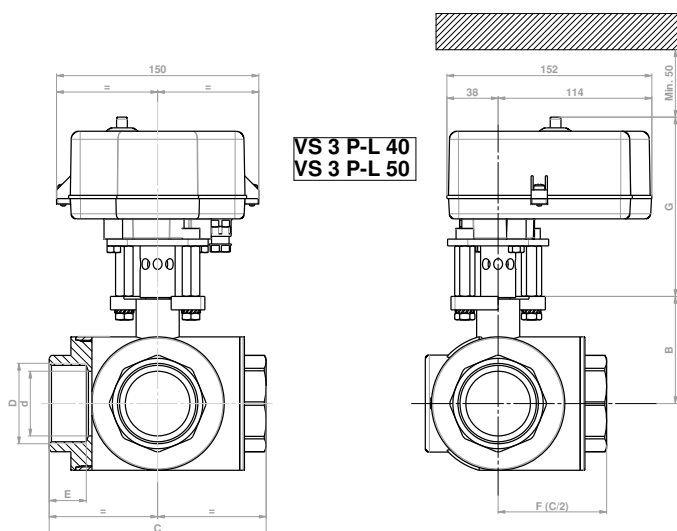
CODE	MOD	DN	D	d	B	C	E	F	G	Kvs*
			ISO228	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
7.030.02919	VS 3 P-L 25	25	G1"	24	47	105	21	52.5	130	15.5
7.030.02920	VS 3 P-L 32	32	G 1 1/4"	30	52	118	23.5	59	130	21.2

Kvs coefficient [flow rate in m3/h at ΔP = 1 bar] with flow diverted by 90 °

# VS 3P-L - DN 40 - DN 50

## SIZE DATA

THE CODES IN THE TABLE RELATE TO THE IN A VERSIONS 230 V - Dimension [mm]



CABLE NOT INCLUDED  
DN40 - DN50

CODE	MOD	DN	D	d	B	C	E	F	G	Kvs*
			ISO228	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]
7.030.02921	VS 3 P-L 40	40	G 1 1/2"	38	70	134	23.5	67	133	38
7.030.02922	VS 3 P-L 50	50	G2"	48	79.5	161	27.5	80.5	133	52

Kvs coefficient [flow rate in m3/h at ΔP = 1 bar] with flow diverted by 90 °



# VS 6 MULTIPLA RANGE

## SIX WAY MOTORIZED ZONE BALL VALVES

The Mut VS 6 MULTIPLA six-way zone valve allows managing the supply for a single user from two different sources of thermal energy, simplifying the control of 4-pipe systems typically used for heating and cooling. A single six-way valve, equipped with a motor and actuator, can effectively replace four motorized two-way zone valves, eliminating the complexity of synchronization for the opening/closing of the two sources. The six-way valve allows a change of state (stem positions at 0° and 90°) and simultaneous closing of the supply from both sources (stem position at 45°). The typical application is in radiant ceiling systems and fan coil installations, where it is possible to easily handle the transition from heating to cooling, even during the same day and independently for each zone. The valve is supplied complete with the V70 On/Off 3-point actuator. It includes a micro-auxiliary.



### TECHNICAL DATA



Type of drive control  
On/Off 3 point



Supply  
230Vac o 24 Vac 50/60 Hz



Auxiliary contacts capacity  
3(1)A-250 Vac



Max differential pressure  
PN2



Nominal pressure  
PN16



Working fluid  
Water, water and glycol [max 50%]



Fluid's temperature limits  
2 ÷ 100 °C [max]



Connections  
(ISO 228/1) G 3/4"



Operating time:  
Stroke 90° in 50 sec  
(on request: 100/220/440 sec.)



Protection rating  
IP 40 Rif. European Directive CEI EN 60529



Insulation class  
II Rif. European Directive EN60730



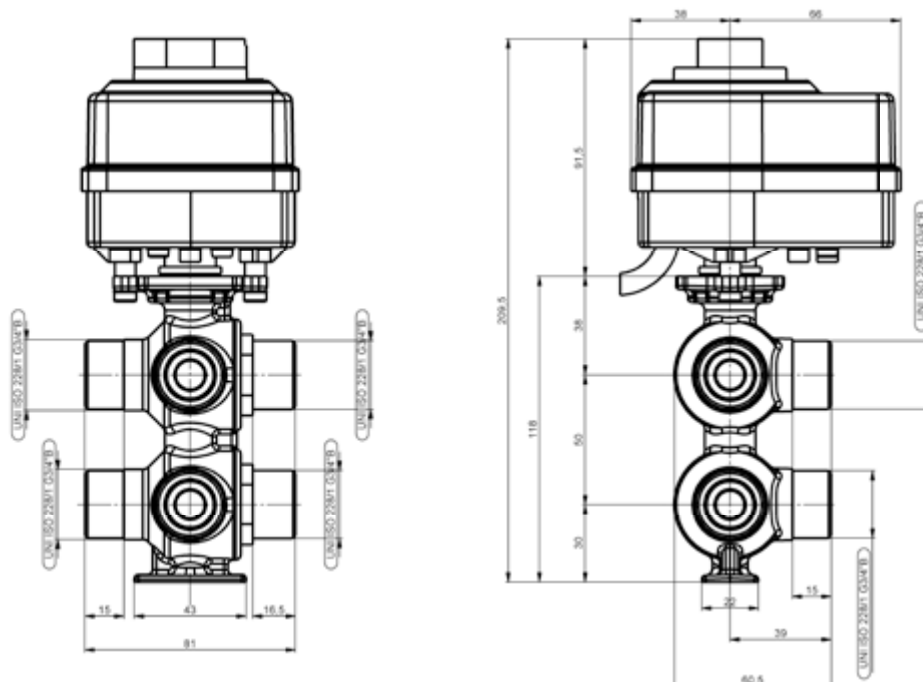
Cable length  
950 mm



TECHNICAL DATASHEET



## SIZE DATA



## VS 6 MULTIPLA RANGE

SIX WAY MOTORIZED ZONE BALL VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	PACK	PACKAGING
7.030.03385	VS6 MULTIPLA	Six-way ball zone valve body only	G 3/4"	16	1	1
7.030.03386	VS6 MULTIPLA V70	Six-way ball valve with motor V70	G 3/4"	16	1	1
7.030.03408	V70/50/230/00 VS6	Motor for way ball valve VS6 Multipla range - 50sec. 230V - auxiliary micro - valve with coupling kit			1	1



# VM 3000 RANGE

ROTATIVE BRASS MIXING DIVERTING VALVES

This type of valve is used in central heating systems to guarantee a hot return to the boiler and consequently keep thermal levels high enough to prevent vapor condensation.

Mixing, with a linear characteristic curve for delivery and return water, is performed by the shape of the profiled paths.

Mixing is done by a rotor with circular segment in the three-way model and by a butterfly rotor in the four-way model.

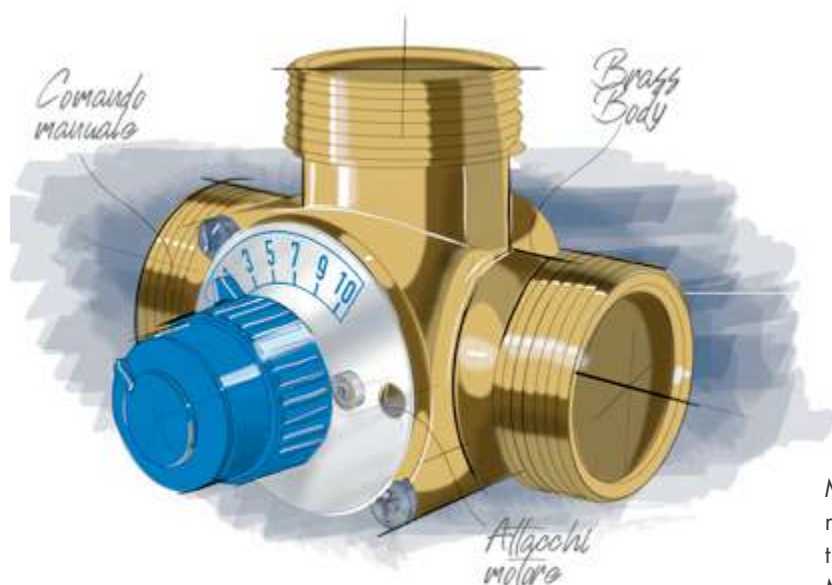




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# VM 3000 RANGE

MOTORISED ROTOR VALVES



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## TECHNICAL DATA



Type of movement  
Manual



Type of movement  
Can be motorized



Nominal pressure  
PN10



Flows' temperature limits  
5 ÷ 110 °C [max]



Leak  
 $K_{vo} \leq (0,3 - 1) \% K_{vs}$  according to the MODEL



Connections  
Da DN 15 up to DN 50  
Threaded - ISO 228/1

MUT valves of range VM 3000 are delivered with manual controls. They can be motorized at any time and without any problems by using MUT V series motors.

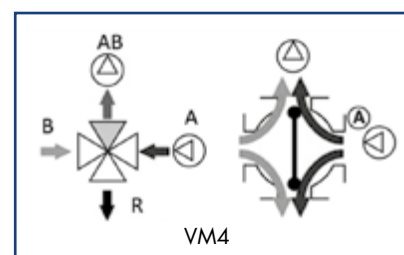
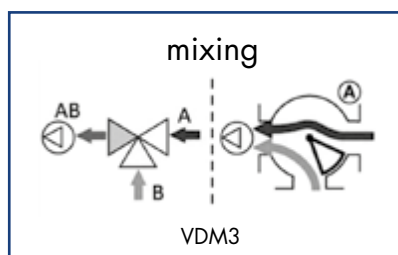
MUT series 3000 valves are made with a brass body and internal rotor. The rotation angle of the rotor, used for regulation, is approximately 90° and corresponds to the graduations going from 0 to 10 on the identification plate (it is without stops and can consequently rotate 360°).

## OPERATIONAL SCHEME

### Legend:

**A** Boiler flow **R** Boiler return  
**AB** System delivery **B** System return  
**⊙** Boiler inlet (with valve in mixer function)

For diverter operation:  
reverse the direction of flow



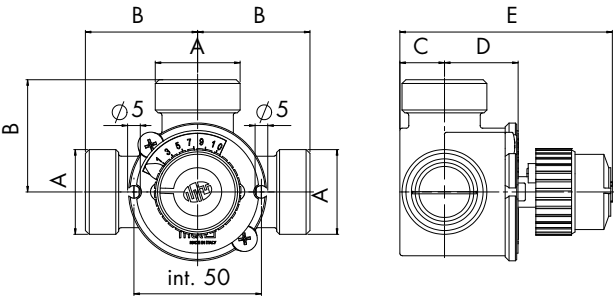
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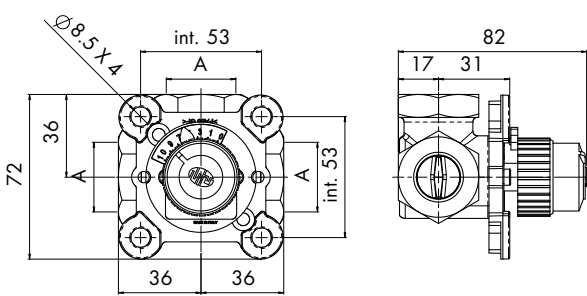
TECHNICAL DATASHEET

# SIZE DATA



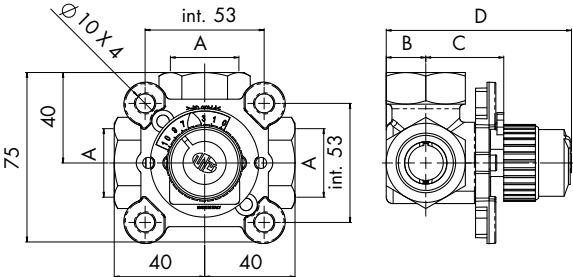
VDM3 3000E

CODE	A (UNI ISO 228/1)	B	C	D	E
7.030.02493	G 1" B	36	18	28	83
7.030.01283	G 1" B	44	18	28	83
7.030.01282	G 1"1/4 B	49	18	28	83
7.030.01281	G 1"1/2 B	55	24	34	94
7.030.01277	G 2" B	58	30	39	104
7.030.02506	G 2"1/4 B	58	33	39	108



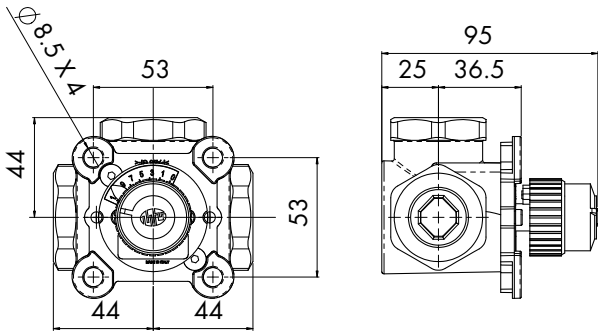
VDM3 3000R

CODE	A (UNI ISO 228/1)
7.030.00595	G 1/2"
7.030.00596	G 1/2"
7.030.00597	G 1/2"
7.020.00090	G 3/4"
7.030.00569	G 1"



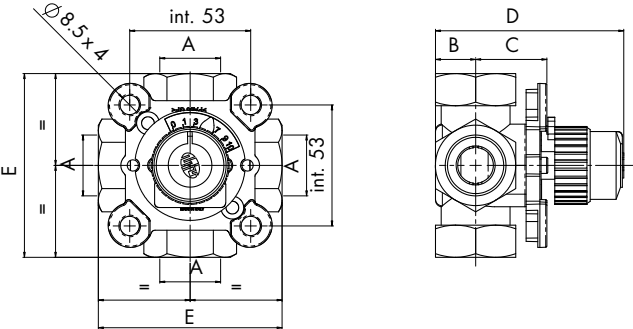
VDM3 3000M

CODE	A (UNI ISO 228/1)	B	C	D
7.020.00125	G 3/4"	17.5	34.5	82
7.030.01211	G 1"	25	37	95
7.020.00127	G 1"1/4	25	37	95



VDM3 3000

CODE	A (UNI ISO 228/1)
7.020.00020	G 3/4"
7.020.00001	G 1"
7.020.00026	G 1"1/4

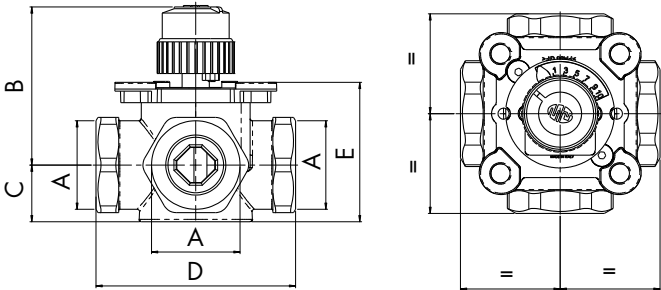


VM4 3000M

CODE	A (UNI ISO 228/1)	B	C	D	E
7.020.00128	G 3/4"	17	31	82	80
7.020.00129	G 1"	25	36.5	95	80
7.020.00130	G 1"1/4	25	36.5	95	80

VM4 3000R

CODE	A (UNI ISO 228/1)	B	C	D	E
7.020.00093	G 3/4"	17	31	82	72
7.030.00857	G 1"	25	36.5	95	72



VM4 3000

CODE	A (UNI ISO 228/1)	B	C	D	E
7.020.00021	G 3/4"	70	25	88	61.5
7.020.00012	G 1"	70	25	88	61.5
7.020.00028	G 1"1/4	70	25	88	61.5



- MALE CONNECTIONS

# VDM 3000E 3 WAY

## MIXER/DIVERTING VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02493	VDM3 3000E	3-way mixer diverter valve interaxes 72 mm Male gas connections	1"	10	9	1	1
7.030.01283	VDM3 3000E	3-way mixer diverter valve interaxes 88 mm Male gas connections	1"	10	12	1	1
7.030.01282	VDM3 3000E	3-way mixer diverter valve interaxes 98 mm Male gas connections	1" 1/4	10	20	1	1
7.030.01281	VDM3 3000E	3-way mixer diverter valve interaxes 110 mm Male gas connections	1" 1/2	10	41	1	1
7.030.01277	VDM3 3000E	3-way mixer diverter valve interaxes 116 mm Male gas connections	2"	10	56	1	1
7.030.02506	VDM3 3000E	3-way mixer diverter valve interaxes 116 mm Male gas connections	2" 1/4	10	56	1	1

## SPECIFICATIONS

- Mixer valves for hot/cold water



- FEMALE CONNECTIONS
- CENTRE DISTANCE 72 MM

# VDM 3000R 3 WAY

MIXER/DIVERTING VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00595	VDM3 3000R	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	1	1	1
7.030.00596	VDM3 3000R	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	1,5	1	1
7.030.000597	VDM3 3000R	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	2,5	1	1
7.020.00090	VDM3 3000R	3-way mixer diverter valve mod. VDM3000R - Female gas connections	3/4"	10	6,3	1	1
7.030.00569	VDM3 3000R	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1"	10	6,3	1	1

## SPECIFICATIONS

- Available in version with connections with ring nut
- Mixer valves for hot/cold water





## VM 3000R 4 WAY

MIXER/DIVERTING VALVE



- FEMALE CONNECTIONS
- CENTRE DISTANCE 72 MM



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.020.00093	VM4 3000R	4-way mixer valve mod. VM4 3000R - Female gas connections	3/4"	10	6,3	1	1
7.030.00857	VM4 3000R	4-way mixer valve mod. VM4 3000R - Female gas connections	1"	10	6,3	1	1



## VDM 3000M 3 WAY

MIXER/DIVERTING VALVE



- FEMALE CONNECTIONS
- CENTRE DISTANCE 80 MM



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.020.00125	VDM3 3000M	3-way mixer diverter valve mod. VDM3000M - Female gas connections	3/4"	10	6,3	1	1
7.030.01211	VDM3 3000M	3-way mixer diverter valve mod. VDM3000M - Female gas connections	1"	10	12	1	1
7.020.00127	VDM3 3000M	3-way mixer diverter valve mod. VDM3000M - Female gas connections	1"1/4	10	18	1	1

### SPECIFICATIONS

- Available in version with connections with ring nut
- Mixer valves for hot/cold water



## VM 3000M 4 WAY

### MIXER/DIVERTING VALVE



- FEMALE CONNECTIONS
- CENTRE DISTANCE 80 MM



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.020.00128	VM4 3000M	4-way mixer valve mod. VM4 3000M - Female gas connections	3/4"	10	6,3	1	1
7.020.00129	VM4 3000M	4-way mixer valve mod. VM4 3000M - Female gas connections	1"	10	12	1	1
7.020.00130	VM4 3000M	4-way mixer valve mod. VM4 3000M - Female gas connections	1"1/4	10	18	1	1



## VDM 3000 3 WAY

### MIXER/DIVERTING VALVE



- FEMALE CONNECTIONS
- CENTRE DISTANCE 88 MM



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.020.00020	VDM3 3000	3-way mixer diverter valve- mod. VDM3000 Female gas connections	3/4"	10	6,3	1	1
7.020.00001	VDM3 3000	3-way mixer diverter valve- mod. VDM3000 Female gas connections	1"	10	12	1	1
7.020.00026	VDM3 3000	3-way mixer diverter valve- mod. VDM3000 Female gas connections	1"1/4	10	18	1	1

## SPECIFICATIONS

- Available in version with connections with ring nut
- Mixer valves for hot/cold water





## VM 3000 4 WAY

MIXER/DIVERTING VALVE



- FEMALE CONNECTIONS
- CENTRE DISTANCE 88 MM



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.020.00021	VM4 3000	4-way mixer diverter valve- mod. VM4 3000 Female gas connections	3/4"	10	6,3	1	1
7.020.00012	VM4 3000	4-way mixer diverter valve- mod. VM4 3000 Female gas connections	1"	10	12	1	1
7.020.00028	VM4 3000	4-way mixer diverter valve- mod. VM4 3000 Female gas connections	1"1/4	10	18	1	1



## VALVE SEAL KIT

COMPATIBLE WITH VM3000 RANGE

CODE	DESCRIPTION	PACK	PACKAGING
7.030.01469	Valve seal kit V3000	1	1
7.030.01470	Valve seal kit VMX-X/H,V3000R/M	1	1

### SPECIFICATIONS

- Available in version with connections with ring nut
- Mixer valves for hot/cold water



# INSULATION SHELL KIT

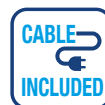
COMPATIBLE WITH THE V3000 RANGE

CODE	DESCRIPTION	PACK	PACKAGING
7.030.02207	Shell insulation kit V3000R 3 way	1	1
7.030.02208	Shell insulation kit V3000R 4 way	1	1
7.030.02209	Shell insulation kit V3000 3 way TM - TD3000	1	1



# MOTOR V70

FOR MIXER/DIVERTING ROTOR VALVES



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.019.00074	V70/220/00	Motor V70 On/Off 3 points for 3000, VMX and VMH series valves -Strike 90° in 220 sec. (50/100/440 sec. upon request) - Complete of auxiliary micro e K3 connection kit	230 V	1	1
7.019.00072	V70/220/00	Motor V70 On/Off 3 points for 3000, VMX and VMH series valves - Strike 90° in 220 sec. (50/100/440 sec. upon request) - Complete of auxiliary micro e K3 connection kit	24 V	1	1
7.019.00111	V70/100/M0	V70 modulating motor for series 3000, VMX and VMH valves – Run 90° in 100 sec. (if requested 60/160 sec.) Modulation 0-10 Vdc (0-5 V; 1-5 V; 2-10 V; 0-20 mA; 4-20 mA on request); ref 0 % signal at A; complete with connection kit K3	24 V	1	1

# VM/VF 1000 RANGE

## ROTATIVE CASTING IRON MIXING-DIVERTING VALVES

This type of valve is used in hydraulic central heating systems and conditioning. MUT valves are supplied with manual control systems and can be easily motorized at any time using MUT M Series and V Series type motors and/or commercially available motors.

MUT valves consist of a cast-iron body and a internal rotor. The rotation angle of the rotor is approximately 90°. Mixing is done by a circular segment rotor in models VDM and VDF and by a butterfly valve in models VM and VF.





VM 3 WAY



VDM 3 WAY



VDM PLUS 3 WAY



VM 4 WAY



VF 3 WAY



VDF 3 WAY



VDF PLUS 3 WAY



VF 4 WAY



# VM/VF 1000 RANGE

## ROTATIVE CASTING IRON MIXER-DIVERTING VALVES



### TECHNICAL DATA



Type of movement  
Manual



Type of movement  
Can be motorized



Nominal pressure  
PN10 (flanged models: PN6)



Flows' temperature limits  
PN10 - PN6 according to the model



Leak  
 $K_{vo} \leq 0,015 \% K_{vs}$



Connections  
from DN 20 upto DN 125 threaded or flanged



### OPERATION DIAGRAM

#### Legend:

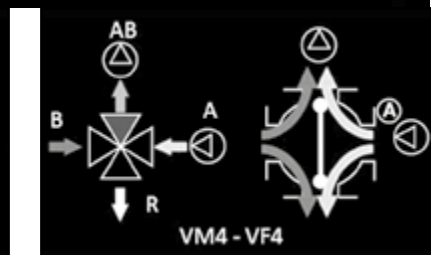
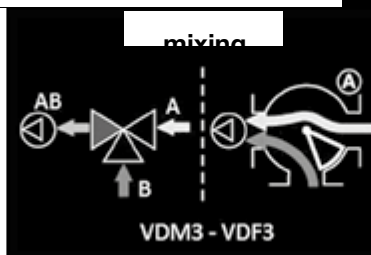
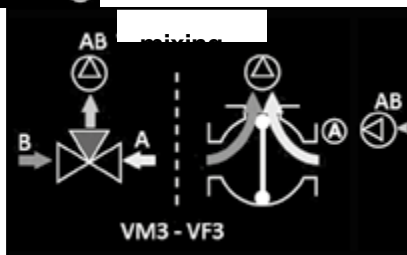
A Boiler flow

R Boiler return

AB System delivery

B System return

⊙ Boiler inlet (with valve in mixer function)



For diverter operation: reverse the direction of the flow

## CONTENTS

Use your smartphone  
to read the qr code,  
so you can see the  
multimedia contents



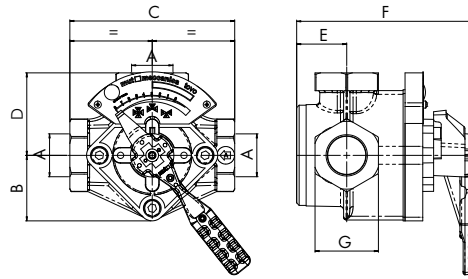
TECHNICAL DATASHEET



# SIZE DATA

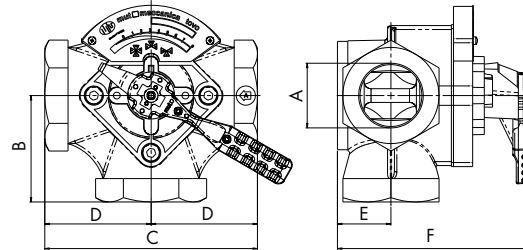
## VM3 1000

CODE	A (UNI ISO 228/1)	B	C	D	E	F	G
7.007.00185	G 3/4"	52	130	65	40	128	45
7.007.00186	G 1"	52	130	65	40	128	50
7.007.00187	G 1"1/4	52	140	70	40	128	60
7.007.00188	G 1"1/2	52	156	78	40	128	70
7.007.00189	G 2"	52	150	75	40	128	85
7.007.00190	G 2"1/2	66	200	100	56	158	105



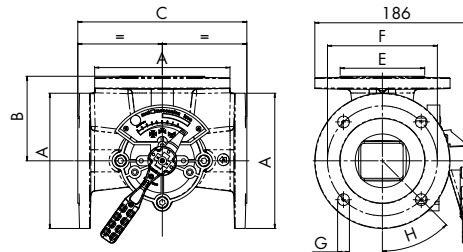
## VDM3 1000

CODE	A (UNI ISO 228/1)	B	C	D	E	F
7.007.00166	G 3/4"	65	130	65	40	128
7.007.00167	G 1"	65	130	65	40	128
7.007.00168	G 1"1/4	70	140	70	40	128
7.007.00169	G 1"1/2	78	156	78	40	128
7.007.00170	G 2"	75	150	75	40	128
7.007.00171	G 2"1/2	100	200	100	56	158



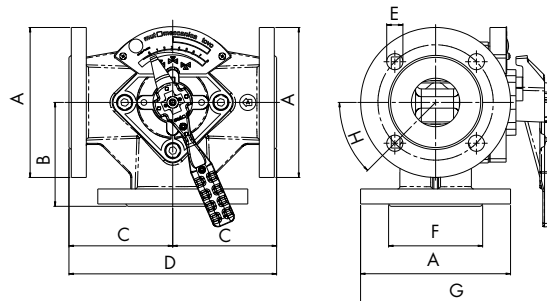
## VF3 1000

CODE	A (UNI ISO 1092/1)	B	C	E	F	G	H
7.007.00203	DN 32	85	170	70	90	4X11	45°
7.007.00565	DN 40	90	180	80	100	4X14	45°
7.007.00205	DN 50	90	180	90	110	4X14	45°
7.007.00206	DN 65	100	200	110	130	4X14	45°
7.007.00207	DN 80	115	230	128	150	4X18	45°
7.007.00208	DN 100	130	260	148	170	4X18	45°
7.007.00209	DN 125	145	290	178	200	8X18	30°



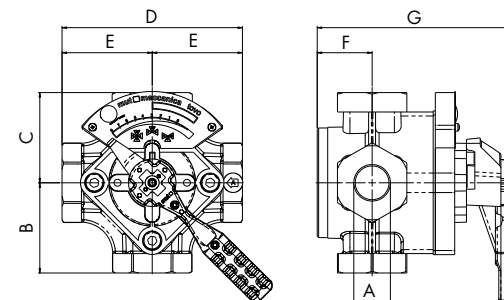
## VDF3 1000

CODE	A (UNI ISO 1092/1)	B	C	D	E	F	G	H
7.007.00210	DN 32	85	85	170	4X11	70	170	45°
7.007.00566	DN 40	90	90	180	4X14	80	170	45°
7.007.00212	DN 50	90	90	180	4X14	90	170	45°
7.007.00213	DN 65	100	100	200	4X14	110	170	45°
7.007.00214	DN 80	115	115	230	4X18	128	170	45°
7.007.00215	DN 100	130	130	260	4X18	148	170	45°
7.007.00216	DN 125	145	145	290	4X18	178	170	30°



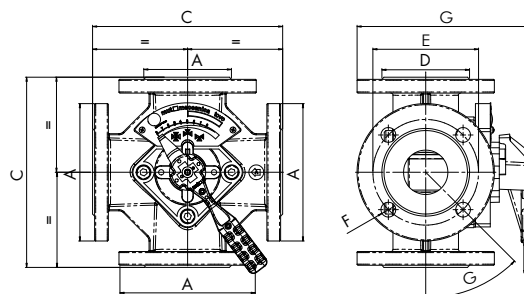
## VM4 1000

CODE	A (UNI ISO 228/1)	B	C	D	E	F	G
7.007.00159	G 3/4"	65	65	130	65	40	128
7.007.00160	G 1"	65	65	130	65	40	128
7.007.00161	G 1"1/4	70	70	140	70	40	128
7.007.00162	G 1"1/2	78	78	156	78	40	128
7.007.00163	G 2"	75	75	150	75	40	128
7.007.00164	G 2"1/2	100	100	100	56	158	



## VF4 1000

CODE	A (UNI ISO 1092/1)	C	D	E	F	G
7.007.00191	DN 32	170	70	90	4X11	45°
7.007.00192	DN 40	180	80	100	4X14	45°
7.007.00193	DN 50	180	90	110	4X14	45°
7.007.00194	DN 65	200	110	130	4X14	45°
7.007.00195	DN 80	230	128	150	4X18	45°
7.007.00196	DN 100	260	148	170	4X18	45°
7.007.00197	DN 125	290	178	200	8X18	30°





## VM3 1000

MIXER/ DIVERTING VALVE



- FEMALE CONNECTIONS

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.007.00185	VM 3	3-way mixer valve - Female gas connections	3/4"	10	20	1	1
7.007.00186	VM 3	3-way mixer valve - Female gas connections	1"	10	30	1	1
7.007.00187	VM 3	3-way mixer valve - Female gas connections	1"1/4	10	37	1	1
7.007.00188	VM 3	3-way mixer valve - Female gas connections	1"1/2	10	38	1	1
7.007.00189	VM 3	3-way mixer valve - Female gas connections	2"	10	45	1	1
7.007.00190	VM 3	3-way mixer valve - Female gas connections	2"1/2	10	79	1	1



## VDM3 1000

MIXER/DIVERTING VALVE



- FEMALE CONNECTIONS

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.007.00166	VDM 3	3-way mixer/diverter valve - Female gas connections	3/4"	10	20	1	1
7.007.00167	VDM 3	3-way mixer/diverter valve - Female gas connections	1"	10	30	1	1
7.007.00168	VDM 3	3-way mixer/diverter valve - Female gas connections	1"1/4	10	37	1	1
7.007.00169	VDM 3	3-way mixer/diverter valve - Female gas connections	1"1/2	10	38	1	1
7.007.00170	VDM 3	3-way mixer/diverter valve - Female gas connections	2"	10	45	1	1
7.007.00171	VDM 3	3-way mixer/diverter valve - Female gas connections	2"1/2	10	79	1	1



# VDM3 1000 PLUS

MIXER/DIVERTING VALVE



- FEMALE CONNECTIONS

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02800	VDM 3 PLUS	3-way mixer/diverter valve - Female gas connections	3/4"	10	20	1	1
7.030.02801	VDM 3 PLUS	3-way mixer/diverter valve - Female gas connections	1"	10	30	1	1
7.030.02802	VDM 3PLUS	3-way mixer/diverter valve - Female gas connections	1"1/4	10	37	1	1
7.030.02489	VDM 3 PLUS	3-way mixer/diverter valve - Female gas connections	1"1/2	10	38	1	1
7.030.02377	VDM 3 PLUS	3-way mixer/diverter valve - Female gas connections	2"	10	45	1	1
7.030.01505	VDM 3 PLUS	3-way mixer/diverter valve - Female gas connections	2"1/2	10	79	1	1

## SPECIFICATIONS

- With anti-seize bush
- Mixer valves for hot/cold water





- FLANGED CONNECTIONS PN6

# VF3 1000

MIXER/DIVERTING VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.007.00203	VF 3	3-way mixer valve - Flanged connections	DN 32	6	50	1	1
7.007.00565	VF 3	3-way mixer valve - Flanged connections	DN 40	6	60	1	1
7.007.00205	VF 3	3-way mixer valve - Flanged connections	DN 50	6	70	1	1
7.007.00206	VF 3	3-way mixer valve - Flanged connections	DN 65	6	90	1	1
7.007.00207	VF 3	3-way mixer valve - Flanged connections	DN 80	6	150	1	1
7.007.00208	VF 3	3-way mixer valve - Flanged connections	DN 100	6	200	1	1
7.007.00209	VF 3	3-way mixer valve - Flanged connections	DN 125	6	250	1	1

## SPECIFICATIONS

- With anti-seize bush
- Mixer valves for hot/cold water



- FLANGED CONNECTIONS PN6

# VDF3 1000

MIXER/DIVERTING VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.007.00210	VDF 3	3-way mixer/diverter valve - Flanged connections	DN 32	6	60	1	1
7.007.00566	VDF 3	3-way mixer/diverter valve - Flanged connections	DN 40	6	70	1	1
7.007.00212	VDF 3	3-way mixer/diverter valve - Flanged connections	DN 50	6	80	1	1
7.007.00213	VDF 3	3-way mixer/diverter valve - Flanged connections	DN 65	6	90	1	1
7.007.00214	VDF 3	3-way mixer/diverter valve - Flanged connections	DN 80	6	150	1	1
7.007.00215	VDF 3	3-way mixer/diverter valve - Flanged connections	DN 100	6	200	1	1
7.007.00216	VDF 3	3-way mixer/diverter valve - Flanged connections	DN 125	6	250	1	1

## SPECIFICATIONS

- With anti-seize bush
- Mixer valves for hot/cold water



- FLANGED CONNECTIONS PN6

# VDF3 1000 PLUS

MIXER VALVE



CODE	MODEL	DESCRIPTION	MIS	PN	KVS	PACK	PACKAGING
7.030.02039	VDF 3 PLUS	3-way mixer valve - Flanged connections	DN 32	6	60	1	1
7.030.01894	VDF 3 PLUS	3-way mixer valve - Flanged connections	DN 40	6	70	1	1
7.030.01895	VDF 3 PLUS	3-way mixer valve - Flanged connections	DN 50	6	80	1	1
7.030.01474	VDF 3 PLUS	3-way mixer valve - Flanged connections	DN 65	6	90	1	1
7.030.01475	VDF 3 PLUS	3-way mixer valve - Flanged connections	DN 80	6	150	1	1
7.030.01476	VDF 3 PLUS	3-way mixer valve - Flanged connections	DN 100	6	200	1	1
7.030.02040	VDF 3 PLUS	3-way mixer valve - Flanged connections	DN 125	6	250	1	1

## SPECIFICATIONS

- With anti-seize bush
- Mixer valves for hot/cold water



- FEMALE THREAD CONNECTIONS

# VM4 1000

MIXER/DIVERTING VALVE



CODE	MODEL	DESCRIPTION	MIS	PN	KVS	PACK	PACKAGING
7.007.00159	VM 4	4-way mixer valve - Female gas connections.	3/4"	10	20	1	1
7.007.00160	VM 4	4-way mixer valve - Female gas connections.	1"	10	30	1	1
7.007.00161	VM 4	4-way mixer valve - Female gas connections.	1"1/4	10	37	1	1
7.007.00162	VM 4	4-way mixer valve - Female gas connections.	1"1/2	10	38	1	1
7.007.00163	VM 4	4-way mixer valve - Female gas connections.	2"	10	45	1	1
7.007.00164	VM 4	4-way mixer valve - Female gas connections.	2"1/2	10	79	1	1

## SPECIFICATIONS

- With anti-seize bush
- Mixer valves for hot/cold water



- FLANGED CONNECTIONS PN6

# VF4 1000

MIXER/DIVERTING VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.007.00191	VF 4	4-way mixer valve - Flanged connections	DN 32	6	50	1	1
7.007.00192	VF 4	4-way mixer valve - Flanged connections	DN 40	6	60	1	1
7.007.00193	VF 4	4-way mixer valve - Flanged connections	DN 50	6	70	1	1
7.007.00194	VF 4	4-way mixer valve - Flanged connections	DN 65	6	90	1	1
7.007.00195	VF 4	4-way mixer valve - Flanged connections	DN 80	6	150	1	1
7.007.00196	VF 4	4-way mixer valve - Flanged connections	DN 100	6	200	1	1
7.007.00197	VF 4	4-way mixer valve - Flanged connections	DN 125	6	250	1	1

## SPECIFICATIONS

- With anti-seize bush
- Mixer valves for hot/cold water



# BUSHING KIT

REPLACEMENT FOR VM/VF 1000 RANGE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.007.00626	Bushing kit	Bushing kit VF3 2" 1/2 S1000	1	1
7.007.00630	Bushing kit	Bushing kit VF3 4" - 5" S1000	1	1
7.007.00584	Bushing kit	Bushing kit VF3 - VM3 from 3/4" to 2" S1000	1	1
7.007.00625	Bushing kit	Bushing kit VF4 - VDF3 2" 1/2 S100	1	1
7.007.00629	Bushing kit	Bushing kit VF4 - VDF3 4" 5" S1000	1	1
7.007.00583	Bushing kit	Bushing kit VF4 - VM4 - VDF3 - VDM3 3/4 to 2" S1000	1	1
7.007.00628	Bushing kit	Bushing kit VM3 2" 1/2 VF3 3" S1000	1	1
7.007.00627	Bushing kit	Bushing kit VM4 - VDM3 2" 1/2 VF4 - VDF3 3" S1000	1	1



## MANIFOLD KIT

FOR VM/VF 1000 RANGE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02286	Manual lever kit	Manual lever with servo motor coupling joint for 1000	1	1



## SEAL KIT

FOR VM/VF 1000 RANGE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.007.00572	Seal kit	Seal kit VF4 VF-VDF3 from 4" to 5"	1	1
7.007.00573	Seal kit	Seal kit VF4 VF3-VDF3 from 2" 1/2	1	1
7.007.00574	Seal kit	Seal kit VM4-VM-VDM3-VF4-VF-VDF3 from 3/4" to 2"	1	1
7.007.00575	Seal kit	Seal kit VM4-VM3-VDM3 from 2" 1/2 Seal kit VF4-VDF3-VF3 from 3"	1	1
7.030.02287	Extension Kit	Spacer extension kit for 1000 series insulation	1	1



# MOTOR V200

## FOR MIXER/DIVERTING ROTOR VALVES



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.007.00678	V200/220/230/00	Motor V200 On/Off 3 points for 1000 and 2000 series valves - until DN 50 - Strike 90° in 220 sec. (125/540 sec. on request) - Complete with micro-auxiliary	230 V	1	1
7.007.00732	V200/220/24/00	Motor V200 On/Off 3 points for 1000 and 2000 series valves - until DN 50 - Strike 90° in 220 sec. (125/540 sec. on request) - Complete with micro-auxiliary	24 V	1	1
7.007.00720	V200/90/24/M0/A	V200 modulating motor for series 1000 and 2000 valves - Run 90° in 90 sec. (155/235 sec. if requested) Modulation 0-10 Vdc (0.5 V; 1.5 V; 2-10 V; 0-20 mA; 4-20 mA if requested ref 0 % signals in A	24 V	1	1



# MOTOR M1000

## FOR MIXER/DIVERTING ROTOR VALVES



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.007.00666	M1000/220/230/00	Motor M1000 On/Off 3 points for 1000 series valves - from DN 65 to DN 125 - Strike 90° in 220 sec. (125/540 sec. if requested) - Complete with micro-auxiliary	230 V	1	1
7.007.00733	M1000/220/24/00	Motor M1000 On/Off 3 points for 1000 series valves - from DN 65 to DN 125 - Strike 90° in 220 sec. (125/540 sec. if requested) - Complete with micro-auxiliary	24 V	1	1
7.007.00707	M1000/90/24/M0	M1000 modulating motor for series 1000 valves - Run 90° in 90 sec. (if requested 80/155 sec.) with modulation (0.5 V; 1.5V; 2-10 V; 0-20 mA; 4-20 mA) settable	24 V	1	1



# VM-VDM 2000 RANGE

## ROTATIVE CASTING IRON MIXING-DIVERTING VALVES

This type of valve is used in hydraulic central heating systems and conditioning. MUT valves are supplied with manual control systems and can be easily motorized at any time using MUT M Series and V Series type motors.

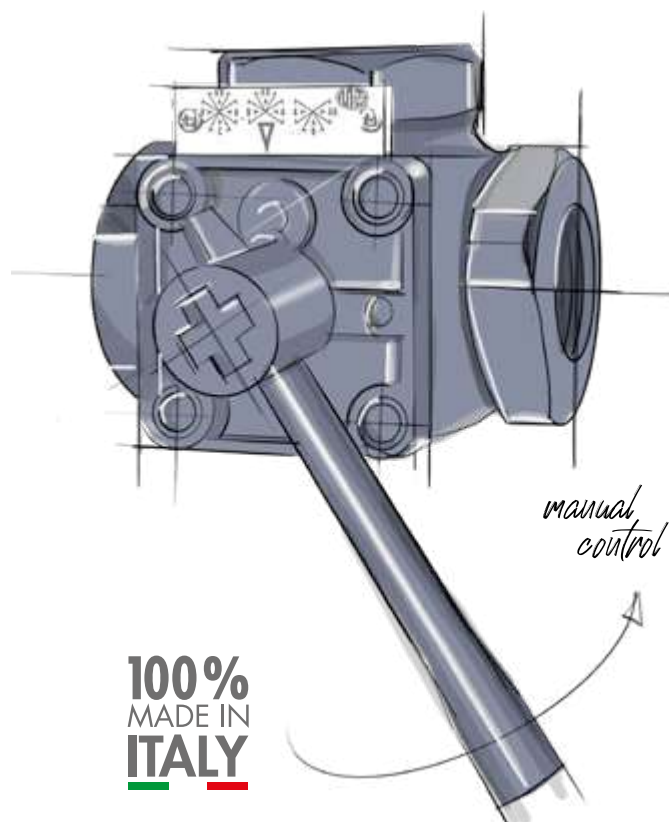
MUT valves consist of a cast-iron body and internal rotor. The rotation angle is approximately 90°. Mixing is done by a circular segment rotor in models VDM and VDF and by a butterfly valve in models VM and VF.





# VM-VDM 2000 RANGE

ROTATIVE CASTING IRON MIXER-DIVERTING VALVES



## TECHNICAL DATA



Type of movement  
Manual



Type of movement  
Can be motorized



Nominal pressure  
PN6



Flows' temperature limits  
 $2 \div 110$  °C [max]



Working fluid  
Water, water with glycol [max. 50%]



Leak  
 $K_{vo} \leq 0,02 \% K_{vs}$



## OPERATING DIAGRAM

### Legend:

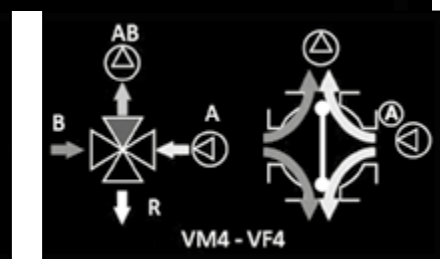
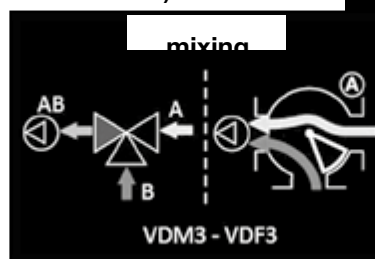
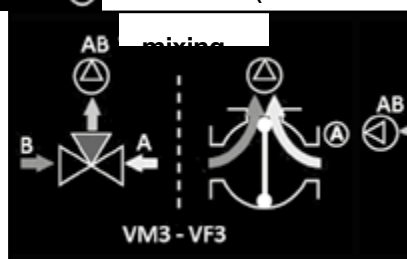
A Boiler flow

R Boiler return

AB System delivery

B System return

Ⓐ Boiler inlet (with valve in mixer function)



For diverter operation: reverse the direction of the flow

## CONTENTS

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TECHNICAL DATASHEET

# VALVES RANGE



VM 3 WAY



VDM 3 WAY

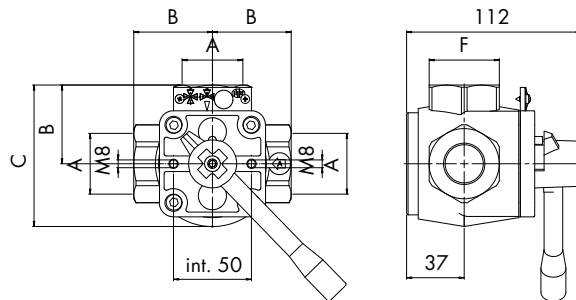


VM 4 WAY

## SIZE DATA

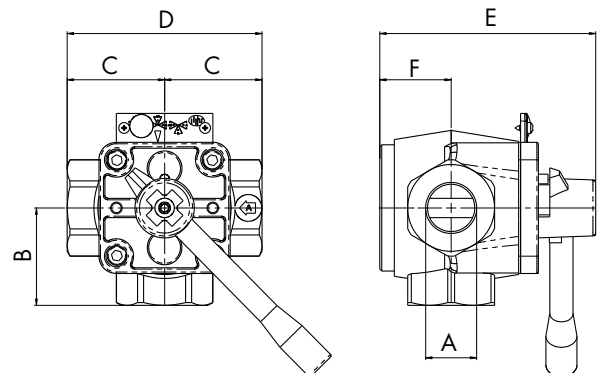
### VM3 2000

CODE	A (UNI ISO 228/1)	B	C	F
7.007.00176	G 3/4"	50	90	45
7.007.00177	G 1"	50	87	50
7.007.00178	G 1 1/4	55	92	60
7.007.00179	G 1 1/2	60	95	65



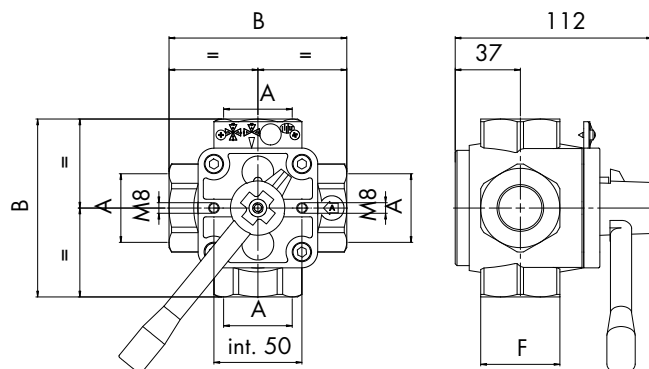
### VDM3 2000

CODE	A (UNI ISO 228/1)	B	C	D	E	F	KVS
7.007.00181	G 3/4"	50	50	100	112	37	18
7.007.00182	G 1"	50	50	100	112	37	22
7.007.00183	G 1 1/4	55	55	110	112	37	25
7.007.00184	G 1 1/2	60	60	120	112	37	25



### VM4 2000

CODE	A (UNI ISO 228/1)	B	F
7.007.00172	G 3/4"	100	45
7.007.00173	G 1"	100	50
7.007.00174	G 1 1/4	110	60
7.007.00175	G 1 1/2	120	65





- FEMALE CONNECTIONS

## VM 2000 3 WAY

MIXER/DIVERTING VALVE



CODE	MODEL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.007.00176	VM3	3-way mixer/diverting valve - Female gas connections	3/4"	18	1	1
7.007.00177	VM3	3-way mixer/diverting valve - Female gas connections	1"	22	1	1
7.007.00178	VM3	3-way mixer/diverting valve - Female gas connections	1" 1/4	22	1	1
7.007.00179	VM3	3-way mixer/diverting valve - Female gas connections	1" 1/2	22	1	1

## SPECIFICATIONS

- With anti-seize bush.
- Mixer valves for hot/cold water



- FEMALE CONNECTIONS

# VDM 2000 3 WAY



CODE	MODEL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.007.00181	VDM3	3-way mixer/diverting valve - Female gas connections	3/4"	20	1	1
7.007.00182	VDM3	3-way mixer/diverting valve - Female gas connections	1"	22	1	1
7.007.00183	VDM3	3-way mixer/diverting valve - Female gas connections	1" 1/4	25	1	1
7.007.00184	VDM3	3-way mixer/diverting valve - Female gas connections	1" 1/2	25	1	1

## SPECIFICATIONS

- Mixer valves for hot/cold water



- FEMALE CONNECTIONS

## VM 2000 4 WAY

### MIXER VALVE



CODE	MODEL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.007.00172	VM4	4-way mixer valve - Female gas connections	3/4"	18	1	1
7.007.00173	VM4	4-way mixer valve - Female gas connections	1"	20	1	1
7.007.00174	VM4	4-way mixer valve - Female gas connections	1" 1/4	25	1	1
7.007.00175	VM4	4-way mixer valve - Female gas connections	1" 1/2	25	1	1



## SEAL KIT

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.00889	Bushing kit	Bushing kit VDM3 1" 1/2 S2000	1	1
7.030.00338	Bushing kit	Bushing kit VM4 S2000	1	1

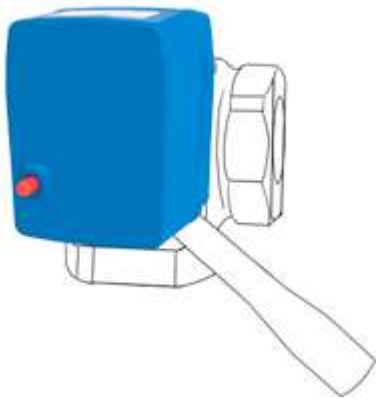
## SPECIFICATIONS

- With anti-seize bush.
- Mixer valves for hot/cold water



# MANIFOLD KIT

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
6.030.01447	Manual lever kit	Manual lever with servo motor coupling joint for 21000	1	1



# MOTOR V 200

ROTATIVE CASTING IRON MIXER/DIVERTING VALVES

CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.007.00678	V200/220/00	Motor V200 On/Off 3 points for 1000 and 2000 series valves - until DN 50 - Strike 90° in 220 sec. (125/540 sec. on request) - Complete with micro-auxiliary	230 V	1	1
7.007.00732	V200/220/00	Motor V200 On/Off 3 points for 1000 and 2000 series valve - until DN 50 - Strike 90° in 220 sec. (125/540 sec. on request) - Complete with micro-auxiliary	24 V	1	1
7.007.00720	V200/90/M0	V200 modulating motor for series 1000 and 2000 valves – Run 90° in 90 sec. (155/235 sec. if requested) Modulation 0-10 Vdc (0-5 V; 1-5 V; 2-10 V; 0-20 mA; 4-20 mA if requested ref 0 % signals in A	24 V	1	1



# VMX RANGE

## ROTATIVE 4 WAYS MIXER/DIVERTING VALVES

This type of valve is used in central heating system to ensure a hot return to the boiler and consequently to prevent vapor condensation in the same boiler, or to devide the thermic-load in the ambients. MUT valves are supplied with manual control but can be easily and simply motorized at any time using MUT motors V series and / or motors commonly found on the market.

MUT valves are made with cast-iron bodies and internal rotor. The rotor rotation angle used for the regulation, is about 90°, which matches to the sequence from 0 to 10 indicated on the reference plate (as there is no end-run it can rotate 360°).



### TECHNICAL DATA



Type of movement  
Manual



Type of movement  
Can be motorized



Nominal pressure  
PN10



Fluid temperature limits  
2 ÷ 110 °C [max]



Working fluid  
Water, water and glicol [50%]



TECHNICAL DATASHEET





## VMX 4 WAY

### MIXER/DIVERTING VALVES



- CENTRE DISTANCE 90 MM



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.019.00014	VMX - X	4-way mixer diverter valve - interaxis 90 - 2 male connections + 2 with Ring nuts	G 1" ½	10	8,0	1	5
7.019.00025	VMX - XM	4-way mixer diverter valve- interaxis 90 - male connections	G 1" ½	10	8,0	1	5



## VMH 4 WAY

### MIXER/DIVERTING VALVES



- CENTRE DISTANCE 125 MM



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.019.00011	VMX - H	4-way mixer diverter valve - interaxis 125 - 2 male connections + 2 with ring nuts	G 1" ½	10	6,3	1	5
7.019.00021	VMX - HM	4-way mixer diverter valve - interaxis 125 - male connections	G 1" ½	10	6,3	1	5



# MOTOR V70

## FOR MIXER/DIVERTING ROTOR VALVES



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.019.00074	V70/220/00	Motor V70 On/Off 3 points for 3000, VMX and VMH series valves - Strike 90° in 220 sec. (50/100/440 sec. upon request) - Complete of auxiliary micro e K3 connection kit	230 V	1	1
7.019.00072	V70/220/00	Motor V70 On/Off 3 points for 3000, VMX and VMH series valves - Strike 90° in 220 sec. (50/100/440 sec. upon request) - Complete of auxiliary micro e K3 connection kit	24 V	1	1
7.019.00111	V70/100/M0	V70 modulating motor for series 3000, VMX and VMH valve – Run 90° in 100 sec. (if requested 60/160 sec.) Modulation 0-10 Vdc (0-5 V; 1-5 V; 2-10 V; 0-20 mA; 4-20 mA on request); ref 0 % signal at A; complete with connection kit K3	24 V	1	1



# K3 JOINT KIT

## FOR MIXER/DIVERTING ROTOR VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.019.00076	JOINT K3	Joint: K3 for connection with 3000, VMX and VMH series only for V70 motor	1	1

# MK SERIES

## MOTORISED DISC VALVES

Series MK three-way shut-off valves can be used as shunt, mixing and on/off valves in heating, air conditioning and ventilation systems and in systems producing domestic hot water.

MK valves can also be powered using MUT series AS motors.



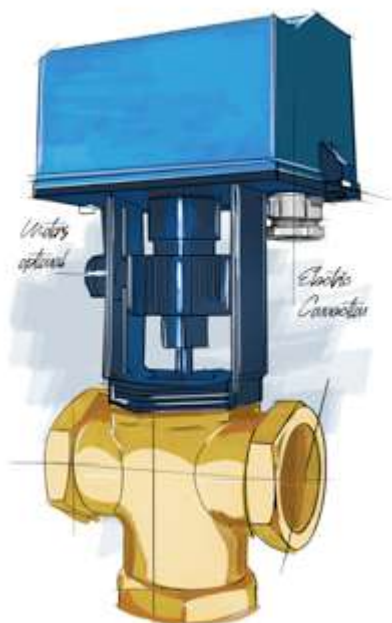




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# MK RANGE

## MOTORISED DISC VALVES



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### TECHNICAL DATA



Type of movement  
Can be motorized



Nominal pressure  
PN16



Fluid's temperature limits  
4 ÷ 150 °C [max]



Working fluid  
Water, water and glycol [max.30%]



Leak  
Kvo ≤ 0,1 % Kvs



Connections  
from DN 15 upto DN 50

Series MK three-way shut-off valves can be used as shunt, mixing and on/off valves in heating, air conditioning and ventilation systems and in systems producing domestic hot water. MK valves can also be powered using MUT series AS motors.

### Series MK three-way shut-off valves guarantee:

- **Extremely low flow-by** even when used as shunt valves in systems with high differential pressures.
- **Impossible shut-off ball seizure** even when calcium carbonate or other slag and deposits are present in the system.
- **Equal percentage adjustment curves**, the best for temperature control in heating and conditioning systems.
- **Operating temperature range from 4 ÷ 150 °C.** These features make this valve highly suited to adjust temperatures in hot water production systems and to adjust temperatures in systems using structurally embedded heating panels. Body and shut-off ball are made of brass. The stem is made of stainless steel. Stem seal is made using O-rings that are easily replaced in case of wear.



## CONTENTS

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TECHNICAL DATASHEET

# VALVE RANGE



MK 2 WAY

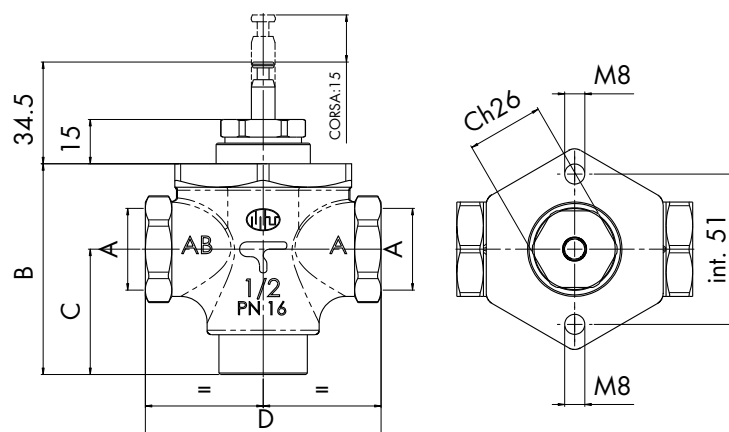
MK 3 WAY  
FEMALEMK 3 WAY  
MALE

WITH MOTOR AS SERIES

## SIZE DATA

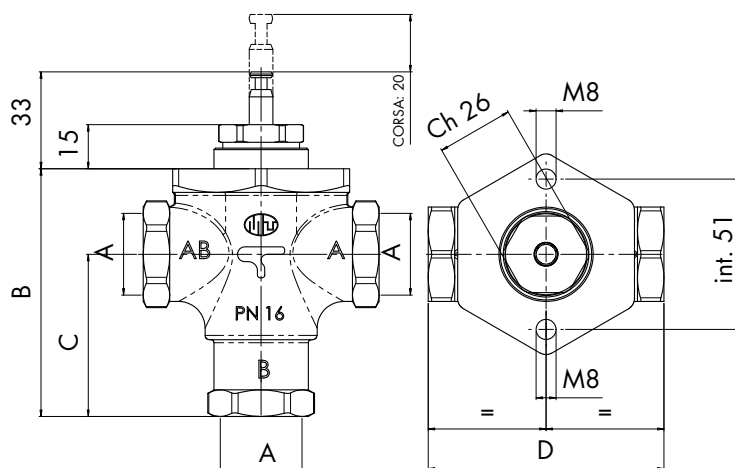
### MK 2 WAY

CODE	A (UNI ISO 228/1)	B	C	D
7.030.00361	G 1/2"	71.5	43	80
7.030.00362	G 3/4"	72	43	80
7.030.00363	G 1"	72	43	90
7.030.00364	G 1 1/4"	75	46	110
7.030.00360	G 1 1/2"	75	46	110
7.030.00365	G 2"	95	59	150



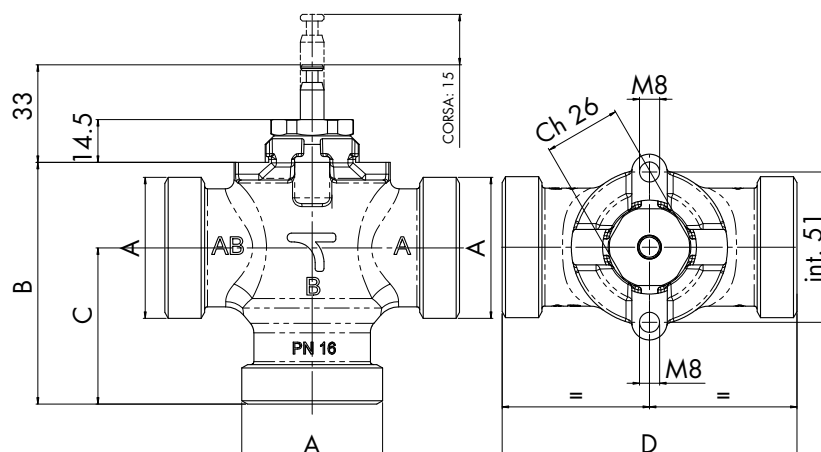
### MK 3 WAY FEMALE

CODE	A (UNI ISO 228/1)	B	C	D
7.006.00643	G 1/2"	84	55	80
7.006.00652	G 3/4"	84	55	80
7.006.00649	G 1"	89	60	90
7.006.00646	G 1 1/4"	94	65	110
7.006.00640	G 1 1/2"	94	65	110
7.006.00623	G 2"	121	85	150



### MK E 3 WAY MALE

CODE	A (UNI ISO 228/1)	B	C	D
7.030.01373	G 1 1/2" B	82	53	100
7.030.01376	G 2" B	82	53	110
7.030.01377	G 2 1/4" B	87	58	120
7.030.01378	G 2 3/4" B	101	65	150







- FEMALE CONNECTIONS

## MK 2 WAY

### FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00361	MK	2-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	1/2"	16	3,0	1	1
7.030.00362	MK	2-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	3/4"	16	6,3	1	1
7.030.00363	MK	2-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	1"	16	9,0	1	1
7.030.00364	MK	2-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	1"1/4	16	14	1	1
7.030.00360	MK	2-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	1"1/2	16	19	1	1
7.030.00365	MK	2-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	2"	16	25	1	1

## SPECIFICATIONS

- For hot/cold water
- Can be motorised with AS range motors



- FEMALE CONNECTIONS

# MK 3 WAY

FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.006.00643	MK	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	1/2"	16	3,0	1	1
7.006.00652	MK	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	3/4"	16	6,3	1	1
7.006.00649	MK	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	1"	16	9,0	1	1
7.006.00646	MK	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	1"1/4	16	14	1	1
7.006.00640	MK	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	1"1/2	16	19	1	1
7.006.00623	MK	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Female Gas connections - PN 16	2"	16	25	1	1

## SPECIFICATIONS

- For hot/cold water
- Can be motorised with AS range motors



- MALE CONNECTIONS

# MK E 3 WAY

## FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01373	MK E	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Male Gas connections PN 16-DN25	1" 1/2	16	9	1	1
7.030.01376	MK E	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Male Gas connections - PN 16-DN32	2"	16	14	1	1
7.030.01377	MK E	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Male Gas connections - PN 16-DN40	2" 1/4	16	19	1	1
7.030.01378	MK E	3-way shutoff valve - brass body - brass shutoff and seat - stainless steel shaft - Male Gas connections - PN 16-DN50	2" 3/4	16	25	1	1

## SPECIFICATIONS

- For hot/cold water
- For hot/cold water



# MOTOR AS 250

## FOR FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.006.00662	AS 250/75/230/OO	Motor for MK valves from 1/2" to 1 "1/4: ABS casing - Max. load 25 Kg - strike time 75 sec. - On/Off 3 points	230 V	1	1
7.006.00669	AS 250/75/24/OO	Motor for MK valves from 1/2" to 1 "1/4: ABS casing - Max. load 25 Kg - strike time 75 sec. - On/Off 3 points	24 V	1	1
7.006.00619	AS 250/75/24/MO	Motor for MK valves from 1/2" to 1 "1/4: ABS casing - Max. load 25 Kg - strike time 75 sec. - with self-learning and modulation	24 V	1	1
7.006.00663	AS 250/180/230/OO	Motor for MK valves from 1/2" to 1 "1/4: ABS casing - Max. load 25 kg - run time 180 sec. - On/Off 3 points	230 V	1	1
7.030.01143	AS 250/180/24/OO	Motor for MK valves from 1/2" to 1 "1/4: ABS casing - Max. load 25 kg - run time 180 sec. - On/Off 3 points	24 V	1	1
7.006.00674	AS 250/180/24/MO	Motor for MK valves from 1/2" to 1 "1/4: ABS casing - Max. load 25 kg - run time 180 sec. - with self-learning and modulation	24 V	1	1

## SPECIFICATIONS

- ON-OFF 3 points , or with self-learning and modulation



# MOTOR AS 400

## FOR FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.030.02556	AS 400/75/230/OO	Motor for MK valves from 1/2" to 1"1/4: ABS casing - Max. load 40 kg - run time 75sec. - On/Off 3 points	230 V	1	1
7.030.02557	AS 400/75/24/OO	Motor for MK valves from 1/2" to 1"1/4: ABS casing - Max. load 40 Kg - strike time 75 sec. - On/Off 3 points	24 V	1	1
7.030.02558	AS 400/75/24/MO	Motor for MK valves from 1/2" to 1"1/4: ABS casing - Max. load 40 Kg - strike time 75 se - with self-learning and modulation	24 V	1	1
7.030.02559	AS 400/120/230/OO	Motor for MK valves from 1/2" to 1"1/4: ABS casing - Max. load 40 kg - run time 120 sec. - On/Off 3 points	230 V	1	1
7.030.02560	AS 400/120/24/OO	Motor for MK valves from 1/2" to 1"1/4: ABS casing - Max. load 25 kg - run time 120 sec. - On/Off 3 points	24 V	1	1
7.030.02561	AS 400/120/24/MO	Motor for MK valves from 1/2" to 1"1/4: ABS casing - Max. load 40 Kg - strike time 120 sec. - with self-learning and modulation	24 V	1	1

## SPECIFICATIONS

- ON-OFF 3 points , or with self-learning and modulation



# MOTOR AS 800

## FOR FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.006.00664	AS 800/240/230/OO	Motor for MK valves from 1/2" to 2": ABS casing - Max. load: 80 Kg - strike time 240 sec. / 30 mm - On/Off 3 points	230 V	1	1
7.006.00683	AS 800/240/24/OO	Motor for MK valves from 1/2" to 2": ABS casing - Max. load: 80 Kg - strike time 240 sec. / 30 mm - On/Off 3 points	24 V	1	1
7.006.00677	AS 800/240/24/MO	Motor for MK valves from 1/2" to 2": ABS casing - Max. load: 80 Kg - strike time 240 sec. /30 mm - with self-learning and modulation	24 V	1	1



# DYNAMIC SEAL KIT

## COMPATIBLE WITH MK / MK DN RANGE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.006.00602	KIT MK	Assembly kit for MK valves from 1/2" to 2" only obligatory for AS800 motors	1	1
7.030.01644	KIT MK/1	Honeywell V5013R valve adapter kit	1	1

# MK DN RANGE

## MOTORISED DISC VALVES

Series MK DN flanged, three-way shut-off valves can be used as shunt, mixing and on/off valves in hydraulic heating, air conditioning and ventilation systems.

MK DN valve series can be motorized using MUT AS motor series or motors that are commercially available.

### Series MK DN three-way shut-off valves guarantee:

- **Extremely low flow** flow-by even when used as shunt valves in systems with high differential pressures;
- **Equal percentage adjustment curves**, the best for temperature control in heating and conditioning systems;
- **Impossible shut-off plug seizure** even when calcium carbonate or control in heating and conditioning systems;
- **Operating temperature range from 4 ÷ 150 °C.**

These features make this valve highly suited to adjust temperatures in hot water production systems and to adjust temperatures in systems using structurally embedded heating panels. Cast iron body, brass shutoff plug and stainless steel stem. Stem seal is made using O-rings that are easily replaced in case of wear.

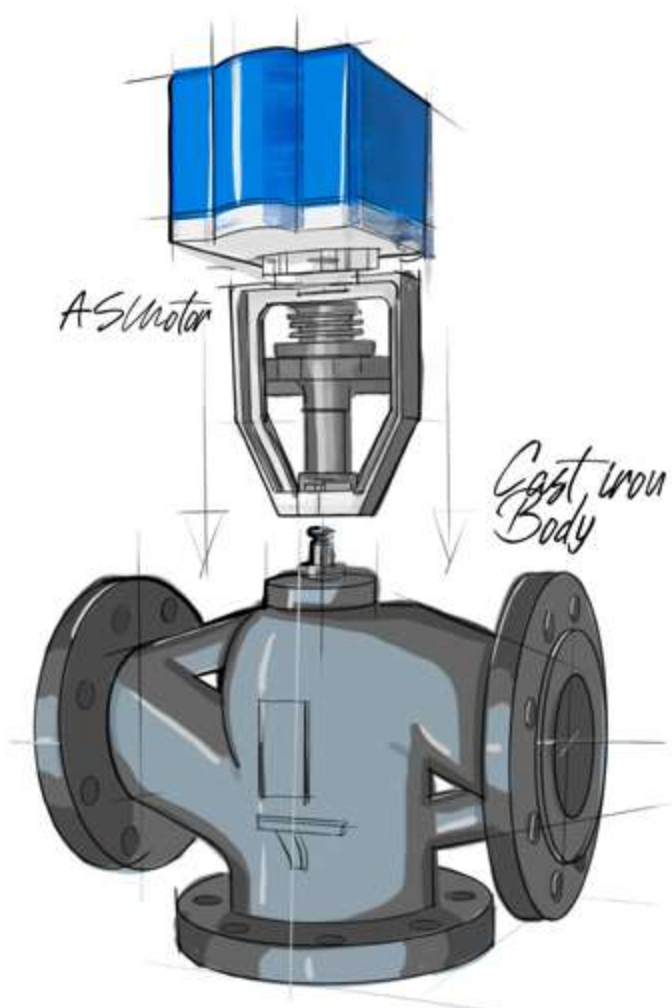






# MKDN RANGE

## MOTORIZED DISC VALVES



### TECHNICAL DATA



Type of movement  
Can be motorized



Nominal pressure  
PN16



Fl temperature limits  
4 ÷ 150 °C [max]



Working fluid  
Water, water and glycol [max. 30%]



Leak  
 $K_{vo} \leq 0,1 \% K_v$



Connections  
from DN 50 upto DN 150



100%  
MADE IN  
ITALY

## CONTENTS

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TECHNICAL DATASHEET

# VALVE RANGE

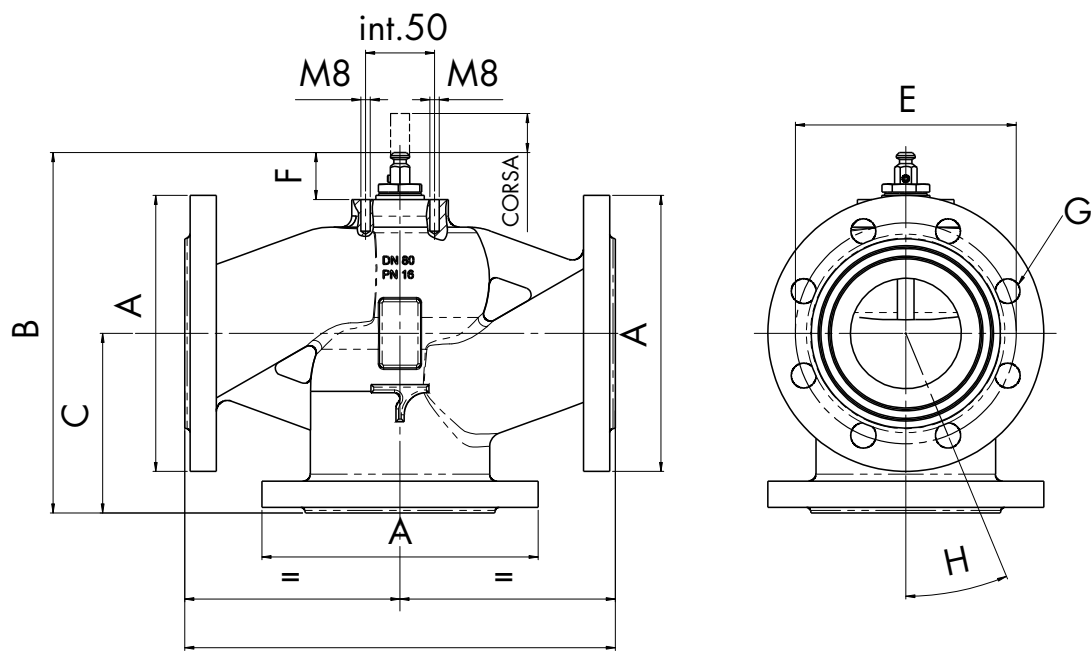


MK DN 2 WAY  
FLANGED DISC VALVE



MK DN 3 WAY  
FLANGED DISC VALVE

## SIZE DATA



## MK DN

CODE	A (UNI ISO 228/1)	CORSA [mm]	B	C	D	E	F	G	H
7.006.00255	DN 50	17	186	100	230	125	34	4X18	45°
7.006.00426	DN 65	30	238	120	291	145	34	4X18	45°
7.006.00428	DN 80	30	261	130	312	160	34	8X18	22,5°
7.006.00381	DN 100	30	313	150	350	180	37	8X18	22,5°
7.006.00743	DN 125	30	373	200	400	210	37	8X18	22,5°
7.006.00717	DN 150	30	433	240	480	240	37	8X22	22,5°



## MK DN 2 WAY

### FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02455	MK DN	2 way shutoff valve - cast iron body - brass shutoff - stainless steel shaft - flanged connections - PN 16	DN 50	16	40	1	1
7.030.02225	MK DN	2 way shutoff valve - cast iron body - brass shutoff - stainless steel shaft - flanged connections - PN 16	DN 65	16	63	1	1
7.030.01658	MK DN	2 way shutoff valve - cast iron body - brass shutoff - stainless steel shaft - flanged connections - PN 16	DN 80	16	100	1	1
7.030.02835	MK DN	2 way shutoff valve - cast iron body - brass shutoff - stainless steel shaft - flanged connections - PN 16	DN 100	16	160	1	1
7.030.02836	MK DN	2 way shutoff valve - cast iron body - brass shutoff - stainless steel shaft - flanged connections - PN 16	DN 125	16	250	1	1
7.030.02837	MK DN	2 way shutoff valve - cast iron body - brass shutoff - stainless steel shaft - flanged connections - PN 16	DN 150	16	360	1	1



## MK DN 3 WAY

### FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.006.00255	MK DN	3-way shutoff valve- cast iron body - brass shutoff stainless steel shaft - flanged connections - PN 16	DN 50	16	40	1	1
7.006.00426	MK DN	3-way shutoff valve- cast iron body - brass shutoff stainless steel shaft - flanged connections - PN 16	DN 65	16	63	1	1
7.006.00428	MK DN	3-way shutoff valve- cast iron body - brass shutoff stainless steel shaft - flanged connections - PN 16	DN 80	16	100	1	1
7.006.00381	MK DN	3-way shutoff valve- cast iron body - brass shutoff stainless steel shaft - flanged connections - PN 16	DN 100	16	160	1	1
7.006.00743	MK DN	3-way shutoff valve- cast iron body - brass shutoff stainless steel shaft - flanged connections - PN 16	DN 125	16	250	1	1
7.006.00717	MK DN	3-way shutoff valve- cast iron body - brass shutoff stainless steel shaft - flanged connections - PN 16	DN 150	16	360	1	1

## SPECIFICATIONS

- Shutoff valves for hot/cold water
- Motorizable with motor series AS



# MOTOR AS 1400

## FOR FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.006.00503	AS 1400/150/230/00	Motor for MK valve DN 50/65/80/100: ABS casing - Max. load 140 Kg - strike time 150 sec. / 30 mm. On/Off 3 points	230 V	1	1
7.006.00532	AS 1400/150/24/00	Motor for MK valve DN 50/65/80/100: ABS casing - Max. load 140 Kg - strike time 150 sec. / 30 mm. On/Off 3 points	24 V	1	1
7.006.00603	AS 1400/150/24/M0	Motor for MK valve DN 50/65/80/100: ABS casing - Max. load 140 Kg - strike time 150 sec. / 30 mm - with self-learning and modulation	24 V	1	1



# MOTOR AS 3200

## FOR FLANGED DISC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02000	AS 3200/150/230/00	Motor for MK DN 125/150 valve: ABS housing – Max. load 320 Kg – run time 150 sec. / 30 mm. ON/Off 3 points – with multi-purpose hooking bracket	230 V	1	1
7.030.02014	AS 3200/150/24/00	Motor for MK DN 125/150 valve: ABS housing – Max. load 320 Kg – run time 150 sec. / 30 mm. ON/Off 3 points – with multi-purpose hooking bracket	24 V	1	1
7.030.02015	AS 3200/150/24/M0	Motor for MK DN 125/150 valve: ABS housing – Max. load 320 Kg – run time 150 sec. / 30 mm. with modulated self-learning – with multi-purpose connecting bracke	24 V	1	1

## SPECIFICATIONS

- Shutoff valves for hot/cold water
- Motorizable with motor series AS



## ADAPTER KIT

FOR MOTOR SIEMENS

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01619	KIT MK-DN	Siemens motor adapter kit	1	1



## DYNAMIC SEAL KIT

COMPATIBLE WITH MK / MK DN RANGE

CODE	DESCRIPTION	PACK	PACKAGING
7.006.00107	Kit sealing MK + MK DN 50	1	1
7.030.02589	Kit sealing MKE	1	1
7.030.01742	Kit sealing MK DN 65-80	1	1
7.006.00035	Kit sealing MK DN 100	1	1
7.030.02189	Kit sealing MK DN 125	1	1
7.030.02190	Kit sealing MK DN 150	1	1



# BLANK COUNTER-FLANGE

COMPATIBLE WITH MK / MK DN RANGE

CODE	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02041	Blind Counter flange gasket and bolts - PN16	DN 50	1	1
7.030.02042	Blind Counter flange gasket and bolts - PN16	DN 65	1	1
7.030.02043	Blind Counter flange gasket and bolts - PN16	DN 80	1	1
7.030.02044	Blind Counter flange gasket and bolts - PN16	DN 100	1	1
7.030.02045	Blind Counter flange gasket and bolts - PN16	DN 125	1	1
7.030.02046	Blind Counter flange gasket and bolts - PN16	DN 150	1	1

# RA RANGE

## THERMOSTATIC MIXER VALVES

The RA thermostatic mixing valves are used in hot water systems for sanitary use. They keep the temperature of the mixed water supplied to the user constant even when the conditions listed below vary:

- Temperature
- Supply pressure
- Incoming hot and cold water flow

The RA thermostatic mixing valves have a temperature range that is ideal for heating a centralised water system with heater. They also have an internal anti-limestone lining.



### TECHNICAL DATA



Type of movement  
Thermostatic



Max. ratio between input pressure (H/C or C/H)  
2 : 1



Nominal pressure  
PN10



Flows' temperature limits  
120 °C [max]



Flows' adjustment range at output (mix)  
30 ÷ 60 °C [precision  $\pm 2$  °C]











## RA 3 WAY THERMOSTATIC VALVE



- WITH PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01012	TWR-RA 15 E	Anti-burn peripheral thermostat mixers DN 15 M 30-60° with pipe union	1/2"	10	1,7	1	5
7.030.00900	TWR-RA 20 E	Anti-burn peripheral thermostat mixers DN 20 M 30-60° with pipe union	3/4"	10	1,7	1	5



## RA 3 WAY THERMOSTATIC VALVE



- WITHOUT PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01615	TWR-RA 15 E	Anti-burn peripheral thermostat mixers DN 15 M 30-60° without pipe union	1/2"	10	0,9	1	5
7.030.01616	TWR-RA 20 E	Anti-burn peripheral thermostat mixers DN 20 M 30-60° without pipe union	3/4"	10	0,9	1	5
7.030.00722	TWR-RA 25 E	Anti-burn peripheral thermostat mixers DN 25 M 30-60° without pipe union	1"	10	1,7	1	5



## RA 3 WAY

### THERMOSTATIC VALVE WITH NO-RETURN VALVE



- WITH PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01504	TWR-RA 15 E	Anti-burn peripheral thermostat mixers DN 15 M with one-way valve - 30-60° with pipe union	1/2"	10	1,7	1	5
7.030.01480	TWR-RA 20 E	Anti-burn peripheral thermostat mixers DN 20 M with one-way valve - 30-60° with pipe union	3/4"	10	1,7	1	5



## RA 3 WAY

### THERMOSTATIC VALVE WITH NO-RETURN VALVE



- WITH PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01617	TWR-RA 15 E	Anti-burn peripheral thermostat mixers DN 15 M with one-way valve - 30-60° without pipe union	1/2"	10	0,9	1	5
7.030.01618	TWR-RA 20 E	Anti-burn peripheral thermostat mixers DN 20 M with one-way valve - 30-60° without pipe union	3/4"	10	0,9	1	5
7.030.01479	TWR-RA 25 E	Anti-burn peripheral thermostat mixers DN 25 M with one-way valve - 30-60° without pipe union	1"	10	1,7	1	5



## VALVE

### NO-RETURN VALVE

CODE	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01510	Accessory one-way valve, pack of 50 pcs	1"	1	50
7.030.01620	Accessory one-way valve, pack of 50 pcs	1/2"	1	50
7.030.01621	Accessory one-way valve, pack of 50 pcs.	3/4"	1	50



# RAJ RANGE

## THERMOSTATIC MIXER VALVES

The RAJ thermostatic mixing valves are applied in hot water sanitary systems production and distribution to users. They guarantee a constant temperature (according to temperature set point value) of the mixed water to the users, even when the following conditions vary:

- Temperature of water flows before mixing (incoming hot water and cold water flows)
- Supply pressure
- Flow rates of incoming hot and cold water

The thermostatic mixing valves RAJ have a temperature range (adjustable), suitable for central water heating systems. The valve is provided as standard with a thermal insulating shell to reduce heat loss and avoid burns. The adjustable thermostatic mixing valves RAJ are available in 3 sizes (G 1 1/4", G 1 1/2", G 2").

Max hot water temperature inlet: 110 °C.  
Max working pressure (static): 14 bar.



### TECHNICAL DATA



Type of movement  
Thermostatic



Max. ratio between input pressures (H/C or C/H)  
2 : 1



Max. differential pressure  
5 bar



Fluid's temperature limits  
5 ÷ 110 °C [max]



Fluid adjustment range at output (mix)  
RAJ (R 1 1/4"): 30 ÷ 65 °C - RAJ (R 1 1/2"; R 2"): 35 ÷ 65 °C  
[precision: ±2 °C]



Nominal pressure  
PN14



TECHNICAL DATASHEET



RAJ 3 WAY

FOR THERMOSTATIC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01662	TWR-RAJ	Thermostatic radiator valve with nuts and connections of R 1" 1/4	R1" 1/4	10	9,1	1	1
7.030.01661	TWR-RAJ	Thermostatic radiator valve with nuts and connections of R 1" 1/2	R1" 1/2	10	14,5	1	1
7.030.01660	TWR-RAJ	Thermostatic radiator valve with nuts and connections of R 2"	R2"	10	19	1	1



CARTRIDGE KIT

FOR THERMOSTATIC VALVE

CODE	MODEL		PACK	PACKAGING
7.030.01744	kit catridge	Cartridge kit for RAJ thermostatic radiator valve, R 2" and R 1" 1/2	1	1
7.030.01745	kit catridge	Cartridge kit for RAJ thermostatic radiator valve, R 1" 1/4	1	1



# RAW RANGE

## THERMOSTATIC RADIATOR MIXER AND DIVERTER VALVES

The RAW thermostatic mixing valves are used in hot water systems for sanitary use. They keep the temperature of the mixed water supplied to the user constant even when the conditions listed below vary:

- Temperature
- Supply pressure
- Incoming hot and cold water flow

The RAW thermostatic mixing valves have a temperature range that is ideal for heating a centralised water system with heater.



### TECHNICAL DATA



Type of movement  
Thermostatic



Nominal pressure  
10 bar



Max. ratio between input pressures (H/C or C/H)  
2 : 1



Fluid temperature limits  
5 ÷ 120 °C [max]



Fluid's adjustment range at output (mix)  
30 ÷ 60 °C [precision ±2 °C]  
20 ÷ 43 °C (for the model KVS4)



100%  
MADE IN  
ITALY



TECHNICAL DATASHEET



# RAW-KVS4 - 3 WAY

## THERMOSTATIC VALVE ADJUSTABLE



- WITHOUT PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02034	RAW-KVS4 25E	Adjustable thermostatic mixer valve DN 25 M 20/43 °C - Centre distance 93	1"	10	4	1	5
7.030.02169	RAW-KVS4 25E	Adjustable thermostatic mixer valve DN 25 M 30/60 °C - Centre distance 93	1"	10	4	1	5
7.030.02174	RAW-KVS4 25E	Adjustable thermostatic mixer valve DN 25 M 30/80 °C - Centre distance 93	1"	10	4	1	5
7.030.02073	RAW-KVS4 32E	Adjustable thermostatic mixer valve DN 32 M 30/80 °C - Centre distance 81	1"1/4	10	4	1	5



# RAW 3 WAY

## THERMOSTATIC VALVE ADJUSTABLE



- WITH PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01009	TWR-RAW 15E	Adjustable thermostatic mixer valve DN 15 M with pipe union	1/2"	10	1,6	1	5
7.030.01010	TWR-RAW 20E	Adjustable thermostatic mixer valve DN 20 M with pipe union	3/4"	10	1,6	1	5
7.030.00847	TWR-RAW 25E	Adjustable thermostatic mixer valve DN 25 M with pipe union	1"	10	1,6	1	5
7.030.01011	TWR-RAW 32E	Adjustable thermostatic mixer valve DN 32 M with surcharge and without pipe union	1" 1/4	10	1,6	1	5





# VTD RANGE

## THERMOSTATIC DIVERTER VALVES

VTD Shunt Valve is installed between the boiler and Solar Heater. The use of this Thermostatic Shunt Valve provides a high savings allowing the use of solar panel with natural circulation even in winter.

The domestic water produced by the solar panel in winter often does not reach the required temperature. In this case the Shunt Valve VTD sends "warm" water to the instant wall boiler which will use the heat already present in the water to consume less gas and supply water to the desired temperature. Allows to adjust precisely the actual temperature.



### TECHNICAL DATA



Type of movement  
Thermostatic



Nominal pressure  
14 bar



Fluid's temperature limits  
5 ÷ 120 °C [max]



Ambient temperature  
-



Pre-set temperature  
from 40/50 °C and from 45/55 °C



TECHNICAL DATASHEET



VTD 3 WAY

THERMOSTATIC DIVERTER VALVES



CODE	DESCRIPTION	KVS	PACK	PACKAGING
7.030.01446	Valve VTD 25E 45 °C - 55 °C	1,5	1	5
7.030.01635	Valve VTD 25E 40 °C - 50 °C	1,5	1	5



PATENTED



# N-ICEMUT RANGE

ANTIFREEZE VALVE

The N-ICEMUT antifreeze valve allows the discharge of the fluid (water) contained in the hydraulic circuit when the temperature of the same drops to a temperature value between 2 and 4 degrees. This prevents the formation of ice in the circuit of the plant, in general with heat pump or hybrid, avoiding potential damage to the pipes and the machine itself. The N-ICEMUT antifreeze valve also features an innovative vacuum breaker system with indicator that highlights its operating status.



## TECHNICAL DATA



**Working fluid**  
Water / Water and Glycole (max 30%)



**Max working pressure**  
10 bar



**Temperature Range**  
0 ÷ 75 °C



**Ambient temperature range**  
-30 ÷ 60 °C



**Body connections**  
ISO228/1: DN 25 (G1") e DN 32 (G1" 1/4) e DN40 (G1" 1/2)



**Fluid temperature**  
3°C ± 1°C



**Fluid closing temperature**  
4°C ± 1°C



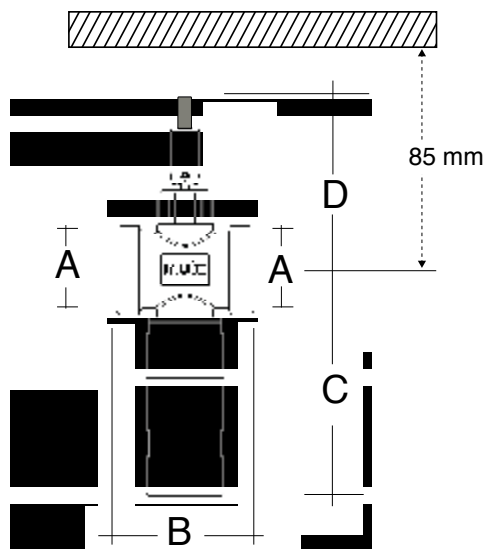
**Flow coefficient Kvs**  
(25E) Kvs: 56 - (32E) Kvs: 71 - (40E) Kvs: 73



TECHNICAL DATASHEET

# SIZE DATA

Dimensions in [mm]



CODE	7.030.03313	7.030.03314	7.030.03315
MODEL	N-ICEMUT 25E	N-ICEMUT 32E	N-ICEMUT 40E
DN	25	32	40
A ISO228/1 Male Threated	G 1" B	G 1"¼ B	G 1"½ B
B [mm]	52	59	62
C [mm]	84	88	88
D [mm]	61	65	65
Kvs	56	71	73



N-ICEMUT  
ANTIFREEZE VALVE



CODE	MODEL	SIZE	PACK	PACKAGING
7.030.03313	Antifreeze Valve - N-ICEMUT 25E	G 1"	1	5
7.030.03314	Antifreeze Valve - N-ICEMUT 32E	G 1"¼	1	5
7.030.03315	Antifreeze Valve - N-ICEMUT 40E	G 1"½	1	5

# MSV RANGE

## SAFETY VALVES

The safety valves are used to control the pressure on heat generators, in heating systems, accumulations of hot water, in water systems ecc.



### TECHNICAL DATA



Type of movement  
Manual



Nominal pressure  
10 bar



Fluid's temperature limits  
5 ÷ 110 °C [max]



Pressure  
da 1,5 a 8 bar



100%  
MADE IN  
ITALY



TECHNICAL DATASHEET





## MSV 140 2 WAY

SAFETY VALVES \*



CODE	MODEL	DESCRIPTION	SIZE	PN	PACK	PACKAGING
7.030.01417	MSV 140	Safety valve - setting 3 bar - female-female gas connections	G 1/2"	10	3	30
7.030.01535	MSV 140	Safety valve - setting 6 bar - female-female gas connections	G 1/2"	10	3	30
7.030.01419	MSV 140	Safety valve - setting 3 bar - female-male gas connections	G 1/2"	10	3	30
7.030.01536	MSV 140	Safety valve - setting 6 bar - female-male gas connections	G 1/2"	10	3	30



## MSV 170 2 WAY

SAFETY VALVES \*



CODE	MODEL	DESCRIPTION	SIZE	PN	PACK	PACKAGING
7.030.01413	MSV 170	Safety valve - setting 3 bar - female-female gas connections	G 1/2"	10	3	30
7.030.01537	MSV 170	Safety valve - setting 6 bar - female-female gas connections	G 1/2"	10	3	30
7.030.01416	MSV 170	Safety valve - setting 3 bar - female-male gas connections	G 1/2"	10	3	30
7.030.01538	MSV 170	Safety valve - setting 6 bar - female-male gas connections	G 1/2"	10	3	30

### SPECIFICATIONS

- \*If requested, available set at 1,5/2/2,5/3,5/4/5/7/8 bar



# MSV 141 2 WAY

SAFETY VALVES \*



CODE	MODEL	DESCRIPTION	SIZE	PN	PACK	PACKAGING
7.030.01574	MSV 141	Safety valve with pressure gauge - setting 3 bar female-male gas connections	G 1/2"	10	3	30
7.030.01575	MSV 141	Safety valve with pressure gauge - setting 6 bar female-male gas connections	G 1/2"	10	3	30
7.030.01576	MSV 141	Safety valve with pressure gauge - setting 3 bar female-female gas connections	G 1/2"	10	3	30
7.030.01577	MSV 141	Safety valve with pressure gauge - setting 6 bar female-female gas connections	G 1/2"	10	3	30



# MSV 142 2 WAY

SAFETY VALVES \*



CODE	MODEL	DESCRIPTION	SIZE	PN	PACK	PACKAGING
7.030.01600	MSV 142	Safety valve - setting 3 bar - female-female gas connections - prepared for pressure gauge	G 1/2"	10	3	30
7.030.01601	MSV 142	Safety valve - setting 6 bar - female-female gas connections - prepared for pressure gauge	G 1/2"	10	3	30
7.030.01602	MSV 142	Safety valve - setting 3 bar - female-male gas connections - prepared for pressure gauge	G 1/2"	10	3	30
7.030.01603	MSV 142	Safety valve - setting 6 bar - female-male gas connections - prepared for pressure gauge	G 1/2"	10	3	30

## SPECIFICATIONS

- \*If requested, available set at 1,5/2/2,5/3/5/4/5/7/8 bar



# VDE RANGE

ELECTRIC DIVERTING VALVES

The VDE valve is designed for use in combined home boilers with instant and semi-rapid production of domestic hot water. It is designed to shunt the flow of water away from the primary boiler circuit to the secondary heat exchanger, excluding the heating circuit (priority to hot water). It can be used in boilers that employ series VDP series VDP/M valves without changing the layout of the boiler fittings and by merely inserting the control unit.



## TECHNICAL DATA



Type of movement  
Motorized



Max. differential pressure  
154 kPa



Nominal pressure  
PN10



Fluid's temperature limits  
5 ÷ 110 °C [max]



Insulation class  
II Rif. Norma Europea EN60730



Protection rating  
IP 40 Rif. Norma Europea CEI EN 60529



Way commutation time  
6 s



Way commutation time  
6 s



TECHNICAL DATASHEET

VDE 3 WAY

ELECTRIC DIVERTING VALVES



CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.00183	VDE/MLS	Electric diverter valve 24 V - stepper motor	1	10



SPECIFICATIONS

- \*Available with custom Kvs or custom engines. ( for information contact the sales office)





# VDP RANGE

PRESSURE-CONTROLLED DIVERTING VALVES



VDP valves are three-way diverter valve valves that work on the basis of the pressure switch principle (no auxiliary energy is required for control). VDP valves are applied in decentralized domestic district heating units, heat pumps and domestic boilers, for instant production of domestic hot water – when in combination with a secondary water / water heat exchanger. During the user's request for domestic hot water, the valve automatically diverts (Flow switch) the water flow of the heating circuit from the primary circuit to the instantaneous (secondary) exchanger, temporarily excluding the heating circuit.

## TECHNICAL DATA



Nominal pressure  
PN10



100%  
MADE IN  
ITALY



TECHNICAL DATASHEET

VDP 3 WAY

PRESSURE-CONTROLLED DIVERTING VALVES



CODE	MODEL	DESCRIPTION	PN	PACK	PACKAGING
7.005.00040	VDP 2	Diverter pressure valve 2 micro - body at 180°	10	1	10
7.030.00777	VDP	Diverter pressure valve no micro - body at 180°	10	1	10
7.005.00490	VDP 2	Diverter pressure valve 2 micro - body at 180°	10	1	10





# SFS RANGE

## DIFFERENTIAL PRESSURE SWITCHES

The SFS differential pressure switch closes or diverts an electric contact when the differential pressure between the two inlets reaches the upper set-point (intervention) and opens or releases the contact when it drops below the lower setpoint (release). It can be used in plumbing systems when it is necessary to make sure the pressure difference between two points does not exceed or drop below a specific value. A pair of permanent magnets, placed in a mutual repulsion position one inside the pressure switch body and one outside, replace the classic O-ring and shaft solution and greatly increase the reliability and working life of the pressure switch.



### TECHNICAL DATA



Max. differential pressure  
500 kPa



Nominal pressure  
PN 16



Protection rating  
IP 40 or IP54  
Rif. European Directive CEI EN 60529



Cable length  
920 mm



Fluid's temperature limits  
2 ÷ 95°C [max]



TECHNICAL DATASHEET

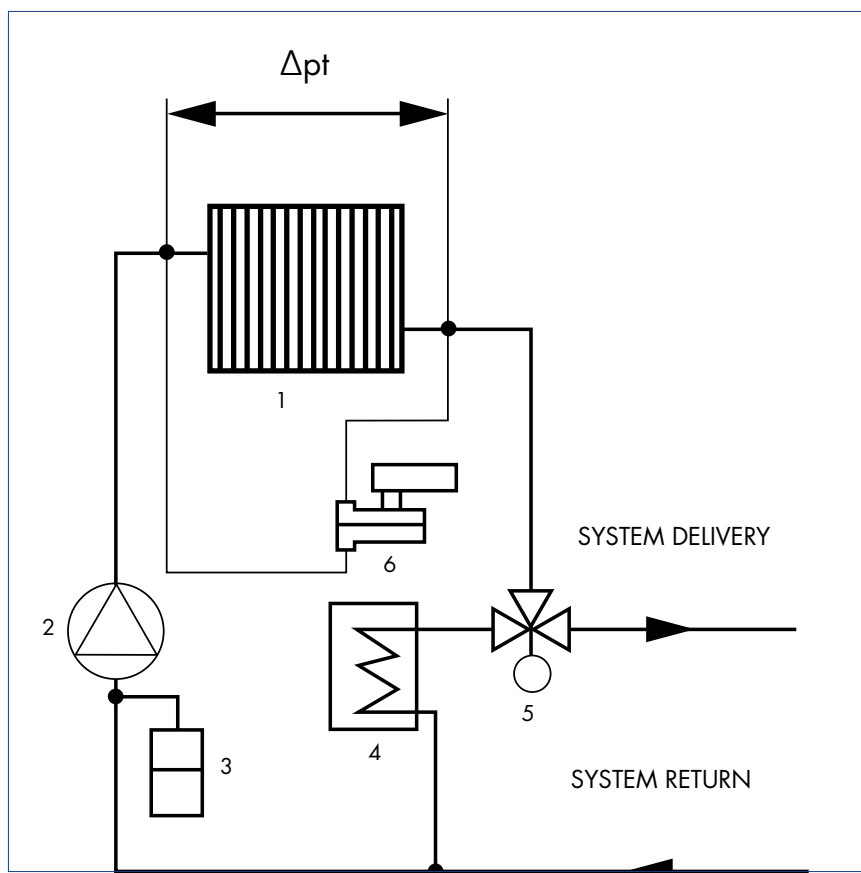
# SFS M1/M2

## DIFFERENTIAL PRESSURE SWITCHES



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.004.00022	SFS M1	Differential pressure valve - intervention at 50 mbar - Male connections (intervention at 25/35/100 mbar if requested) (3/8G,7/16UNF connections if requested) with 1 micro - IP 40	1/4"	1	5
7.004.00049	SFS M2	Differential pressure valve - intervention at 50 mbar - Male connections (intervention at 25/35/105 mbar if requested) (3/8G,7/16UNF connections if requested) with 2 micro - IP 40	1/4"	1	5
7.004.00289	SFS M1	Differential pressure valve IP54 - intervention at 50 mbar (intervention at 25/35/105 mbar if requested) - Male connections G 1/4" (3/8G,7/16 UNF if requested)	1/4"	1	5

## OPERATING DIAGRAM



The SFS pressure switch is used as a flow switch to control the water flow in the primary circuit of the boiler. This exploits the  $\Delta p$  pressure drops that build up in the circuit components.

### KEY

- 1 - Primary heat exchanger H<sub>2</sub>O/Gas
- 2 - Pump
- 3 - Expansion tank
- 4 - Secondary heat exchanger H<sub>2</sub>O/H<sub>2</sub>O
- 5 - Electric diverting valve
- 6 - SFS pressure switch
- 7 -  $\Delta p = p_1 - p_2 =$  pressure drop heat exchanger



# SBP RANGE

FLOW SIGNALLING PRESSURE SWITCH

The SBP flow switch works as a differential pressure switch until it reaches a pressure value ( $\Delta P_B$ ) which causes the opening of a by-pass making it work as an over pressure valve. Under this value ( $\Delta P_B$ ) the SBP flow switch closes or switches an electrical contact when the pressure reaches its upper set-point micro ( $\Delta P$  intervention) and releases it when it drops below the lower micro set-point ( $\Delta P$  release). When the pressure difference goes higher than the pre-established value ( $\Delta P_B$ ) the by-pass opens and the component functions as an overpressure valve. A pair of permanent magnets, placed in their mutual repulsion position, one inside the flow switch body and one outside the body, replace the classic solution of O-ring seal and shaft. This new solution greatly increases the reliability and working life of the flow switch.



## TECHNICAL DATA



Nominal pressure  
PN10



Flows' temperature limits  
 $5 \div 95^\circ\text{C}$  [max]



Protection rating  
IP 40 Ref. European Directive IEC EN60529



**100%**  
MADE IN  
ITALY



TECHNICAL DATASHEET

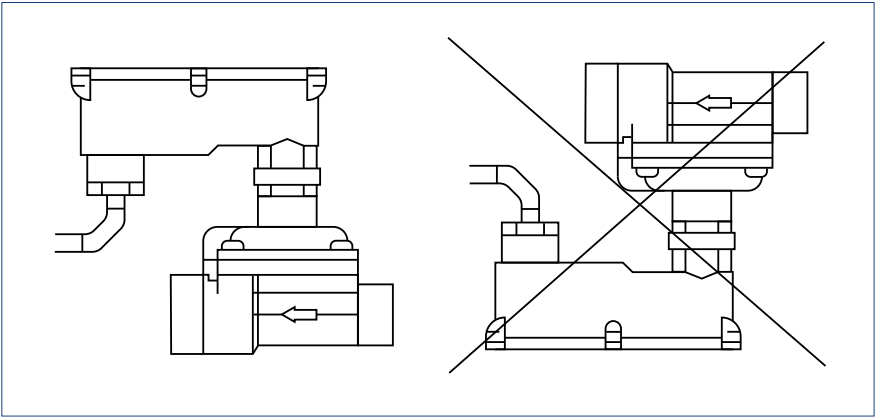
# SBP 1/2

FLOW SIGNALLING PRESSURE SWITCH

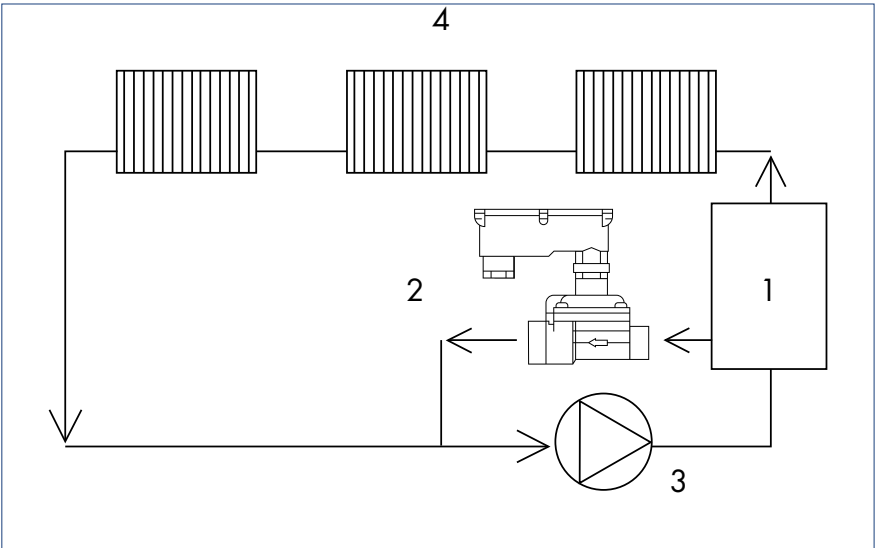


CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.008.00056	SBP 1	Differential pressure valve with overpressure - valve intervention at 100 mbar - Male connections - with 1 micro - IP 54	3/4"-1/2"	1	5
7.008.00047	SBP 2	Differential pressure valve with overpressure - valve intervention at 100 mbar - Male connections - with 2 micros - IP 54	3/4"-1/2"	1	5

## OPERATING DIAGRAM



NB: You are advised not to install the flow signalling pressure switch upside down (microswitch box underneath the valve body) as this might lead to a significant departure from the hydraulic characteristics listed in this catalogue.



### KEY

- 1 - Boiler
- 2 - SBP
- 3 - Pump
- 4 - Radiators



# SFP RANGE

## FLOW SWITCHES



Flowswitch closes or switches an electric contact when the flow of water passing through it reaches its upper set-point (intervention) and opens or releases the contact when it drops below the lower set-point (release). A pair of permanent magnets, placed in their mutual repulsion position, one inside the flow switch body and one outside the body, replace the classic solution with O-ring seal and shaft. This new solution greatly increases the reliability and working life of the flowswitch.

### TECHNICAL DATA



Nominal pressure  
PN10



Protection rating  
IP 40 Ref. European Directive IEC EN60529



100%  
MADE IN  
ITALY



TECHNICAL DATASHEET

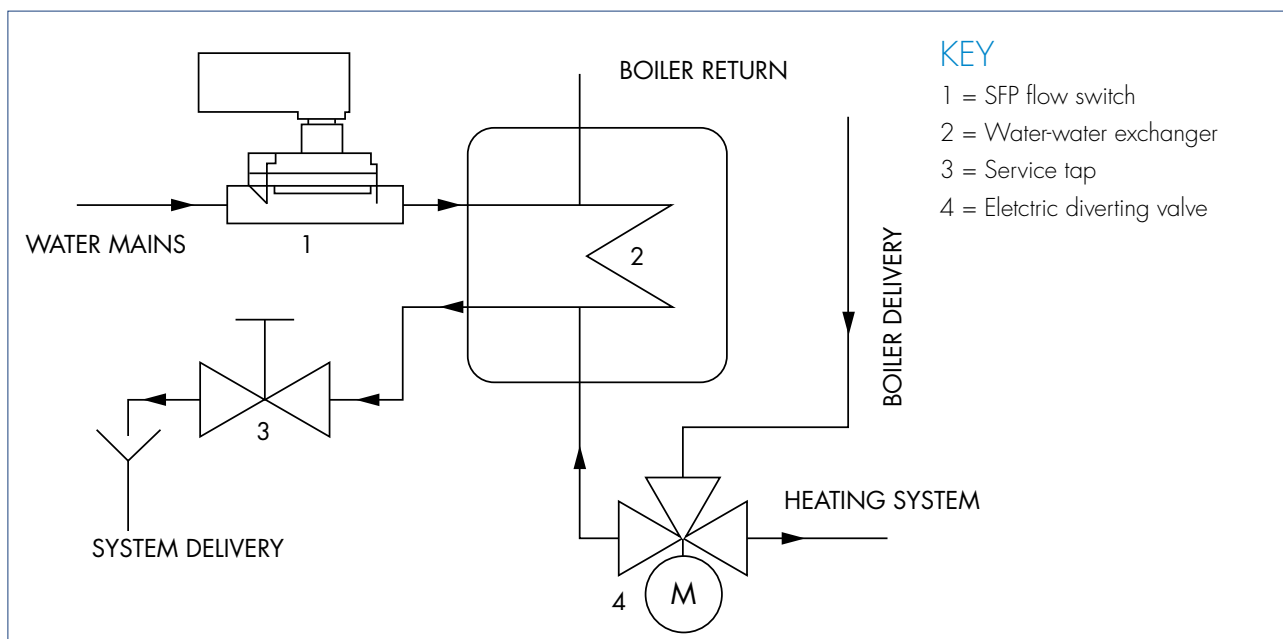
# SFP

## FLOW SWITCHES



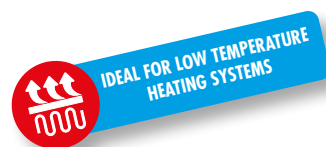
CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.003.00084	SFP M1	Flow switch - intervention at 1,5 l/min - Male connections (intervention at 2 and 2,5 l/min if requested) with 1 micro	1/2"-1/2"	1	5
7.003.00076	SFP M2	Flow switch - intervention at 1,5 l/min - Male connections (intervention at 2 and 2,5 l/min if requested) with 2 micros	1/2"-1/2"	1	5
7.003.00258	SFP-RM M1S	Flow switch - intervention at 1,5 l/min - Male connections (intervention at 2 and 2,5 l/min if requested) with flow control valve with 1 micro	1/2"-1/2"	1	5
7.030.00876	SFP-S M1	Flow switch - intervention at 1,5 l/min- Male connections 3/4" - with 1 micro	3/4"-3/4"	1	5

## OPERATING DIAGRAM



If there is a DHW request, the SFP flow switch commands the switching of the 3-way electric valve which diverts the primary hot water flow to the exchanger, temporarily excluding the heating system.





# VPR RANGE

SHUT OFF MIXING / DIVERTING  
VALVES MOTORIZABLE

The VPR series of 3-way shutter valves may be used as deviating or mixing valves (water, water + max. 30% glycol) in heating, conditioning and ventilating systems. They may be motor-driven with MUT motors series V3, on-off and modulating. The VPR valve is available in two versions:

- N.O. (normally open): if the stem of the valve is not pressed, the direct passage (AB-A) is open and the by-pass (AB-B) is closed.
- N.C. (normally closed): if the stem of the valve is not pressed, the direct passage (AB-B) is open and the by-pass (AB-A) is closed.

VPR valves present:

- High Kvs values.
- Possibility of precise modulation thanks to the long travel and shape of the shutter, which allows both the direct passage and the by-pass to be opened immediately, guaranteeing a modulation of the flows in a field equal to the whole travel.
- Very low leakage, even if used in systems with a high differential pressure.

**THESE VALVES ARE PARTICULARLY SUITABLE FOR ADJUSTING THE TEMPERATURE IN UNDERFLOOR HEATING SYSTEMS.**



## TECHNICAL DATA



Type of movement  
Manual



Type of movement  
Can be motorized



Nominal pressure  
PN16



Flows' temperature limits  
-20 ÷ 130 °C [max]



Connections  
DN 25



TECHNICAL DATASHEET



- MALE CONNECTIONS
- DEAL FOR LOW TEMPERATURE RADIANT SYSTEMS

## VPR 3 WAY

### SHUT OFF MIXING VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PAKAGING
7.021.00067	VPR 6NO	V3-way mixer/diverter valve- strike 6 mm - NO - Male gas connections	1"	16	4,6	1	5
7.021.00037	VPR 6NC	3-way mixer/diverter valve- strike 6 mm - NC - Male gas connections	1"	16	5,0	1	5
7.021.00028	VPR 2,5NO	3-way mixer/diverter valve- strike 2,5 mm - NO - Male gas connections	1"	16	3,9	1	5
7.021.00038	VPR 2,5NC	3-way mixer/diverter valve- strike 2,5 mm - NC - Male gas connections	1"	16	2,8	1	5

## MOTORS FOR VPR RANGE VALVES



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.011.00041	V3 180/24	Actuator 24 V - On/Off 3 points	24 V	1	1
7.011.00107	V3 180/230	Actuator 230 V - On/Off 3 points	230 V	1	1
7.011.00102	V3 180/24/M0	Modulating actuator - 24 V - 0-10 Vdc and 2-10 Vdc	24 V	1	1
7.030.01292	V3 180/230	Actuator 230 V - on/off - 180 sec. - 3 points - ECO	230 V	1	1
7.030.01447	V3 180/24	Actuator 24 V - on/off - 180 sec. - 3 points - ECO	24 V	1	1
7.030.00432	ARM	Electric actuator ARM model - 24 V - N.O.	24 V	1	5
7.030.00433	ARM	Electric actuator ARM model - 110 V - N.O.	110V	1	5





LIMITED STOCK AVAILABLE

# EQUITERM

## REGULATORS

The MTR series controllers are designed to adjust domestic heating systems using both radiant floor and radiators so as to save on energy. They contain a P.I.D. limit control which guarantees the temperature reaches fast the optimal level in each room. These controllers are easy to program and user-friendly and offer a wide range of adjustment and fine-tuning parameters. You may also program non-use periods to minimize consumption and lower operative temperature. They may come equipped with temperature sensors or sensors may be bought separately.

Equiterm-based adjusting systems detect outdoor temperature and optimize the temperature of radiators through a mixing valve to secure a comfortable indoor temperature.

All MTR controllers may also be interfaced with room thermostats. They automatically detect any fault in outdoor temperature sensors and/or system temperature and also detect any failure of the mixing valve and may turn the boiler off to avoid damaging the radiant floor heating system.



### TECHNICAL DATA



Voltage  
230 Vac



Insulation class  
Insulation: 11 - IEC 664



Protection rating  
IP 20 Rif. European Directive IEC EN 60529



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TECHNICAL DATASHEET



LIMITED STOCK AVAILABLE

# MTR EQUITERM

TEMPERATURE CONTROL UNIT



CODE	MODEL	DESCRIPTION
7.023.00002	MTR 01	230V climatic control unit, complete with probe external and contact probe for 3-point motors.
7.030.01363	MTR 21	230V climatic control unit, complete with probes for 3-point engines.
7.030.01784	MTR 22	230V climatic control unit, touch screen without probes, for 3-point motors.

## ACCESSORIES

FOR TEMPERATURE CONTROL UNIT

CODE	DESCRIPTION
7.023.00005	Contact probe with cable tie



CODE	DESCRIPTION
7.023.00006	probe shaft Ø 7



CODE	DESCRIPTION
7.023.00004	Outdoor probe



CODE	DESCRIPTION
7.030.00298	230V to 24 V transformer: 20 VA / out 24V / 0.80 A



# FAN-COIL RANGE

VALVES FOR RADIATOR AND FAN-COILS

The V3B and FV3 valves are part of a series that was designed for domestic heating and cooling use. They have important characteristics, among which: small overall dimensions, easy to install, very low leakage, equipercentage regulation curve, suitable for use with drinkable water and others. These valves are moved manually by an external flywheel and can be controlled at any time by a MUT electric servo control from the V3 series and/or motors marketed by companies that deal with regulation. All that needs to be done is completely unscrew the manual knob and tighten the electric servo control in its place. All this without having to empty the system.



## TECHNICAL DATA



Max. differential pressure  
202 kPa



Nominal pressure  
PN16



Flows' temperature limits  
5 ÷ 110 °C [max]



TECHNICAL DATASHEET







## F2V 2 WAY

VALVES FOR RADIATOR AND FAN-COILS



- FEMALE - MALE CONNECTIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.010.00001	F2V- NO	2-way valve - connections 1/2"F - 3/4"M		16	0,8	1	50
7.010.00028	F2V- NO	2-way valve - connections 1/2"F - 3/4"M		16	1,6	1	50



## FV3 E 3 WAY

VALVES FOR RADIATOR AND FAN-COILS



- MALE CONNECTIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.016.00042	FV3 15 E - NO	3-way fan-coil valve - 230 V male connections	1/2"	16	1,6	1	10
7.016.00039	FV3 20 E - NO	3-way fan-coil valve - 230 V male connections	3/4"	16	1,5	1	10



## FV3 EB 3 WAY

VALVES FOR RADIATOR AND FAN-COILS



- COMPLETE WITH NUTS WITH GOTHIC ARCH THREAD



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.016.00106	FV3 15 EB - NO	3-way valve - connections for copper pipes complete with nuts - ferrules	15 mm	16	1,6	1	10
7.016.00107	FV3 20 EB - NO	3-way valve - connections for copper pipes complete with nuts - ferrules	20 mm	16	1,5	1	10



## V3B E 3 WAY

VALVES FOR RADIATOR AND FAN-COILS



- MALE CONNECTIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.011.00195	V3B 15 E - NO	3-way valve with by-pass - Male connections	1/2"	16	1,6	1	10
7.011.00196	V3B 20 E - NO	3-way valve with by-pass - Male connections	3/4"	16	1,5	1	10





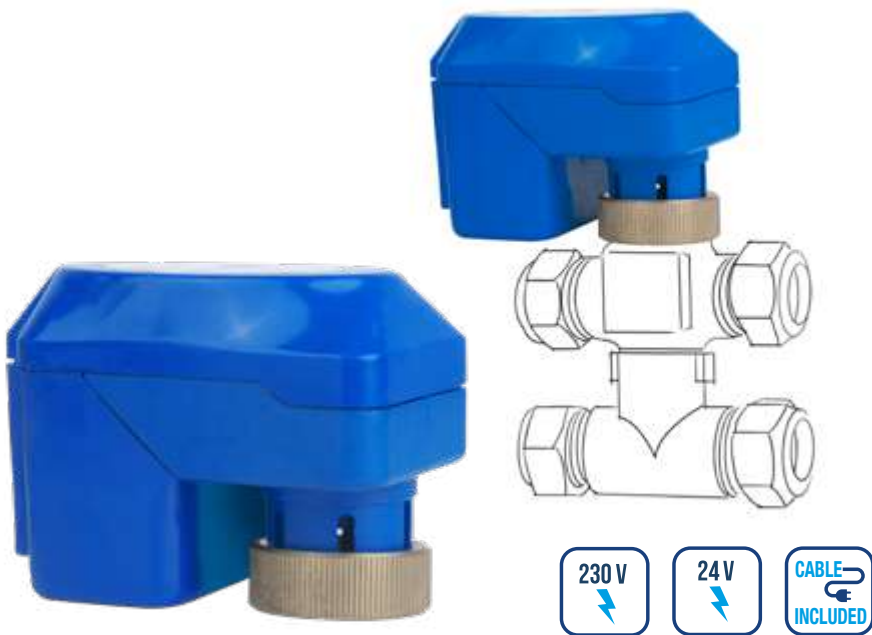
- COMPLETE WITH NUTS WITH GOTHIC ARCH THREAD

## V3B EB 3 WAY

VALVES FOR RADIATOR AND FAN-COILS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.011.00363	V3B 15 EB - NO	3-way valve - connections for copper pipes complete with nuts - ferrules	15 mm	16	1,6	1	10
7.011.00364	V3B 20 EB - NO	3-way valve - connections for copper pipes complete with nuts - ferrules	20 mm	16	1,5	1	10



# ACTUATOR V3 EC

FOR RADIATOR AND FAN-COILS VALVE

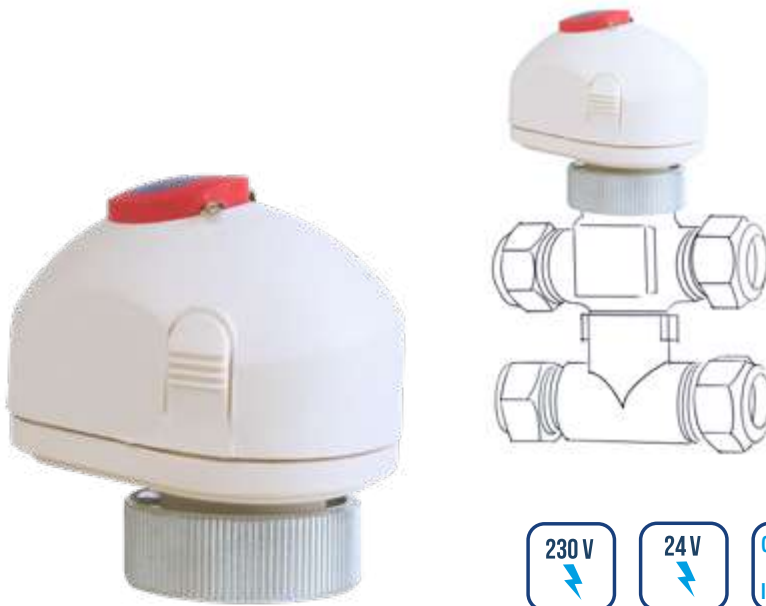
CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.011.00041	V3 180/24	Actuator 24 V - On/Off - 180 sec. - 3 points	1	1
7.011.00107	V3 180/230	Actuator 230 V - On/Off - 180 sec. - 3 points	1	1
7.011.00102	V3 180/24/MO	Modulating actuator - 24 V - 0-10 Vdc and 2-10 Vdc	1	1
7.030.01292	V3 180/230	Actuator 230 V - on/off - 180 sec. - 3 points - ECO	1	1
7.030.01447	V3 180/24	Actuator 24 V - on/off - 180 sec. - 3 points - ECO	1	1



# ELECTRIC ACTUATOR ARM

## FOR VALVES FOR FAN COILS

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.009.00165	ARM	Electric actuator ARM model - 230 V - N.O.	1	5
7.030.00432	ARM	Electric actuator ARM model - 24 V - N.O.	1	5
7.030.00433	ARM	Electric actuator ARM model - 110 V - N.O.	1	5



## V3 EC ACTUATOR

FOR VALVES FOR FAN COILS

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.011.00361	V3 EC	Wax actuator 230 V - 6.5 mm - M30x1.5	1	20
7.011.00362	V3 EC	Wax actuator 24 V - 6.5 mm - M30x1.5	1	20
7.011.00355	V3 EC M1S	Wax actuator with auxiliary micro - 230 V - 6.5 mm - M30x1.5	1	20
7.011.00356	V3 EC M1S	Wax actuator with auxiliary micro - 24 V - 6.5 mm - M30x1.5	1	20

## THERMOSTAT

FOR VALVES FOR FAN COILS

CODE	DESCRIPTION	PACK	PACKAGING
7.030.01613	Thermostatic head with full close cat. A 6-28 °C M 30x1,5	1	20



# RECIRCULATION UNIT WITH MANIFOLDS

MUT temperature regulating units, also called booster units, are suitable for temperature control and water distribution in multi-storey or multi-zone applications. They allow to distribute water or plant fluid at the temperature that is suitable for a correct system operation to each system or zone.

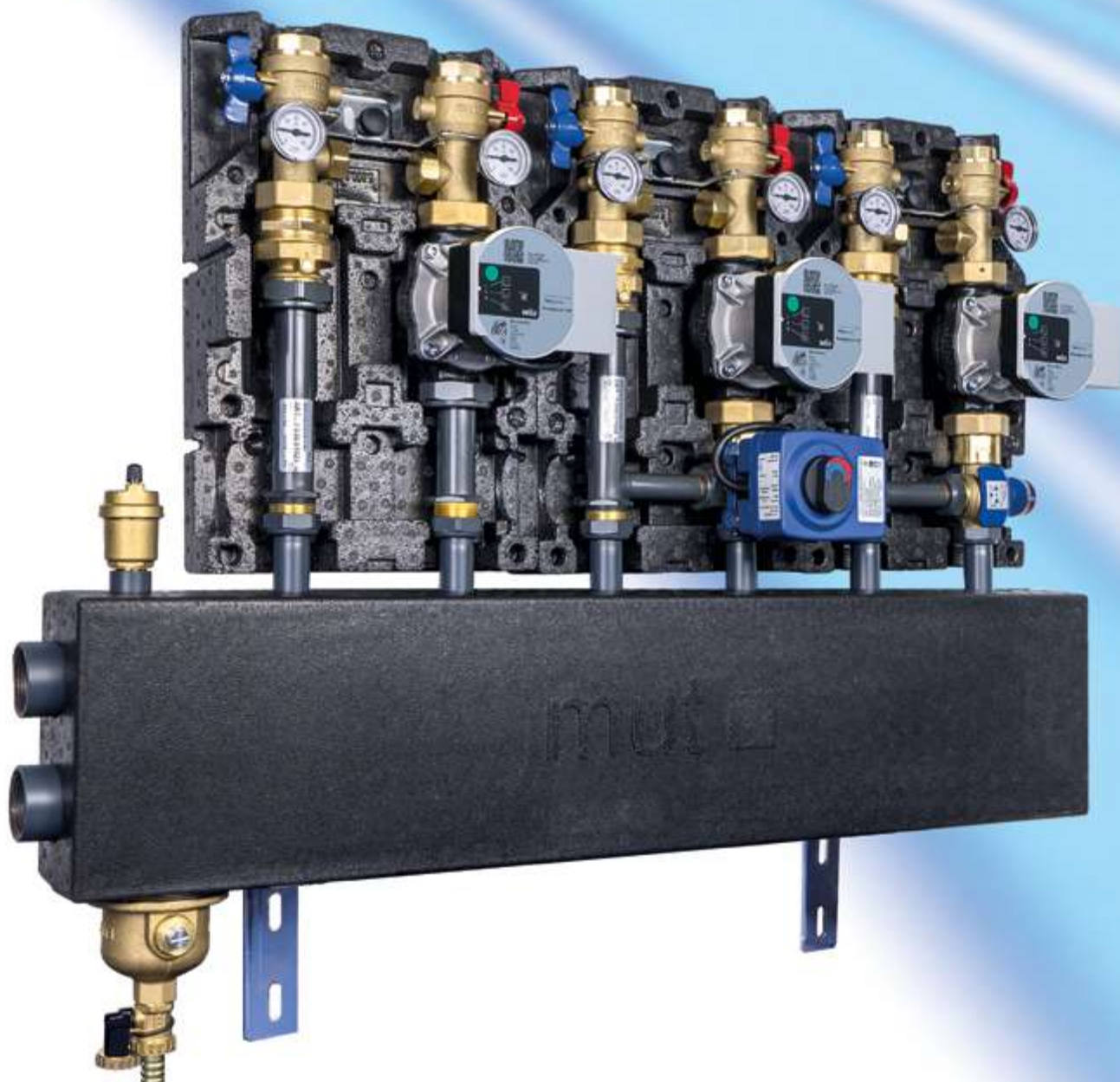
Booster groups are supplied with thermal insulation in high density PPE and are suitable for operation with low temperature heating systems when equipped with a mixing valve (booster group with mixing valve), or directly to medium/high temperature (direct booster unit).

Booster groups are obviously also suitable for the distribution of fluid in plants with water coolers (chillers). In heating applications they are installed downstream of the boiler, of a hydraulic separator or a mounted manifolds ready for their connection. Alternatively they allow to use the distribution manifolds of the fluid with a hydraulic separator.

These booster groups have been developed to meet both latest European regulations in terms of energy saving, safety and sustainability, combining features and specifications that allow quick and easy installation and maintenance.

**The result is a product with high energy performance and at the same time very simple to install and maintain.**

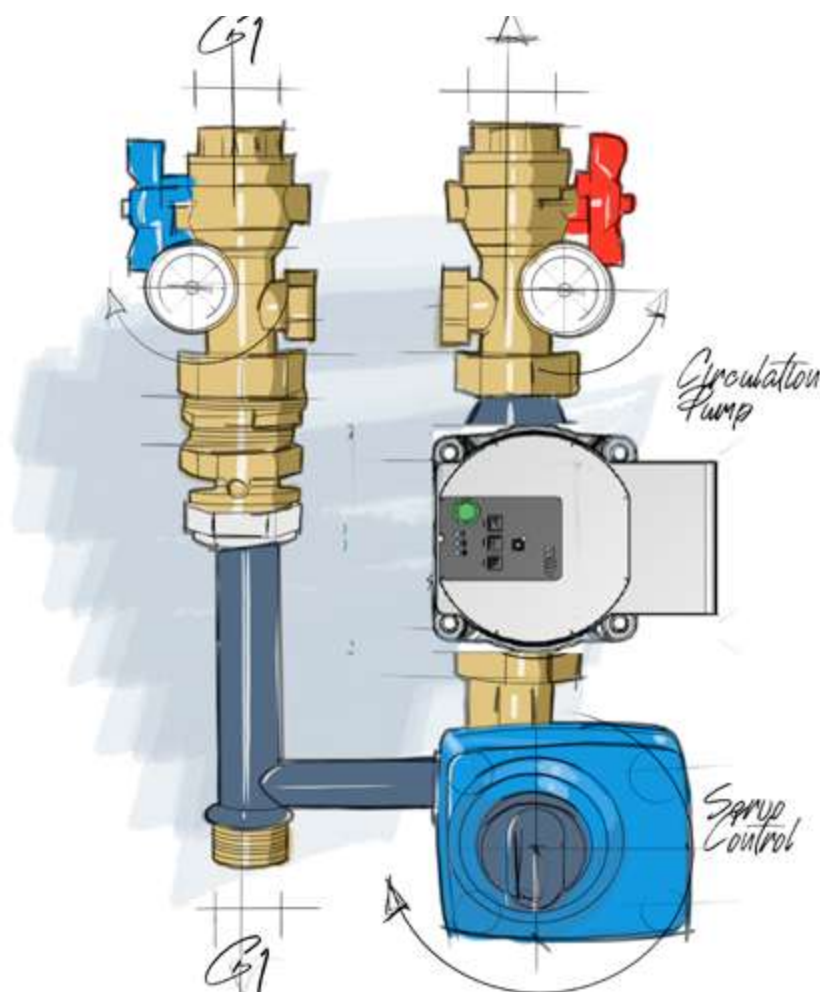




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# RECIRCULATION UNIT WITH MANIFOLDS RANGE



## TECHNICAL DATA



Fluid used  
Water, Water with glycol



Maximum percentage of glycol  
30 %



Max. working pressure  
6 bar



Max working temperature  
110°C



Connections  
Plant side: 1" F (ISO228-1)  
Boiler/Manifold side: 1" M (ISO228-1)

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## CONTENTS

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TECHNICAL  
DATASHEET  
**GRD**



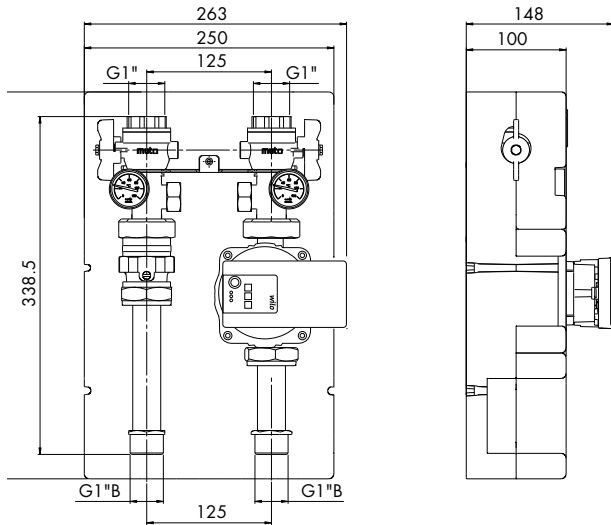
TECHNICAL  
DATASHEET  
**GRM**



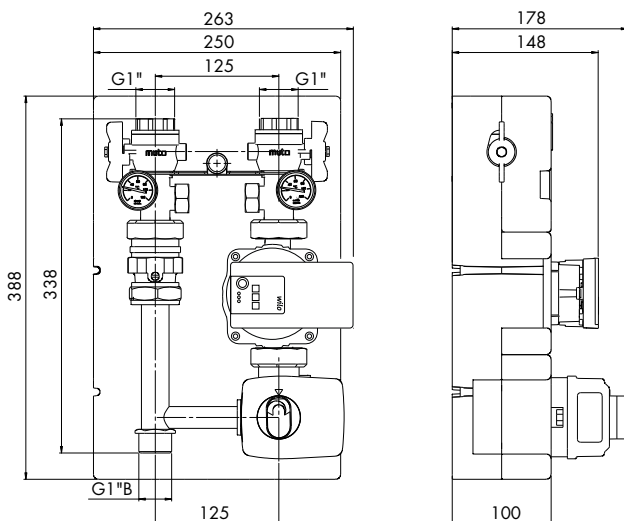
TECHNICAL  
DATASHEET  
**GRT**

# SIZE DATA

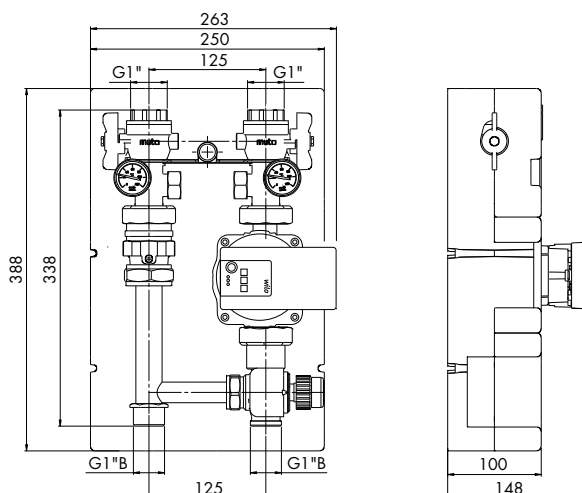
## GRD - DIRECT BOOSTER UNITS



## GRM - RECIRCULATION UNIT WITH THE MIXER VALVE MOTORIZED



## GRT - RECIRCULATION UNIT WITH THERMOSTATIC MIXER VALVE







## GRD

### DIRECT RECIRCULATION UNIT

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01923	GRD	Direct Booster Unit - Pump Dab Evosta (o Wilo Para) 25/7 SC	1	1
7.030.02074	GRD - SP	Direct Booster Unit - <b>Without Pump</b> - int.130x1"½	1	1



## GRM

### RECIRCULATION UNIT WITH MIXING VALVE MOTORIZED

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01924	GRM	Booster Unit with motorised mixing valve motor 3 points on/off 230 Vac - Pump DAB EVOSTA (o WILO PARA) 25/7 230 V 50/60Hz	1	1
7.030.02076	GRM - SP	Booster Unit with motorised mixing valve motor 3 points on/off 230 Vac - <b>Without Pump</b> (int.130 x 1" 1/2)	1	1
7.030.02281	GRM - MO	Booster Unit with motorised mixing valve motor 24 Vac/dc - modulant 0-10Vcc (rif.0% counterclockwise rotation signal) - Pump DAB EVOSTA (o WILO PARA) 25/7	1	1
7.030.02972	GRM MO - SP	Booster Unit with motorised mixing valve motor 24 Vac/dc - modulant 0-10Vcc (rif.0% counterclockwise rotation signal) <b>Without Pump</b> (int.130 x 1" ½)	1	1

## SPECIFICATIONS

- Supplied as standard with high density EPP thermal insulation shell



## GRT

### RECIRCULATION UNIT WITH THERMOSTATIC MIXER VALVE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01957	GRT	Booster Unit with thermostatic mixing valve 20/43° Pump DAB EVOSTA (o WILO PARA) 25/7	1	1
7.030.02077	GRT - SP	Booster Unit with thermostatic mixing valve 20/43° <b>Without Pump</b> - int.130x1"½	1	1
7.030.02182	GRT	Booster Unit with thermostatic mixing valve 30/60° Pump DAB EVOSTA (o WILO PARA) 25/7	1	1
7.030.02301	GRT - SP	Booster Unit with thermostatic mixing valve 30/60° <b>Without Pump</b> - int.130x1"½	1	1
7.030.02183	GRT	Booster Unit with thermostatic mixing valve 30/80° Pump DAB EVOSTA (o WILO PARA) 25/7	1	1
7.030.02375	GRT - SP	Booster Unit with thermostatic mixing valve 30/80° <b>Without Pump</b> - int.130x1"½	1	1

## PUMP CURVES - WILO DAB EVOSTA2



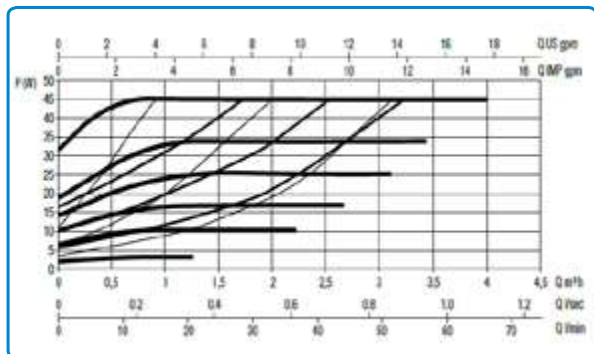
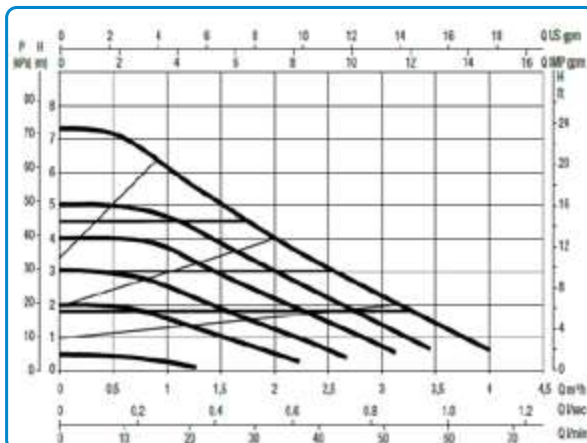
Δp-v (variable)



Δp-c (constant)



Constant speed  
I, II, III



DAB EVOSTA ( o WILO PARA) circulators or equivalent circulators according to the ERP 2015 efficiency directive, with similar curves and performance functions.

# RECIRCULATION UNIT HP

The MUT heat regulation assemblies, also called HP anti-condensation thermostatic units, are special components used to adjust the temperature and distribution of the heat-carrier fluid at the right system's operating temperature, both in multifloor or multiarea systems.

MUT Anti-Condensation Thermostatic Units are heat-carrier Distribution and Mixing units in the heating system

The Units are supplied with high-density EPP thermal insulation as standard, and are ideal both for use in low-temperature heating systems, when equipped with mixing valves (anti-condensation thermostatic unit with mixing valve), or directly at medium/high temperature (direct anti-condensation thermostatic unit).

Anti-condensation thermostatic unit can obviously be used also to distribute water in systems with water chillers.

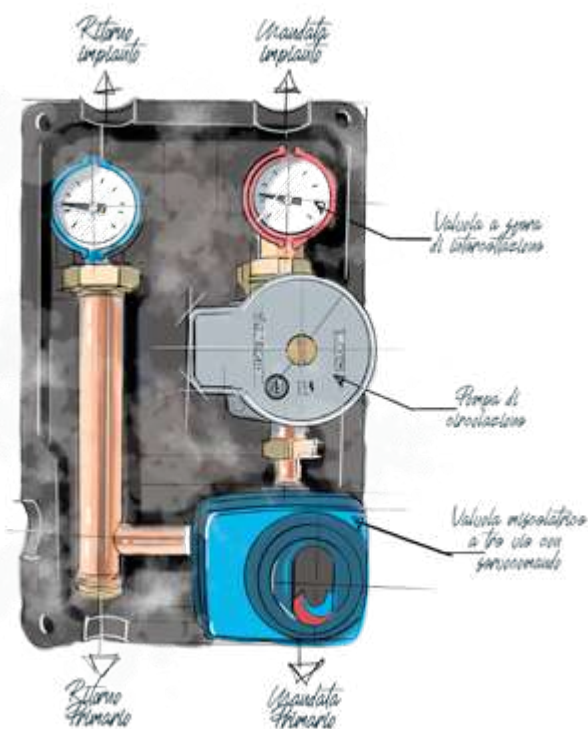


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# RECIRCULATION UNIT **HP** RANGE



## TECHNICAL DATA



Working fluid  
Water, water and glycol



Maximum percentage of glycol  
30 %



Max. working pressure  
6 bar



Max working temperature  
110°C



Connections  
Plant side: 1" F (ISO228-1) centre distance 125mm  
Boiler/Manifold side: 1" M (ISO228-1) centre distance 125mm

## FUNCTION

### GRD-HP RANGE

The motorized temperature regulating unit MUT series GRD HP is configured for use with an outside compensated or modulating temperature regulator to control the flow temperature in heating and air conditioning systems. Complete with motorized three-way mixing valve, flow and return temperature gauges, secondary circuit shut-off valves and pre-formed shell insulation.

### GRM-HP RANGE

The motorized temperature regulating unit MUT series GRM HP is configured for use with an outside compensated or modulating temperature regulator to control the flow temperature in heating and air conditioning systems. Complete with motorized three-way mixing valve, flow and return temperature gauges, secondary circuit shut-off valves and pre-formed shell insulation.

### GRT-HP RANGE

Booster Unit with thermostatic mixing valve MUT series GRT HP perform the function of keeping the flow temperature constant, at the set value, for the medium distributed, i.e. in a low temperature system for underfloor radiant panels. They are a complete system equipped with thermostatic three-way mixing valve with built-in temperature sensor, flow and return temperature gauges, check valves and pre-formed shell insulation.



## CONTENTS

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TECHNICAL DATASHEET  
**GRD HP**



TECHNICAL DATASHEET  
**GRM HP**

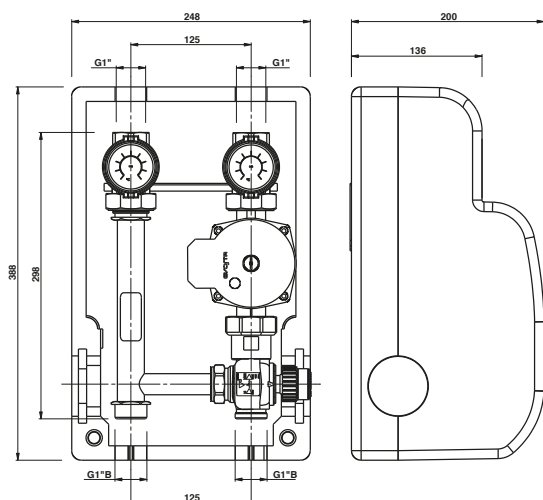


TECHNICAL DATASHEET  
**GRT HP**

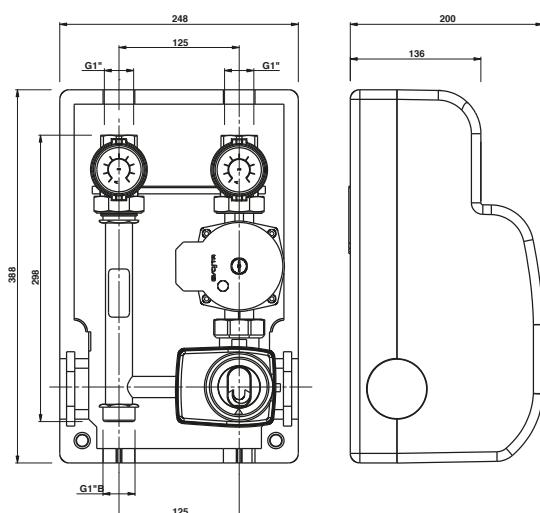


# SIZE DATA

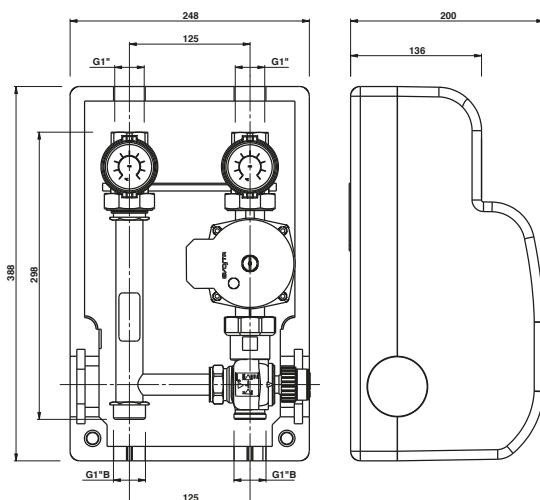
## GRD-HP - DIRECT BOOSTER UNIT



## GRM-HP - RECIRCULATION UNIT WITH THE MIXER VALVE MOTORIZED



## GRT-HP - RECIRCULATION UNIT WITH THERMOSTATIC MIXER VALVE





## GRD HP

DIRECT BOOSTER UNIT

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03010	GRD-HP DAB	Direct Booster Unit HP - Pump Dab Evosta 25/7 SC	1	1
7.030.03274	GRD-HP WILO	Direct Booster Unit HP - Pump Wilo Para 25/7 SC	1	1
7.030.03061	GRD-HP-SP	Direct Booster Unit HP - <b>Without Pump</b>	1	1



## GRM HP

RECIRCULATION UNIT WITH MIXING VALVE MOTORIZED

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03011	GRM-HP DAB	Booster Unit HP with motorised mixing valve motor 3 points on/off 230 Vac with pump DAB EVOSTA2 70/130 - 230V 50/60Hz	1	1
7.030.03275	GRM-HP WILO	Booster Unit HP with motorised mixing valve motor 3 points on/off 230 Vac with pump WILO PARA 25/7 230 V 50/60Hz	1	1
7.030.03062	GRM-HP-SP	Booster Unit HP with motorised mixing valve motor 3 points on/off 230 Vac - <b>Without Pump</b> (int.130 x 1" 1/2)	1	1
7.030.03064	GRM-HP-MO DAB	Booster Unit HP cwith motorised mixing valve motor 24 Vac/dc - modulant 0-10Vcc (rif.0% counterclockwise rotation signal) with pump DAB EVOSTA2 70/130 - 230V 50/60Hz	1	1
7.030.03277	GRM-HP-MO WILO	Booster Unit HP cwith motorised mixing valve motor 24 Vac/dc - modulant 0-10Vcc (rif.0% counterclockwise rotation signal) with pump WILO PARA 25/7	1	1
7.030.03065	GRM-HP MO-SP	Booster Unit HP cwith motorised mixing valve motor 24 Vac/dc - modulant 0-10Vcc (rif.0% counterclockwise rotation signal) - <b>Without Pump</b> (int.130 x 1" 1/2)	1	1



# GRT HP

RECIRCULATION UNIT WITH  
THERMOSTATIC MIXER VALVE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03012	GRT-HP DAB	Booster Unit HP with thermostatic mixing valve 20/43° Pompa DAB EVOSTA 25/7 - 230 V 50/60Hz	1	1
7.030.03276	GRT-HP WILO	Booster Unit HP with thermostatic mixing valve 20/43° Pompa WILO PARA 25/7 - 230 V 50/60Hz	1	1
7.030.03063	GRT-HP-SP	Booster Unit HP with thermostatic mixing valve 20/43° <b>Without Pump</b> - int. 130 x 1" 1/2	1	1
7.030.03066	GRT-HP DAB	Booster Unit HP with thermostatic mixing valve 30/60° Pompa DAB EVOSTA 25/7 - 230 V 50/60Hz	1	1
7.030.03278	GRT-HP WILO	Booster Unit HP with thermostatic mixing valve 30/60° Pompa WILO PARA 25/7 - 230 V 50/60Hz	1	1
7.030.03067	GRT-HP-SP	Booster Unit HP with thermostatic mixing valve 30/60° <b>Without Pump</b> - int. 130 x 1" 1/2	1	1
7.030.03068	GRT-HP DAB	Booster Unit HP with thermostatic mixing valve 30/80° Pompa DAB EVOSTA 25/7 - 230 V 50/60Hz	1	1
7.030.03279	GRT-HP WILO	Booster Unit HP with thermostatic mixing valve 30/8° Pompa WILO PARA 25/7 - 230 V 50/60Hz	1	1
7.030.03069	GRT-HP-SP	Booster Unit HP with thermostatic mixing valve 30/8° <b>Without Pump</b> - int. 130x1" 1/2	1	1





# RECIRCULATION UNIT **HP 1<sup>1/2</sup>** RANGE



ErP 2009/125/EU

Erp 2015

## CONTENTS

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TECHNICAL  
DATASHEET  
**GRD HP 1<sup>1/2</sup>**



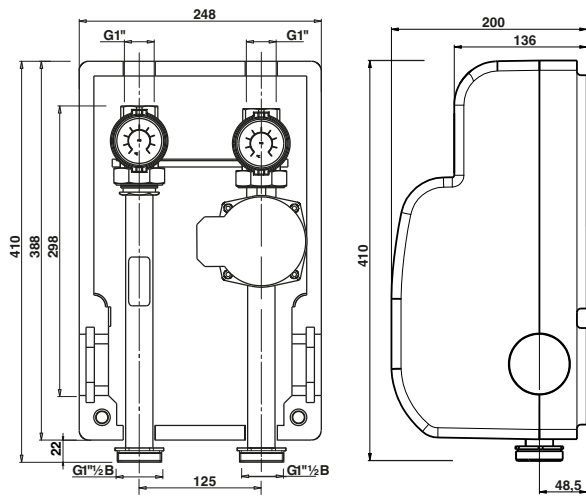
TECHNICAL  
DATASHEET  
**GRM HP 1<sup>1/2</sup>**



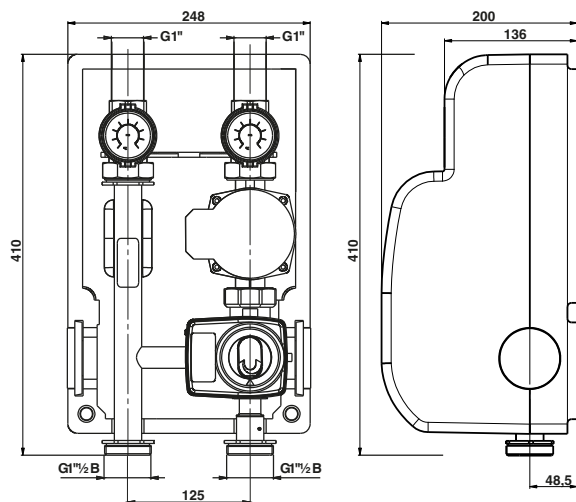
TECHNICAL  
DATASHEET  
**GRT HP 1<sup>1/2</sup>**

# SIZE DATA

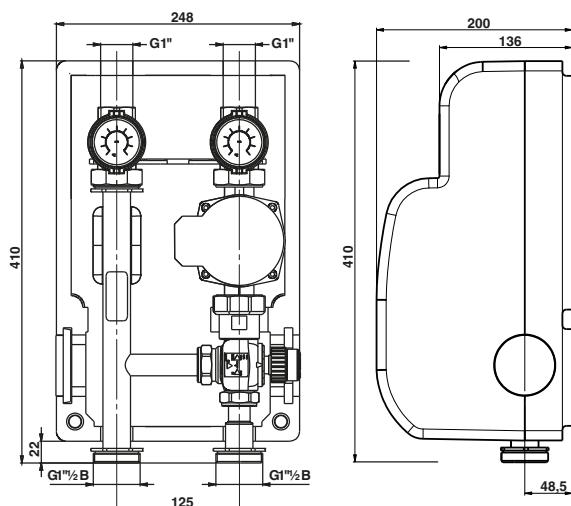
## GRD-HP G1"½ - DIRECT BOOSTER UNIT



## GRM-HP G1"½ - RECIRCULATION UNIT WITH MIXING VALVE MOTORIZED



## GRT-HP G1"½ - RECIRCULATION UNIT WITH THERMOSTATIC MIXER VALVE





## GRD HP G1 1/2

DIRECT BOOSTER UNIT

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03223	GRD-HP - G1 1/2 DAB	Direct Booster Unit HP - Pump Dab Evosta 25/7 SC	1	1
7.030.03226	GRD-HP SP - G1 1/2 Without Pump	Direct Booster Unit HP - <b>Without Pump</b>	1	1
7.030.03280	GRD-HP - G1 1/2 WILO	Direct Booster Unit HP - Pump Wilo Para 25/7 SC	1	1



## GRM HP G1 1/2

RECIRCULATION UNIT WITH  
MIXING VALVE MOTORIZED

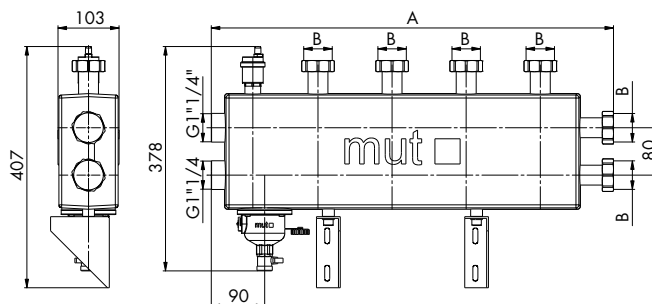
CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03224	GRM HP G1 1/2 DAB	Booster Unit HP with motorised mixing valve motor 3 points on/off 230 Vac - <b>Without Pump</b> DAB EVOSTA2 70/130 - 230V 50/60Hz	1	1
7.030.03227	GRM-HP SP G1 1/2 Without Pump	Booster Unit HP with motorised mixing valve motor 3 points on/off 230 Vac - <b>Without Pump</b> (int.130 x 1" 1/2)	1	1
7.030.03281	GRM HP G1 1/2 WILO	Booster Unit HP with motorised mixing valve motor 3 points on/off 230 Vac with pump WILO PARA 25/7 230 V 50/60Hz	1	1
7.030.03228	GRM-HP MO G1 1/2 DAB	Booster Unit HP cwith motorised mixing valve motor 24 Vac/dc - modulant 0-10Vcc (rif.0% counterclockwise rotation signal) with pump DAB EVOSTA2 70/130 - 230V 50/60Hz	1	1
7.030.03229	GRM-HP MO SP G1 1/2 Without Pump	Booster Unit HP cwith motorised mixing valve motor 24 Vac/dc - modulant 0-10Vcc (rif.0% counterclockwise rotation signal) - <b>Without Pump</b> (int.130 x 1" 1/2)	1	1
7.030.03283	GRM-HP MO G1 1/2 WILO	Booster Unit HP cwith motorised mixing valve motor 24 Vac/dc - modulant 0-10Vcc (rif.0% counterclockwise rotation signal) with pump WILO PARA 25/7	1	1



## GRT HP G1 1/2

RECIRCULATION UNIT WITH  
THERMOSTATIC MIXER VALVE

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03225	GRT-HP G1 1/2 DAB	Booster Unit HP with thermostatic mixing valve 20/43° Pompa DAB EVOSTA 25/7 - 230 V 50/60Hz	1	1
7.030.03230	GRT-HP SP G1 1/2 Without Pump	Booster Unit HP with thermostatic mixing valve 20/43° <b>Without Pump</b> - int. 130 x 1" 1/2	1	1
7.030.03282	GRT-HP G1 1/2 WILO	Booster Unit HP with thermostatic mixing valve 20/43° Pompa WILO PARA 25/7 - 230 V 50/60Hz	1	1
7.030.03231	GRT-HP G1 1/2 DAB	Booster Unit HP with thermostatic mixing valve 30/60° Pompa DAB EVOSTA 25/7 - 230 V 50/60Hz	1	1
7.030.03232	GRT-HP SP G1 1/2 Without Pump	Booster Unit HP with thermostatic mixing valve 30/60° Pompa WILO PARA 25/7 - 230 V 50/60Hz	1	1
7.030.03284	GRT-HP G1 1/2 WILO	Booster Unit HP with thermostatic mixing valve 30/60° Pompa WILO PARA 25/7 - 230 V 50/60Hz	1	1
7.030.03233	GRT-HP G1 1/2 DAB	Booster Unit HP with thermostatic mixing valve 30/80° Pompa DAB EVOSTA 25/7 - 230 V 50/60Hz	1	1
7.030.03234	GRT-HP SP G1 1/2 Without Pump	Booster Unit HP with thermostatic mixing valve 30/80° <b>Without Pump</b> - int. 130x1 1/2	1	1
7.030.03285	GRT-HP G1 1/2 WILO	Booster Unit HP with thermostatic mixing valve 30/80° Pompa WILO PARA 25/7 - 230 V 50/60Hz	1	1



## MANIFOLDS 2+1

FOR RECIRCULATION UNITS AND WITH A VENTING,  
MAGNETIC SLUDGE REMOVAL AND HYDRAULIC  
SEPARATOR FUNCTION

CODE	A	B	N° WAY	T MAX
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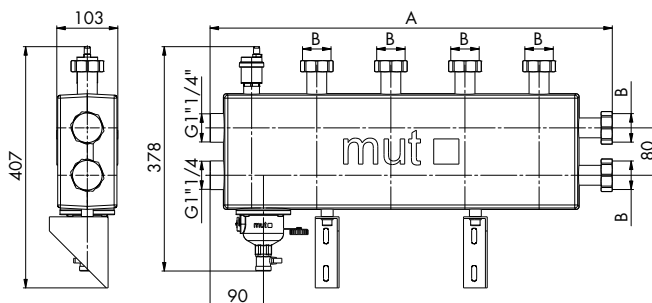
7.030.02031	665	G1"	4	110° C
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SUITABLE FOR CONNECTION WITH MUT BOOSTER UNITS (G1")

7.030.02210	665	G1"1/2	4	110° C
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CODE	DESCRIPTION	PACK	PACKAGING
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7.030.02031	Sludge remover/separator manifold 2+1 (side) main connections G 1 ¼ F – ring nut connections G 1 F centre distance 125 mm	1	1
7.030.02210	Sludge remover/separator manifold 2+1 (side) main connections G 1 ¼ F – ring nut connections G 1 ½ F centre distance 125 mm	1	1



## MANIFOLDS 3+1

FOR RECIRCULATION UNITS AND WITH A VENTING,  
MAGNETIC SLUDGE REMOVAL AND HYDRAULIC  
SEPARATOR FUNCTION

CODE	A	B	N° WAY	T MAX
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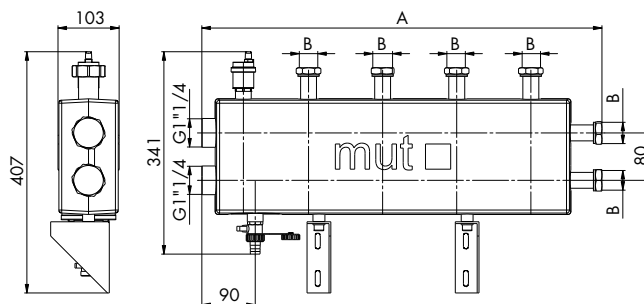
7.030.02035	915	G1"	6	110° C
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SUITABLE FOR CONNECTION WITH MUT BOOSTER UNITS (G1")

7.030.02212	915	G1"1/2	6	110° C
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CODE	DESCRIPTION	PACK	PACKAGING
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7.030.02035	Sludge remover/separator manifold 3+1 (side) main connections G 1 ¼ F - ring nut connections G1 F centre distance 125 mm	1	1
7.030.02212	Sludge remover/separator manifold 3+1 (side) main connections G 1 ¼ F - ring nut connections G1 ½ F centre distance 125 mm	1	1



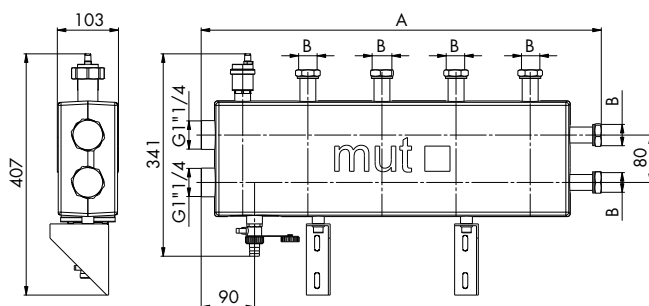
CODE	A	B	N° WAY	T MAX
7.030.02032	665	G1"	4	110° C
SUITABLE FOR CONNECTION WITH MUT BOOSTER UNITS (G1")				

7.030.02211	665	G1"1/2	4	110° C
7.030.02268	665	G1"1/2	4	110° C

## MANIFOLDS 2+1

FOR RECIRCULATION UNITS AND WITH A VENTING

CODE	DESCRIPTION	PACK	PACKAGING
7.030.02032	Manifold 2+1 (side) main connections G1 ¼ F ring nut connections G 1 F centre distance 125 mm	1	1
7.030.02211	Manifold 2+1 (side) main connections G1 ¼ F ring nut connections G 1 ½ F centre distance 125 mm	1	1
7.030.02268	Manifold 2+1 (side) main connections G 1 ¼ - G 1 ½ separator manifold	1	1



CODE	A	B	N° WAY	T MAX
7.030.02036	915	G1"	6	110° C
SUITABLE FOR CONNECTION WITH MUT BOOSTER UNITS (G1")				

7.030.02213	915	G1"1/2	6	110° C
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## MANIFOLDS 3+1

FOR RECIRCULATION UNITS AND WITH A VENTING

CODE	DESCRIPTION	PACK	PACKAGING
7.030.02036	Manifold 3+1 (side) main connections G 1 ¼ F ring nut connections G 1 F centre distance 125 mm	1	1
7.030.02213	Manifold 3+1 (side) main connections G 1 ¼ F ring nut connections G 1 ½ F centre distance 125 mm	1	1



**X** VERSIONE  
ACCIAIO INOX

# RANGE Dada

MANIFOLD INERTIAL FOR RECIRCULATION UNIT  
FOR HYBRID SYSTEMS AND HEAT PUMP

Dada Mut inertial manifolds are devices for to the connection of heat pumps and other heat generators, to multiple booster sets. They make it possible to optimise the output of the heat pumps, limiting the on and off cycles and switch-off cycles that affect their life expectancy as well as efficiency, and at the same time speeding up defrosting cycles during the winter period. They also have connections for connection to an auxiliary energy source to support peak thermal load.

The heat pumps, in fact, to be efficient and not suffer premature wear and tear must work as much as possible at constant load, avoiding frequent switching on and off.

Energy storage will therefore respond quickly to the heat demand of the system.

Dada Mut collectors are supplied complete with support brackets, screws and dowels for fixing to the wall, automatic air outlet valve air valve and system loading/unloading tap.



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TECHNICAL DATASHEET





## MATERIALS

Manifold body	Iron steel S235JR painted o steel INOX
Automatic air vent valve	Brass CW617N (EN 12165)
Hydraulic seals	EPDM / FKM
Drain cock with hose connection	Brass CW617N (EN 12165)
Fittings	Brass CW614N (EN 12164)

## TECHNICAL SPECIFICATIONS OF INSULATION

Insulation: Closed cell expanded PE-X thickness 15 mm

Inner density :30 kg/m<sup>3</sup> - 80 kg/m<sup>3</sup>

Thermal conductivity (ISO 8301):  
α 10°C: 0,034 W/(m·K) - α 40°C: 0,038 W/(m·K)

Coefficient of resistance to water vapour: (DIN 52615): >1300

Working temperature range: -40 ÷ +130°C

## TECHNICAL DATA



Fluid's temperature limits  
0°C ÷ 100 °C



Max working pressure  
6 bar



Working fluid  
Water, water and glycol max 50%



Compliant with Standards  
VDI 2035 / UNI 8065:2019



Body Connections (ISO228/1)  
Main: G 1"½ F  
Fittings : G1" F - 1"½ F centre distance 125 mm



## DADA / DADA X

### MANIFOLD INERTIAL



- FEMALE COUPLINGS 1"½
- AUTOMATIC DISCHARGE VALVE ½
- DISCHARGE VALVE ½

CODE	MODEL	DESCRIPTION	SIZE	PN	PACK	PACKAGING
7.030.03099	DADA	Inertial accumulation manifold main couplings G 1"½ F - couplings for (2 Unit) with ring-nuts G 1" F with 125 mm centre distance - equiped with discharge and automatic air bleeding valvest	1"½ F - 1" F	6	1	1
7.030.03391	DADA 40	Inertial accumulation manifold main couplings G 1"½ F - couplings for (2 Unit) with ring-nuts G 1" F with 125 mm centre distance - equiped with discharge and automatic air bleeding valvest	1"½ F - 1"½ F	6	1	1
7.030.03305	DADA X	Inertial accumulation manifold main couplings G 1"½ F - couplings for (2 Unit) with ring-nuts G 1" F with 125 mm centre distance - equiped with discharge and automatic air bleeding valvest	1"½ F - 1" F	6	1	1
7.030.03392	DADA 40X	Inertial accumulation manifold main couplings G 1"½ F - couplings for (2 Unit) with ring-nuts G 1" F with 125 mm centre distance - equiped with discharge and automatic air bleeding valvest	1"½ F - 1"½ F	6	1	1
7.030.03118	KIT optional separator	kit hydraulic separator for manifold inertial storage Dada, with pipe unions G 1"½ M	1"½ M	6	1	1



## RAW - KVS4

ADJUSTABLE THERMOSTATIC MIXER VALVE



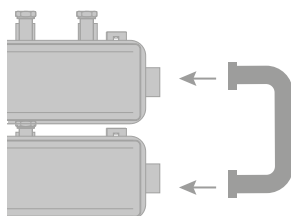
CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02033	RAW-KVS4 25E	Adjustable thermostatic mixer valve DN 25 M 20-43 °C - Interaxis 72 (for Booster Unit thermostatic)	1"	10	4	1	1
7.030.02173	RAW-KVS4 25E	Adjustable thermostatic mixer valve DN 25 M 30-60 °C - Interaxis 72 (for Booster Unit thermostatic)	1"	10	4	1	1
7.030.02171	RAW-KVS4 25E	Adjustable thermostatic mixer valve DN 25 M 30-80 °C - Interaxis 72 (for Booster Unit thermostatic)	1"	10	4	1	1



## MOTOR V70



CODE	MODEL	DESCRIPTION	VOLTAGE	PACK	PACKAGING
7.019.00074	V70	Motor Kit V70 on/off 3 point - Stroke time 90° 220sec.	230 V	1	1



## SEPARATOR KIT

OPTIONAL FOR MANIFOLD INERTIAL STORAGE DADA

CODICE	MODELLO	DESCRIZIONE	SIZE	PN	PACK	PACKAGING
7.030.03118	KIT optional separator	kit hydraulic separator for manifold inertial storage Dada, with pipe unions G 1"½ M	1"½ M	6	1	1



# INSULATION KIT

VERSION STANDARD AND VERSION HP

CODE	DESCRIPTION	PACK	PACKAGING
7.030.02181	Insulation Kit version STANDARD	1	1
7.030.03156	Insulation Kit version HP	1	1



# NO RETURN VALVE

NOT RETURN VALVE

CODE	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02180	No return valve	1"	10	4	1	1



# COUPLINGS

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02142	-	Joints connection for regulation	1"	10	4	1	1



# THERMOMETER KIT

CODE	DESCRIPTION	PACK	PACKAGING
7.030.01903	Thermometers Kit	1	3



# SPACEMUT

SPACE SAVER INERTIAL STORAGE  
FOR HYBRID SYSTEMS AND HEAT PUMP

30  
50  
80

Space Mut inertial storage units are very compact devices to facilitate installation in very small spaces. They are suitable for the connection of heat pumps and other heat generators, to multiple Relief units. They make it possible to optimize the performance of heat pumps, limiting the on/off cycles that affect their life expectancy as well as their efficiency, and at the same time speed up defrosting cycles during the winter period. They have four connections for connection as a hydraulic separator to distribution units. In fact, heat pumps, in order to be efficient and not suffer premature wear and tear, must work as much as possible at constant load, avoiding frequent switching on and off; the 6-connection version allows the connection of an additional heat generator (e.g. heat pump and boiler,...) Energy storage will therefore allow them to respond quickly to the heat demand of the system. Mut inertial storage units are supplied complete with support brackets for wall mounting, automatic air release valve and system load/unload tap. They are not internally vitrified, as they are intended for technical water storage of a closed circuit, where electrolytic currents likely to damage the tank do not develop.

## TECHNICAL DATA



Fluid's temperature limits  
0°C ÷ 100 °C



Max working pressure  
6 bar



Working fluid



Water, water and glycol max 50%



Compliant with standards  
VDI 2035 / UNI 8065:2019



Body Connections (ISO228/1)

- 4 or 6 main connections: G 1" 1/4 F
- Breather and drain valve connections: G 3/4" F



TECHNICAL DATASHEET

**mut**   
Thermal System Solutions



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## MATERIALS

Storage body	Steel S235JR painted pickled o Steel Inox AISI 304
Automatic air vent valve	Brass CW617N (EN 12165) 3/4"
Drain cock	Brass CW617N (EN 12165) 3/4"

## TECHNICAL SPECIFICATIONS OF INSULATION

Insulation Closed cell expanded PE-X  
thickness 15mm

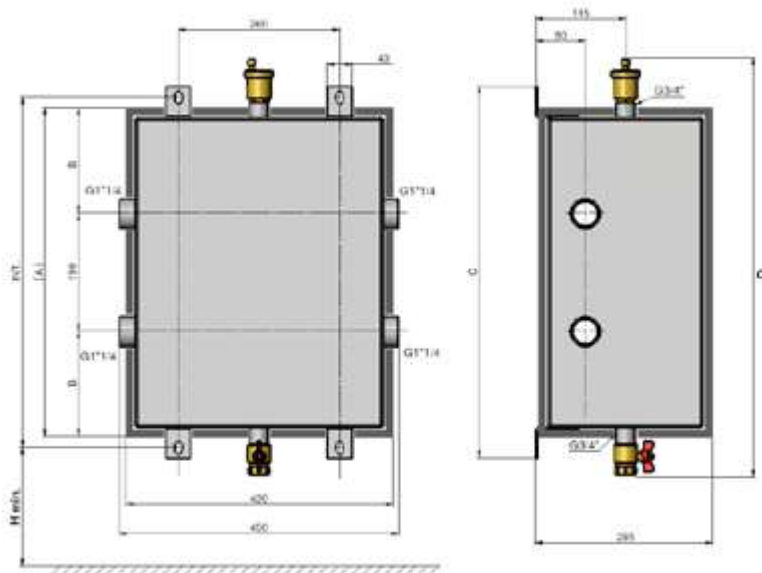
Inner density 30 kg/m<sup>3</sup> – 80 kg/m<sup>3</sup>

Thermal conductivity (ISO 8301) to 10°C: 0,034 W/(m·K)  
to 40°C: 0,038 W/(m·K)

Coefficient of resistance  
to water vapour >1300  
(DIN 52615)

Working temperature range - 40 ÷ 130°C

## SIZE DATA



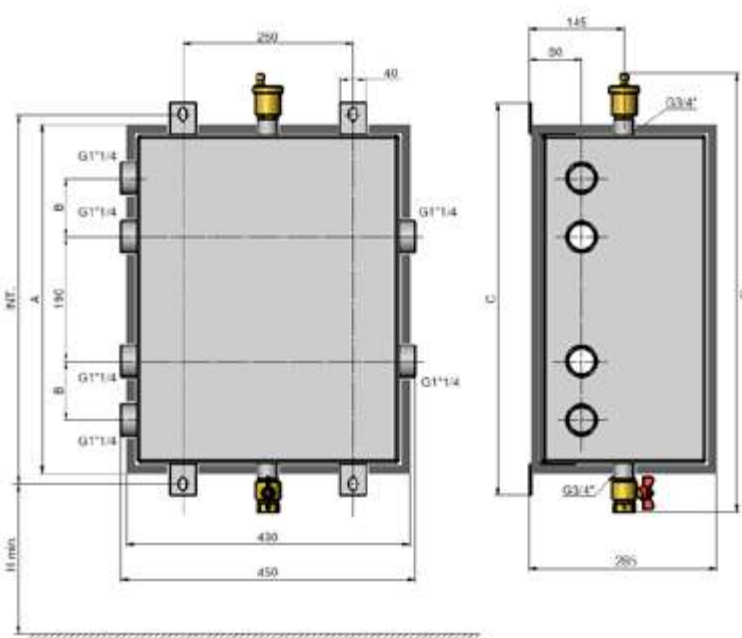
Dimensions in [mm]

## CONNECTION 4 VERSION

MODEL	A [mm]	B [mm]	C [mm]	D [mm]	INT. [mm]	H min [mm]
SPACEMUT 30/4	330	70	420	470	365	300
SPACEMUT 50/4	530	170	620	670	565	300
SPACEMUT 80/4	830	320	920	970	865	300
SPACEMUT X 30/4	330	70	420	470	365	300
SPACEMUT X 50/4	530	170	620	670	565	300
SPACEMUT X 80/4	830	320	920	970	865	300

CODE	MODEL	EMPTY WEIGHT [KG]	CAPACITY LITERS [L]
7.030.03240	SPACE MUT 30	16,5	30
7.030.03241	SPACE MUT 50	23	50
7.030.03242	SPACE MUT 80	32,5	80
7.030.03249	SPACE MUT 30 X	16,5	30
7.030.03243	SPACE MUT 50 X	23	50
7.030.03244	SPACE MUT 80 X	32,5	80

X = Spacemut X in Stainless steel AISI 304



Dimensions in [mm]

## CONNECTION 4 VERSION

MODEL	A [mm]	B [mm]	C [mm]	D [mm]	INT. [mm]	H min [mm]
SPACEMUT 50/6	530	90	620	670	565	300
SPACEMUT 80/6	830	200	920	970	865	300
SPACEMUT X 50/6	530	90	620	670	565	300
SPACEMUT X 80/6	830	200	920	970	865	300

CODE	MODEL	EMPTY WEIGHT [KG]	CAPACITY LITERS [L]
7.030.03245	SPACE MUT 50	23	50
7.030.03246	SPACE MUT 80	32,5	80
7.030.03247	SPACE MUT 50 X	23	50
7.030.03248	SPACE MUT 80 X	32,5	80

X = Spacemut X in Stainless steel AISI 304



SPACEMUT  
SPACEMUT X



- FEMALE FITTINGS 1"1/4
- SPACE SAVER

CODE	MODEL	DESCRIPTION	SIZE	FINISHING	CONNECTIONS	PACK	PACKAGING
7.030.03240	SPACEMUT 30/4	30 L inertial storage tank with 4 fittings of 1"1/4	G1"1/4 F (ISO 228/1)	Pickled steel	4	1	1
7.030.03241	SPACEMUT 50/4	50 L inertial storage tank with 4 fittings of 1"1/4	G1"1/4 F (ISO 228/1)	Pickled steel	4	1	1
7.030.03242	SPACEMUT 80/4	80 L inertial storage tank with 4 fittings of 1"1/4	G1"1/4 F (ISO 228/1)	Pickled steel	4	1	1
7.030.03249	SPACEMUT X 30/4	30 L inertial storage tank with 4 fittings of 1"1/4	G1"1/4 F (ISO 228/1)		4	1	1
7.030.03243	SPACEMUT X 50/4	50 L inertial storage tank with 4 fittings of 1"1/4	G1"1/4 F (ISO 228/1)		4	1	1
7.030.03244	SPACEMUT X 80/4	80 L inertial storage tank with 4 fittings of 1"1/4	G1"1/4 F (ISO 228/1)		4	1	1
7.030.03245	SPACEMUT 50/6	50 L inertial storage tank with 6 fittings of 1"1/4	G1"1/4 F (ISO 228/1)	Pickled steel	6	1	1
7.030.03246	SPACEMUT 80/6	80 L inertial storage tank with 6 fittings of 1"1/4	G1"1/4 F (ISO 228/1)	Pickled steel	6	1	1
7.030.03247	SPACEMUT X 50/6	50 L inertial storage tank with 6 fittings of 1"1/4	G1"1/4 F (ISO 228/1)		6	1	1
7.030.03248	SPACEMUT X 80/6	80 L inertial storage tank with 6 fittings of 1"1/4	G1"1/4 F (ISO 228/1)		6	1	1



# INSULATION KIT

FOR SPACEMUT CLOSED CELL EXPANDED  
PE-X THICKNESS

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03395	INSULATION SPACEMUT 30/30X	INSULATION KIT SPACEMUT 30	1	1
7.030.03396	INSULATION SPACEMUT 50/50X	INSULATION KIT SPACEMUT 50	1	1
7.030.03397	INSULATION SPACEMUT 80/80X	INSULATION KIT SPACEMUT 80	1	1



# PEDESTAL KIT

FOR SPACEMUT

CODE	DESCRIPTION	FINISHING	PACK	PACKAGING
7.030.03251	Pedestal kit for SPACEMUT inertial storage	Black painted	1	1



STAINLESS STEEL



# A24 RANGE

INERTIAL STORAGE WITH HYDRAULIC  
SEPARATOR FUNCTION FOR HYBRID SYSTEMS  
AND HEAT PUMPS

The MUT A24 stainless steel inertial hydraulic separator serves a dual function: hydraulic separation and inertial accumulation. Hydraulic separation ensures the independence of flow rates between the primary circuit (connected to the heat pump) and the secondary circuit (leading to the terminals).

The volume of the inertial hydraulic separator, on the other hand, guarantees the minimum water content in the system for the proper functioning of the heat pump.

This wall-mounted series is designed for installation both vertically and horizontally and is suitable for both heating and cooling operations.



## TECHNICAL DATA



Internal volume  
24 litri



Operating temperature range  
-10 °C ± 95 °C (without ice formation)



Max working pressure  
10 bar



Working fluid  
Water, water and glycol max 50%



Compliant with Standards  
VDI 2035 / UNI 8065:2019



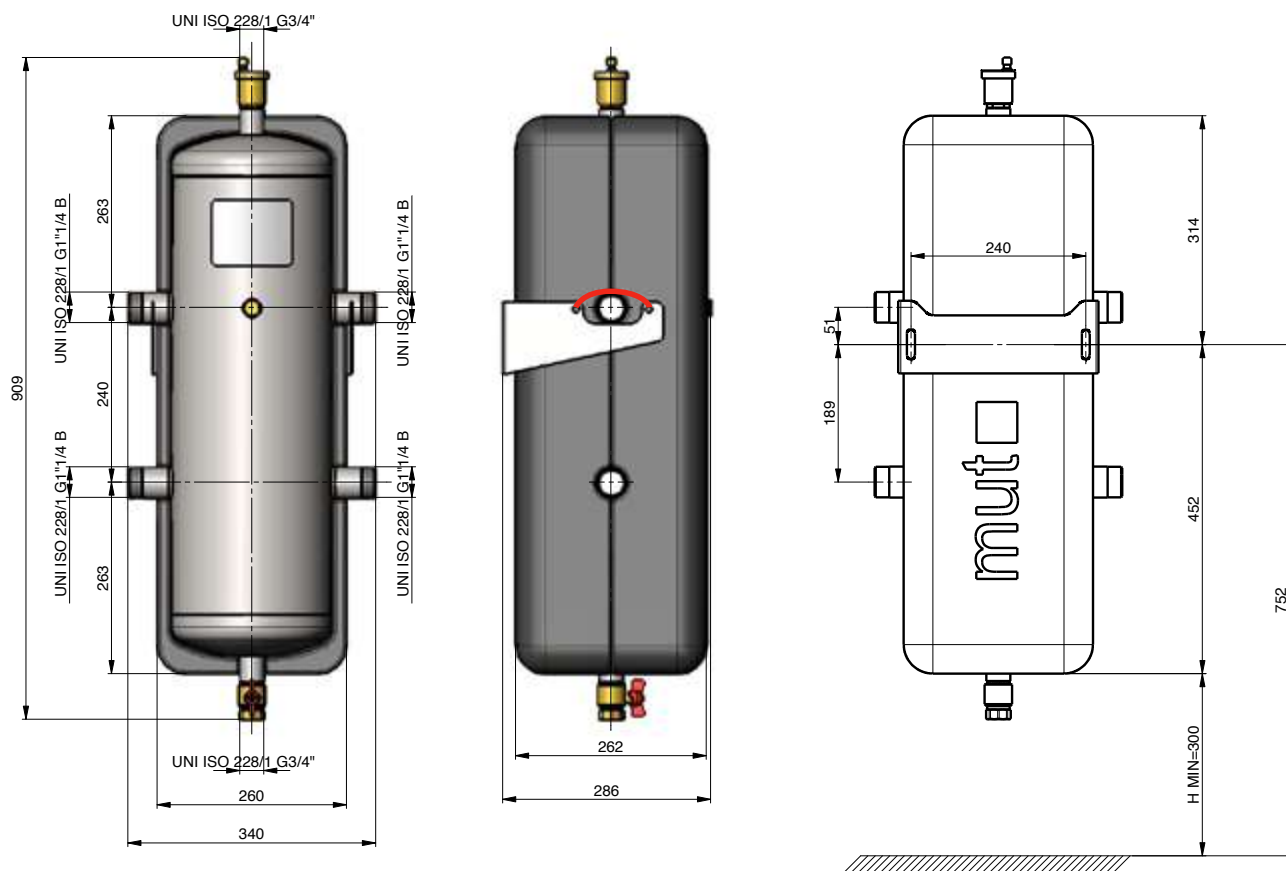
Body Connections (ISO228/1)  
• Main connections : G 1"¼ M  
• Frontal probe holder : G ½" F  
• Air vent and drain valve connections: G ¾" F



TECHNICAL DATASHEET

## SIZE DATA

Dimensions in [mm]



# A24

INERTIAL STORAGE WITH HYDRAULIC SEPARATOR FUNCTION



- FEMALE FITTINGS 1" 1/4
- HYDRAULIC SEPARATOR FUNCTION

CODE	MODEL	DESCRIPTION	SIZE	WEIGHT	PACK	PACKAGING
7.030.03317	A24	Inertial storage with possible hydraulic separator functions, internal volume 24 liters	1" 3/4 M	16,5 kg	1	1

# INERTIAL STORAGE

## INERTIAL STORAGE FOR HYBRID SYSTEMS AND HEAT PUMP

Mut inertial storage units are devices designed to connect heat pumps and other heat generators to multiple booster sets. They make it possible to optimise the performance of heat pumps, limiting the switching on and off cycles that affect their life expectancy as well as their efficiency, and at the same time speed up defrosting cycles during the winter period.

They have four connections for connection as a hydraulic separator to distribution units. Heat pumps, in fact, to be efficient and avoid premature wear and tear, must work as much as possible at constant load, avoiding frequent switching on and off. Energy storage will therefore enable a rapid response to the heat demand of the system. Mut inertial storage units are supplied complete with support brackets for wall mounting, an automatic air release valve and a system load/unload tap. They are not vitrified internally, as they are intended for technical water storage in a closed circuit, where no electrolytic currents develop that could damage the tank.



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TECHNICAL DATASHEET



## TECHNICAL DATA



Fluid's temperature limits  
-10 °C ± 90 °C



Max working pressure  
6 bar



Working fluid  
Water, water and glycol



Max 50%



In according norms  
VDI 2035 / UNI 8065:2019



Body Connections (ISO228/1)  
• 4 main connections : G 1"1/4 F  
• Breather and drain valve connections : G 1"1/4 F

## MATERIALS

Storage body  
Iron steel  
S235JR painted

Automatic air vent valve  
Brass CW617N (EN 12165)  
- 1/2"

Elementi di tenuta  
EPDM / FKM

Drain cock  
Brass  
CW617N (EN 12165) - 1"1/4

## TECHNICAL SPECIFICATIONS OF INSULATION

Coibentazione  
Environmentally friendly water-based closed-cell polyurethane foam



Energy class (Erp 2017) - Insulation: C

## TECHNICAL SPECIFICATION

DIMENSIONS (mm)					
Code	Description	Connections UNI ISO 228/1	Vent and drain valve UNI ISO 228/1	Empty weight [kg]	Water content [Litri]
7.030.03119	Inertial Storage 50	1"1/4 F	1/2"	17	50
7.030.03120	Inertial Storage 80	1"1/4 F	1/2"	21	80
7.030.03121	Inertial Storage 100	1"1/4 F	1/2"	30	100



## INERTIAL STORAGE



- CONNECTIONS FEMALE 1"1/4
- HYDRAULIC SEPARATOR FUNCTION

CODE	MODEL	DESCRIPTION	SIZE	PN	PACK	PACKAGING
7.030.03119	Inertial Storage 50	Inertial Storage 50l - with 4 connections 1"1/4 - with hydraulic separator function	1"1/4 F	6	1	1
7.030.03120	Inertial Storage 80	Inertial Storage 80l - with 4 connections 1"1/4 - with hydraulic separator function	1"1/4 F	6	1	1
7.030.03121	Inertial Storage 100	Inertial Storage 100l - with 4 connections 1"1/4 - with hydraulic separator function	1"1/4 F	6	1	1

# DF SUPERCOMPACT RANGE

COMPOSITE UNDER-BOILER DIRT SEPARATOR WITH MAGNET  
CYCLONIC EFFECT

MUT "DF super-compact" dirt separators (with magnet) for installation under wall-boiler are used to remove continuously impurities in the hydraulic circuits.

They allow to separate impurities, collecting them in the lower part (collection sump). Inside the dirt separator, in a position transverse to the direction of flow, there is a new, special filter with "Cyclone effect": the particles of impurities bumping the filter undergo a further reduction of speed, and then settle more easily.

The periodic twisting-off of the purge valve allows to empty the collection sump. On the collection sump is also housed a magnetic cartridge, easily extractable, that retains ferromagnetic impurities. This series of MUT DF super-compact is made using a composite technoplastic material specifically designed for use in air conditioning and heating systems and this dirt separator allows high filtration efficiencies and its compact dimensions allow installation almost not visible under wall boilers.



**Magnetic**  
cartridge



PATENT  
APPLICATION  
FILED



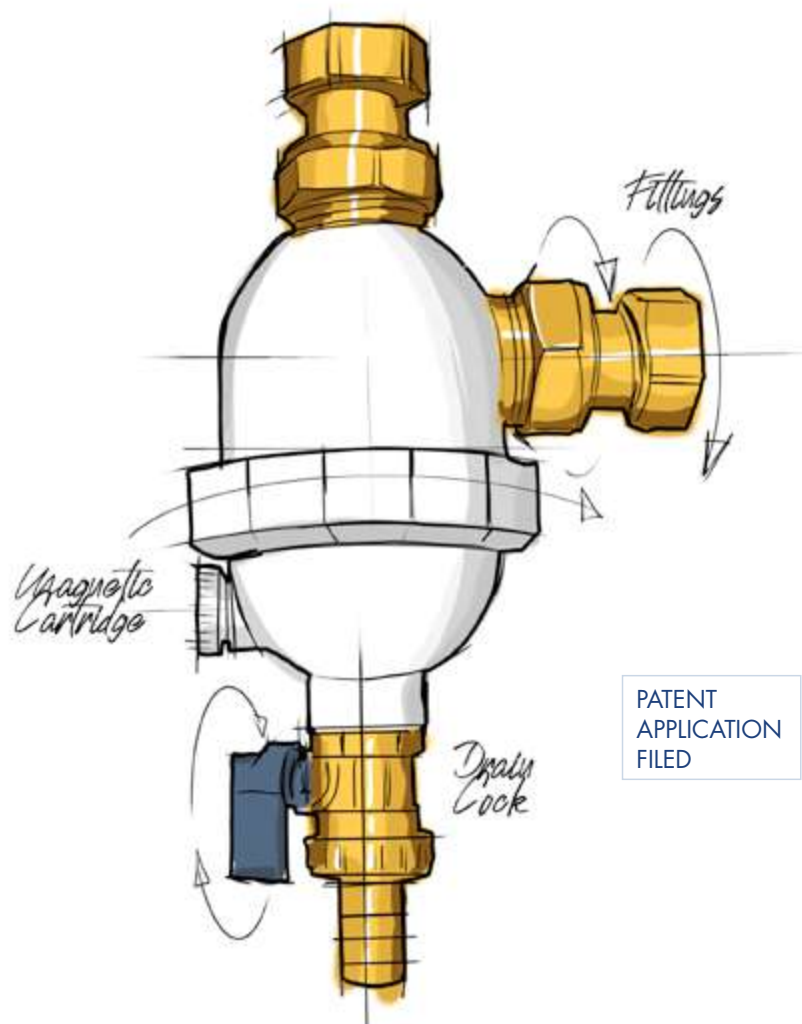
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# DF SUPERCOMPACT RANGE

COMPOSITE UNDER-BOILER DIRT SEPARATOR WITH MAGNET  
CYCLONIC EFFECT



## TECHNICAL DATA



Working fluid  
Water, water and glycol



Max glycol percent  
30 %



Max. working pressure  
3 bar



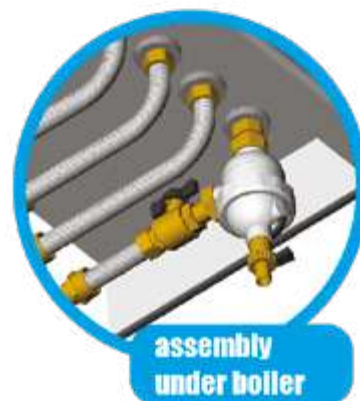
Working temperature range  
0 ÷ 90 °C



Connections  
3/4" F - 3/4" F (ISO 228-1) - 3/4" F - 3/4" M (ISO 228-1)  
others version inlet: Ø 18 mm - Ø 22 mm - Ø 28 mm (for copper pipe)



Magnet  
2 x 1 T (= 2x10000 GAUSS) - ((Samarium-cobalt)



## CONTENTS

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to read the qr code,  
so you can see the  
multimedia contents



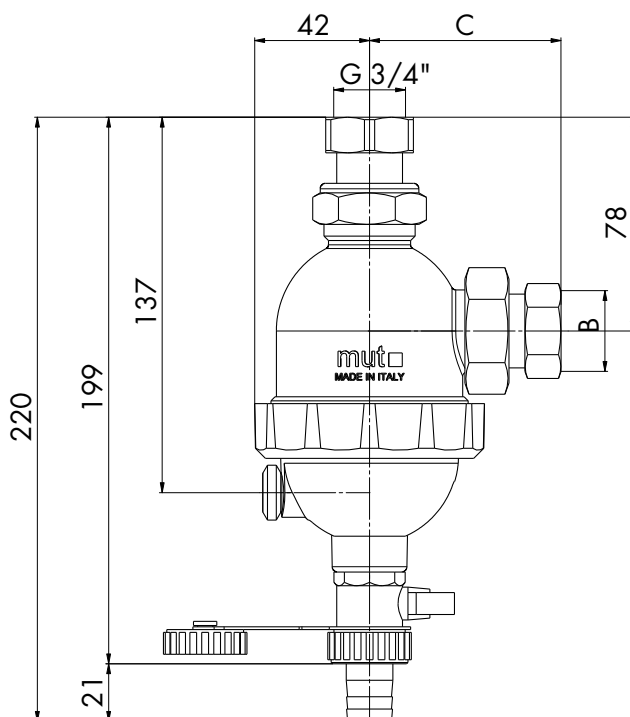
TECHNICAL DATASHEET



# SIZE DATA

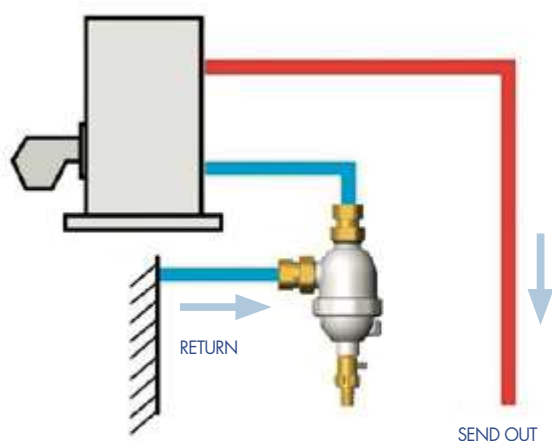
## DF SUPER COMPACT

CODE	MOD	B	C
7.030.02241	DF SC 3/4" FF	G3/4"	80
7.030.02250	DF SC 3/4" FM VS	G3/4"B	144
7.030.02246	DF SC 3/4" FM	G3/4"B	79
7.030.02247	DF SC3/4" F TG 18	Ø 18 mm	71
7.030.02248	DF SC3/4" F TG 22	Ø 22 mm	71
7.030.02249	DF SC3/4" F TG 28	Ø 28 mm	71

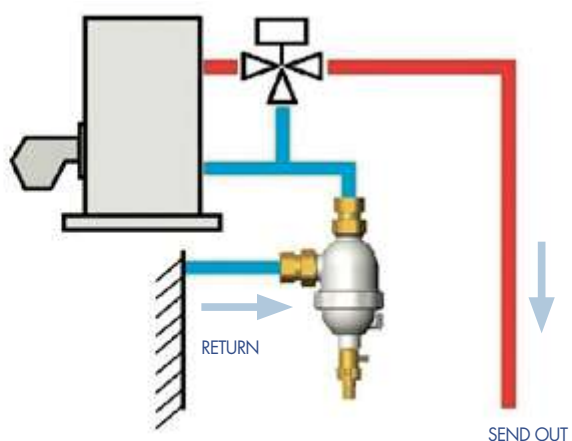


## OPERATING DIAGRAM

CORRECT INSTALLATION OF THE DIRT SEPARATOR  
IN GENERIC SYSTEMS



CORRECT INSTALLATION OF THE DIRT SEPARATOR  
IN SYSTEMS WITH MIXING VALVE





CONNECTIONS



MALE CONNECTIONS  
AND TAP



MALE - FEMALE  
CONNECTIONS



# SUPER COMPACT

COMPOSITE UNDER-BOILER DIRT SEPARATOR WITH MAGNET  
CYCLONIC EFFECT



CODE	MODEL	DESCRIPTION	SIZE	PACK	PAKAGING
7.030.02241	DF SC 3/4" FF	MUT series DF SUPER COMPACT Dirt separator in high-tech thermoplastic composite material with magnet and cyclonic filter. Dirt separator's body: PA66G30. Fittings: Inlet G 3/4" F – Outlet G 3/4" F (ISO 228-1). Brass drain valve G 1/2" with hose connection.	3/4" F-3/4" F	1	5
7.030.02250	DF SC 3/4" FM VS	MUT series DF SUPER COMPACT Dirt separator in high-tech thermoplastic composite material with magnet and cyclonic filter, equipped with ball shut-off valve. Dirt separator's body : PA66G30. Fittings: inlet equipped with shut-off valve G 3/4" M (ISO 228-1) in brass – Outlet: G 3/4" F. Brass drain valve G 1/2" with hose connection.	3/4" F-3/4" M	1	5
7.030.02246	DF SC 3/4" FM	MUT series DF SUPER COMPACT Dirt separator in high-tech thermoplastic composite material with magnet and cyclonic filter. Dirt separator's body: PA66G30. Fittings: Inlet G 3/4" M – Outlet G 3/4" F (ISO 228-1). Brass drain valve G 1/2" with hose connection.	3/4" F-3/4" M	1	5

## SPECIFICATIONS

- Assembly underneath the boiler
- Available with shut-off tap
- Magnetic technology
- Cyclonic technology



- WITH COPPER TUBE COUPLINGS Ø 18/22/28 mm



# SUPER COMPACT

COMPOSITE UNDER-BOILER DIRT SEPARATOR WITH MAGNET  
CYCLONIC EFFECT



CODE	MODEL	DESCRIPTION	SIZE	PACK	PAKAGING
7.030.02247	DF SC 3/4" F TG 18	MUT series DF SUPER COMPACT Dirt separator in high-tech thermoplastic composite material with magnet and cyclonic filter. Fittings: Inlet: connection (niplex) with compression fitting for copper pipe Ø 18 mm – Outlet: G 3/4" F (ISO 228-1). Brass drain valve G 1/2" with hose connection.	3/4" F - ø 18 mm	1	5
7.030.02248	DF SC 3/4" F TG 22	MUT series DF SUPER COMPACT Dirt separator in high-tech thermoplastic composite material with magnet and cyclonic filter. Fittings: Inlet: connection (niplex) with compression fitting for copper pipe Ø 22 mm – Outlet: G 3/4" F (ISO 228-1). Brass drain valve G 1/2" with hose connection.	3/4" F - ø 22 mm	1	5
7.030.02249	DF SC 3/4" F TG 28	MUT series DF SUPER COMPACT Dirt separator in high-tech thermoplastic composite material with magnet and cyclonic filter. Fittings: Inlet: connection (niplex) with compression fitting for copper pipe Ø 28 mm – Outlet: 3/4" F (ISO 228-1). Brass drain valve G 1/2" with hose connection.	3/4" F - ø 28 mm	1	5

## SPECIFICATIONS

- Assembly underneath the boiler
- Available with shut-off tap
- Magnetic technology
- Cyclonic technology

# DF RANGE TOTEM®

PROTECTION KIT FOR BOILER / HEAT PUMP SYSTEM

TOTEM® is a complete protection system for the hydraulic circuit of heat pumps and boilers, developed by following the indications of UNI 8065:2019 standard. Totem is a magnetic dirt separator, multistage cyclonic filter and dispenser of protective inhibitor, all in one. TOTEM® cyclonic filter / magnetic dirt separator is equipped as standard with a ball shut-off valve (inlet to TOTEM®) and a non-return valve (outlet from TOTEM®). The lower part of is made of transparent techno polymer to verify the need to discharge the collected impurities. Inside the "body", in a transverse position to the flow direction, there is a special STAINLESS STEEL filter with cyclonic effect with 6 filtration stages. TOTEM® is also equipped in the lower part with a removable ferromagnetic separation cartridge (20,000 GAUSS), used for the separation of ferrous impurities.

CHEMICAL CONDITIONER IN POWDER WITH ANTI-CORROSIVE, ANTI-SCALE AND ANTI-ALGAE ACTION: The TOTEM® kit is supplied with the protective powder based on molybdenum (in a convenient 50 g sachet), which effectively inhibits corrosion on steels, copper, copper alloys, aluminum alloys, and protect the circuit of the heat pump or boiler.



**Magnetic**  
cartridge

**6 STAGES**  
CYCLONIC  
FILTER



**100%**  
MADE IN  
ITALY



PATENT  
APPLICATION  
FILED

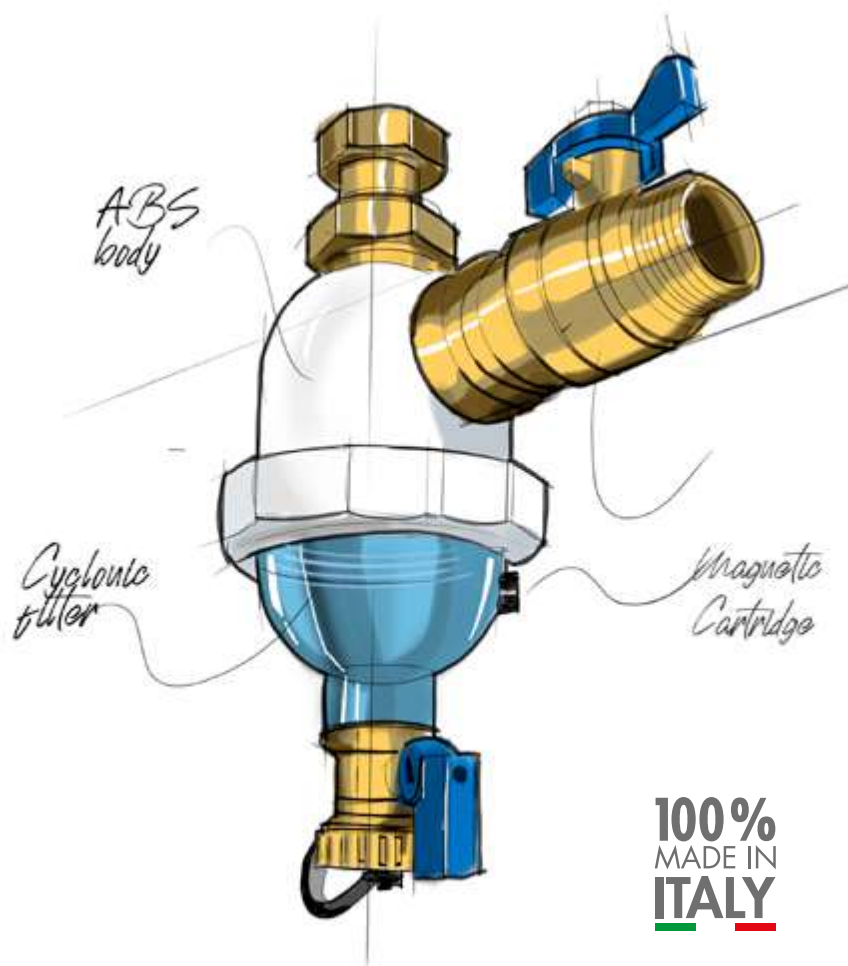






# DF RANGE TOTEM®

PROTECTION KIT FOR BOILER AND  
HEAT PUMP SYSTEM



## TECHNICAL DATA



Working fluid  
Water - Water with glycol



Glycol percentage  
Maximum 30%



Maximum operating pressure  
3 bar



Operating temperature  
0 ÷ 90 °C



Connections  
¾" F - ¾" M (ISO 228-1)



Magnetic field  
2 x 1 T (= 2x10000 GAUSS) - (Samarium - Cobalt)



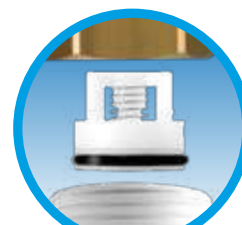
Powdered chemical conditioning component \*  
Anti-corrosive, Anti-scaling and Anti-algae



TREATMENT FOR  
HEATING SYSTEM WATER



SUPER STAINLESS  
STEEL 6 - STAGE FILTER



ONE WAY VALVE



DUAL SHUT-OFF  
SYSTEM



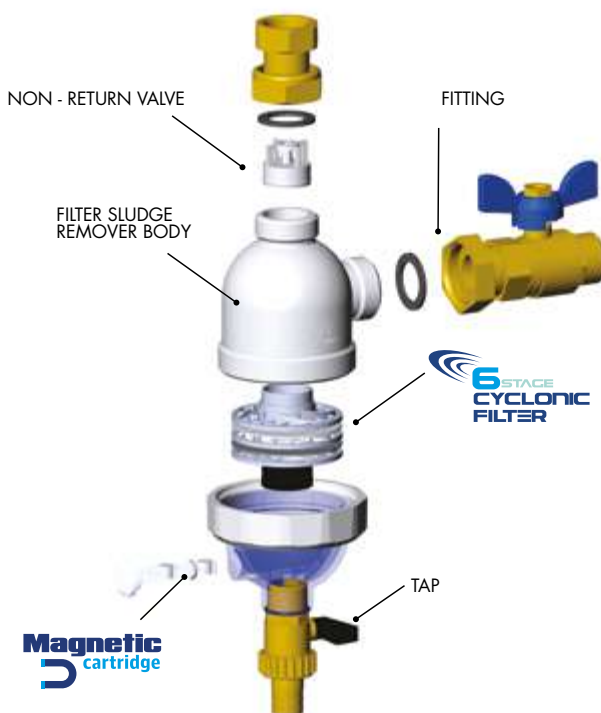
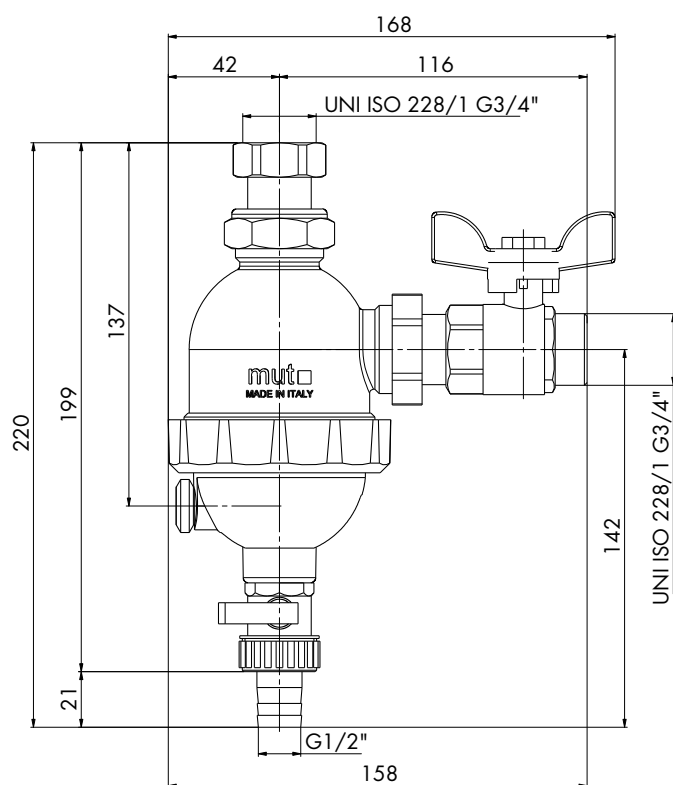
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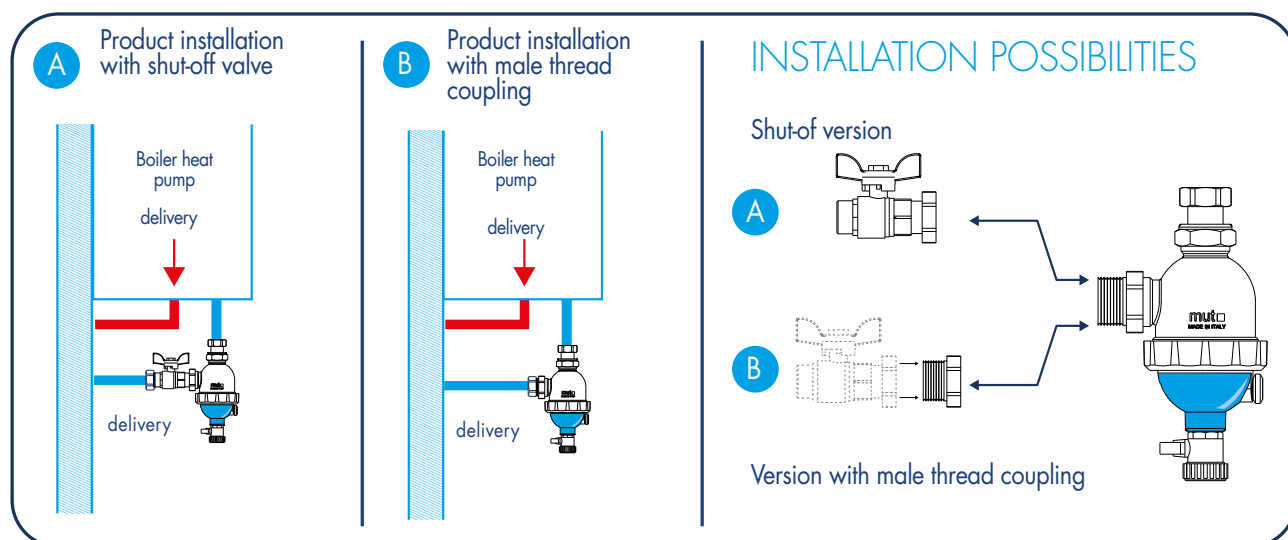


TECHNICAL DATASHEET

# SIZE DATA



## STANDARD INSTALLATION







# TOTEM

PROTECTION KIT FOR BOILER AND HEAT PUMP SYSTEM



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02509	TOTEM 3/4"	TOTEM kit for complete system protection	3/4"F 3/4"M	1	5



# TOTEM

TREATMENT FOR HEATING SYSTEM WATER IN BAG

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02511	Kit 1 bag TOTEM	Pack: 1 TOTEM total system protection bag	1 bag	1	1
7.030.02512	Kit 6 bag TOTEM	Pack: 6 TOTEM total system protection sachets	6 bag	1	6



# SERIE DF

# Supercompact **PLUS**

MAGNETIC SLUDGE SEPARATOR WITH CYCLONE FILTER  
FOR HYBRID SYSTEMS AND HEAT PUMPS

The MUT "DF Super-Compact" series compact sludge separators in composite technopolymer with magnet for under-boiler installation ensure constant elimination of impurities contained in hydraulic circuits. They separate/reduce the impurities present in circuit water by collecting them in the lower part (collection well).

The "sludge separator" houses a special cyclone-effect filter inside in a crossways position in relation to the flow: any particles of impurities passing through the filter do so at a further reduced speed and consequently settle more easily. This series of MUT sludge separators is also fitted, in the lower part, with a removable ferromagnetic cartridge (Samarium-Cobalt magnets) used to separate ferrous impurities. Inasmuch, opening the drain cock at regular intervals empties the collection well. Built in a specific composite material for applications in heating and air conditioning systems, this sludge separator ensures high filtration efficiency, while its compact dimensions allow straightforward and integrated installation even under wall-mounted boilers.



**Magnetic**  
cartridge

**6 STAGES**  
CYCLONIC  
FILTER



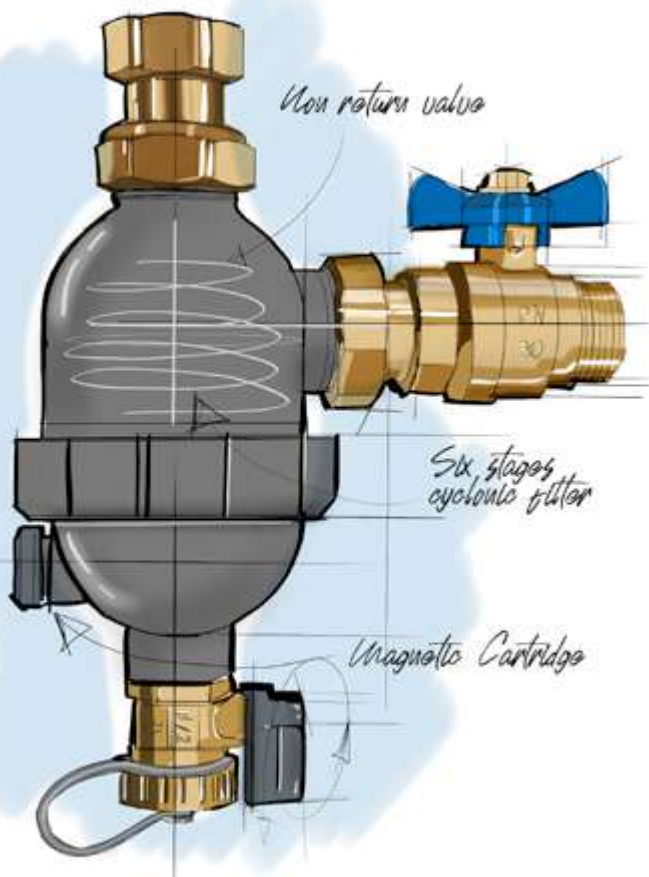
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ITALY





# SERIE DF Supercompact<sup>PLUS</sup>

MAGNETIC SLUDGE SEPARATOR WITH  
CYCLONE FILTER FOR HYBRID SYSTEMS  
AND HEAT PUMPS



## TECHNICAL DATA



Working fluid  
Water / water with glycol



Max. glycol percentage  
30%



Max. operating pressure  
3 bar



Operating temperature range  
from 0° to 90°C



Connections model VS  
A(in) = G 3/4 MALE  
B(out) = G 3/4" FEMALE

Connections model NVS  
A(in) = G 3/4" FEMALE  
B(out) = G 3/4" FEMALE



Magnetic field  
2 x 1 T (= 2x10 000 GAUSS) - (samarium - cobalt)



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ITALY**

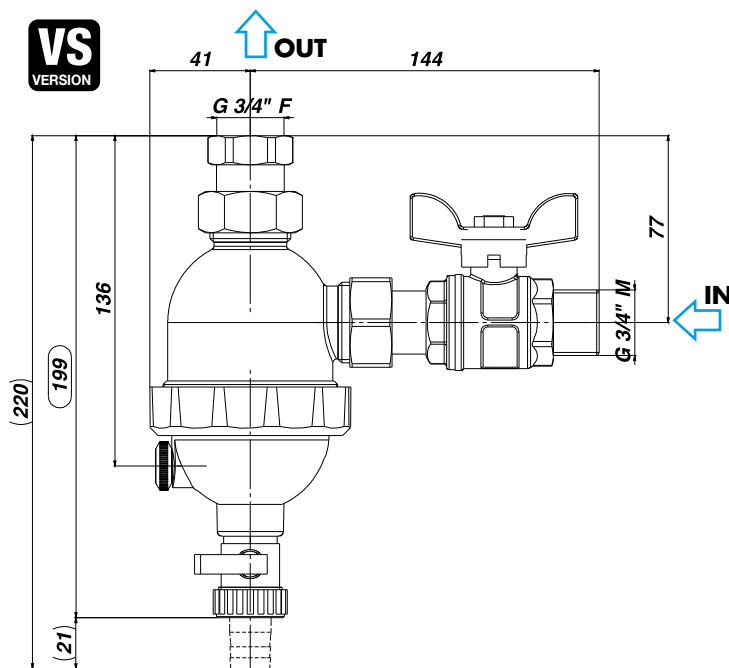
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TECHNICAL DATASHEET

# SIZE DATA

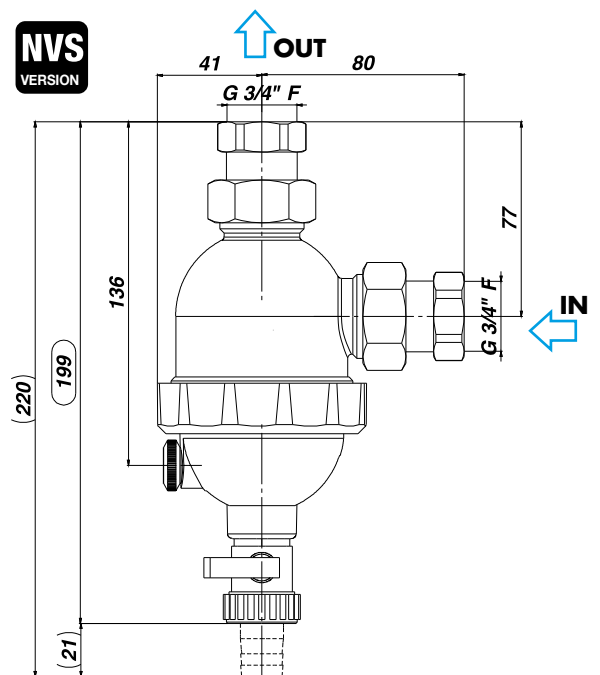


**Cod. 7.030.02669**

FITTINGS

IN = G 3/4 MALE

OUT = G 3/4 FEMALE



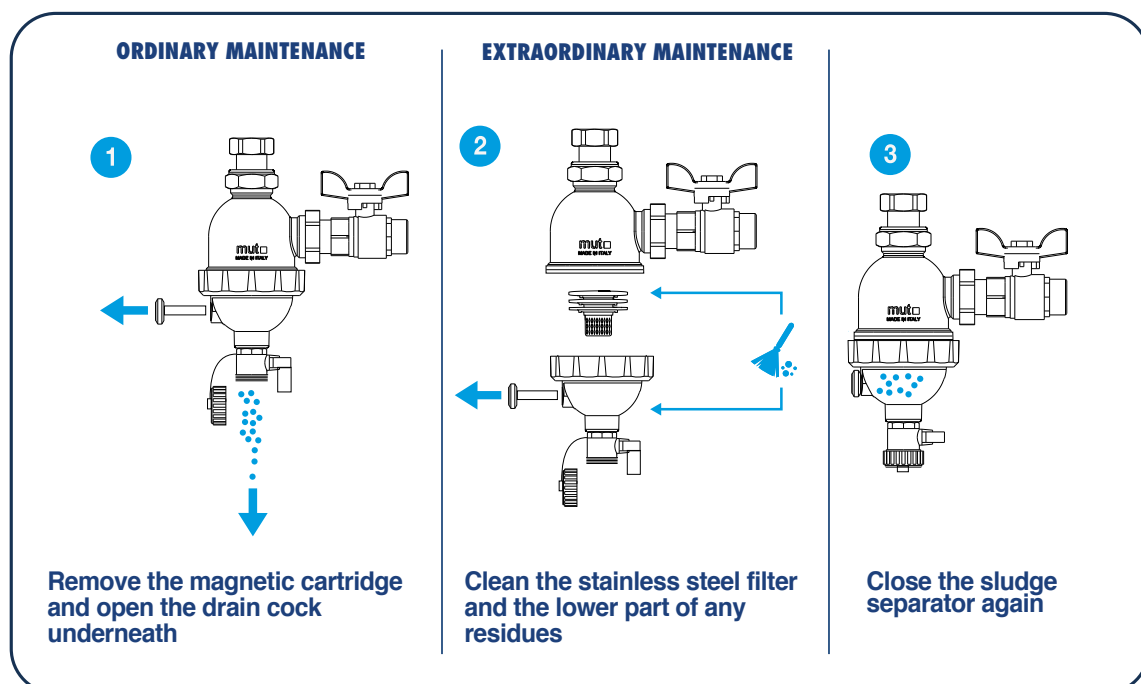
**Cod. 7.030.02695**

FITTINGS

IN = G 3/4 FEMALE

OUT = G 3/4 FEMALE

## CLEANING THE FILTER AND EMPTYING THE SETTLING WELL





NVS  
VERSION



FITTINGS F-F

VS  
VERSION



FITTINGS M-F



# SUPER COMPACT PLUS

MAGNETIC SLUDGE SEPARATOR WITH CYCLONE FILTER FOR  
HYBRID SYSTEMS AND HEAT PUMPS



CODE	MODEL	DESCRIPTION	MIS	PACK.	PACKAGING
7.030.02669	DF SC PLUS VS Black	Magnetic sludge separator for hybrid systems and heat pumps -DF Super Compact Plus Series in Black composite technopolymer - with magnet and 6-stage cyclone filter Fittings ISO228-1: outlet G 3/4 "F - inlet G 3/4" M with Ball Valve (VS) - G 6 brass drain cock with hose connector.	outlet G 3/4" F inlet G 3/4" M	1	5
7.030.02695	DF SC PLUS NVS Black	Magnetic sludge separator for hybrid systems and heat pumps -DF Super Compact Plus Series in Black composite technopolymer - with magnet and 6-stage cyclone filter: ISO228-1 fittings: outlet G 3/4 "F - inlet G 3/4" F (ISO 228-1) without Ball Valve (NVS) - G 6 brass drain cock with hose connector.	outlet G 3/4" F inlet G 3/4" F	1	5

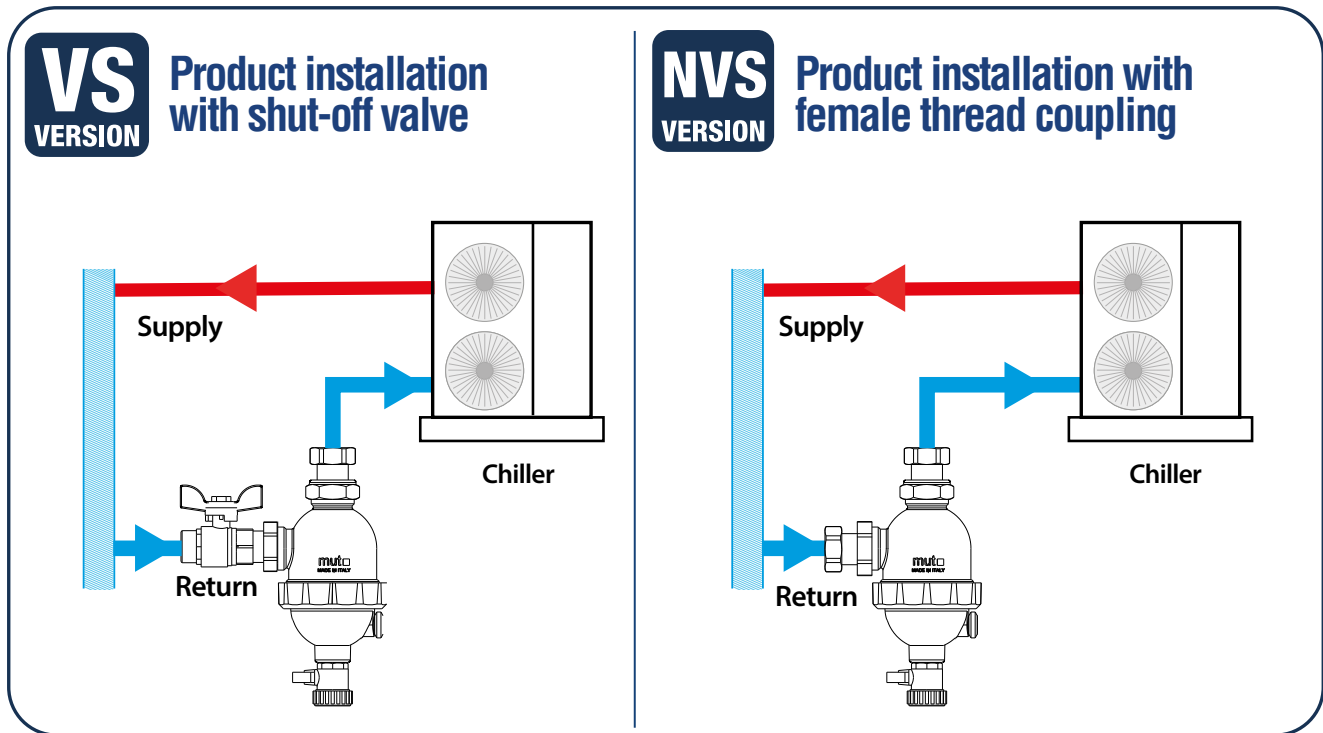
## SPECIFICATIONS

- Available with shut-off cock
- Cyclone Technology
- Magnetic Technology



# APPLICATION DIAGRAM

## STANDARD INSTALLATION

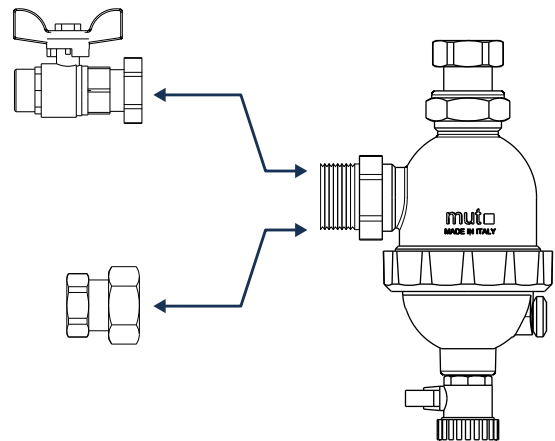


## INSTALLATION POSSIBILITIES

Interceptor version



Coupling with female thread version



# SERIE DF

# Compact Magnum

MAGNETIC SLUDGE SEPARATOR WITH CYCLONIC FILTER FOR  
HYBRID SYSTEMS AND HEAT PUMPS

Heating and air conditioning systems where the fluid that transfers the heat (water, glycol water) is free from contaminants and impurities, and which are more efficient, cause less noise and last longer. The MUT DF COMPACT MAGNUM series of sludge separators, made from a composite techno-polymer with magnet, are used to continuously remove any impurities from hydraulic circuits. They separate impurities present in circuit water by collecting them in the lower part (collection well). The "body" houses a special STAINLESS STEEL cyclone-effect filter with 8 filtering stages mounted in a crossways position to the flow: any particles of impurities passing through the filter do so at a further reduced speed and consequently settle more easily. The DF COMPACT MAGNUM is also equipped in the lower part with a removable ferro-magnetic separation cartridge (30,000 GAUSS) used to separate ferrous impurities. Inasmuch, opening the impurity drain cock at regular intervals empties the collection well.



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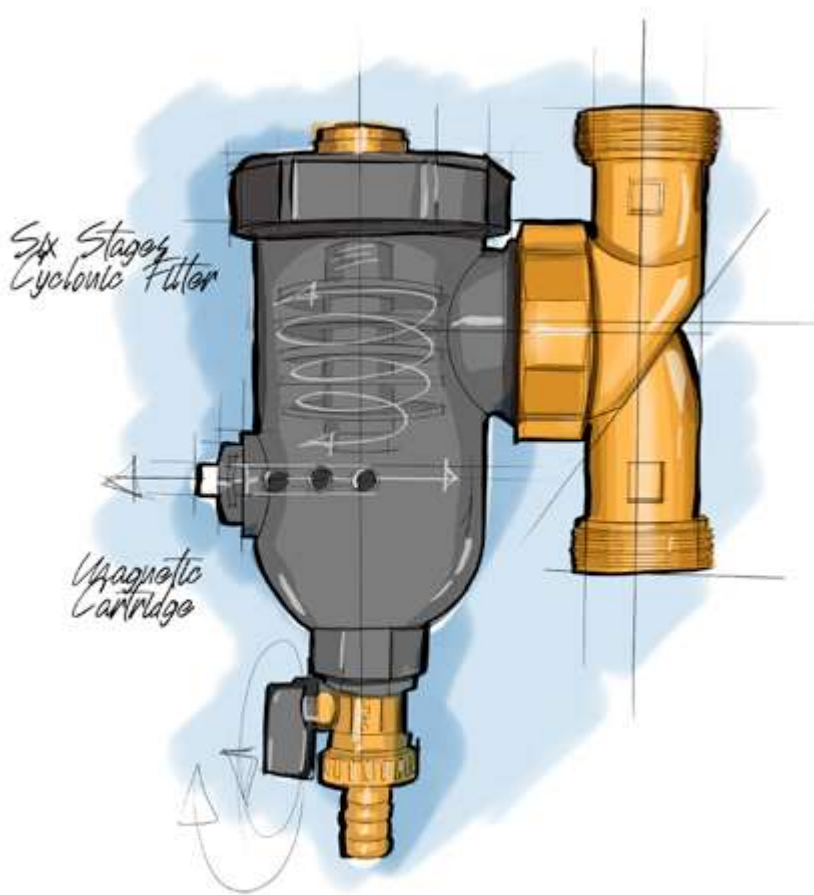
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BREVETTATO

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BREVETTATO



# DF RANGE Compact Magnum

MAGNETIC SLUDGE SEPARATOR WITH CYCLONIC FILTER FOR  
HYBRID SYSTEMS AND HEAT PUMPS



## TECHICAL DATA



Working fluid  
Water - water with glycol



Max. glycol percentage  
30%



Max. operating pressure  
3 bar



Operating temperature range  
de 0 à 90 °C



Body fittings  
1 1/4" FF - 1 1/4" MM - (ISO 228-1)



Magnetic field  
3 x 1 T (= 3x10000 GAUSS) - (samarium - cobalt)



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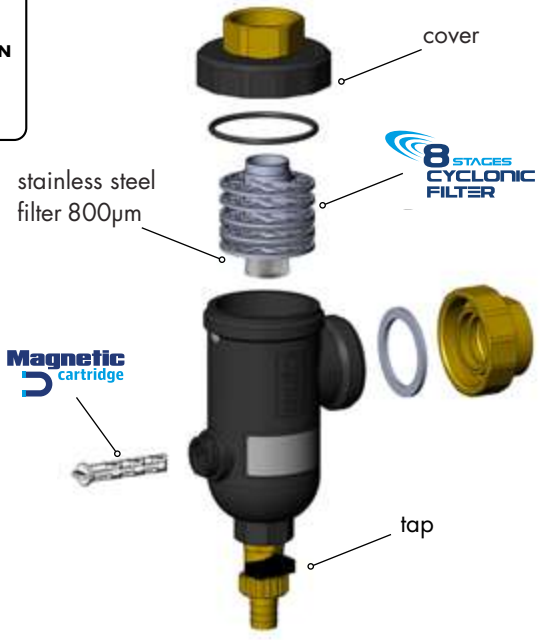
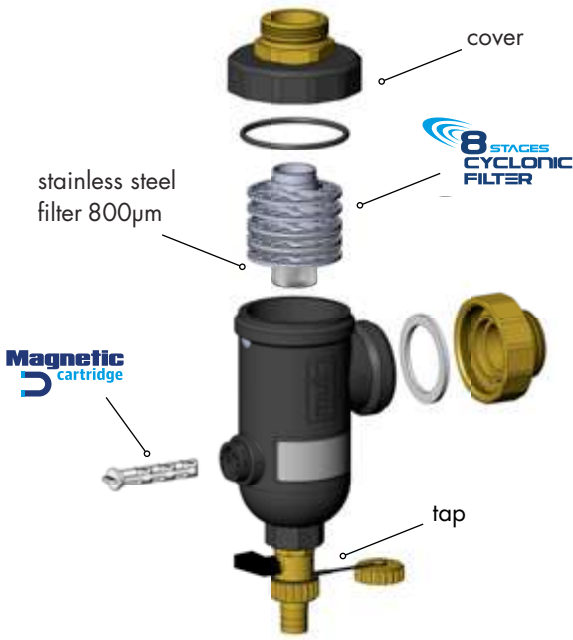
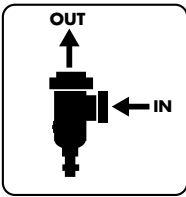


TECHNICAL DATASHEET

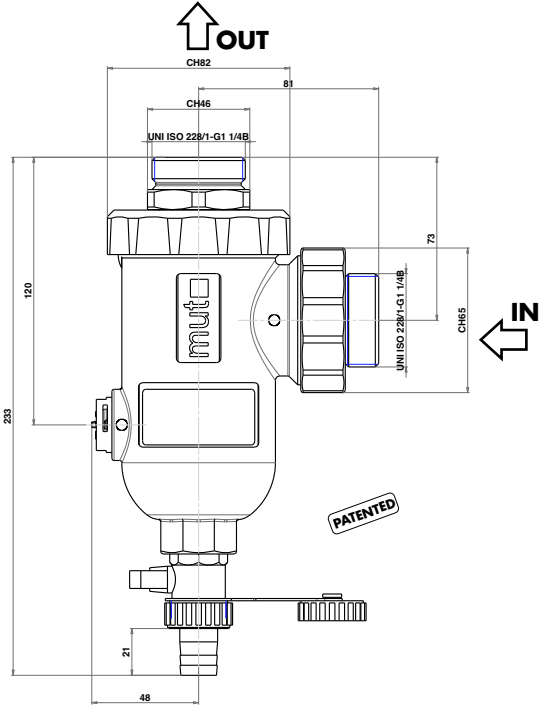
# COMPACT MAGNUM WITH "L" COUPLINGS

**Cod. 7.030.02991**  
DF COMPACT MAGNUM G1"¼ MM

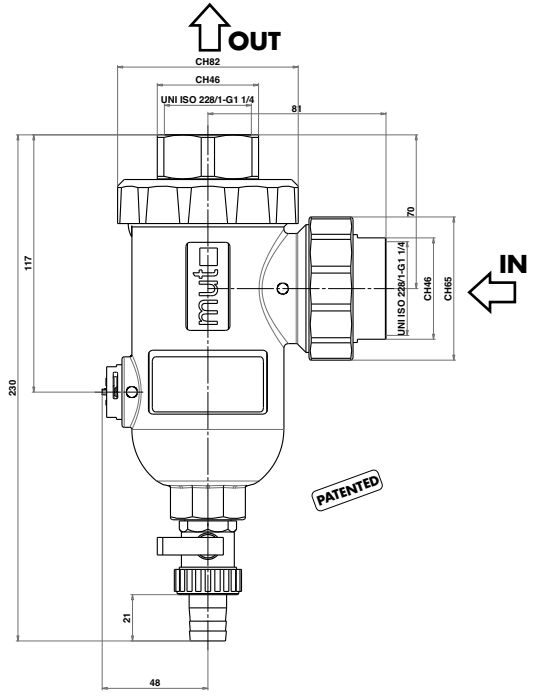
**Cod. 7.030.2992**  
DF COMPACT MAGNUM G1"¼ FF



**SIZE DATA**  
Dimensions In [mm]



**SIZE DATA**  
Dimensions In [mm]



DIMENSIONS (mm)					
CODE	Coupling Ø (inlet)	Coupling Ø (outlet)	Cock Ø discharge	Mass [kg]	Kvs [m3/h]
7.030.02991	1"¼ M	1"¼ M	¾" M	1.20	12
7.030.02992	1"¼ F	1"¼ F	¾" M	1.20	12

Maximum recommended flow rate with fluid velocity at the couplings of ~ 1.2 m/s: 2.6 m3/h

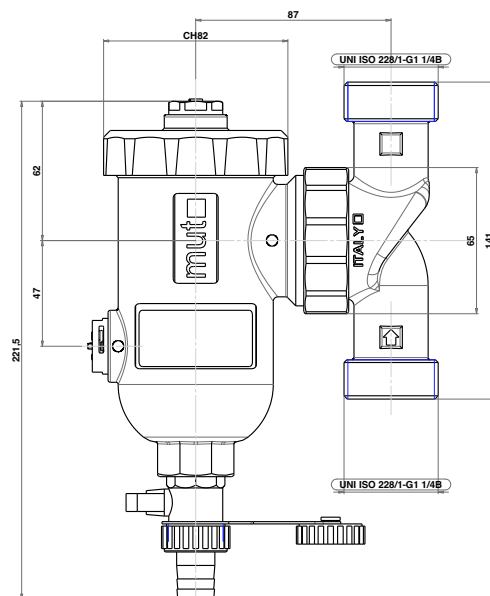
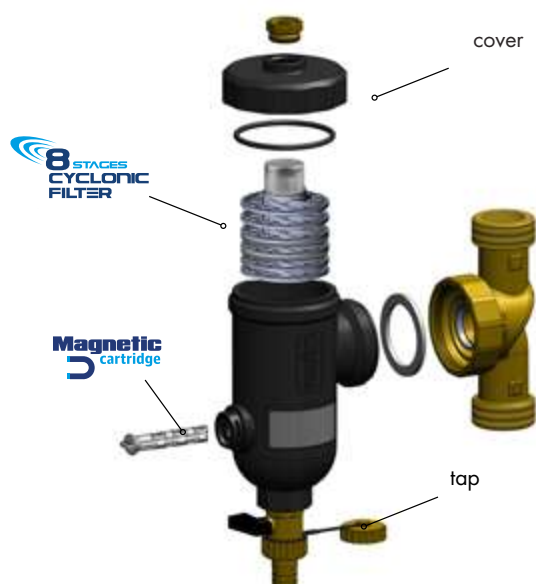
# COMPACT MAGNUM WITH IN-LINE COUPLINGS

**Cod. 7.030.02990**

DF COMPACT MAGNUM G1 1/4 MM in line

SIZE DATA

Dimensions in [mm]



DIMENSIONS (mm)					
CODE	Coupling Ø (inlet)	Coupling Ø (outlet)	Cock Ø discharge	Mass [kg]	Kvs [m3/h]
7.030.02990	1 1/4 M	1 1/4 M	3/4" M	1.45	10

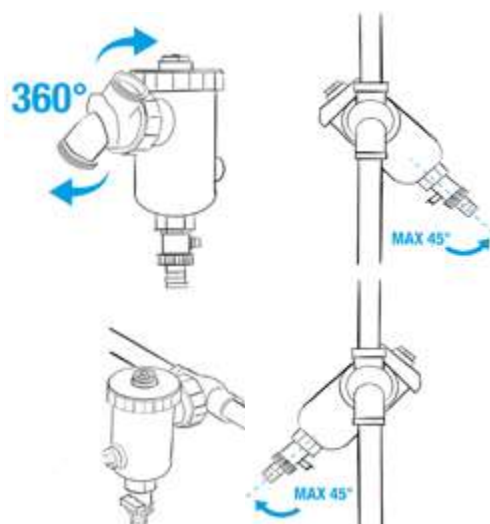
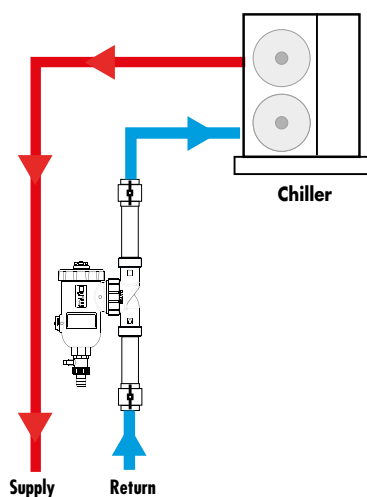
Maximum recommended flow rate with fluid velocity at the couplings of ~ 1.2 m/s: 2.2 m3/h

## INSTALLATION

The sludge separator must be installed to respect the flow direction indicated by the arrow on the coupling "T" and preferably on the return circuit upline of the boiler. The sludge separator should preferably be installed upline of the pump and with the body always in a vertical position.

## APPLICATION DIAGRAMS

CORRECT INSTALLATION OF THE SLUDGE SEPARATOR IN SYSTEMS WITH OR WITHOUT MIXING VALVE





## DF COMPACT MAGNUM

### "L" SLUDGE SEPARATOR WITH MM COUPLINGS



- MALE COUPLINGS
- 8-STAGE CYCLONIC FILTER
- MAGNETIC CARTRIDGE 30,000 GAUSS



CODE	MODEL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.030.02991	DF COMPACT MAGNUM	Magnetic sludge separator G 1 " ¼ M thread in brass, body in techno-polymer. 8-stage stainless steel cyclone filter "L" couplings	1"¼ M	12	1	5



## DF COMPACT MAGNUM

### "L" SLUDGE SEPARATOR WITH FF COUPLINGS



- FEMALE COUPLINGS
- 8-STAGE CYCLONIC FILTER
- MAGNETIC CARTRIDGE 30,000 GAUSS



CODE	MODEL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.030.02992	DF COMPACT MAGNUM	Magnetic sludge separator G 1 " ¼ F thread in brass, body in techno-polymer. 8-stage stainless steel cyclonic filter "L" couplings	1"¼ F	12	1	5



## DF COMPACT MAGNUM

### IN-LINE SLUDGE SEPARATOR WITH MM COUPLINGS



- MALE COUPLINGS
- 8-STAGE CYCLONIC FILTER
- MAGNETIC CARTRIDGE 30,000 GAUSS



CODE	MODEL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.030.02990	DF COMPACT MAGNUM	Magnetic sludge separator G 1 " ¼ M thread in brass, body in techno-polymer. 8-stage stainless steel cyclonic filter Adjustable couplings with male thread.	1"¼ M	10	1	5
7.030.03116	DF COMPACT MAGNUM	Magnetic sludge separator G 1 " F thread in brass, body in techno-polymer. 8-stage stainless steel cyclonic filter Adjustable couplings with female thread.	G 1 " F	10	1	5



## INSULATION KIT

### FOR SEPARATOR COMPACT MAGNUM

CODE	DESCRIPTION	PACK	PACKAGING
7.030.03357	Insulation Kit for Separator COMPACT MAGNUM - Adjustable couplings with male thread.	1	1



# DF COMPACT RANGE

COMPACT DIRT SEPARATOR WITH MAGNET

MUT "DF Compact" dirt separators (with magnet) are used to remove continuously dirt and ferromagnetic impurities on the hydraulic circuits. They allow to separate impurities, collecting them in the lower part (collection sump). Inside the "dirt separator", in a position transverse to the direction of flow, there is a new, special filter with "Cyclone effect": the particles of impurities bumping the grid undergo a further reduction of speed, and then settle more easily.

The periodic twisting-off of the purge valve allows to empty the collection sump. On the collection sump is also housed a magnetic cartridge, easily extractable, that retains ferromagnetic impurities. This series of MUT DF Compact is made using a composite material specifically designed for use in air-conditioning and heating systems and this dirt separator is especially versatile as it can be installed on both horizontal and vertical pipes.



## TECHNICAL DATA



Working fluid  
Water, water and glycol



Max glycol percent  
30 %



Max. working pressure  
3 bar



Working temperature range  
0 ÷ 90 °C



Connections  
3/4" F - 1" F (ISO 228-1)  
Ø 22 mm - Ø 28mm (for copper pipe)



Magnet  
2 x 1 T (= 2x10000 GAUSS) - (Samarium-cobalt)



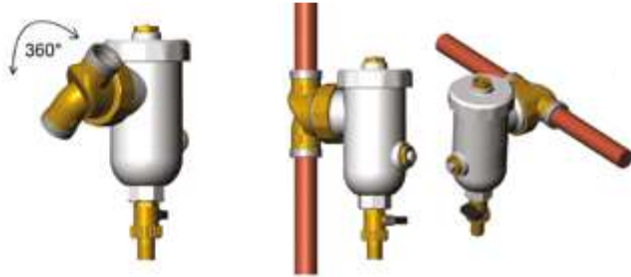
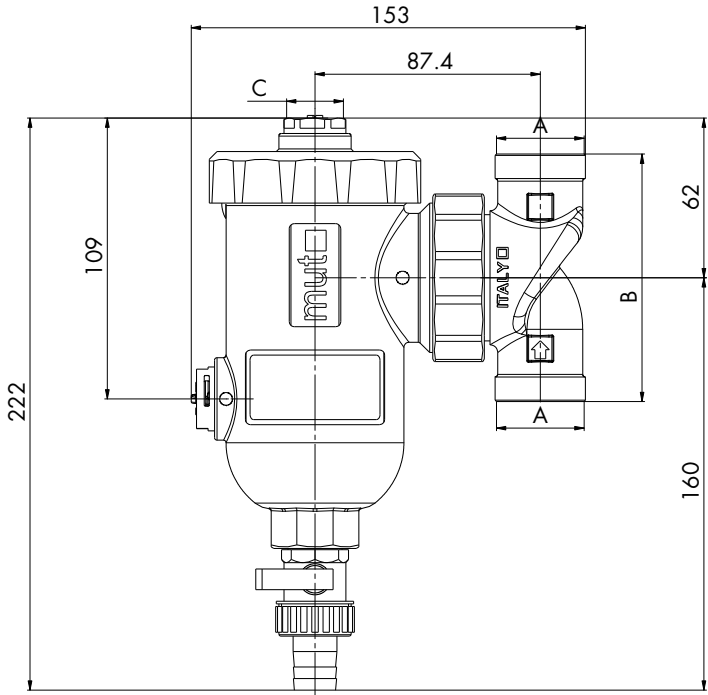
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TECHNICAL DATASHEET

SIZE DATA

CODICE	DN	A	B	C
7.030.02131	20	G3/4"	96	G1/2"
7.030.02132	20	22 mm	96	G1/2"
7.030.02133	25	G1"	141	G1/2"
7.030.02134	25	28 mm	141	G1/2"

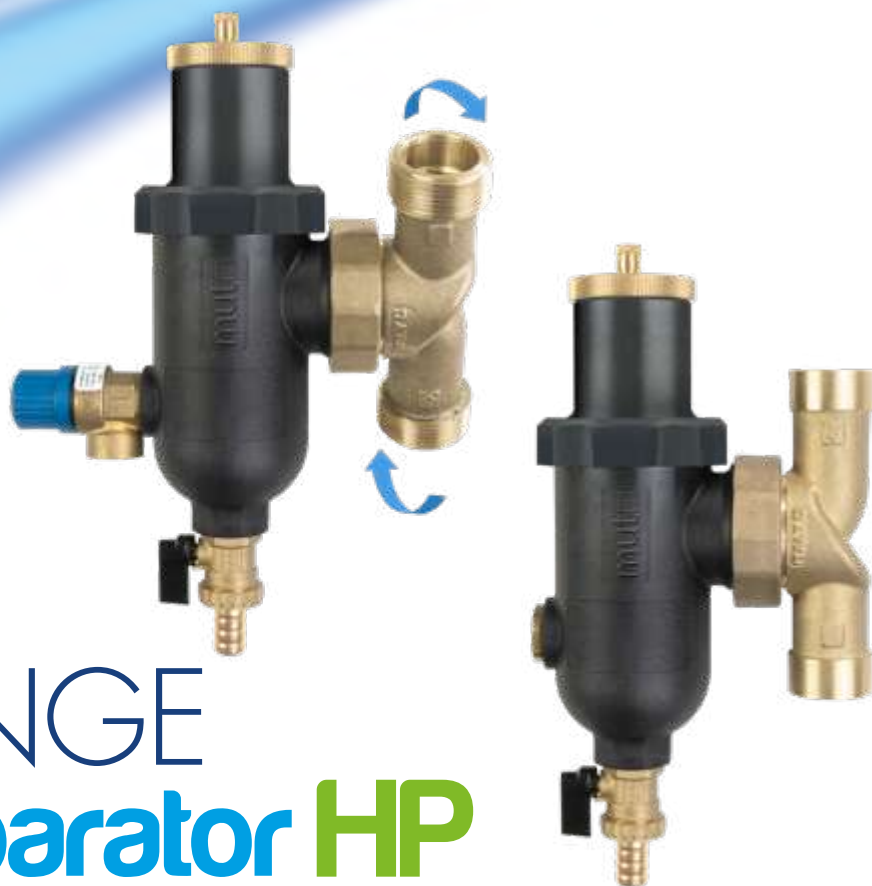


# DF COMPACT RANGE

COMPACT DIRT SEPARATOR WITH MAGNET



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02131	DF 3/4"	Dirt separators magnetic with body in technopolymer. Adjustable threaded female connections G 3/4" in brass	3/4"	1	5
7.030.02133	DF 1"	Dirt separators magnetic with body in technopolymer. Adjustable threaded female connections G1" in brass	1"	1	5
7.030.02132	DF 22mm	Dirt separators magnetic with body in technopolymer. Adjustable connections in brass for pipe ø 22 mm	22 mm	1	5
7.030.02134	DF 28mm	Dirt separators magnetic with body in technopolymer. Adjustable connections in brass for pipe ø 28 mm	28 mm	1	5



# DG RANGE Gas Separator HP

GAS SEPARATOR FOR HYBRID SYSTEMS AND HEAT PUMP

Hydraulic systems where water fluid is properly free of contamination are more efficient, produce less noise and have a longer service life. MUT DG HP composite gas separator are used to remove continuously gasses in the hydraulic circuits. They allow to separate air and cooling gasses, collecting them in the upper part (collection sump). The main body is made of high-strength technopolymer.

Inside the "body", in a position transversal to the flow direction, there is a special stainless steel filter with cyclone effect that allows a reduction in speed, releasing micro-bubbles that will create a bigger bubble through the filter, that will be released in the air via a breather valve. The breather valve is automatic because it is opened by a float that opens or closes the valve depending on the water level.

If the water level rises over the limit, the float will close the breather valve blocking the water from overflowing.

## TECHNICAL DATA



**Working Fluid**  
Water, water and glycol  
(UNI8065:2019) - (VDI 2035)



**Max glycol percent**  
30%



**Max working pressure**  
3 bar



**Operating temperature range**  
0 ÷ 90 °C



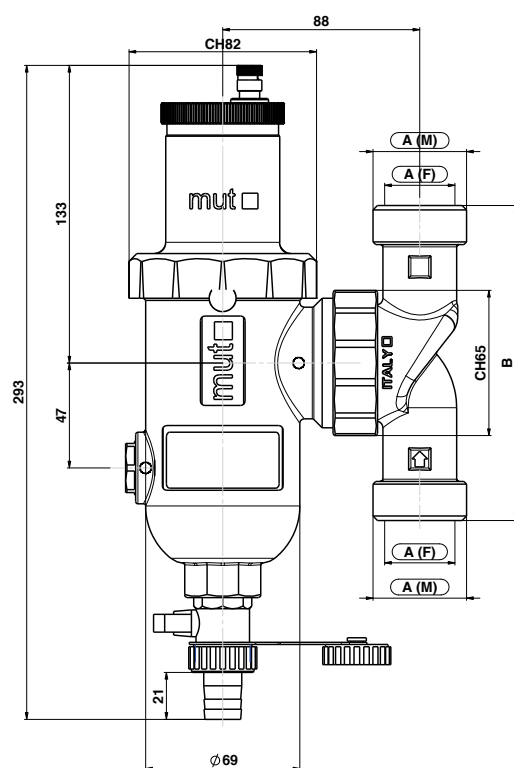
**Body connections**  
3/4" - 1" FF e 1 1/4" MM - (ISO 228-1)



TECHNICAL DATASHEET

## GAS SEPARATOR DG HP

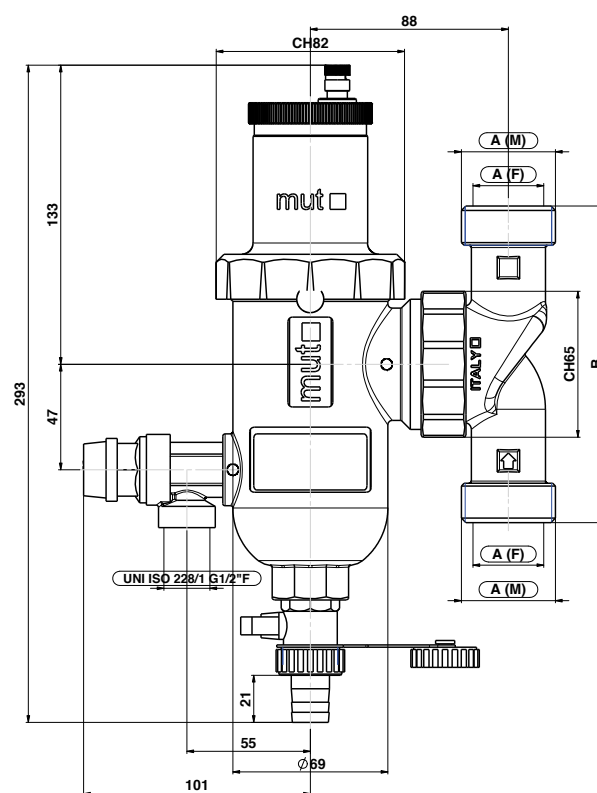
### Standard Version



Dimensions in [mm]


## GAS SEPARATOR DG HP-VS

### With safety valve




Dimensions in [mm]

## GAS SEPARATOR DG HP

DIMENSIONS (mm)							
Code	Model	A  Ø Conn. (inlet) (UNI ISO 228/1)	A Ø Conn. (outlet) (UNI ISO 228/1)	B [mm]	Ø Draincok	Mass [kg]	Kvs * [m³/h]
7.030.03085	DG HP 20	¾" F	¾" F	96	¾" M	1.35	10
7.030.03086	DG HP 25	1" F	1" F	141	¾" M	1.40	10
7.030.03087	DG HP 32E	1 ¼" M	1 ¼" M	141	¾" M	1.45	10

\* Maximum recommended flow rate, with fluid velocity at the connections of ~ 1.2 m/s: 2.2 m³/h

## GAS SEPARATOR DG HP-VS

DIMENSIONS (mm)								
Code	Model	A  Ø Conn. (inlet) (UNI ISO 228/1)	A Ø Conn. (outlet) (UNI ISO 228/1)	B [mm]	Safety Valve	Ø Draincok	Mass [kg]	Kvs * [m³/h]
7.030.03088	DG HP 20-VS	¾" F	¾" F	96	3 bar - ½" F	¾" M	1.45	10
7.030.03089	DG HP 25-VS	1" F	1" F	141	3 bar - ½" F	¾" M	1.50	10
7.030.03090	DG HP 32E-VS	1 ¼" M	1 ¼" M	141	3 bar - ½" F	¾" M	1.55	10

\* Maximum recommended flow rate, with fluid velocity at the connections of ~ 1.2 m/s: 2.2 m³/h



## GAS SEPARATOR DG HP 20

### GAS SEPARATOR STANDARD

- THREADED CONNECTION FEMALE  $\frac{3}{4}$ "
- CYCLONIC FILTER



CODE	MODEL	DESCRIPTION	MIS	KVS	PACK	PACKAGING
7.030.03085	DG HP 20	Gas Separator HP - threaded connection female	$\frac{3}{4}$ "F	10	5	5



## GAS SEPARATOR DG HP 25

### GAS SEPARATOR STANDARD

- THREADED CONNECTION FEMALE 1"
- CYCLONIC FILTER



CODE	MODEL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.030.03086	DG HP 25	Gas Separator HP - threaded connection female	1"F	10	1	5



## GAS SEPARATOR DG HP 32E

### GAS SEPARATOR STANDARD

- THREADED CONNECTION MALE 1 $\frac{1}{4}$ "
- CYCLONIC FILTER



CODE	MODEL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.030.03087	DG HP 32E	Degasatore HP - attacchi filettati maschio	1 $\frac{1}{4}$ MM	10	1	5



## GAS SEPARATOR DG HP 20-VS

### GAS SEPARATOR WITH SAFETY VALVE

- THREADED CONNECTION FEMALE  $\frac{3}{4}$ "
- CYCLONIC FILTER



CODE	MODELL	DESCRIPTION	SIZE	KVS	PACK	PACKAGING
7.030.03088	DG HP 25-VS	Gas Separator HP VS - threaded connection female with safety valve 3bar - $\frac{3}{4}$ "F	1"F	10	1	5



## GAS SEPARATOR DG HP 25-VS

### GAS SEPARATOR WITH SAFETY VALVE

- THREADED CONNECTION FEMALE 1"
- CYCLONIC FILTER



CODE	MODEL	DESCRIPTION	MIS	KVS	PACK	PACKAGING
7.030.03089	DG HP 25-VS	Gas Separator HP VS - threaded connection female with safety valve 3bar -1/2"F	1"F	10	1	5



## GAS SEPARATOR DG HP 32E-VS

### GAS SEPARATOR WITH SAFETY VALVE

- THREADED CONNECTION MALE 1 1/4"
- CYCLONIC FILTER



CODE	MODEL	DESCRIPTION	MIS	KVS	PACK	PACKAGING
7.030.03090	DG HP 32E-VS	Gas Separator HP VS - threaded connection male with safety valve 3bar-1/2"F	1 1/4 MM	10	1	5



## INSULATION KIT

### FOR GAS SEPARATOR DG HP

CODE	DESCRIPTION	PACK	PACKAGING
7.030.03356	Insulation kit for Gas Separator DG HP	1	1

# DS RANGE BRASS

## AIR SEPARATOR THREADED

Hydraulic systems where water fluid is properly deaerated are more efficient, produce less noise and have a longer service life.

MUT DS air separators are used to remove continuously air hydraulic circuits. They allow to eliminate all the air present in the circuits in an automatic way.

MUT DS air separators are supplied complete with hot pre-formed shell insulation to ensure perfect thermal insulation when used with both hot and chilled water.



### TECHNICAL DATA



Working fluid  
Water, water and glycol



Max glycol percent  
30 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110°C



Connections  
Flanged G 3/4" - G 1" - G 1 1/4" - G 1 1/2" - G 2"  
(EN ISO 228/1)



Thermal insulation for the body  
Closed cell polyethylene foam th. 18 mm



100%  
MADE IN  
ITALY



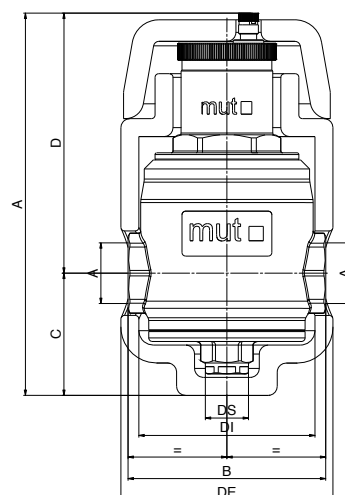
TECHNICAL DATASHEET



# SIZE DATA

## BRASS AIR SEPARATOR DS THREADED

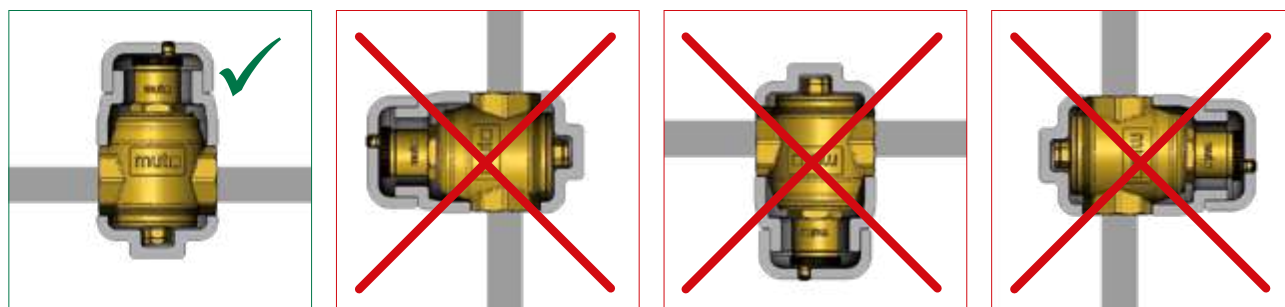
CODE	DN	A	B	C	D	DE	DI	DS
703001985	20	213	110	68	145	Ø118	Ø98	G 3/4"
703001984	25	213	110	68	145	Ø118	Ø98	G 3/4"
703001983	32	237	130	85	152	Ø132	Ø112	G 3/4"
703001982	40	237	130	85	152	Ø132	Ø112	G 3/4"
703001981	50	237	130	85	152	Ø132	Ø112	G 3/4"



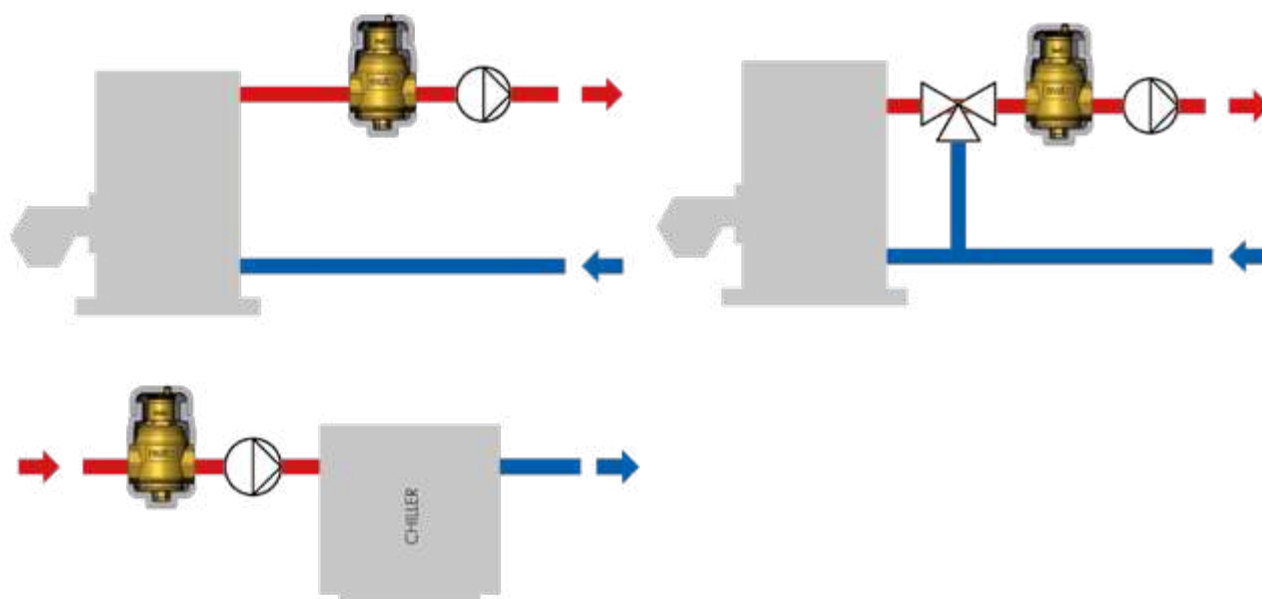
## INSTALLATION

The venting unit should preferably be installed on the return circuit upstream of the boiler in order to trap the air bubbles in the circuit - especially during system activation - before they can reach the boiler. It should be installed upstream of the pump, and always in a vertical position with the air vent valve on the top part. The flow direction of the heat vector fluid is not important.

## ASSEMBLY



## APPLICATION DIAGRAM





# AIR SEPARATOR DS

## ON BRASS THREADED



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01985	DS G 3/4"	Air Separators threaded G 3/4" on brass with insulation	DN 20	1	4
7.030.01984	DS G 1"	Air Separators threaded G 1" on brass with insulation	DN 25	1	4
7.030.01983	DS G 1" 1/4	Air Separators threaded G 1" 1/4 on brass with insulation	DN 32	1	4
7.030.01982	DS G 1" 1/2	Air Separators threaded G 1" 1/2 on brass with insulation	DN 40	1	4
7.030.01981	DS G 2"	Air Separators threaded G 2" on brass with insulation	DN 50	1	4

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick



# DS STEEL RANGE

## AIR SEPARATOR

Hydraulic systems where water fluid is properly deaerated are more efficient, produce less noise and have a longer service life. MUT DS air separators are used to remove continuously air hydraulic circuits. They allow to eliminate all the air present in the circuits in an automatic way.

MUT DS air separators are supplied complete with hot pre-formed shell insulation to ensure perfect thermal insulation when used with both hot and chilled water.



### TECHNICAL DATA



Working fluid  
Water, water and glycol



Max glycol percent  
50 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110°C



Connections  
Flanged DN 50/65/80/100/125/150 PN 16  
to be coupled with flat counterflange EN 1092-1



Thermal insulation for the body  
Closed cell polyethylene foam thickness 18 mm



100%  
MADE IN  
ITALY



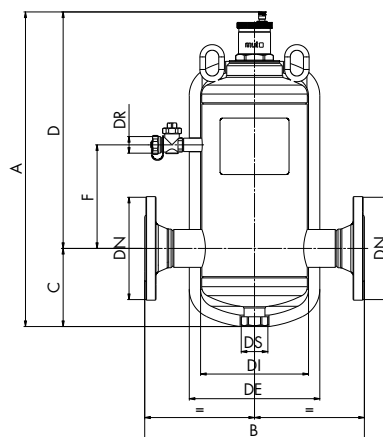
TECHNICAL DATASHEET

# SIZE DATA

## AIR SEPARATOR DS WITH FLANGES

COD.	7.030.01787	7.030.01838	7.030.01840	7.030.01842	7.030.02021	7.030.02022
------	-------------	-------------	-------------	-------------	-------------	-------------

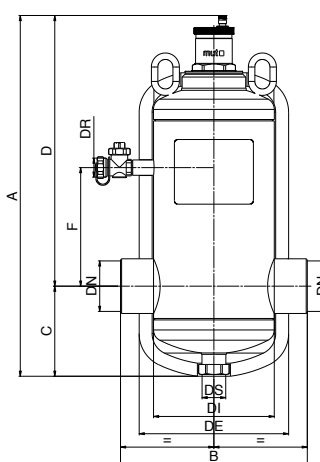
DN	50	65	80	100	125	150
A	480	480	570	571	738	738
B	350	350	470	470	635	635
C	125	125	155	155	213	213
D	355	355	415	415	525	525
F	165	165	214	214	285	285
DE	Ø208	Ø208	Ø255	Ø255	Ø363	Ø363
DI	Ø172	Ø172	Ø219	Ø219	Ø327	Ø327
DS	G1"	G1"	G1"	G1"	G1"	G1"
DR	G3/4"	G3/4"	G3/4"	G3/4"	G3/4"	G3/4"



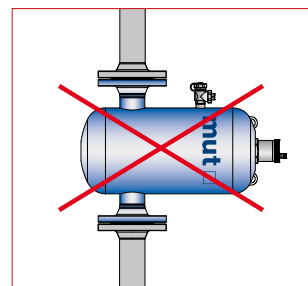
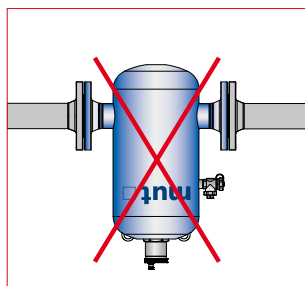
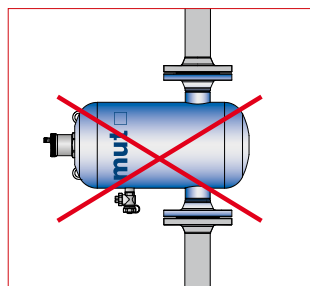
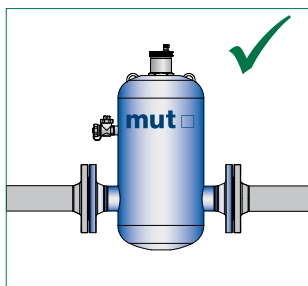
## AIR SEPARATOR DS WITH WELDING CONNECTION

COD.	7.030.02050	7.030.02051	7.030.02052	7.030.02053	7.030.02054	7.030.02055
------	-------------	-------------	-------------	-------------	-------------	-------------

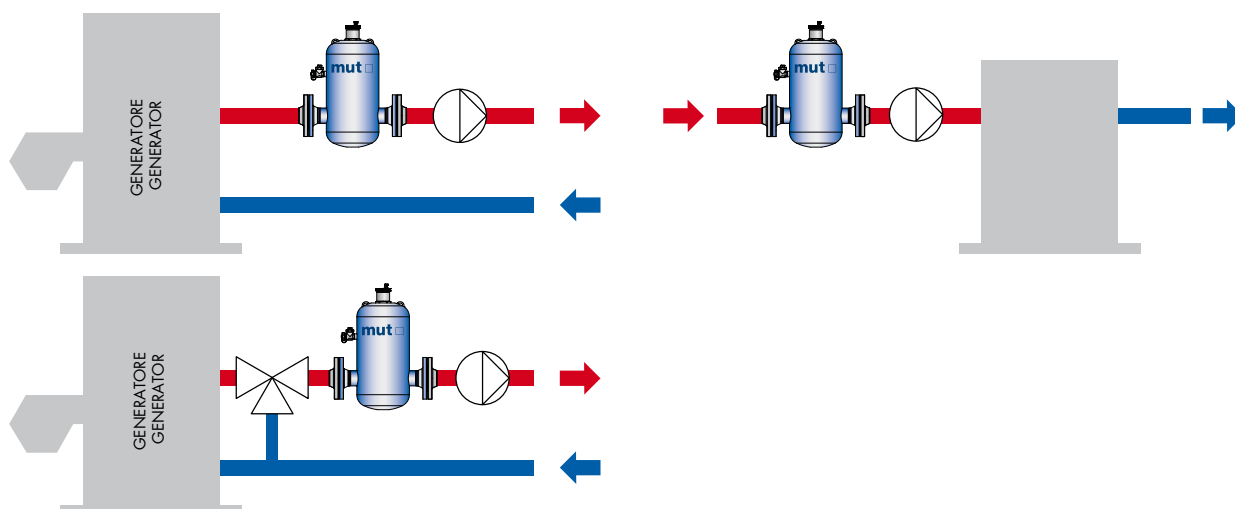
DN	50	65	80	100	125	150
A	502	502	591	591	755	755
B	260	260	370	370	635	635
C	125	125	155	155	213	213
D	377	377	415	415	525	525
F	165	165	214	214	285	285
DE	Ø208	Ø208	Ø255	Ø255	Ø363	Ø363
DI	Ø172	Ø172	Ø219	Ø219	Ø327	Ø327
DS	G1"	G1"	G1"	G1"	G1"	G1"
DR	G3/4"	G3/4"	G3/4"	G3/4"	G3/4"	G3/4"



## ASSEMBLY



## APPLICATION DIAGRAM





# AIR SEPARATORS DS

## STAINLESS WITH FLANGED



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01787	DS 50	Air Separators with insulation	DN 50	1	1
7.030.01838	DS 65	Air Separators with insulation	DN 65	1	1
7.030.01840	DS 80	Air Separators with insulation	DN 80	1	1
7.030.01842	DS 100	Air Separators with insulation	DN 100	1	1
7.030.02021	DS 125	Air Separators with insulation	DN 125	1	1
7.030.02022	DS 150	Air Separators with insulation	DN 150	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick



# AIR SEPARATORS DS

## STAINLESS WITH WELDING CONNECTION



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02050	DS 50 weldingconnections	Air Separators with welding connections and insulation	DN 50	1	1
7.030.02051	DS 65 welding connections	Air Separators with welding connections and insulation	DN 65	1	1
7.030.02052	DS 80 welding connections	Air Separators with welding connections and insulation	DN 80	1	1
7.030.02053	DS 100 welding connections	Air Separators with welding connections and insulation	DN 100	1	1
7.030.02054	DS 125 welding connections	Air Separators with welding connections and insulation	DN 125	1	1
7.030.02055	DS 150 welding connections	Air Separators with welding connections and insulation	DN 150	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick



# DF/DS RANGE BRASS

## AIR/MUD SEPARATOR WITH MAGNET

Mut threaded deaerators/dirt separators combine two different functions, created to meet the needs of the hydraulic circuits of heating and cooling systems and which can be summarized as follows:

### • DEAERATION

Its characteristic is to block, thanks to a synthetic filtering net placed inside the body, the air bubbles present in the circuit, eliminating them continuously through the automatic vent. The completely deaerated water circulation allows the plants to work in optimal conditions without noise, mechanical damage, with greater efficiency, lengthening the life of the plant.

### • DIRT REMOVAL

Its characteristic is to block and retain the heavy impurities present in the hydraulic circuit which, by hitting a synthetic filtering net placed inside the body, undergo a speed reduction and settle more easily, this allows the fall into the lower part of the body called the well. collection that acts as a settling chamber. Here is also housed a magnetic device that retains ferromagnetic impurities. Mut deaerators/dirt separators are supplied complete with thermoformed shell insulation in expanded PEX with closed cells thickness 10 mm which guarantees perfect thermal insulation.



**Magnetic**  
cartridge

### TECHNICAL DATA



Working fluid  
Water, water and glycol



Max glycol percent  
30 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110°C



Connections  
Threaded G 3/4" - G 1" - G 1" 1/4 - G 1" 1/2 - G 2"  
(EN ISO 228/1)-1



Thermal insulation for the body  
Closed cell polyethylene foam th. 18 mm



Magnet  
Permanent (2÷4) x1 T



**100%**  
MADE IN  
ITALY

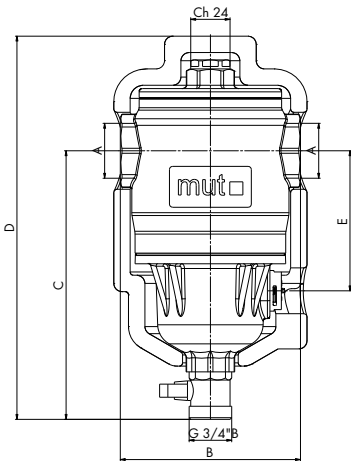


TECHNICAL DATASHEET

# SIZE DATA

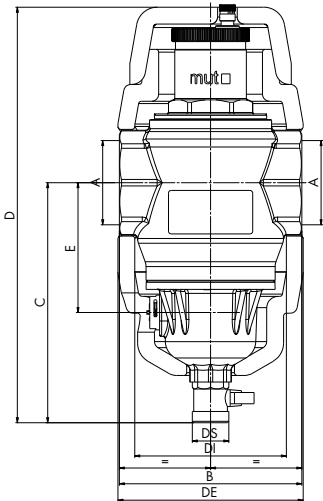
## DF THREADED IN BRASS

CODE	A	B	C	D	E
7.030.01993	G3/4"	110	164	234	85.5
7.030.01992	G1"	110	164	234	85.5
7.030.01991	G1"1/4	130	171	256	92.5
7.030.01990	G1"1/2	130	171	256	92.5
7.030.01987	G2"	130	171	256	92.5

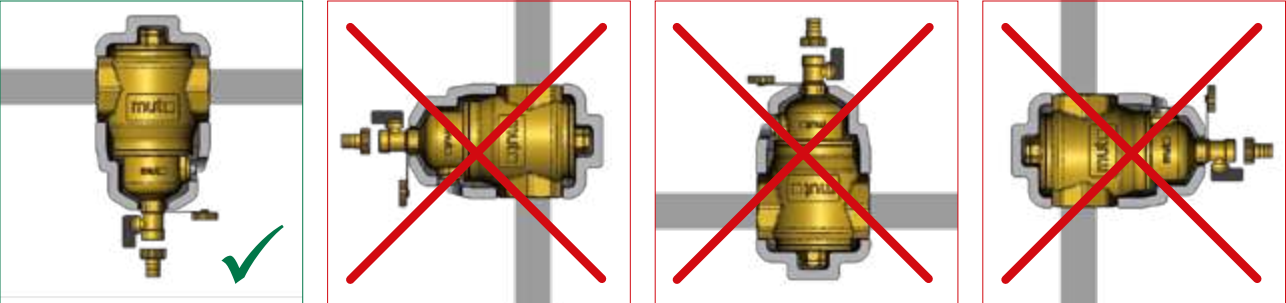


## DF/DS THREADED IN BRASS

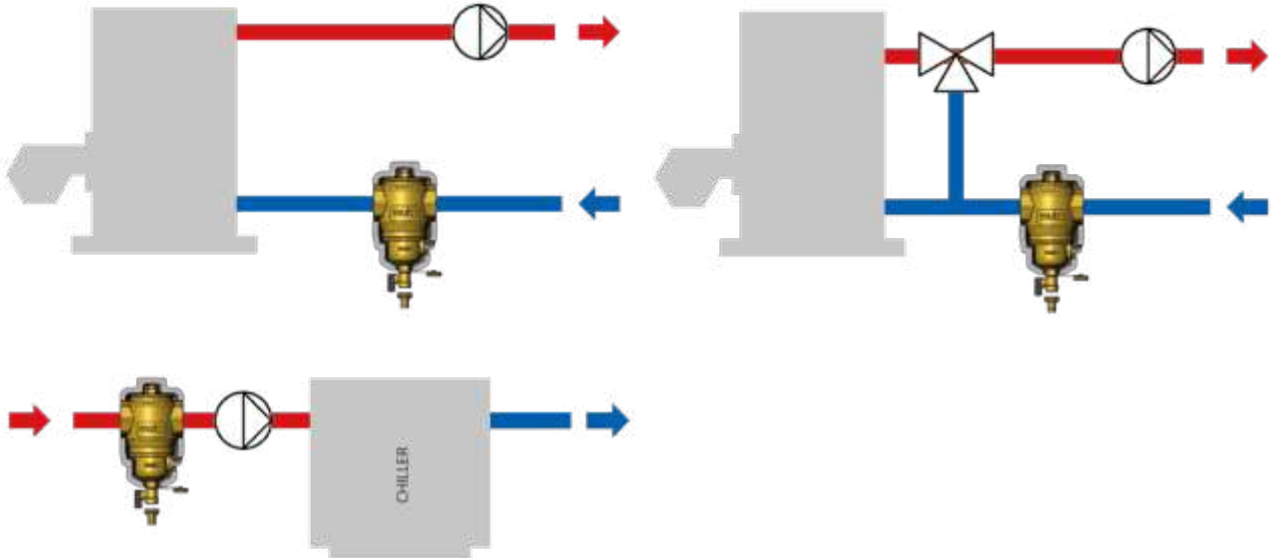
CODE	DN	A	B	C	D	E	DE	DI	DS
7.030.01999	20	G3/4"	110	160	274	85	Ø118	Ø94	G 3/4"
7.030.01998	25	G1"	110	160	274	85	Ø118	Ø94	G 3/4"
7.030.01997	32	G1"1/4	130	170	296	92.5	Ø132	Ø108	G 3/4"
7.030.01996	40	G1"1/2	130	170	296	92.5	Ø132	Ø108	G 3/4"
7.030.01988	50	G2"	130	170	296	92.5	Ø132	Ø108	G 3/4"



## ASSEMBLY



## APPLICATION DIAGRAM





- THREADED

## DF RANGE MAGNETIC

### MUD SEPARATOR SERIE DF MAGNETIC THREADED



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01993	DF G 3/4"	Mud Separators magnetic/threaded DF G 3/4" in brass with insulation	DN 20	1	1
7.030.01992	DF G 1"	Mud Separators magnetic/threaded DF G 1" in brass with insulation	DN 25	1	1
7.030.01991	DF G 1" 1/4	Mud Separators magnetic/threaded DF G 1" 1/4 in brass with insulation	DN 32	1	1
7.030.01990	DF G 1" 1/2	Mud Separators magnetic/threaded DF G 1" 1/2 in brass with insulation	DN 40	1	1
7.030.01987	DF G 2"	Mud Separators magnetic/threaded DF G 2" in brass with insulation	DN 50	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick
- Suitable for magnet-holder sump connection



- THREADED

## DF/DS RANGE MAGNETIC

### AIR/MUD SEPARATOR SERIE DF/DS MAGNETIC THREADED



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01999	DF/DS G 3/4"	Air/Mud Separator magnetic/threaded G 3/4" in brass with insulation	DN 20	1	1
7.030.01998	DF/DS G 1"	Air/Mud Separator magnetic/threaded G 1" in brass with insulation	DN 25	1	1
7.030.01997	DF/DS G 1" 1/4	Air/Mud Separator magnetic/threaded G 1" 1/4 in brass with insulation	DN 32	1	1
7.030.01996	DF/DS G 1" 1/2	Air/Mud Separator magnetic/threaded G 1" 1/2 in brass with insulation	DN 40	1	1
7.030.01988	DF/DS G 2"	Air/Mud Separator magnetic/threaded G 2" in brass with insulation	DN 50	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick
- Suitable for magnet-holder sump connection

**Magnetic**  
cartridge



# DF/DS IS RANGE STAINLESS

INSPECTABLE DIRT SEPARATOR/DEAERATOR  
WITH MAGNET

MUT DF/DS IS (Inspectable) -DN40 and DN50- series of air and dirt separators are used to remove continuously air and impurities – also ferromagnetic - in the hydraulic circuits and they are characterized by the advantage of being internally inspectable.

They allow to eliminate all the air present in the circuits in an automatic way and also allow to separate impurities, collecting them in the lower part (collection sump) where is inserted a removable magnetic cartridge. Inside the “dirt separator”, in a position transverse to the direction of flow, there is a perforated grid (filtrating screen): the particles of impurities bumping the grid undergo a further reduction of speed, and then settle more easily.

The periodic twisting-off of the purge valve allows to empty the collection sump. MUT DF/DS IS de-aerator and dirt separators are supplied complete with hot pre-formed shell insulation to ensure perfect thermal insulation when used with both hot and chilled water. They are also equipped with a probe holder G 1/2”, which can also be used for further applications.



## TECHNICAL DATA



Working fluid  
Water, glycoled water



May glycol percent  
50 %



Max working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110 °C



Connections  
Threaded connections  
G 1" 1/2 - G 2" (EN ISO 228/1)



Thermal insulation  
Closed cell expanded PE-X thickness 12 mm



Magnetic cartridge induction field  
4 x 1 Tesla (4 x 10.000 gauss)

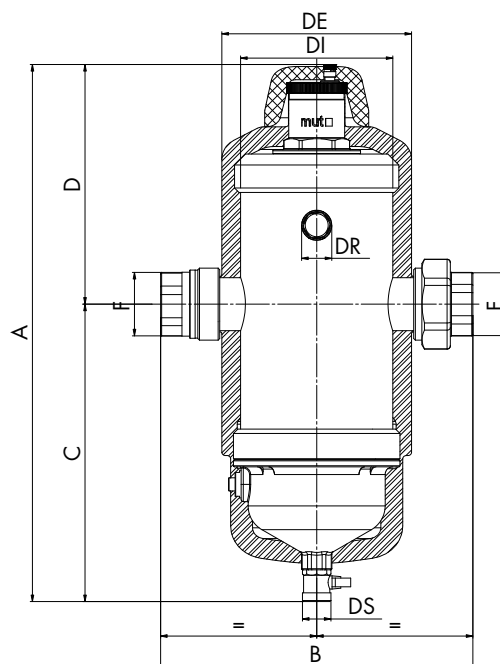


**100%**  
MADE IN  
ITALY

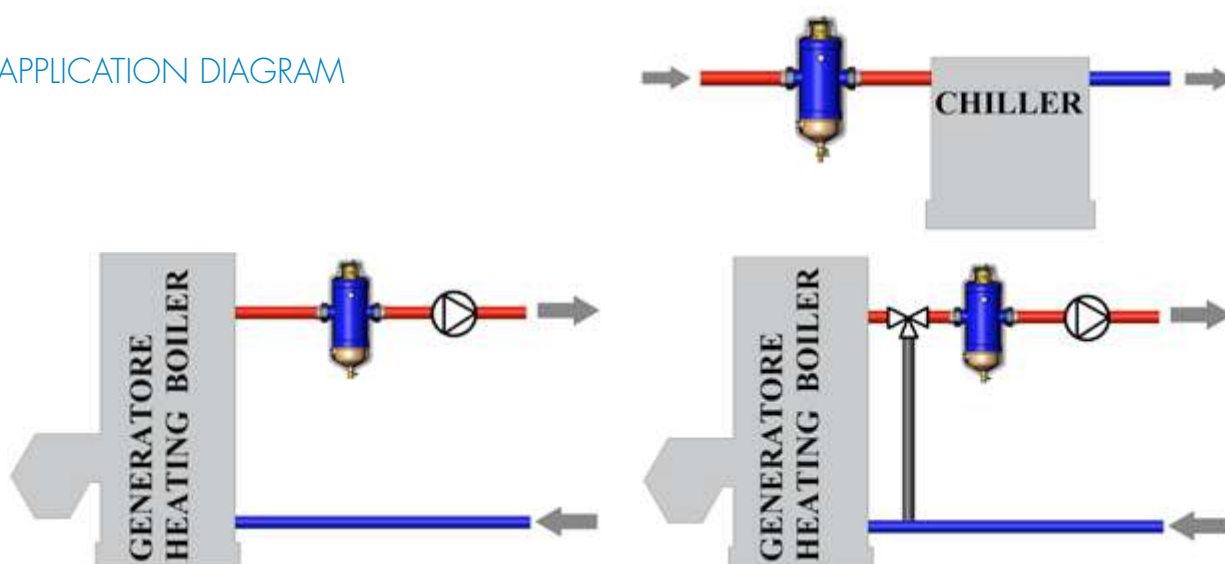
# SIZE DATA

## DF/DS IS

CODE	7.030.02277	7.030.02278
DN	40	50
A	490	490
B	283	315
C	270	27
D	220	220
F	72	72
DE	Ø178	Ø178
DI	Ø154	Ø154
DS	G3/4"	G3/4"
DR	G1/2"	G1/2"



## APPLICATION DIAGRAM



# CONTENTS

Use your smartphone  
to read the qr code,  
so you can see the  
multimedia contents



TECHNICAL DATASHEET



## DF/DS IS RANGE

STAINLESS INSPECTABLE DIRT SEPARATOR/DEAERATOR WITH MAGNET



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02278	DF/DS-IS - G 1" 1/2	Stainless inspectable dirt separator/deaerator with magnet and insulation G 1" 1/2 F	G 1" 1/2	1	1
7.030.02277	DF/DS-IS - G 2"	Stainless inspectable dirt separator/deaerator with magnet and insulation G 2" F	G 2"	1	1

### SPECIFICATIONS

- Complete with closed cell polyester foam insulation 12 mm thick
- Suitable for magnet-holder sump connection





# DF RANGE IN STEEL

DIRT SEPARATOR MAGNETIC FOR  
FOR HYBRID SYSTEMS AND HEAT PUMPS

Hydraulic systems where water fluid is free of contamination are more efficient, produce less noise and have a longer service life. MUT DF steel dirt separators are used to remove continuously impurities in the hydraulic circuits. They allow to separate impurities, collecting them in the lower part (collection sump). Inside the "dirt separator", in a position transverse to the direction of flow, there is a perforated grid (filtrating screen): the particles of impurities bumping the grid undergo a further reduction of speed, and then settle more easily. The periodic twisting-off of the purge valve allows to empty the collection sump. MUT DF steel dirt separators are supplied complete with hot pre-formed shell insulation to ensure perfect thermal insulation when used with both hot and chilled water.



## TECHNICAL DATA



Working fluid



Water, water and glycol : max 50%



In according norms  
VDI 2035 / UNI 8065:2019



Nominal pressure  
PN10



Working temperature range  
0 ÷ 110 °C



Fittings  
Flanged DN 50/65/80/100/125/150  
to be coupled with flat counterflange EN 1092-1



Thermal insulation of body  
Closed cell expanded PE-X thickness 10 mm



Magnetic fields  
4 T ( 4 x 10.000 Gauss ) - mod. DN 50/65  
5 T ( 5 x 10.000 Gauss ) mod. DN 80/100/125/150



## MATERIALS

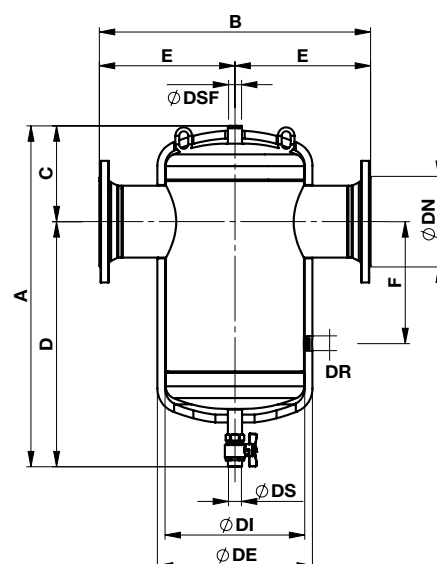
Flanged body PN16	Epoxy powder painted steel RAL 5017
Internal filter	Stainless Steel
Hydraulic seals	FKM (VITON)
Drain cock	Brass CW617N (EN 12165/98)
Insulation	Closed cell expanded PE-X thickness 18 mm

## TECHNICAL SPECIFICATIONS OF INSULATION

Material	Closed cell expanded PE-X
Thickness	18 mm
Density	Internal part: 30 kg/m <sup>3</sup> - Outer part: 80 kg/m <sup>3</sup>
Thermal conductivity	α 10°C: 0,034 W/(m·K) / α 40°C: 0,038 W/(m·K) at 10°C: 0,034 W/(m·K) / at 40°C: 0,038 W/(m·K)
Coefficient of resistance to water vapour (DIN 52615)	>1300
Working temperature range	-40 ÷ +130 °C

## SIZE DATA

DF with magnet	7.030.02888	7.030.02889	7.030.02890	7.030.02891	7.030.02892	7.030.02893
DF without magnet	7.030.03030	7.030.03031	7.030.03032	7.030.03033	7.030.03034	7.030.03035
DN	50	65	80	100	125	150
A [mm]	548	548	636	636	798	798
B [mm]	350	350	470	470	635	635
C [mm]	135	135	164	164	224	224
D [mm]	413	413	471	471	574	574
E [mm]	175	175	235	235	317,5	317,5
F [mm]	165	165	214	214	285	285
DE [mm]	Ø208	Ø208	Ø256	Ø256	Ø363	Ø363
DI [mm]	Ø168	Ø168	Ø219	Ø219	Ø324	Ø324
DS	G1"	G1"	G1"	G1"	G1"	G1"
DSF	G¾"	G¾"	G¾"	G¾"	G¾"	G¾"
DR (threaded with magnet port)	M18	M18	M18	M18	M18	M18
Massa [kg]	14	15	27	29	60	61
Flange PN [bar]	16	16	16	16	16	16
Kvs [m <sup>3</sup> /h]	75	150	180	280	450	720
Volume [l]	7	7	18	18	44	44
Magnetic Field*	4T	4T	5T	5T	5T	5T





## DF RANGE

IN STEEL WITH FLANGES AND MAGNETS



- MAGNETIC WITH INSULATION

CODE	MODEL	DESCRIPTION	SIZE	PACK.	PACKAGING
7.030.02888	DF 50	Dirt Separator magnetic with insulation	DN 50	1	1
7.030.02889	DF 65	Dirt Separator magnetic with insulation	DN 65	1	1
7.030.02890	DF 80	Dirt Separator magnetic with insulation	DN 80	1	1
7.030.02891	DF 100	Dirt Separator magnetic with insulation	DN 100	1	1
7.030.02892	DF 125	Dirt Separator magnetic with insulation	DN 125	1	1
7.030.02893	DF 150	Dirt Separator magnetic with insulation	DN 150	1	1



## DF RANGE

IN STEEL WITH FLANGES WITH PRE-INSTALLATION OF MANHOLE MAGNETIC HOLDER



- WITH INSULATION

CODE	MODEL	DESCRIPTION	SIZE	PACK.	PACKAGING
7.030.03030	DF 50	Dirt Separator with insulation	DN 50	1	1
7.030.03031	DF 65	Dirt Separator with insulation	DN 65	1	1
7.030.03032	DF 80	Dirt Separator with insulation	DN 80	1	1
7.030.03033	DF 100	Dirt Separator with insulation	DN 100	1	1
7.030.03034	DF 125	Dirt Separator with insulation	DN 125	1	1
7.030.03035	DF 150	Dirt Separator with insulation	DN 150	1	1





**Magnetic**  
cartridge

# DF/DS RANGE STAINLESS

AIR/MUD SEPARATOR WITH MAGNET

Hydraulic systems where water fluid is properly de-aerated and free of contamination are more efficient, produce less noise and have a longer service life. MUT DF/DS air and dirt separators are used to remove continuously air and impurities in the hydraulic circuits. They allow to eliminate all the air present in the circuits in an automatic way and also allow to separate impurities, collecting them in the lower part (collection sump). Inside the "dirt separator", in a position transverse to the direction of flow, there is a perforated grid (filtrating screen): the particles of impurities bumping the grid undergo a further reduction of speed, and then settle more easily. The periodic twisting off of the purge valve allows to empty the collection sump. MUT DF/ DS de-aerator and dirt separators are supplied complete with hot pre-formed shell insulation to ensure perfect thermal insulation when used with both hot and chilled water.



## TECHNICAL DATA



**Working fluid**  
Water, water and glycol



**Max glycol percent**  
50 %



**Max. working pressure**  
10 bar



**Max discharge pressure**  
10 bar



**Working temperature range**  
0 ÷ 110 °C



**Connections**  
Flanged DN 50/65/80/100/125/150 PN 16  
to be coupled with flat counterflange EN 1092-1



**Thermal insulation fore the body**  
Closed cell polyethylene foam th. 18 mm



**Magnet**  
Permanent 3 x 1 T mod. DN20/25 and 4 x 1 T mod. DN32/40/50.

CE  **100%  
MADE IN  
ITALY**

**mut**   
Thermal System Solutions



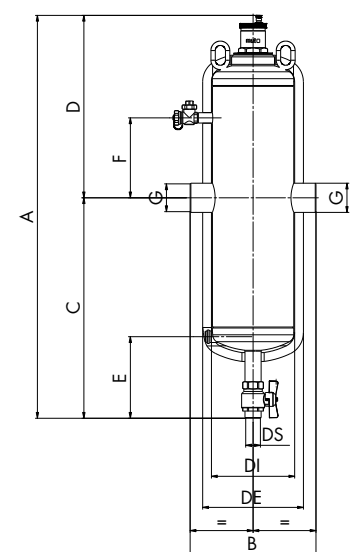
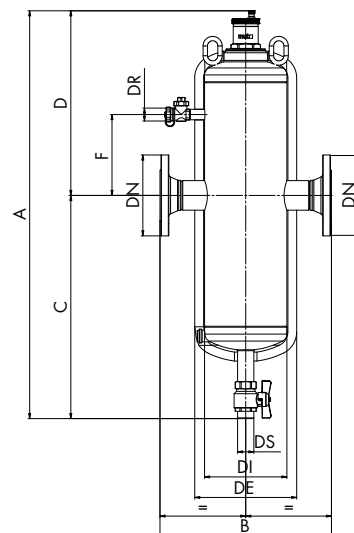
TECHNICAL DATASHEET

# SIZE DATA

## DF/DS IN STEEL WITH FLANGES

COD.	7.030.01788	7.030.01839	7.030.01841	7.030.01843	7.030.02023	7.030.02024
COD.	7.030.02107	7.030.02108	7.030.02109	7.030.02110	7.030.02111	7.030.02112

DN	50	65	80	100	125	150
A	810	810	1005	1005	1203	1203
B	350	350	470	470	635	635
C	455	455	590	590	678	678
D	355	355	415	415	525	525
F	165	165	214	214	285	285
DE	Ø208	Ø208	Ø255	Ø255	Ø400	Ø400
DI	Ø172	Ø172	Ø219	Ø219	Ø363	Ø363
DS	G1"	G1"	G1"	G1"	G1"	G1"
DR	G3/4"	G3/4"	G3/4"	G3/4"	G3/4"	G3/4"
PN	16	16	16	16	16	16

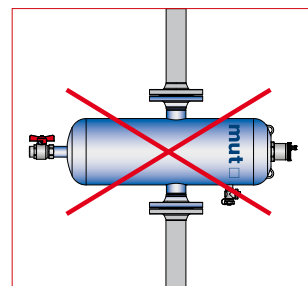
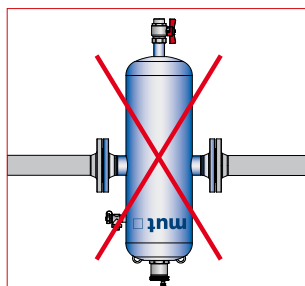
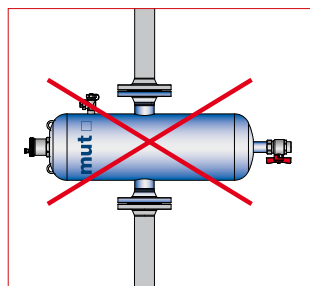
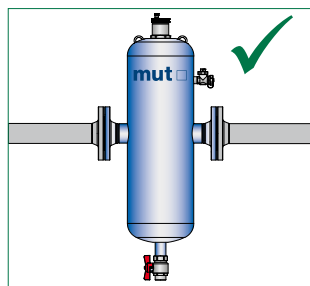


## DF/DS IN STEEL WITH WELDING CONNECTIONS

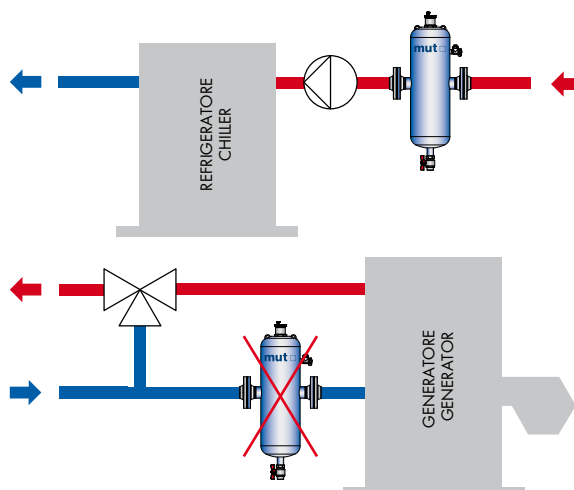
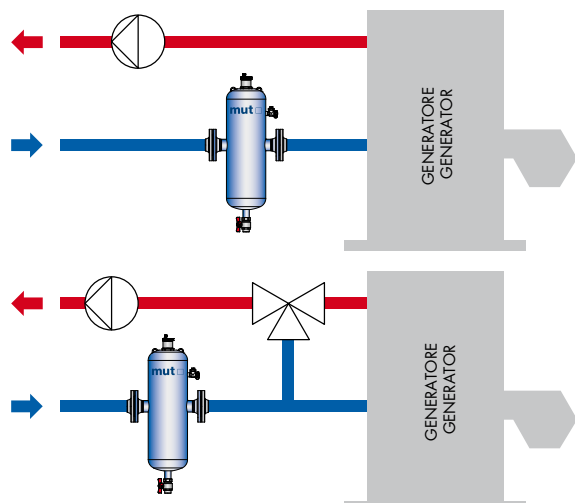
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COD.	7.030.02117	7.030.02118	7.030.02119	7.030.02120	7.030.02121	7.030.02122

A	810	810	1005	1005	1203	1203
B	260	260	470	470	635	635
C	455	455	590	590	678	678
D	355	355	415	415	525	525
E	168	168	172	172	208	208
F	165	165	214	214	285	285
G	DN50	DN65	DN80	DN100	DN125	DN150
DE	Ø208	Ø208	Ø255	Ø255	Ø400	Ø400
DI	Ø172	Ø172	Ø219	Ø219	Ø363	Ø363
DS	G1"	G1"	G1"	G1"	G1"	G1"

## ASSEMBLY



## APPLICATION DIAGRAM







- WITH FLANGES

## DF/DS RANGE

AIR/MUD SEPARATORS (WITH FLANGES)  
WITH PREDISPOSITION FOR MAGNETIC HOLDER, IN STEEL



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01788	DF/DS 50	Air/Mud Separators with insulation	DN 50	1	1
7.030.01839	DF/DS 65	Air/Mud Separators with insulation	DN 65	1	1
7.030.01841	DF/DS 80	Air/Mud Separators with insulation	DN 80	1	1
7.030.01843	DF/DS 100	Air/Mud Separators with insulation	DN 100	1	1
7.030.02023	DF/DS 125	Air/Mud Separators with insulation	DN 125	1	1
7.030.02024	DF/DS 150	Air/Mud Separators with insulation	DN 150	1	1

### SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick
- suitable for magnet-holder sump connection



- WITH WELDING CONNECTIONS

## DF/DS RANGE

AIR/MUD SEPARATORS WITH WELDING CONNECTIONS  
WITH PREDISPOSITION FOR MAGNETIC HOLDER, IN STEEL



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02056	DF/DS 50	Air/Mud Separators with welding connections and insulation	DN 50	1	1
7.030.02057	DF/DS 65	Air/Mud Separators with welding connections and insulation	DN 65	1	1
7.030.02058	DF/DS 80	Air/Mud Separators with welding connections and insulation	DN 80	1	1
7.030.02059	DF/DS 100	Air/Mud Separators with welding connections and insulation	DN 100	1	1
7.030.02060	DF/DS 125	Air/Mud Separators with welding connections and insulation	DN 125	1	1
7.030.02061	DF/DS 150	Air/Mud Separators with welding connections and insulation	DN 150	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick
- suitable for magnet-holder sump connection



- WITH FLANGES

## SERIE DF/DS MAGNETIC

### AIR/MUD SEPARATORS IN STEEL



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02107	DF/DS 50	Air/Mud Separators with insulation	DN 50	1	1
7.030.02108	DF/DS 65	Air/Mud Separators with insulation	DN 65	1	1
7.030.02109	DF/DS 80	Air/Mud Separators with insulation	DN 80	1	1
7.030.02110	DF/DS 100	Air/Mud Separators with insulation	DN 100	1	1
7.030.02111	DF/DS 125	Air/Mud Separators with insulation	DN 125	1	1
7.030.02112	DF/DS 150	Air/Mud Separators with insulation	DN 150	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick



- WITH WELDING CONNECTIONS

## SERIE DF/DS MAGNETIC

### AIR/MUD SEPARATORS IN STEEL



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02117	DF/DS 50	Air/Mud Separators with welding connections and insulation	DN 50	1	1
7.030.02118	DF/DS 65	Air/Mud Separators with welding connections and insulation	DN 65	1	1
7.030.02119	DF/DS 80	Air/Mud Separators with welding connections and insulation	DN 80	1	1
7.030.02120	DF/DS 100	Air/Mud Separators with welding connections and insulation	DN 100	1	1
7.030.02121	DF/DS 125	Air/Mud Separators with welding connections and insulation	DN 125	1	1
7.030.02122	DF/DS 150	Air/Mud Separators with welding connections and insulation	DN 150	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 18mm thick



# CARTRIDGE KIT MAGNETIC

FOR AIR/MUD SEPARATOR



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02130	DF/DS	Housing + magnetic cartridge assembly Kit DF65 and DF50	DF65 / DF50	1	1
7.030.02129	DF/DS	Housing + magnetic cartridge assembly Kit DF100 and DF80	DF100 / DF80	1	1
7.030.02127	DF/DS	Housing + magnetic cartridge assembly Kit DF125 / DF150	DF125 / D150	1	1



# DF/DS C RANGE IN STEEL

## MAGNETIC SLUDGE REMOVER/VENTING UNIT WITH INSULATION FOR VERTICAL UPRIGHT COLUMN SYSTEMS

These venting units and sludge removers are used in hydraulic air conditioning systems. They block and therefore continuously eliminate all the air in the circuit down to micro-bubble level, and hold back the heavy impurities that hit the filter mesh and then fall into the lower part of the body. The circulation of clean, air-free water allows the systems to work in optimum conditions, without any noise or mechanical damage. The venting units and sludge removers are supplied complete with shell insulation to maintain the heating and cooling temperatures regardless of the type of use.



**100%  
MADE IN  
ITALY**



**Magnetic  
cartridge**

### TECHNICAL DATA



Working fluid  
Water, water and glycol



Max glycol percent  
50 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110 °C



Connections  
Flanged DN 50/65/80/100/125/150 PN 16  
to be coupled with flat counterflange EN 1092-1



Thermal insulation for the body  
Closed cell polyethylene foam th. 18 mm

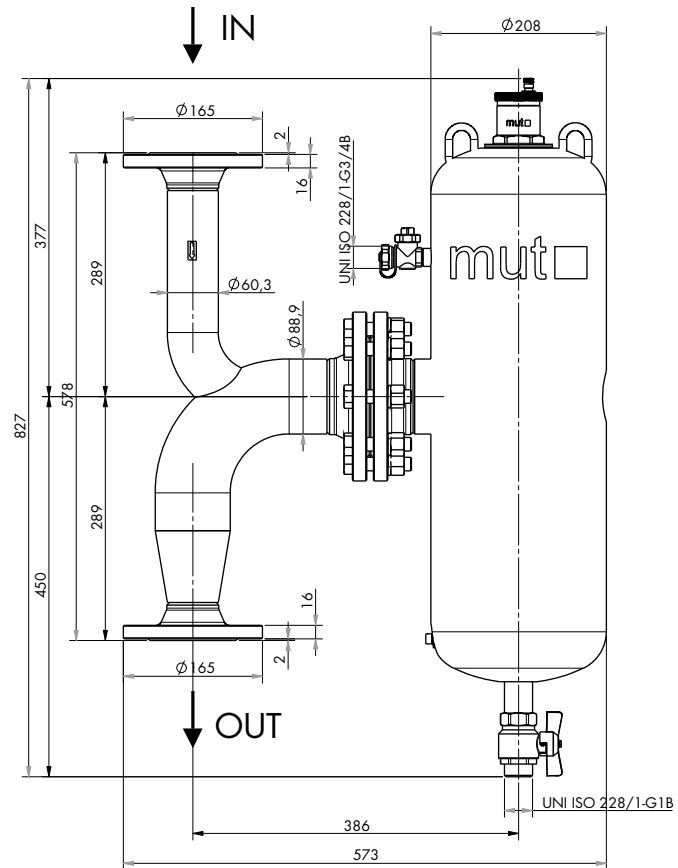


Magnet  
Permanent 4 x 1 T



TECHNICAL DATASHEET





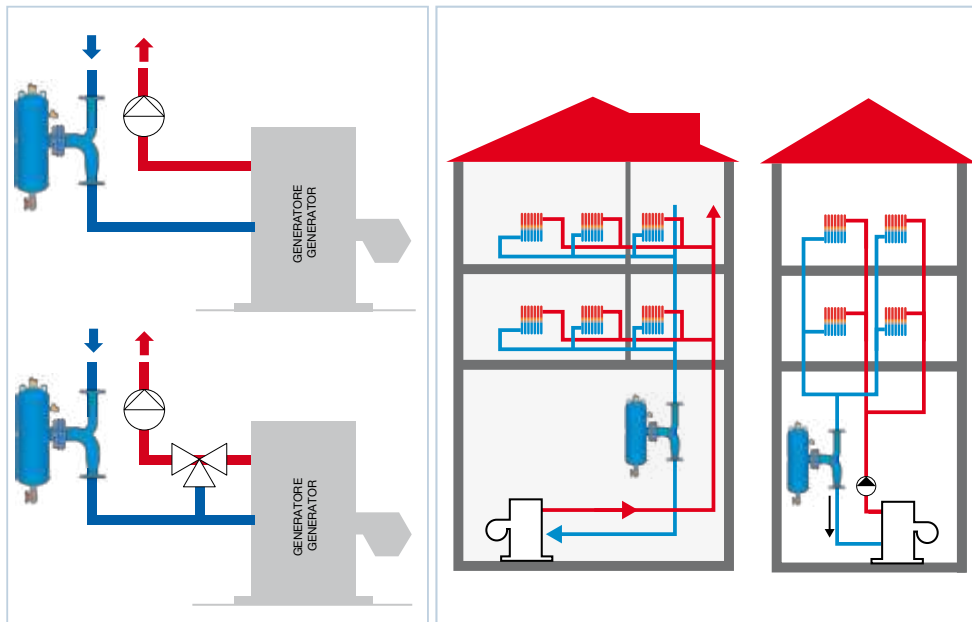
## DF/DS C RANGE

MAGNETIC SLUDGE REMOVER/VENTING UNIT WITH INSULATION FOR VERTICAL UPRIGHT COLUMN SYSTEMS



CODE	MODEL	DESCRIPTION	SIZE	PN	PACK	PACKAGING
7.030.02221	DF/DS C 50	Magnetic sludge remover / venting unit with insulation for vertical upright column systems, complete with flanged connection curve, 1 flat gasket and 8 bolts.	DN 50	10	1	1

### APPLICATION DIAGRAMS



# MAM-MUT IN STEEL

## SLUDGE REMOVER/VENTING UNIT WITH MAGNET

The MAM-MUT sludge remover / hydraulic venting unit with magnet, designed for large systems, is distinguished by the presence of different functional components, each designed to meet specific standard needs of the circuits in air conditioning systems.

With flanged connections PN 16 (EN 1092-1).  
Complies with the requisites of the PED Directive.

Functions:

- **SLUDGE REMOVER:**

To separate and collect the impurities in the circuits.  
The MAM-MUT separator has an internal filter mesh in AISI 304 stainless steel. Drain tap with brass ball valve for discharging the impurities.

- **VENTING UNIT:**

Fitted with an automatic air vent valve in brass.

- **MAGNETIC SEPARATOR:**

The removable magnetic cartridge allows the system water to be cleaned, separating out the ferrous and ferromagnetic particles that can then be eliminated.



**Magnetic  
cartridge**

### TECHNICAL DATA



Working fluid  
Water, water with glycerine



Max glycol percent  
50 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110 °C



Connections  
Threaded DN 200/250 PN 16 - EN 1092-1  
coupled with counter flange EN 1092-1



Magnet  
Permanent 10 x 10.000 gauss



### TECHNICAL DATASHEET





# DF/DS MAM-MUT RANGE

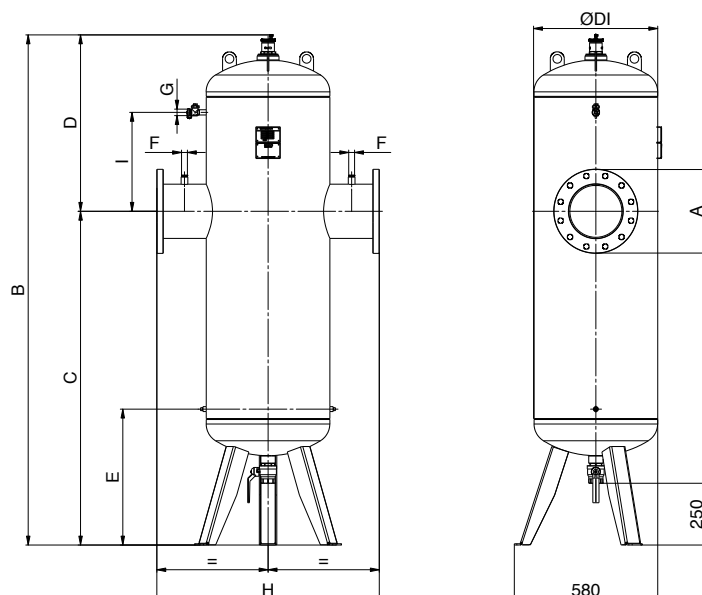
DIRT SEPARATOR/DEAERATOR WITH MAGNET



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02353	DF/DS 200	Dirt separator/deaerator with magnet MAM-MUT flanged DN200	DN200	1	1
7.030.02351	DF/DS 250	Dirt separator/deaerator with magnet MAM-MUT flanged DN250	DN250	1	1

## SIZE DATA

CODE	7.030.02353	7.030.02351
A	DN 200	DN 250
B	2063	2330
C	1350	1480
D	713	850
E	550	596
F	G 1/2"	G 1/2"
G	G 3/4"	G 3/4"
H	900	1060
I	400	500
ØDI	500	600



# COMBIMUT IN STEEL

## HYDRAULIC SEPARATOR- VENTING UNIT SLUDGE REMOVER WITH MAGNET

The Mut multipurpose hydraulic separator, designed to satisfy the requirements of hydraulic heating and cooling systems, can operate in three different manners:

- **HYDRAULIC SEPARATION**

Makes the connected hydraulic circuits independent, separating the capacities and heads of the primary circuit (boiler) from the capacities and heads of the secondary circuit (heating elements).

- **DEAERATION**

Blocks, and as a result continually eliminates, all the air in the circuit to a level of microbubbles. Circulation of the water, which is completely deaerated, means the systems can work in optimal conditions, without creating noise and mechanical damage.

- **SLUDGE REMOVAL**

Blocks and holds back the heavy impurities in the hydraulic circuit which, hitting the filtering mesh, fall to the lower part of the body which acts as a decantation chamber. Here there is a magnetic device which holds back the ferromagnetic impurities.

The Mut multipurpose hydraulic separator is supplied with a thermoformed insulating shell made of closed cell expanded PE-X, th. 12 mm which guarantees perfect heat insulation. It is available in two versions: with threaded sleeve Gas UNI ISO 228/1 or flanged PN16.





**Magnetic**  
cartridge

# Hydraulic separator **3<sup>IN</sup>1**

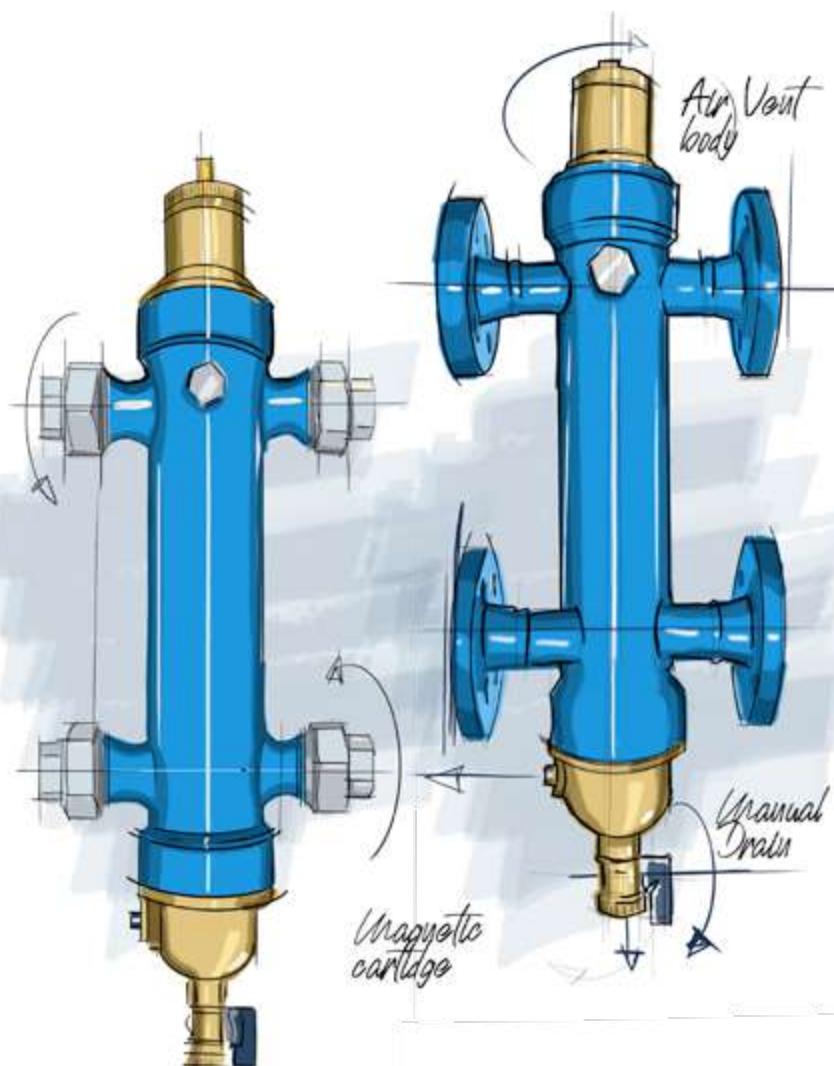
## features

- 3<sup>IN</sup>1** {
- Hydraulic separator
  - Automatic air vent
  - Dirt separator
-  **Magnetic**

**100%**  
MADE IN  
**ITALY**

# COMBIMUT RANGE

HYDRAULIC SEPARATOR IN STEEL



## TECHNICAL DATA



Working fluid  
Water, water with glycerine



Max glycol percent  
50 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110°C



Connections  
Threaded G 1" - G 1" 1/4 - G 1" 1/2 - G 2"  
(EN ISO 228/1)  
Threaded DN 25/32/40/50  
coupled with counter flange EN 1092-1 PN 16



Thermal insulation for the body:  
Closed cell polyethylene foam th. 12 mm



Magnet  
Permanent (2÷4) x1 Tesla

100%  
MADE IN  
ITALY



## CONTENTS

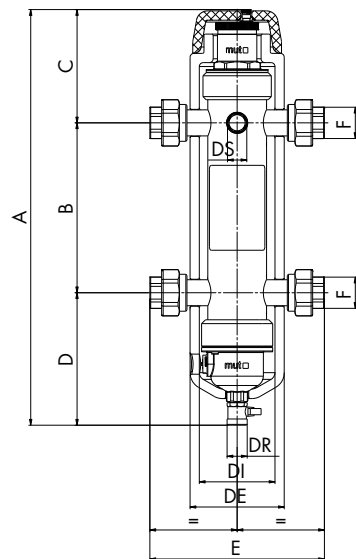
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multimedia contents



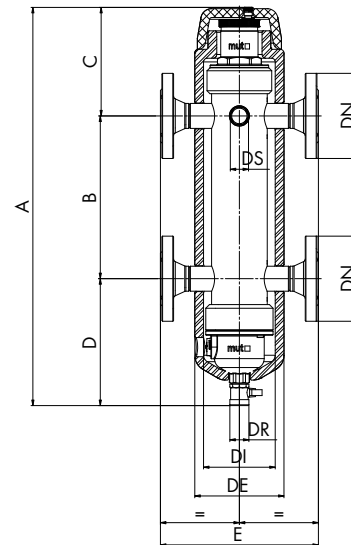
TECHNICAL DATASHEET

# SIZE DATA

COMBI F



COMBI FL



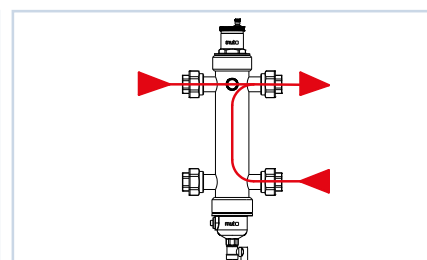
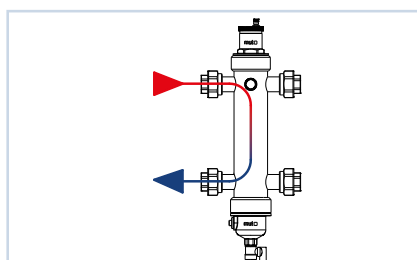
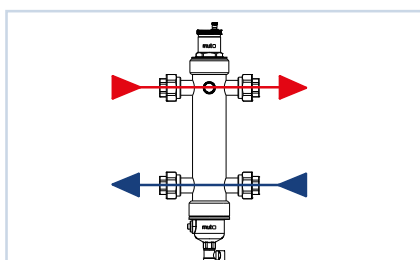
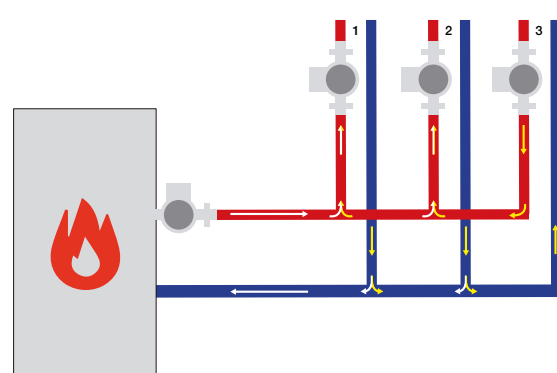
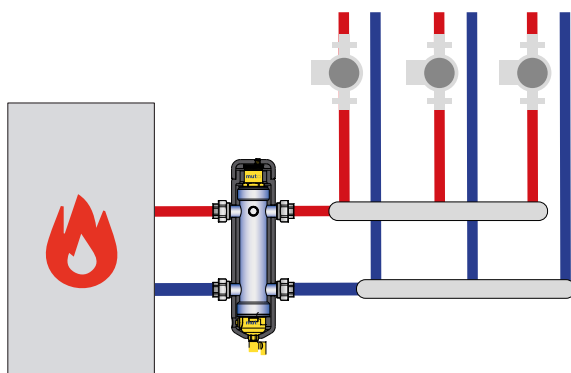
COD. 7.030.01912 7.030.01929 7.030.01926 7.030.01920

A	525	545	633	673
B	220	240	260	300
C	130	130	162	162
D	175	175	211	211
E	226	248	286	316
F	G1"	G1"¼	G1"½	G2"
DE	Ø122	Ø122	Ø178	Ø178
DI	Ø98	Ø98	Ø154	Ø154
DS	G½"	G½"	G½"	G½"
DR	G¾"	G¾"	G¾"	G¾"

COD. 7.030.01913 7.030.01930 7.030.01928 7.030.01925

DN	25	32	40	50
A	525	545	633	673
B	220	240	260	300
C	130	130	162	182
D	175	175	211	211
E	216	232	272	292
DE	Ø122	Ø122	Ø178	Ø178
DI	Ø98	Ø98	Ø154	Ø154
DS	G½"	G½"	G½"	G½"
DR	G¾"	G¾"	G¾"	G¾"

## APPLICATION DIAGRAMS







# COMBIMUT RANGE

## THREADED HYDRAULIC SEPARATOR IN STEEL



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01912	COMBI F 25	Combimut threaded hydraulic separator	G 1"	1	1
7.030.01929	COMBI F 32	Combimut threaded hydraulic separator	G 1" ¼	1	1
7.030.01926	COMBI F 40	Combimut threaded hydraulic separator	G 1" ½	1	1
7.030.01920	COMBI F 50	Combimut threaded hydraulic separator	G 2"	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 12mm thick



# COMBIMUT RANGE

## FLANGED HYDRAULIC SEPARATOR IN STEEL



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01913	COMBI FL 25	Combimut flanged hydraulic separator	DN 25	1	1
7.030.01930	COMBI FL 32	Combimut flanged hydraulic separator	DN 32	1	1
7.030.01928	COMBI FL 40	Combimut flanged hydraulic separator	DN 40	1	1
7.030.01925	COMBI FL 50	Combimut flanged hydraulic separator	DN 50	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 12mm thick

# ECOMUT RANGE

## ECO F - ECO FL - ECO FX

### IN STEEL OR STAINLESS

#### HYDRAULIC SEPARATOR

The new ECOMUT series of hydraulic separators performs several different functions:

- **HYDRAULIC SEPARATOR:**

To keep connected hydraulic circuits totally independent from each other.

- **DIRT REMOVER:**

To permit the separation and collection of any impurities present in the circuits. Provided with a valved connection with discharge piping.

- **AUTOMATIC AIR VENT:**

For automatic venting of any air contained in the circuits. Provided with a valved connection for maintenance purposes.





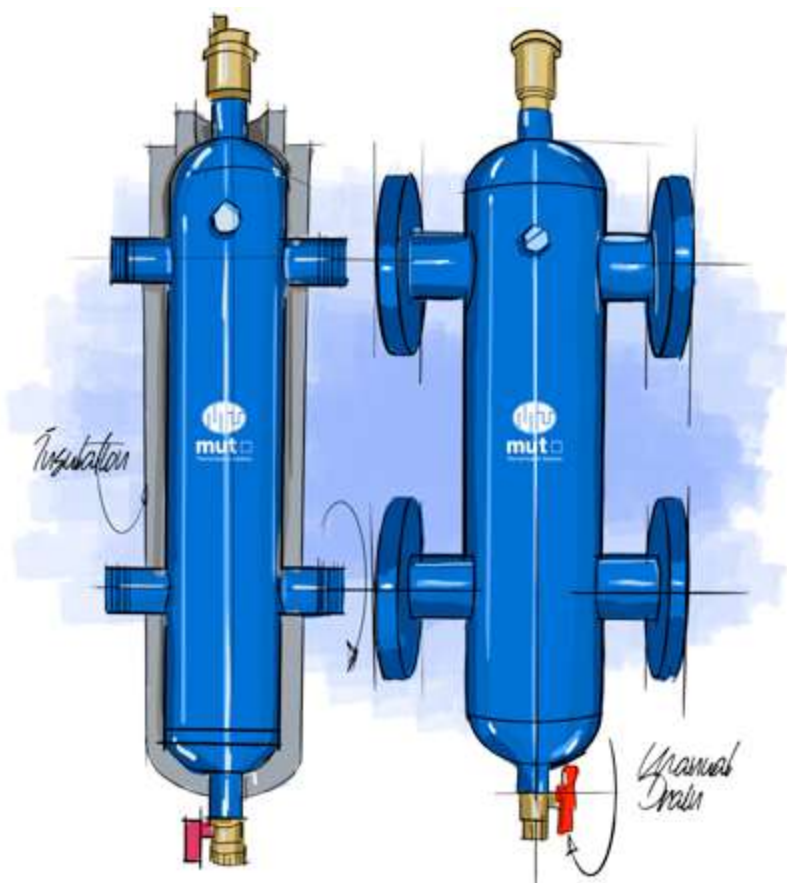
**X** STAINLESS  
STEEL  
VERSIONE  
ACCIAIO INOX

**100%**  
MADE IN  
**ITALY**

# ECOMUT RANGE ECO F - ECO FL - ECO FX

HYDRAULIC SEPARATOR

IN STEEL OR STAINLESS STEEL AISI 304L



## TECHNICAL DATA



Working fluid  
Water, water with glycerine



Max glycol percent  
50 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110 °C



Connections  
Threaded G 1" – G 1" ¼ - G 1" ½ - G 2"  
(EN ISO 228/1)  
Threaded DN 40/50 coupled with counter  
flange EN 1092-1



Thermal insulation  
Closed cell expanded PE-X thickness 12 mm

**100%**  
MADE IN  
**ITALY**

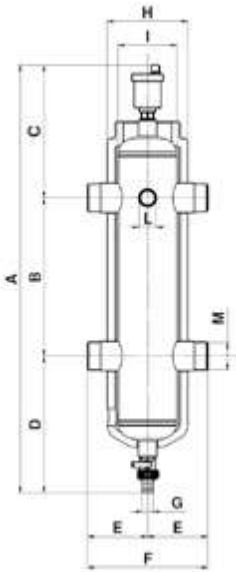
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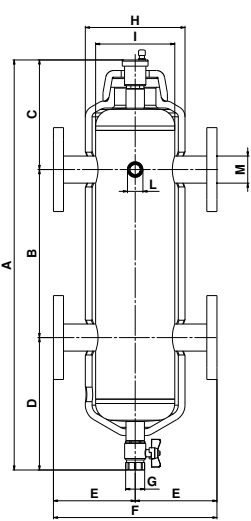


TECHNICAL DATASHEET

ECO F - ECO FX



ECO FL

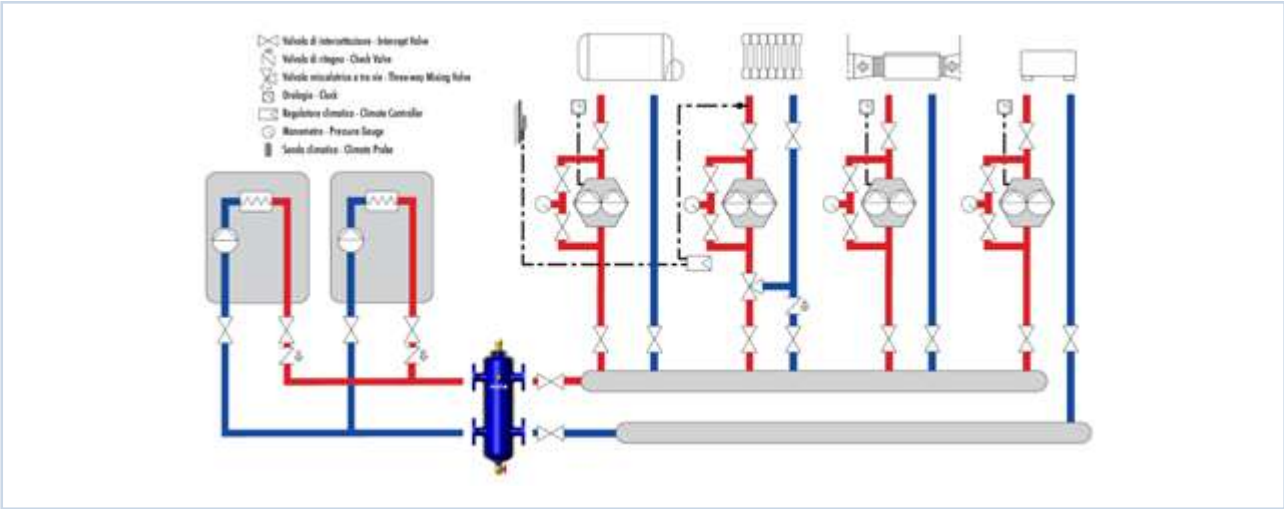


ECO F	DN	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	L [mm]	M [mm]	[[ Tank int.	M Threading
7.030.02325	25	600	240	165	193	91	182	15	Ø 110	Ø 80	G 1/2"	G 1" M	2	1"
7.030.02326	32	600	240	165	193	91	182	15	Ø 110	Ø 80	G 1/2"	G 1 1/4" M	2,05	1" 1/4
7.030.02327	40	750	300	214	236	120	240	15	Ø 178	Ø 141,3	G 1/2"	G 1 1/2" M	7,8	1" 1/2
7.030.02328	50	750	300	214	236	120	240	15	Ø 178	Ø 141,3	G 1/2"	G 2" M	8,1	2"

ECO FX	DN	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	L [mm]	M [mm]	[[ Tank int.	M Threading
7.030.03296	25	600	240	165	193	91	182	15	Ø 110	Ø 80	G 1/2"	G 1" M	2	1"
7.030.03297	32	600	240	165	193	91	182	15	Ø 110	Ø 80	G 1/2"	G 1 1/4" M	2,05	1" 1/4
7.030.03298	40	750	300	214	236	120	240	15	Ø 178	Ø 141,3	G 1/2"	G 1 1/2" M	7,8	1" 1/2
7.030.03299	50	750	300	214	236	120	240	15	Ø 178	Ø 141,3	G 1/2"	G 2" M	8,1	2"

ECO FL	DN	A [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	L [mm]	M [mm]	[[ Tank int.	M Threading
7.030.02330	40	750	300	214	236	146	292	G 3/4"	Ø 178	Ø 141,3	G 1/2"	1 1/2"	7,8	PN16 / DN40
7.030.02331	50	750	300	214	236	146	292	G 3/4"	Ø 178	Ø 141,3	G 1/2"	2"	8,1	PN16 / DN50

OPERATIONAL DIAGRAMS





## ECOMUT F RANGE

THREADED HYDRAULIC SEPARATOR IN STEEL



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02325	ECO F 25	Hydraulic separator ECOMUT male gas connections and thermal insulation	G 1"	1	1
7.030.02326	ECO F 32	Hydraulic separator ECOMUT male gas connections and thermal insulation	G 1" ¼	1	1
7.030.02327	ECO F 40	Hydraulic separator ECOMUT male gas connections and thermal insulation	G 1" ½	1	1
7.030.02328	ECO F 50	Hydraulic separator ECOMUT male gas connections and thermal insulation	G 2"	1	1



## ECOMUT F RANGE

THREADED HYDRAULIC SEPARATOR IN STEEL



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02330	ECO FL 40	Hydraulic separator ECOMUT male gas connections and thermal insulation	DN 40	1	1
7.030.02331	ECOFL 50	Hydraulic separator ECOMUT male gas connections and thermal insulation	DN 50	1	1

### SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 12mm thick





# ECOMUT FX RANGE

## HYDRAULIC SEPARATOR STAINLESS STEEL AISI 304L



CODE	MODEL	DESCRIPTION	DN	SIZE	PACK	PACKAGING
7.030.03296	ECO F 25 X	Hydraulic separator ECOMUT threaded stainless steel AISI 304L and thermal insulation	25	G1"	1	1
7.030.03297	ECO F 32 X	Hydraulic separator ECOMUT threaded stainless steel AISI 304L and thermal insulation	32	G1"¼	1	1
7.030.03298	ECO F 40 X	Hydraulic separator ECOMUT threaded stainless steel AISI 304L and thermal insulation	40	G1"½	1	1
7.030.03299	ECO F 50 X	Hydraulic separator ECOMUT threaded stainless steel AISI 304L and thermal insulation	50	G2"	1	1

### SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 12mm thick
- Stainless Steel Body AISI 304L

# ECOMUT FLM IN STEEL

SEPARATOR - VENTING UNIT  
SLUDGE REMOVER WITH MAGNET

The new ECOMUT series of hydraulic separators performs several different functions:

- **HYDRAULIC SEPARATOR:**

To keep connected hydraulic circuits totally independent from each other.

- **DIRT REMOVER:**

To permit the separation and collection of any impurities present in the circuits. Provided with a valved connection with discharge piping.

- **AUTOMATIC AIR VENT:**

For automatic venting of any air contained in the circuits. Provided with a valved connection for maintenance purposes.

The Mut series ECOMUT multifunctional hydraulic separator can be supplied complete with thermoformed shell insulation in PE-X foam with closed cells thick .12 mm that guarantees perfect thermal insulation.



**Magnetic**  
cartridge

## TECHNICAL DATA



Working fluid  
Water, water with glycerine



Max glycol percent  
50 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110 °C



Connections  
Threaded G 1" - G 1" ¼ - G 1" ½ - G 2"  
(EN ISO 228/1)  
flanged DN 65 / DN80 / DN100 / DN125 / DN150



Thermal insulation  
Closed cell expanded PE-X thickness 12 mm



Magnet  
Permanent (4÷5) x1 Tesla



TECHNICAL DATASHEET



# ECOMUT FLM RANGE

SEPARATOR - VENTING UNIT SLUDGE REMOVER WITH MAGNET



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02364	ECO FLM 65	Hydraulic separator with magnet ECOMUT flanged with thermal insulation	DN 65	1	1
7.030.02365	ECO FLM 80	Hydraulic separator with magnet ECOMUT flanged with thermal insulation	DN 80	1	1
7.030.02366	ECO FLM 100	Hydraulic separator with magnet ECOMUT flanged with thermal insulation	DN 100	1	1
7.030.02367	ECO FLM 125	Hydraulic separator with magnet ECOMUT flanged with thermal insulation	DN 125	1	1
7.030.02368	ECO FLM 150	Hydraulic separator with magnet ECOMUT flanged with thermal insulation	DN 150	1	1

## SPECIFICATIONS

- Complete with closed cell polyester foam insulation, 12mm thick

# MAM-MUT IN STEEL

## HYDRAULIC SEPARATOR - VENTING UNIT SLUDGE REMOVER WITH MAGNET

The MAM-MUT hydraulic separator, designed for large systems, is distinguished by the presence of different functional components, each designed to meet specific standard needs of the circuits in air conditioning systems. With flanged connections PN 16 (EN 1092-1). Complies with the requisites of the PED Directive.

### 4 FUNCTIONS:

- **HYDRAULIC SEPARATOR:**

To make the hydraulic circuits (primary/secondary) hydraulically independent.

- **SLUDGE REMOVER:**

To separate and collect the impurities in the circuits. The MAM-MUT separator has an internal filter mesh in AISI 304 stainless steel. Drain tap with brass ball valve for discharging the impurities.

- **MAGNETIC DIRT REMOVER:**

The removable magnetic cartridge allows the system water to be cleaned, separating out the ferrous and ferromagnetic particles that can then be eliminated.

- **AUTOMATIC AIR VENT:**

Fitted with an automatic air vent valve in brass.



**Magnetic**  
cartridge

### TECHNICAL DATA



Working fluid  
Water, water with glycerine



Max glycol percent  
50 %



Max. working pressure  
10 bar



Max discharge pressure  
10 bar



Working temperature range  
0 ÷ 110 °C



Connections  
Threaded DN 200/250 PN 16 - EN 1092-1  
coupled with counter flange EN 1092-1



Magnet  
Permanent 10 x 10.000 gauss



TECHNICAL DATASHEET



MAM-MUT

STAINLESS HYDRAULIC SEPARATOR WITH MAGNET



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02310	MAM - MUT 200	Hydraulic separator with magnet ECOMUT MAM-MUT flanged	DN 200	1	1
7.030.02360	MAM - MUT 250	Hydraulic separator with magnet ECOMUT MAM-MUT flanged	DN 250	1	1



# RP RANGE

## PRESSURE REDUCERS

The pressure reducers MUT series RP are devices suitable to reduce the pressure in a water supply network. They are installed at the entrance of the home network and they reduce the pressure of the public water supply, which is often higher than the pressure required from the domestic uses, causing the high consumption of water and possible damage to the pipes. In addition, the network pressure can be especially variable during the night and during the holidays. The MUT pressure reducers guarantee a constant outlet pressure and modest changes, below the minimum set by the European standard UNI-EN 1567: 2002 "Building's valves".



### TECHNICAL DATA



Operating mode  
Manual (Hand)



Working fluid  
Water



Max Upstream pressure:  
16 bar



Pressure setting Range  
1 - 6 bar



Factory pressure setting  
3 bar



Fluid temperature limits  
75 °C



Capacity coefficient KVS:  
1/2" 3.15 mc/h  
3/4" 3.60 mc/h



100%  
MADE IN  
ITALY



TECHNICAL DATASHEET



# PRESSURE REDUCERS

WITH MANOMETER



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02114	RP 12	Pressure reducers valve male with union + manometer	1/2"	1	4
7.030.02115	RP 34	Pressure reducers valve male with union + manometer	3/4"	1	4



# PRESSURE REDUCERS



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02187	RP 12	Pressure reducer male with union without manometer	1/2"	1	4
7.030.02188	RP 34	Pressure reducer male with union without manometer	3/4"	1	4



# DISTRIBUTION MANIFOLDS IN BRASS

The distribution manifolds are used to distribute and control the heat vector fluid (water and mixtures of water and glycol) in heating and air conditioning systems. They are of a limited sized, and their construction guarantees low pressure drops as well as ensuring accurate flow rate adjustment control on the individual circuits.

Thanks to the reduced pressure drops, they can be used as a multi-zone distribution manifold, installed directly in the heat control unit.

The delivery manifolds come in two versions: with a calibration and shut-off lockshield, or with a built-in regulator and flow display. The calibration lockshield enables the balancing of the individual circuits, to ensure that each one has the effective flow rates determined in the design phase.

The return manifolds have shut-off/adjustment valves that can be activated either manually or via a thermoelectric actuator.

## TECHNICAL DATA



Working fluid  
Water, water and glycol



Maximum percentage of glycol  
30 %



Max. working pressure  
10 bar



Working temperature range  
5÷100 °C



Connections  
1" F Unions for pipe; G 3/4" eurocono  
Distance between axes: 50 mm

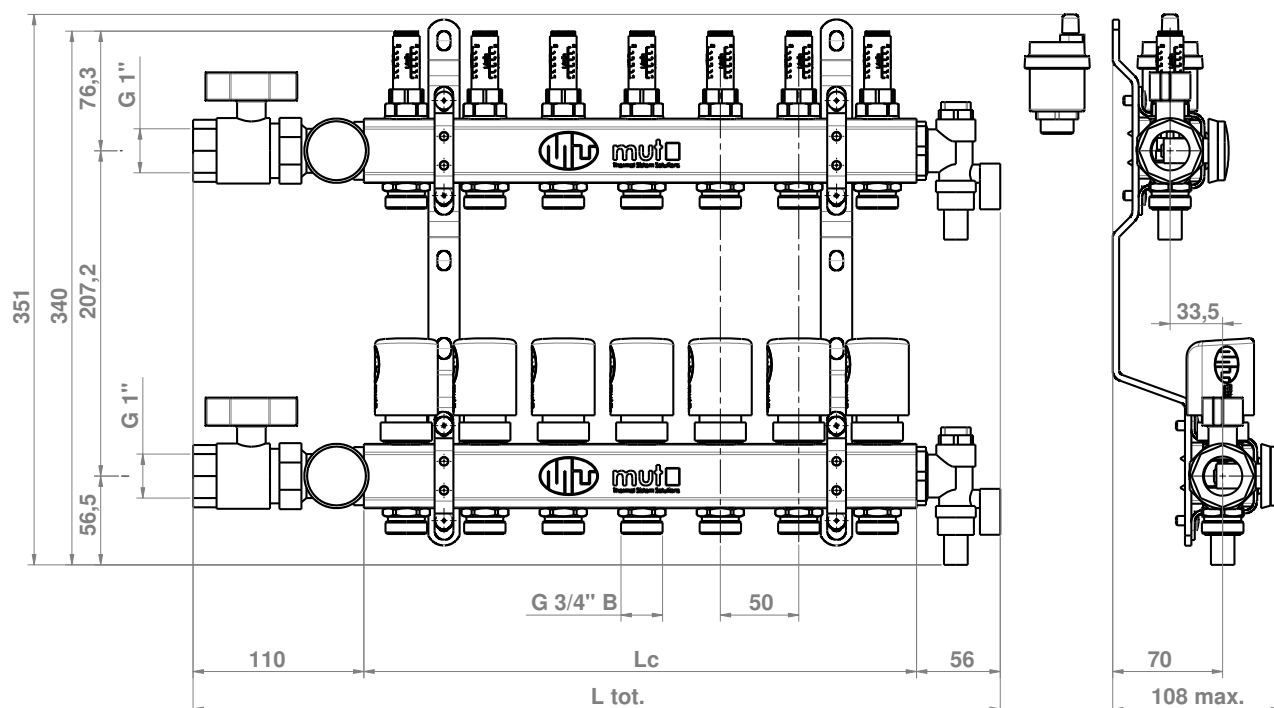


TECHNICAL DATASHEET



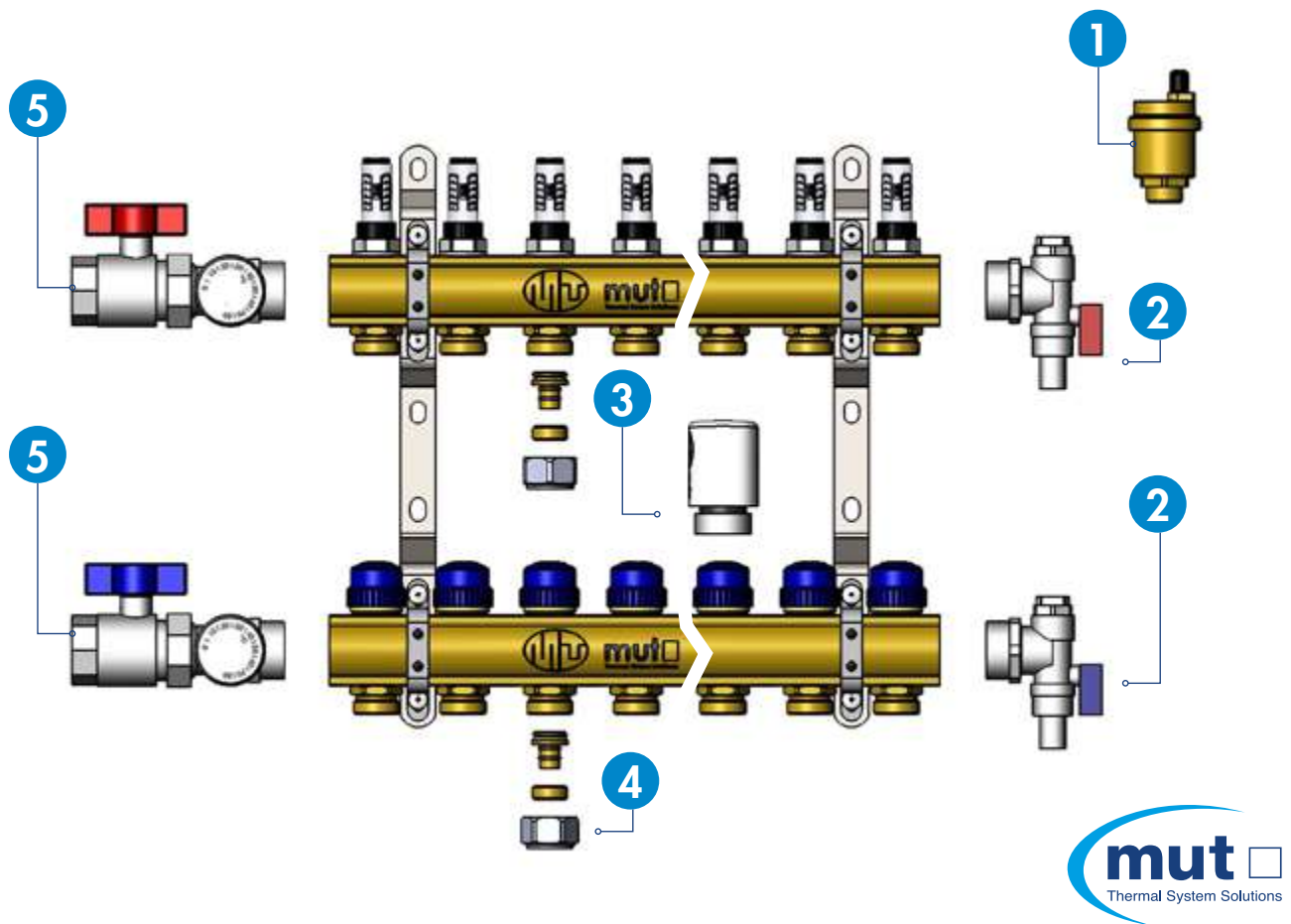
# BRASS MANIFOLDS

## SIZE DATA



CODE (manifolds with flow meters)	CODE (manifolds with knobs/lockshields)	No. of BRANCHES	LC (mm)	L tot. [mm] with accessories
7.030.00971	7.030.00982	2	102	268
7.030.00972	7.030.00983	3	152	318
7.030.00973	7.030.00984	4	202	368
7.030.00974	7.030.00985	5	252	418
7.030.00975	7.030.00986	6	302	468
7.030.00976	7.030.00987	7	352	518
7.030.00977	7.030.00988	8	402	568
7.030.00978	7.030.00989	9	452	618
7.030.00979	7.030.00990	10	502	668
7.030.00980	7.030.00991	11	552	718
7.030.00981	7.030.00992	12	602	768

# TABLE OF COMPONENTS & ACCESSORIES



- 1** AUTOMATIC AIR VENT VALVE - [see page 309](#)
- 2** MULTIFUNCTION SHUT-OFF BALL VALVES WITH DRAIN COCKS  
AIR VENT VALVE AND AUTOMATIC AIR VENTS - [see page 308](#)
- 3** PRE-ASSEMBLED MANIFOLD - [see pages 306-307-310-311](#)
- 4** ACTUATOR FOR MANIFOLDS [see page 309](#)
- 5** KIT 2 ADAPTERS PEX/MS 3/4" - [see page 308](#)
- 6** MULTIFUNCTION SHUT-OFF BALL VALVES WITH RED AND BLUE T-HANDLES  
WITH PROBE HOLDER AND THERMOMETERS - [see page 308](#)



- INCLUDES:
- LOCKSHIELDS
  - MANUAL SHUT-OFF VALVES
  - ASSEMBLY KIT COMPLETE WITH BRACKETS
  - ALSO AVAILABLE IN STAINLESS STEEL VERSION

# PRE-ASSEMBLED MANIFOLD

IN BRASS. CENTRE DISTANCE BETWEEN BRANCHES 50MM

CODE	WAY N°	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.00982	2	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00983	3	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00984	4	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00985	5	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00986	6	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00987	7	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00988	8	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00989	9	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00990	10	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00991	11	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1
7.030.00992	12	Pre-assembled manifold holders and manual holder - output 1"	G 1"	1	1



## INCLUDES:

- FLOW RATE MEASURERS (FLOW METERS)
- MANUAL SHUT-OFF VALVES
- ASSEMBLY KIT COMPLETE WITH BRACKETS
- ALSO AVAILABLE IN STAINLESS STEEL VERSION

PRE-ASSEMBLED MANIFOLD  
IN BRASS. CENTRE DISTANCE BETWEEN BRANCHES 50MM

CODE	WAY N°	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.00971	2	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00972	3	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00973	4	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00974	5	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00975	6	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00976	7	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00977	8	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00978	9	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00979	10	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00980	11	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1
7.030.00981	12	Pre-assembled manifold flow rate meter and manual holder - output 1"	G 1"	1	1

# ACCESSORIES FOR MANIFOLDS



## MULTIFUNCTION SHUT-OFF BALL VALVES WITH DRAIN COCKS

AIR VENT VALVE AND AUTOMATIC AIR VENTS

CODE	DESCRIPTION	PACK	PACKAGING
7.030.02677	Multifunction shut-off ball valves with drain cocks air vent valve AND automatic air vents	1	1



## MULTIFUNCTION SHUT-OFF BALL VALVES

WITH RED AND BLUE T-HANDLES WITH PROBE HOLDER AND THERMOMETERS

CODE	DESCRIPTION	PACK	PACKAGING
7.030.02678	Multifunction shut-off ball valves with red and blue T-handles with probe holder and thermometers	1	1



## ADAPTERS KIT

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02733	14x2	Kit 2 adapters Pex/Ms 3/4" (14x2)	1	2
7.030.02734	15x2	Kit 2 adapters Pex/Ms 3/4" (15x2)	1	2
7.030.02697	16x2	Kit 2 adapters Pex/Ms 3/4" (16x2)	1	2
7.030.02735	17x2	Kit 2 adapters Pex/Ms 3/4" (17x2)	1	2
7.030.02736	18x2	Kit 2 adapters Pex/Ms 3/4" (18x2)	1	2
7.030.02737	20x2	Kit 2 adapters Pex/Ms 3/4" (20x2)	1	2





## ACTUATOR FOR MANIFOLDS



CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02680	MC10	Actuator for manifolds 230 Vac - NC - IP54	1	20



## AUTOMATIC AIR VENT VALVE

CODE	DESCRIPTION	PACK	PACKAGING
7.030.02731	Automatic air vent valve	-	-



## PRE-ASSEMBLED MANIFOLD IN BRASS, DISTANCE BETWEEN BRANCHES 50MM

CODE	WAY N°	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.00927	2	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00928	3	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00929	4	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00930	5	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00931	6	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00932	7	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00933	8	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00934	9	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00935	10	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00936	11	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1
7.030.00937	12	Pre-assembled manifold - manual knob - output 1"	G 1"	1	1



- WITH REDUCING VALVE

# PRE-ASSEMBLED MANIFOLD

IN BRASS. DISTANCE BETWEEN BRANCHES 50MM

CODE	WAY N°	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.00905	2	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00906	3	Pre-assembled manifold - holders - output 1" -	G 1"	1	1
7.030.00907	4	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00908	5	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00909	6	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00910	7	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00911	8	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00912	9	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00913	10	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00914	11	Pre-assembled manifold - holders - output 1"	G 1"	1	1
7.030.00915	12	Pre-assembled manifold - holders - output 1"	G 1"	1	1



- WITH RATE REGULATOR

# PRE-ASSEMBLED MANIFOLD

IN BRASS. DISTANCE BETWEEN BRANCHES 50MM

CODE	WAY N°	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.00916	2	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00917	3	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00918	4	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00919	5	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00920	6	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00921	7	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00922	8	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00923	9	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00924	10	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00925	11	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1
7.030.00926	12	Pre-assembled manifold - flow rate measurer - output 1"	G 1"	1	1



# FLANGES



## TECHNICAL DATA



Nominal pressure  
10 Kg/cm<sup>2</sup>



Working temperature  
2 ÷ 80 °C



TECHNICAL DATASHEET

# FLANGES

## BRASS

CODE	DESCRIPTION	SIZE	PACK	PACAGING
7.001.01089	Brass flanges to be welded with gaskets and screws interaxis 36 mm - with hole diam. 18 mm		2	100
7.001.01090	Brass flanges to be welded with gaskets and screws interaxis 36 mm - with hole diam. 20 mm		2	100
7.001.01091	Brass flanges to be welded with gaskets and screws interaxis 36 mm - with hole diam. 22 mm		2	100
7.001.01087	Brass straight flange complete with gaskets and screws Male gas thread - interaxis 24 mm	1/2"	2	100
7.001.01088	Brass straight flange complete with gaskets and screws Male gas thread - interaxis 24 mm	3/4"	2	100
7.001.01085	Brass straight flange complete with gaskets and screws Female gas thread - interaxis 24 mm	1/2"	2	100

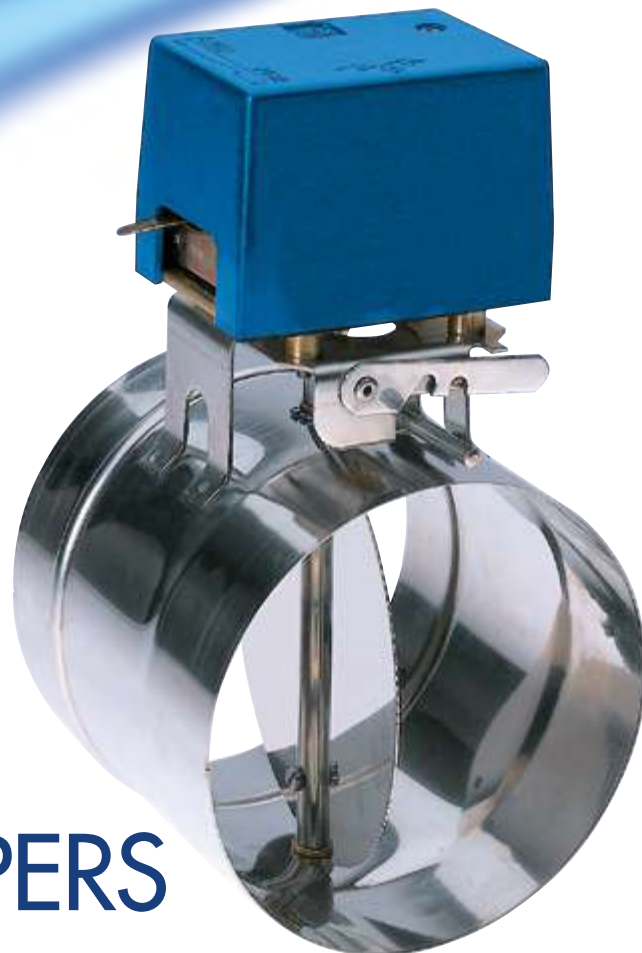


# FLANGES

## ALUMINIUM

CODE	DESCRIPTION	SIZE	PACK	PACAGING
7.001.01094	Aluminium straight flange complete with gaskets and screws - Female Gas thread interaxis 36 mm	1/2"	2	100
7.001.01095	Aluminium straight flange complete with gaskets and screws - Female Gasthread interaxis 36 mm	3/4"	2	100
7.001.01096	Aluminium straight flange complete with gaskets and screws - Female Gas thread interaxis 36 mm	1"	2	100
7.001.01081	Aluminium elbow flange complete with gaskets and screws - Female Gas thread interaxis 36 mm	1/2"	2	100
7.001.01082	Aluminium elbow flange complete with gaskets and screws - Female Gas thread interaxis 36 mm	3/4"	2	100
7.001.01052	Aluminium elbow flange complete with gaskets and screws - Female Gas thread distance between axes 36 mm	1"	2	100
7.001.01058	Blind flange for Basic SF complete with gaskets and screws		2	100
7.001.01092	Aluminium straight flange complete with gaskets and screws - Male Gas thread interaxis 36 mm	3/4"	2	100
7.001.01093	Aluminium straight flange complete with gaskets and screws - Male Gas thread interaxis 36 mm	1"	2	100
7.001.01084	Aluminium elbow flange complete with gaskets and screws - Female Gas thread interaxis 24 mm	1/2"	2	100
7.001.01099	Aluminium elbow flange complete with gaskets and screws - Male Gasthread interaxis 24 mm	3/4"	2	100
7.030.01610	Aluminium straight flange complete with gaskets and screws - Female Gas thread distance between axes 24 mm (UNI-ISO 228/1 - G 1/2)	1/2"	2	100
7.030.01611	Aluminium straight flange complete with gaskets and screws - Female Gas thread interaxis 24 mm (UNI-ISO 7/1 - Rp 1/2)	1/2"	2	100





# SMOKE DAMPERS STAINLESS STEEL

These are powered by an electric motor and can take two operating positions depending on whether the motor is activated or not. The tube and the shut-off ball are made of rust-proof material.

The motor casing mounts an auxiliary switch that is activated during switching of the damper. The damper has an external lever for manually positioning its shut-off ball and which also indicates its position. These dampers are used to control fumes in gas and fuel oil boiler smoke-stacks. They can be installed in both vertical and horizontal positions.

Available in five versions: Ø 130 mm, 150 mm, 175 mm, 200 mm, 225 mm.



TECHNICAL DATASHEET



## TECHNICAL DATA



Nominal power supply voltage  
230 Vac (dispon. 24, 110 Vac; 50 Hz)



Absorbed power  
5 ÷ 6 W



Auxiliary contact power  
3 A, 250 Vac



Protection rating  
IP 22 IEC 529 directive  
Ref. European Directive IEC EN 60529



Flows' temperature limits  
+250 °C



Nominal opening time  
25 sec.



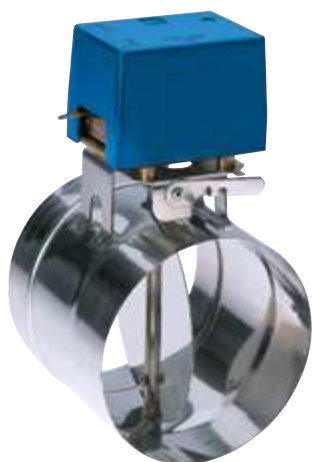
Nominal closing time  
6 ÷ 8 sec.



Total cable length  
1000 mm



100%  
MADE IN  
ITALY



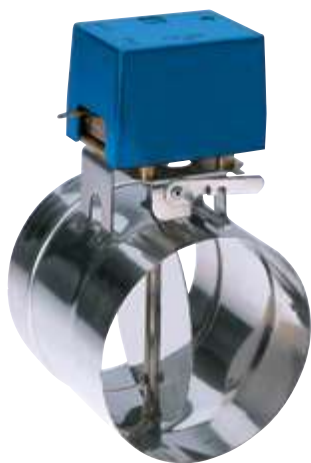
# SMOKE DAMPERS

## STAINLESS STEEL SHUTOFF BODY POWER



CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.001.02248	SD 100	Smoke dampers - pipe diam. 100 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz	100	1	1
7.001.00878	SD 130	Smoke dampers - pipe diam. 130 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz	130	1	1
7.001.00879	SD 150	Smoke dampers - pipe diam. 150 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz	150	1	1
7.001.02279	SD 175	Smoke dampers - pipe diam. 175 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz	175	1	1
7.001.02280	SD 200	Smoke dampers - pipe diam. 200 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz	200	1	1
7.001.02281	SD 225	Smoke dampers - pipe diam. 225 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz	225	1	1





# SMOKE DAMPERS

## STAINLESS STEEL SHUTOFF BODY COMPLETE WITH AUXILIARY MICRO



CODE	MODEL	DDESCRIPTION	SIZE	PACK	PACKAGING
7.001.02249	SD 100 M1	Smoke dampers - pipe diam. 100 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz - complete with auxiliary micro	100	1	1
7.001.00930	SD 130 M1	Smoke dampers - pipe diam. 130 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz - complete with auxiliary micro	130	1	1
7.001.00931	SD 150 M1	Smoke dampers - pipe diam. 150 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz - complete with auxiliary micro	150	1	1
7.001.03026	SD 175 M1	Smoke dampers - pipe diam. 175 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz - complete with auxiliary micro	175	1	1
7.001.00939	SD 200 M1	Smoke dampers - pipe diam. 200 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz - complete with auxiliary micro	200	1	1
7.001.02555	SD 225 M1	Smoke dampers - pipe diam. 225 - stainless steel shutoff body power supply voltage 220/240 Vac. - 50 Hz - complete with auxiliary micro	225	1	1



# MOTOR FOR DAMPES



CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.001.00790	MS 230	Motor for dampers - Voltage 230/240 V - 50 Hz - Absorbed power 5-6 W	1	1
7.001.03028	MS 230 M1	Motor for dampers - Voltage 230/240 V - 50 Hz - Absorbed power 5-6 W with auxiliary micro	1	1
7.001.02898	MS 24	Motor for dampers - Voltage 24 V - 50 Hz - Absorbed power 5-6 W	1	1
7.001.03027	MS 24 M1	Motor for dampers - Voltage 24 V - 50 Hz - Absorbed power 5-6 W with auxiliary micro	1	1

# HEAT EXCHANGER

WATER - WATER



These heat exchangers are designed for use in domestic boilers that combine heating with fast production of domestic hot water. This water runs inside a copper coil wrapped in three concentric spirals with different diameters.

The primary circuit is connected to the heating circuit and consists of a series of cylindrical baffles that force water to make multiple vertical passes in order to efficiently move against the outer surface of the copper tube. Both internal circuits are welded to threaded connections for installing the heat exchanger in the plumbing circuit. There is also a version for direct connection with a diverter valve for interchanging fluid flows when there is a request for domestic hot water. A version also exists for direct connection with a diverter valve for flows exchange when there is a request for domestic hot water.



TECHNICAL DATASHEET



# HEAT EXCHANGER

WATER - WATER

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.002.02581	K 21 BX	Immediate water-water heat exchanger- Power: 21000 Kcal/h - Inlet primary with nut connection G3/4" - Inlet sanitary with nut connection G1/2" - Outlet primary male connection G3/4"- Outlet sanitary male connection G1/2"	1	5
7.002.00330	K 26 BX	Immediate water-water heat exchanger- Power: 26000 Kcal/h - Inlet primary with nut connection G3/4" - Inlet sanitary with nut connection G1/2" - Outlet primary male connection G3/4"- Outlet sanitary male connection G1/2"	1	5
7.002.00849	K 26 BX	Immediate water-water heat exchanger- Power: 26000 Kcal/h - Inlet primary with nut connection G3/4" - Inlet sanitary with nut connection G1/2" - Outlet primary male connection G3/4"- Outlet sanitary male connection G1/2"	1	5
7.002.02093	K 26 BX	Immediate water-water heat exchanger- Power: 26000 Kcal/h - Inlet primary with nut connection G3/4" - Inlet sanitary with nut connection G1/2" - Outlet primary male connection G3/4"- Outlet sanitary male connection G1/2"	1	5
7.002.00730	K 28 BX	Immediate water-water heat exchanger- Power: 26000 Kcal/h - Inlet primary with nut connection G3/4" - Inlet sanitary with nut connection G1/2" - Outlet primary male connection G3/4"- Outlet sanitary male connection G1/2"	1	5
7.002.01700	K 28 BX	Immediate water-water heat exchanger- Power: 26000 Kcal/h - Inlet primary with nut connection G3/4" - Inlet sanitary with nut connection G1/2" - Outlet primary male connection G3/4"- Outlet sanitary male connection G1/2"	1	5



# HEAT EXCHANGER

WATER - WATER

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01953	K 45 AY	Immediate water-water heat exchanger- Power: 45 000 Kcal/h - Inlet primary male connection G1" - Inlet sanitary male connection G1/2" - Outlet primary male connection G1" - Outlet sanitary male connection G1/2 "	1	3

# TM 3000 RANGE

## ANTI-CONDENSATION THERMOSTATIC MIXER VALVES

TM 3000 mixer valves find application in those heating systems (systems with solid fuel boiler and storage tank) where it is essential to ensure the return of hot water (at a minimum temperature level) to the boiler, thus ensuring a sufficiently high thermal regime of operation to prevent vapour condensation in the smokestack. These vapours combined with the products of combustion may give rise to corrosive compounds that affect and limit the life of the boiler.

With the use of the valves TM 3000 are obtained the following advantages:

- Increasing the combustion efficiency of the heat generator.
- "Avoiding the risk of destructive thermal shock."
- "Significant lengthening of the working life of the boiler."

The thermostatic mixing valve TM 3000 aren't equipped with electrical electronic devices, with consequently great benefit of reliability and of simplicity of system installation and maintenance. The "one single piece" thermostat-lid allows a quick and easy replacement of the thermostat. To ensure accurate precision, the thermostatic sensor is immersed directly into the fluid.

Operation temperature range:  $5 \div 110$  °C. Maximum operating pressure: 10 bar.

TM 3000 mixer valves are available in 3 sizes (G  $\frac{3}{4}$ ", G 1", G 1"  $\frac{1}{4}$ ").

BYPASS NOT CLOSE WHEN SWITCHING.



### TECHNICAL DATA



Type of movement  
Thermostatic



Nominal pressure  
10 bar



Flows' temperature limits  
 $5 \div 110$  °C [max]



Settable opening temperature values  
 $45$  °C  $\div$   $50$  °C  $\div$   $55$  °C  $\div$   $63$  °C  $\div$   $72$  °C  $\div$   $78$  °C



TECHNICAL DATASHEET





## TM 3000 3 WAY 45 °C

ANTI-CONDENSATION THERMOSTATIC  
MIXER VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01756	TM 3000	Anti condensation mixer valve TM 3000 - G 3/4" -45 °C	3/4"	10	8	1	5
7.030.01790	TM 3000	Anti condensation mixer valve TM 3000 - G 1" -45 °C	1"	10	9	1	5
7.030.01818	TM 3000	Anti condensation mixer valve TM 3000 - G 1" 1/4 -45	1"1/4	10	10	1	5



## TM 3000 3 WAY 50 °C

ANTI-CONDENSATION THERMOSTATIC  
MIXER VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01819	TM 3000	Anti condensation mixer valve TM 3000 - G 3/4" -50 °C	3/4"	10	8	1	5
7.030.01820	TM 3000	Anti condensation mixer valve TM 3000 - G 1" -50 °C	1"	10	9	1	5
7.030.01821	TM 3000	Anti condensation mixer valve TM 3000 - G 1" 1/4 -50 °C	1"1/4	10	10	1	5





TM 3000

3 WAY 55 °C

ANTI-CONDENSATION THERMOSTATIC  
MIXER VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01604	TM 3000	Anti condensation mixer valve TM 3000 - G 3/4" -55 °C	3/4"	10	8	1	5
7.030.01605	TM 3000	Anti condensation mixer valve TM 3000 - G 1" -55 °C	1"	10	9	1	5
7.030.01582	TM 3000	Anti condensation mixer valve TM 3000 - G 1" 1/4 -55 °C	1"1/4	10	10	1	5



TM 3000

3 WAY 63 °C

ANTI-CONDENSATION THERMOSTATIC  
MIXER VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01822	TM 3000	Anti condensation mixer valve TM 3000 - G 3/4" -63 °C	3/4"	10	8	1	5
7.030.01764	TM 3000	Anti condensation mixer valve TM 3000 - G 1" -63 °C	1"	10	9	1	5
7.030.01677	TM 3000	Anti condensation mixer valve TM 3000 - G 1" 1/4 -63 °C	1"1/4	10	10	1	5



## TM 3000 3 WAY 72 °C

ANTI-CONDENSATION THERMOSTATIC  
MIXER VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01823	TM 3000	Anti condensation mixer valve TM 3000 - G 3/4" -72 °C	3/4"	10	8	1	5
7.030.01581	TM 3000	Anti condensation mixer valve TM 3000 - G 1" - 72 °C	1"	10	9	1	5
7.030.01824	TM 3000	Anti condensation mixer valve TM 3000 - G 1" 1/4 - 72 °C	1"1/4	10	10	1	5



## TM 3000 3 WAY 78 °C

ANTI-CONDENSATION THERMOSTATIC  
MIXER VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01825	TM 3000	Anti condensation mixer valve TM 3000 - G 3/4" - 78 °C	3/4"	10	8	1	5
7.030.01826	TM 3000	Anti condensation mixer valve TM 3000 - G 1" - 78 °C	1"	10	9	1	5
7.030.01827	TM 3000	Anti condensation mixer valve TM 3000 - G 1" 1/4 - 78 °C	1"1/4	10	10	1	5

# CARTRIDGE KIT

## FOR TM 3000 VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01832	Cartridge kit	Cartridge kit TM 3000 - 45 °C	1	1
7.030.01777	Cartridge kit	Cartridge kit TM 3000 - 50 °C	1	1
7.030.01778	Cartridge kit	Cartridge kit TM 3000 - 55 °C	1	1
7.030.01833	Cartridge kit	Cartridge kit TM 3000 - 63 °C	1	1
7.030.01834	Cartridge kit	Cartridge kit TM 3000 - 72 °C	1	1
7.030.01835	Cartridge kit	Cartridge kit TM 3000 - 78 °C	1	1



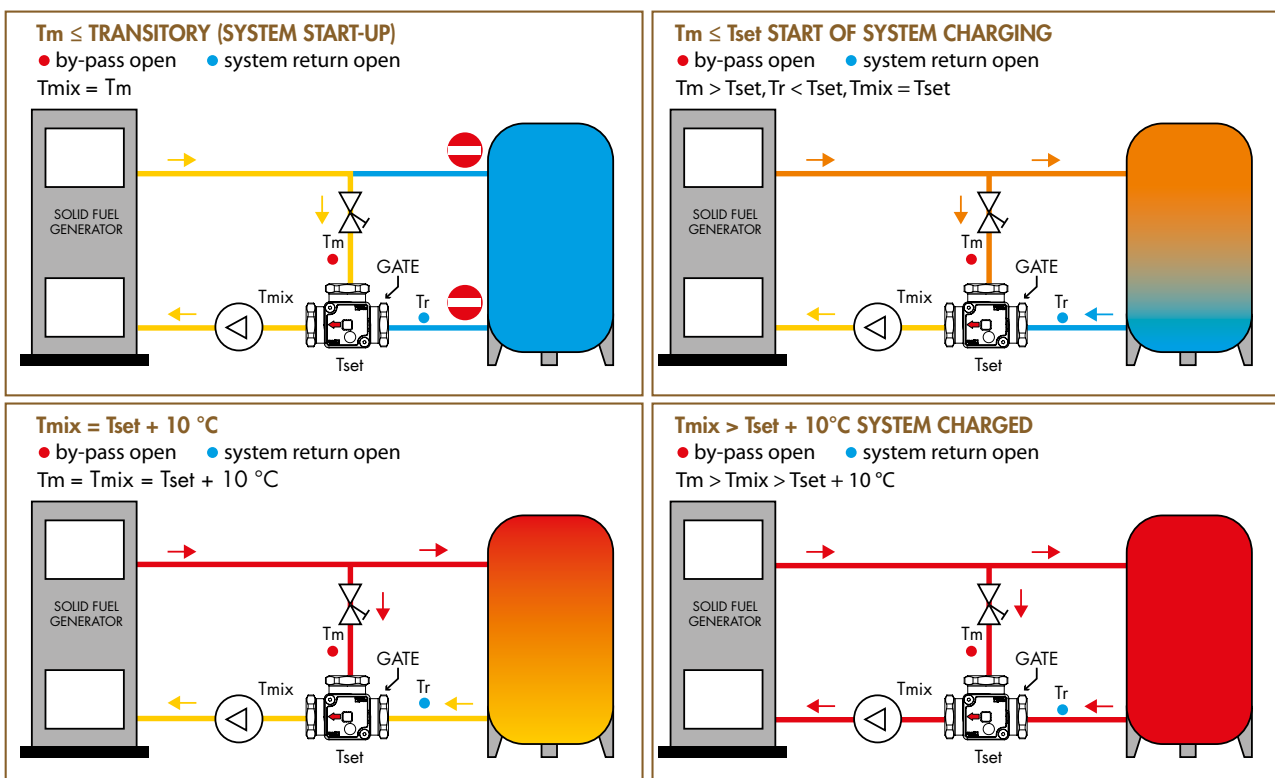
# INSULATION KIT

## FOR TDA 3000 VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02209	Shell insulation kit	Shell insulation kit V3000 3 Way TM - TD3000	1	1



## APPLICATION DIAGRAM



$T_m$  = Delivery temperature  
 $T_{set}$  = Calibrated anti-condensate

$T_{mix}$  = Mixed temperature returning to the generator  
 $T_r$  = System return temperature

# TDA 3000 RANGE

## THERMOSTATIC ANTI - CONDENSATION MIXER VALVES

TDA 3000 valve is applied in heating systems (especially in biomass heating systems), in all those situations when the fluid flow has to be mixing according to its temperature, allowing a correct and precise temperature control according to circuit design specifications or requirements.

TDA 3000 valves are available in 3 sizes G 3/4", G 1", G 1 1/4". The thermostatic valve TDA 3000 does not have electric/electronic devices, with great benefits on function reliability and easy system installation. The single-piece cartridge lid allows a quick and easy replacement of the thermostat.

Operation temperature range: 5 ÷ 110 °C.  
Max operation pressure: 10 bar.



### TECHNICAL DATA



Type of movement  
Thermostatic



Nominal pressure  
10 bar



Flows' temperature limits  
5 ÷ 110 °C [max]



Settable opening temperature values  
45 °C ÷ 50 °C ÷ 55 °C ÷ 63 °C ÷ 72 °C ÷ 78 °C



TECHNICAL DATASHEET





## TDA 3000 3 WAY 45 °C

THERMOSTATIC ANTI-CONDENSATION  
VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01752	TDA 3000	Anti condensation valve TDA 3000 - G 3/4" - 45 °C	3/4"	10	8	1	5
7.030.01774	TDA 3000	Anti condensation valve TDA 3000 - G 1" - 45 °C	1"	10	9	1	5
7.030.01811	TDA 3000	Anti condensation valve TDA 3000 - G 1 1/4" - 45 °C	1 1/4"	10	10	1	5



## TDA 3000 3 WAY 50 °C

THERMOSTATIC ANTI-CONDENSATION  
VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01763	TDA 3000	Anti condensation valve TDA 3000 - G 3/4" - 50 °C	3/4"	10	8	1	5
7.030.01773	TDA 3000	Anti condensation valve TDA 3000 - G 1" - 50 °C	1"	10	9	1	5
7.030.01812	TDA 3000	Anti condensation valve TDA 3000 - G 1 1/4" - 50 °C	1 1/4"	10	10	1	5



# TDA 3000 3 WAY 55 °C

THERMOSTATIC ANTI-CONDENSATION  
VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01606	TDA 3000	Anti condensation valve TDA 3000 - G 3/4" - 55 °C	3/4"	10	8	1	5
7.030.01607	TDA 3000	Anti condensation valve TDA 3000 - G 1" - 55 °C	1"	10	9	1	5
7.030.01608	TDA 3000	Anti condensation valve TDA 3000 - G 1 1/4" - 55 °C	1 1/4"	10	10	1	5



# TDA 3000 3 WAY 63 °C

THERMOSTATIC ANTI-CONDENSATION  
VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01580	TDA 3000	Anti condensation valve TDA 3000 - G 3/4" - 63 °C	3/4"	10	8	1	5
7.030.01753	TDA 3000	Anti condensation valve TDA 3000 - G 1" - 63 °C	1"	10	9	1	5
7.030.01741	TDA 3000	Anti condensation valve TDA 3000 - G 1 1/4" - 63 °C	1 1/4"	10	10	1	5





## TDA 3000 3 WAY 72 °C

THERMOSTATIC ANTI-CONDENSATION VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01813	TDA 3000	Anti condensation valve TDA 3000 - G 3/4" - 72 °C	3/4"	10	8	1	5
7.030.01814	TDA 3000	Anti condensation valve TDA 3000 - G 1" - 72 °C	1"	10	9	1	5
7.030.01815	TDA 3000	Anti condensation valve TDA 3000 - G 1 1/4" - 72 °C	1 1/4"	10	10	1	5



## TDA 3000 3 WAY 78 °C

THERMOSTATIC ANTI-CONDENSATION VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01816	TDA 3000	Anti condensation valve TDA 3000 - G 3/4" - 78 °C	3/4"	10	8	1	5
7.030.01817	TDA 3000	Anti condensation valve TDA 3000 - G 1" - 78 °C	1"	10	9	1	5
7.030.01729	TDA 3000	Anti condensation valve TDA 3000 - G 1 1/4" - 78 °C	1 1/4"	10	10	1	5

# CARTRIDGE KIT

## FOR TDA 3000 VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01828	Cartridge kit	Cartridge kit TDA 3000 - 45 °C	1	1
7.030.01775	Cartridge kit	Cartridge kit TDA 3000 - 50 °C	1	1
7.030.01776	Cartridge kit	Cartridge kit TDA 3000 - 55 °C	1	1
7.030.01829	Cartridge kit	Cartridge kit TDA 3000 - 63 °C	1	1
7.030.01830	Cartridge kit	Cartridge kit TDA 3000 - 72 °C	1	1
7.030.01831	Cartridge kit	Cartridge kit TDA 3000 - 78 °C	1	1



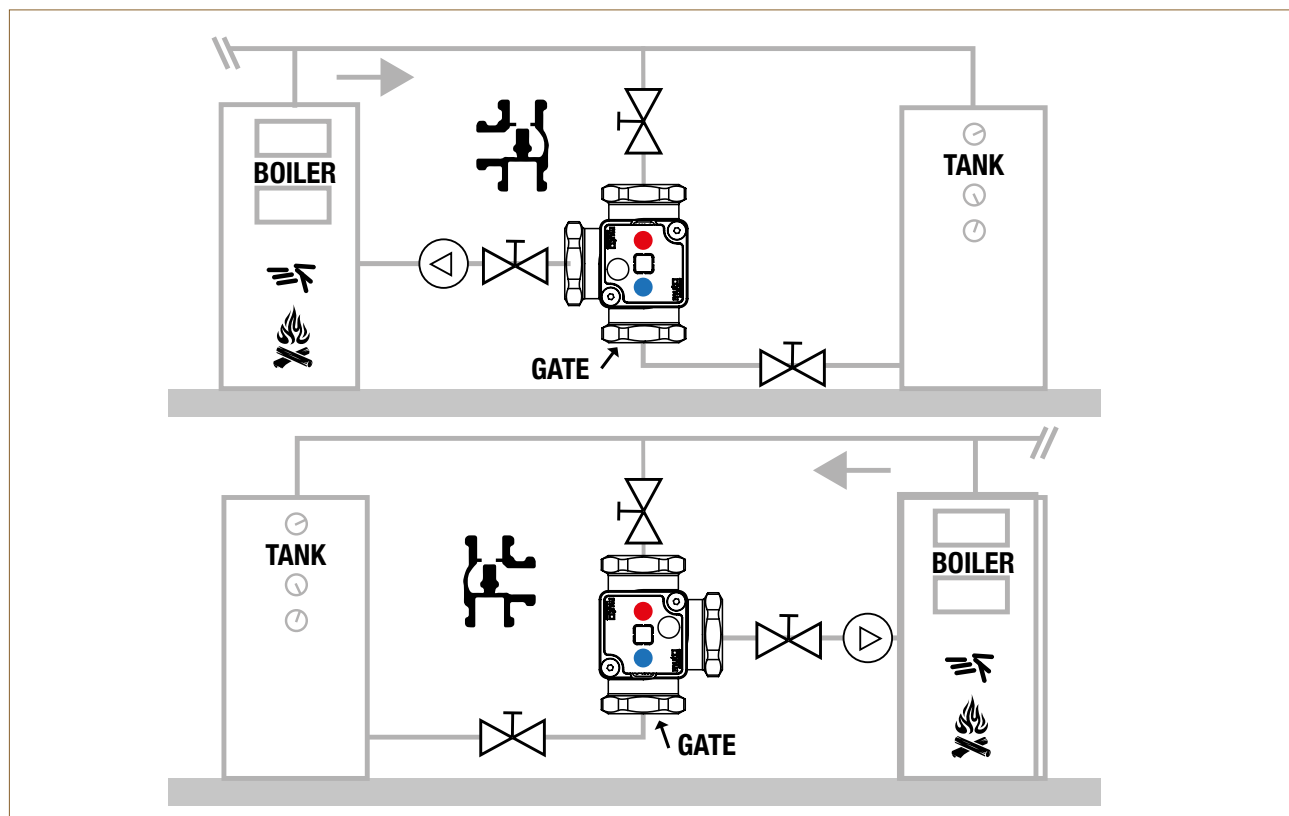
# SHELL INSULATION KIT

## FOR TDA 3000 VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02209	Shell insulation kit	Shell insulation kit V3000 3 way TM - TD3000	1	1



## APPLICATION DIAGRAM



# TM 2000 RANGE

## ANTI-CONDENSATION THERMOSTATIC MIXER VALVES

TM 2000 mixer valves find application in those heating systems (systems with solid fuel boiler and storage tank) where it is essential to ensure the return of hot water (at a minimum temperature level) to the boiler, thus ensuring a sufficiently high thermal regime of operation to prevent vapour condensation in the smokestack. These vapours combined with the products of combustion may give rise to corrosive compounds that affect and limit the life of the boiler.

With the use of the valves TM 2000 are obtained the following advantages:

- Increasing the combustion efficiency of the heat generator.
- Avoiding the risk of destructive thermal shock.
- Significant lengthening of the working life of the boiler.

The thermostatic mixing valve TM 2000 aren't equipped with electrical / electronic devices, with consequently great benefit of reliability and simplicity of system installation and maintenance.

The "one single piece" thermostat lid allows a quick and easy replacement of the thermostat.

To ensure accurate precision, the thermostatic sensor is immersed directly into the fluid.

Operation temperature range:  $5 \div 110^{\circ}\text{C}$ . Maximum operating pressure: 10 bar.

TM 2000 mixer valves are available in 4 sizes (G  $\frac{3}{4}$ ", G 1", G 1 $\frac{1}{4}$ ", G 1 $\frac{1}{2}$ ").

Bypass not close when switching.



### TECHNICAL DATA



Type of movement  
Thermostatic



Nominale pressure  
10 bar



Flows' temperature limits  
 $5 \div 110^{\circ}\text{C}$  [max]



Settable opening temperature values  
 $45^{\circ}\text{C} \div 50^{\circ}\text{C} \div 55^{\circ}\text{C} \div 63^{\circ}\text{C} \div 72^{\circ}\text{C} \div 78^{\circ}\text{C}$



TECHNICAL DATASHEET



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**ITALY**



# TM 2000 3 WAY 55 °C

ANTI-CONDENSATION THERMOSTATIC  
MIXER VALVES



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01672	TM 2000	Anti condensation mixer valve TM 2000-G 3/4, 55 °C	3/4"	10	14	1	5
7.030.01706	TM 2000	Anti condensation mixer valve TM 2000-G 1 1/4, 55 °C	1"	10	14	1	5
7.030.01707	TM 2000	Anti condensation mixer valve TM 2000-G 1 1/4, 55 °C	1"1/4	10	15	1	5
7.030.01711	TM 2000	Anti condensation mixer valve TM 2000-G 1 1/4, 55 °C	1"1/2	10	16	1	5

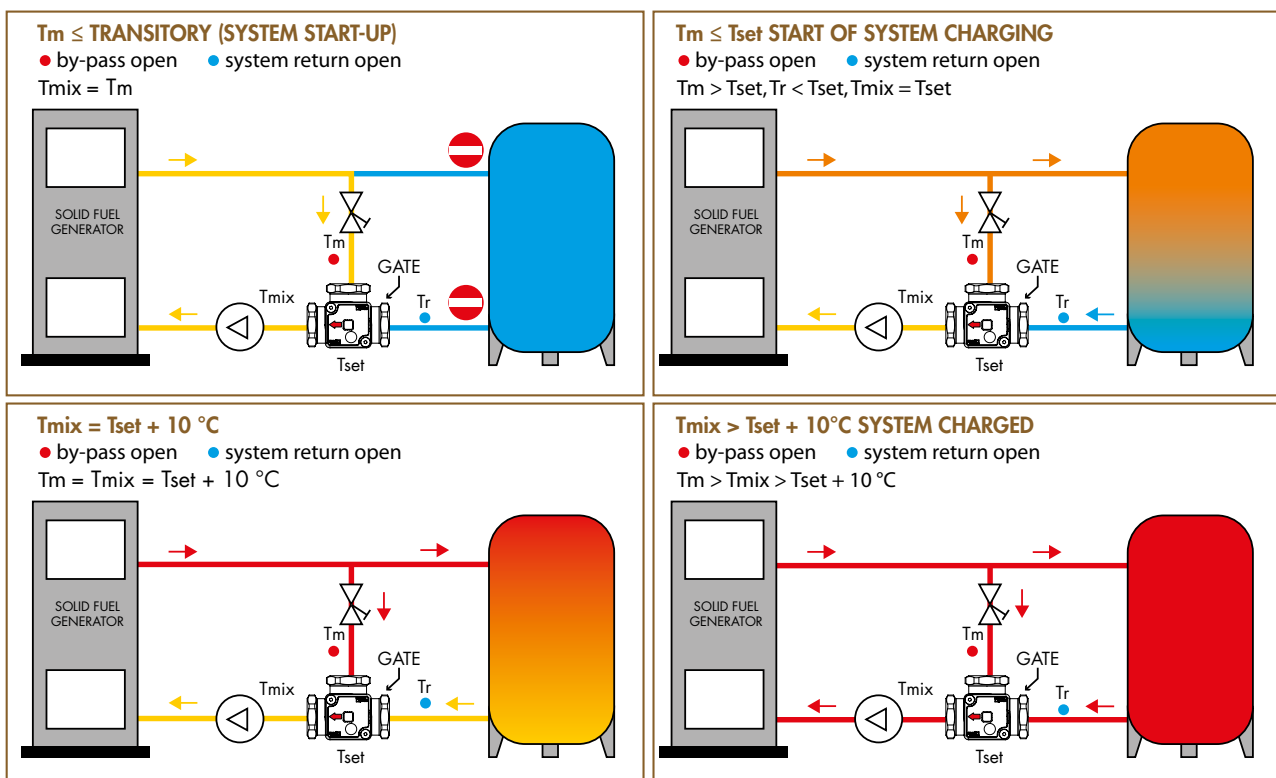
# CARTRIDGE KIT

## FOR TM 2000 VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01904	Cartridge kit	Cartridge kit TM 2000 45 °C	1	5
7.030.01905	Cartridge kit	Cartridge kit TM 2000 50 °C	1	5
7.030.01906	Cartridge kit	Cartridge kit TM 2000 55 °C	1	5
7.030.01907	Cartridge kit	Cartridge kit TM 2000 63 °C	1	5
7.030.01908	Cartridge kit	Cartridge kit TM 2000 72 °C	1	5
7.030.01909	Cartridge kit	Cartridge kit TM 2000 78 °C	1	5



## APPLICATION DIAGRAMS



$T_m$  = Delivery temperature  
 $T_{set}$  = Calibrated anti-condensate

$T_{mix}$  = Mixed temperature returning to the generator  
 $T_r$  = System return temperature

# BLUMUT HE RANGE

## THERMOSTATIC ANTI-CONDENSATION GROUP

Blumut is a thermostatic unit complete with recirculation pump that connects a solid fuel heater (pellets, wood, chips...) to one or more inertial heat accumulators. It is a very simple, compact device that works well and is easy to install.

An important aspect of Blumut is that it causes the heater to work at the highest possible temperature in a manner that stops the formation of acid condensate and guarantees stratified filling of the accumulation tank without mixing water internally. Blumut is therefore an effective anti-condensation and anti-thermal shock system that uses the maximum return of the heater to obtain energy-saving results.

The thermostatic elements used have different opening temperatures that range from 50 to 87°C. They can be easily replaced to adapt the working temperature effortlessly to the different characteristics of the unit.

The natural circulation between heater and storage can be put to good use even when the pump is stopped.

This is an important feature because if the electricity is disconnected for any reason, the heater is guaranteed a minimum flow of cooling water.



### TECHNICAL DATA



Nominal pressure  
PN10



Flows' temperature limits  
110 °C [max]



100%  
MADE IN  
ITALY



TECHNICAL DATASHEET





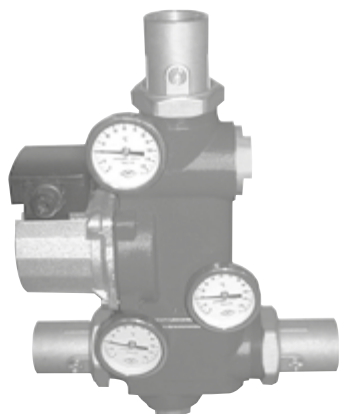
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## BLUMUT HE

### THERMOSTATIC-ANTI-CONDENSATION GROUP

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02026	BLUMUT HE	Group Blumut HE 55 °C With circulation pump Wilo Para 25/7	1	1
7.030.02027	BLUMUT HE	Group Blumut HE 63 °C With circulation pump Wilo Para 25/7	1	1
7.030.02028	BLUMUT HE	Group Blumut HE 72 °C With circulation pump Wilo Para 25/7	1	1
7.030.02029	BLUMUT HE	Group Blumut HE 78 °C With circulation pump Wilo Para 25/7	1	1



## BLUMUT (EX - UE MARKETS)

### THERMOSTATIC-ANTI-CONDENSATION GROUP BLUMUT

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01155	BLUMUT	Blumut filling unit 55 °C - (EX- UE Markets)	1" 1/4	1	1
7.030.00799	BLUMUT	Blumut filling unit 63 °C - (EX- UE Markets)	1" 1/4	1	1
7.030.01105	BLUMUT	Blumut filling unit 72 °C - (EX- UE Markets)	1" 1/4	1	1
7.030.00695	BLUMUT	Blumut filling unit 78 °C - (EX- UE Markets)	1" 1/4	1	1



## THERMOSTATIC ELEMENT

FOR BLUMUT THERMOSTATIC GROUP

CODE	DESCRIPTION	PACK	PACKAGING
7.030.01095	Blumut thermostatic element 55 °C	1	1
7.030.01039	Blumut thermostatic element 63 °C	1	1
7.030.01040	Blumut thermostatic element 72 °C	1	1
7.030.01041	Blumut thermostatic element 78 °C	1	1
7.030.01042	Blumut thermostatic element 83 °C	1	1
7.030.01043	Blumut thermostatic element 87 °C	1	1

## THERMOMETER

FOR BLUMUT THERMOSTATIC GROUP

CODE	DESCRIPTION	PACK	PACKAGING
7.030.01366	Thermometer for Blumut	1	3



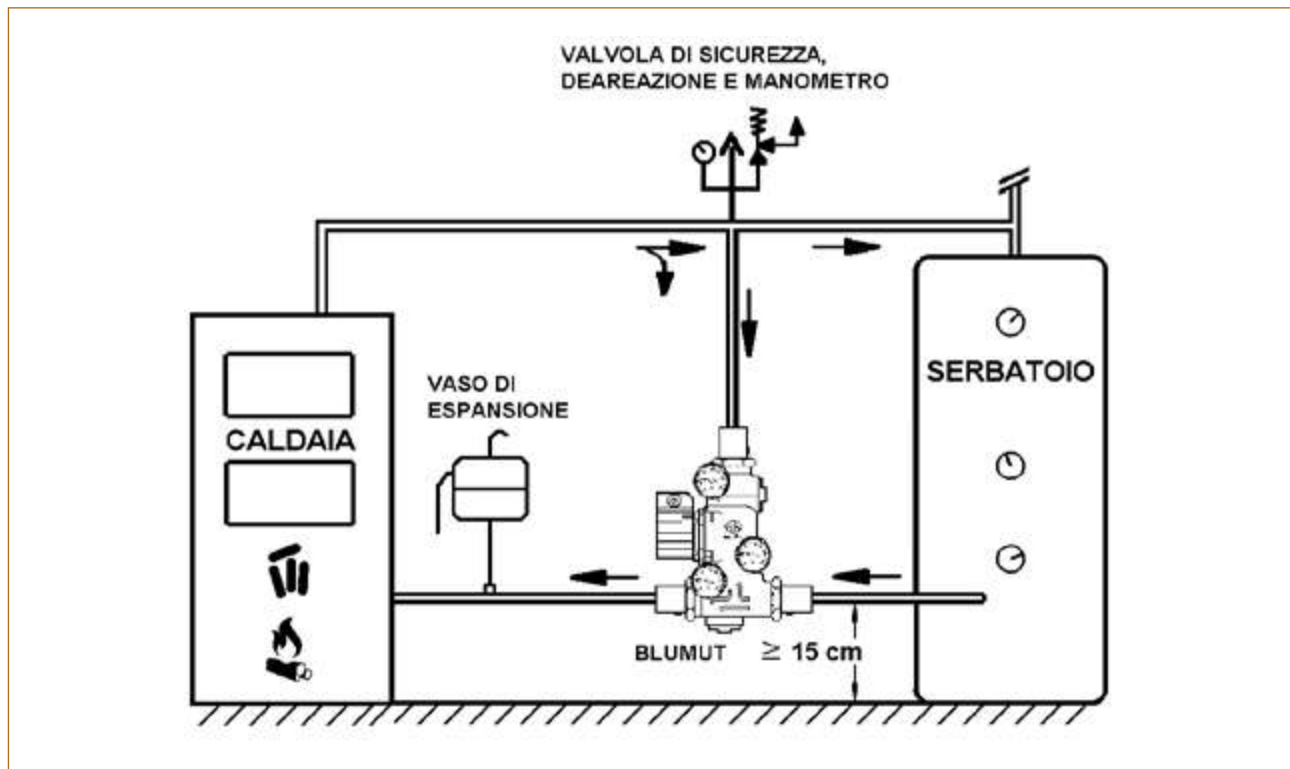
## INSULATION KIT

FOR BLUMUT THERMOSTATIC GROUP

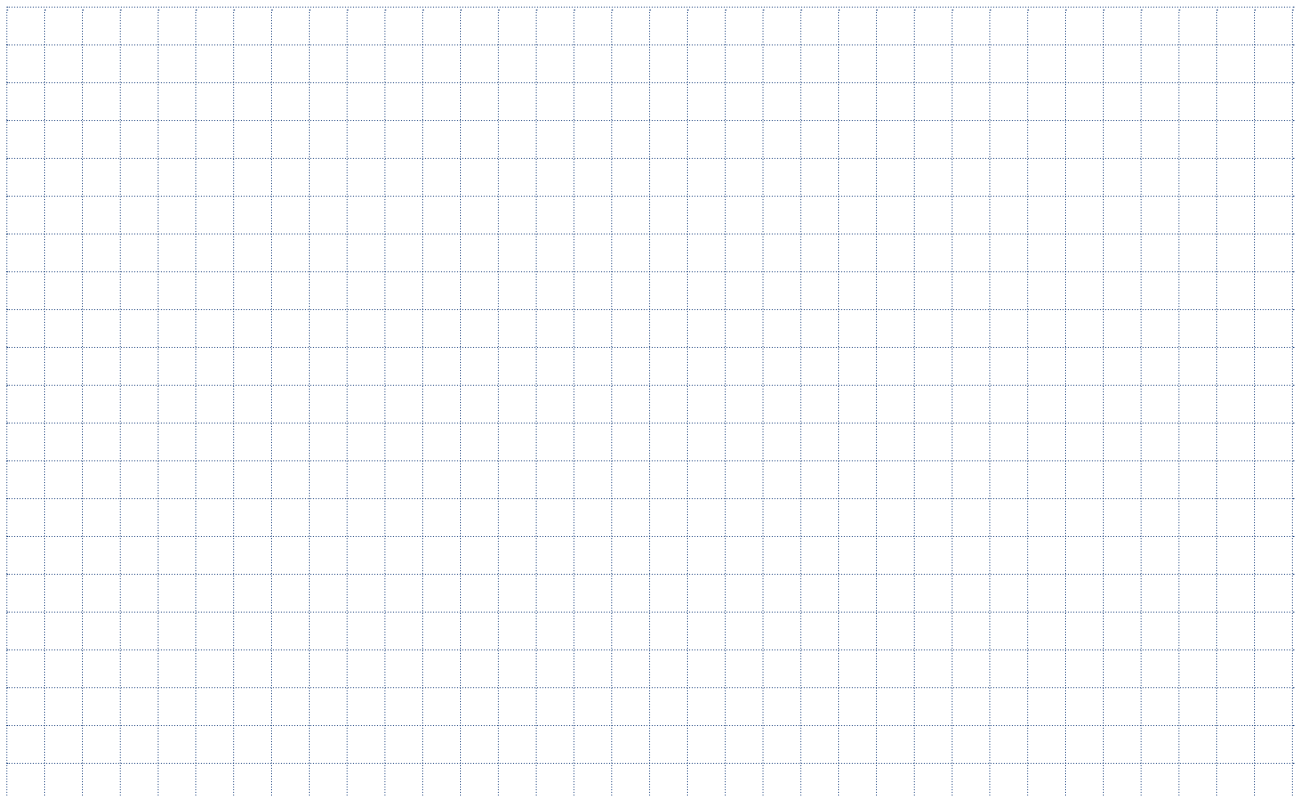
CODE	DESCRIPTION	PACK	PACKAGING
7.030.01728	Blumut insulation kit	1	3

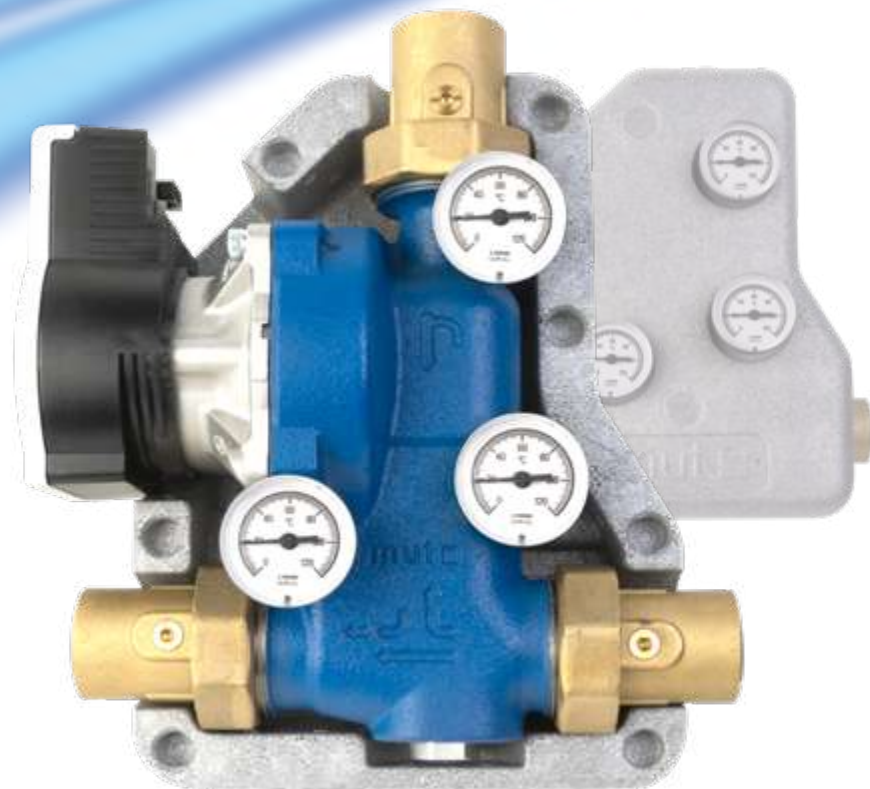


## BLUMUT APPLICATION DIAGRAM



## Note





# BLUMUT COMPACT HE RANGE

## THERMOSTATIC ANTI-CONDENSATION GROUP COMPLETE WITH RECIRCULATION PUMP (COMPLETE OF INSULATION KIT)

Blumut Compact is a filling group complete with recycle pump that connects to a solid fuel boiler (pellets, wood, chips...) with one or more accumulation tanks. It is easy to use and functional, very compact and easy to install. Its main characteristic is that it allows a high working temperature to reach the boiler, so stopping the formation of acid condensation. It also guarantees stratified loading of the accumulation tank, limiting the internal mixing of water. Blumut Compact is therefore an efficient anti-condensation and anti-heat shock system that increases boiler return and lengthens boiler life. The thermostatic elements used have different opening temperatures that range from 50 to 87°C. They can be easily replaced, in order to adapt the operation temperature to the different system characteristics. Blumut Compact also favours the natural circulation between boiler and accumulation with the pump stopped, a very important function because a minimum boiler cooling flow rate is guaranteed if the power supply is interrupted.

### TECHNICAL DATA



Nominal pressure  
PN10



Flows' temperature limits  
110 °C [max]



100%  
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TECHNICAL DATASHEET



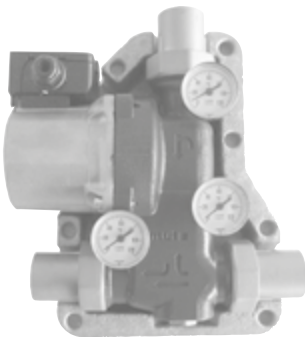
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## BLUMUT COMPACT HE

THERMOSTATIC ANTI-CONDENSATION GROUP  
COMPLETE WITH RECIRCULATION PUMP

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.02016	BLUMUT COMPACT HE	Blumut Compact HE 50 °C unit With circulation pump Wilo Para 25/7	1"	1	1
7.030.02017	BLUMUT COMPACT HE	Blumut Compact HE 55 °C unit With circulation pump Wilo Para 25/7	1"	1	1
7.030.02018	BLUMUT COMPACT HE	Blumut Compact HE 63 °C unit With circulation pump Wilo Para 25/7	1"	1	1
7.030.02019	BLUMUT COMPACT HE	Blumut Compact HE 72 °C unit With circulation pump Wilo Para 25/7	1"	1	1
7.030.02020	BLUMUT COMPACT HE	Blumut Compact HE 78 °C unit With circulation pump Wilo Para 25/7	1"	1	1



## BLUMUT COMPACT (EX - UE MARKETS)

THERMOSTATIC ANTI-CONDENSATION GROUP  
COMPLETE WITH RECIRCULATION PUMP

CODE	MODEL	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01495	BLUMUT COMPACT	Blumut filling unit Compact 50° - (EX- UE Markets)	1"	1	1
7.030.01461	BLUMUT COMPACT	Blumut filling unit Compact 55° - (EX- UE Markets)	1"	1	1
7.030.01496	BLUMUT COMPACT	Blumut filling unit Compact 63° - (EX- UE Markets)	1"	1	1
7.030.01497	BLUMUT COMPACT	Blumut filling unit Compact 72° - (EX- UE Markets)	1"	1	1
7.030.01498	BLUMUT COMPACT	Blumut filling unit Compact 78° - (EX- UE Markets)	1"	1	1

## SPECIFICATIONS

- \* If requested all Blumuts can be supplied with insulation and have G 1 ball valves



# THERMOSTATIC ELEMENT

## FOR BLUMUT COMPACT

CODE	DESCRIPTION	PACK	PACKAGING
7.030.01488	Blumut thermostatic element Compact 50 °C	1	1
7.030.01489	Blumut thermostatic element Compact 55 °C	1	1
7.030.01490	Blumut thermostatic element Compact 63 °C	1	1
7.030.01491	Blumut thermostatic element Compact 72 °C	1	1
7.030.01492	Blumut thermostatic element Compact 78 °C	1	1
7.030.01493	Blumut thermostatic element Compact 83 °C	1	1
7.030.01494	Blumut thermostatic element Compact 87 °C	1	1



# THERMOMETER

## FOR BLUMUT COMPACT

CODE	DESCRIPTION	PACK	PACKAGING
7.030.01903	Thermometer for Blumut Compact	1	3



# BALL VALVE

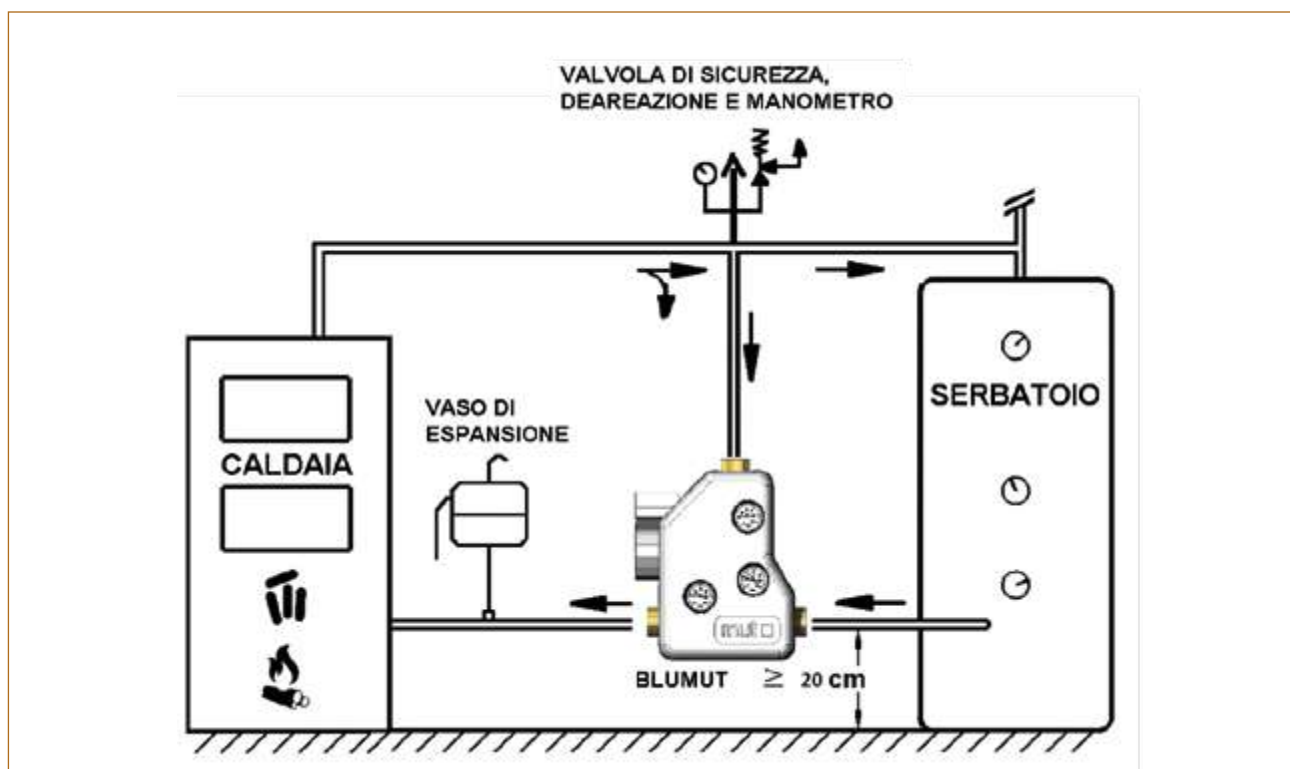
## FOR BLUMUT COMPACT

CODE	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.01357	Ball valve for pump	2"x1"1/4"	1	2
7.030.01358	Ball valve for pump	2"x1"	1	2
7.030.01499	Blumut Compact ball valve	1"1/2x1"	1	2

## SPECIFICATIONS

- Minimum order 2 pcs.

## BLUMUT APPLICATION DIAGRAM





# TDS 3000 RANGE

## DIVERTING THERMOSTATIC VALVES FOR SOLAR

TDS 3000 diverter valve is applied in heating systems (especially in solar thermal heating systems), in all those situations when the fluid flow has to be deviated according to its temperature, allowing a correct and precise temperature control according to circuit design specifications or requirements.

TDS 3000 valves are available in 3 sizes (G 3/4", G 1", G 1 1/4").

The thermostatic diverter valve TDS 3000 does not have electric/electronic devices, with great benefits on function reliability and easy system installation. The single-piece cartridge lid allows a quick and easy replacement of the thermostat. Operation temperature range: 5 ÷ 110 °C.  
Max operation pressure: 10 bar.



### TECHNICAL DATA



Type of movement  
Thermostatic



Nominal pressure  
10 bar



Flows' temperature limits  
5 ÷ 110 °C [max]



Settable opening temperature values  
45 °C ÷ 50 °C ÷ 55 °C ÷ 63 °C ÷ 72 °C ÷ 78 °C



TECHNICAL DATASHEET





# TDS 3000 3 WAY 45 °C

DIVERTING THERMOSTATIC  
VALVES FOR SOLAR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02147	TDS 3000	Solar diverting valve TDS 3000 - G 3/4 - 45 °C	3/4"	10	8	1	5
7.030.02148	TDS 3000	Solar diverting valve TDS 3000 - G 1 - 45 °C	1"	10	9	1	5
7.030.02149	TDS 3000	Solar diverting valve TDS 3000 - G 1 1/4 - 45°C	1"1/4	10	10	1	5



# TDS 3000 3 WAY 50 °C

DIVERTING THERMOSTATIC  
VALVES FOR SOLAR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02150	TDS 3000	Solar diverting valve TDS 3000 - G 3/4 - 50 °C	3/4"	10	8	1	5
7.030.02151	TDS 3000	Solar diverting valve TDS 3000 - G 1 - 50 °C	1"	10	9	1	5
7.030.02152	TDS 3000	Solar diverting valve TDS 3000 - G1 1/4 - 50 °C	1"1/4	10	10	1	5

## SPECIFICATIONS

- Available in 3 size (G 3/4" G 1" , G 1"1/4).
- Designed for high temperatures



# TDS 3000 3 WAY 55 °C

DIVERTING THERMOSTATIC  
VALVES FOR SOLAR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02116	TDS 3000	Solar diverting valve TDS 3000 - G 3/4 - 55 °C	3/4"	10	8	1	5
7.030.02125	TDS 3000	Solar diverting valve TDS 3000 - G 3/4 - 50 °C	1"	10	9	1	5
7.030.02126	TDS 3000	Solar diverting valve TDS 3000 - G 1 1/4 - 55 °C	1"1/4	10	10	1	5



# TDS 3000 3 WAY 63 °C

DIVERTING THERMOSTATIC  
VALVES FOR SOLAR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02153	TDS 3000	Solar diverting valve TDS 3000 - G 3/4 - 63 °C	3/4"	10	8	1	5
7.030.02154	TDS 3000	Solar diverting valve TDS 3000 - G 1 - 63 °C	1"	10	9	1	5
7.030.02155	TDS 3000	Solar diverting valve TDS 3000 - G 1 1/4 - 63 °C	1"1/4	10	10	1	5

## SPECIFICATIONS

- Available in 3 size [G 3/4" G 1" , G 1"1/4].
- Designed for high temperatures



# TDS 3000 3 WAY 72 °C

DIVERTING THERMOSTATIC  
VALVES FOR SOLAR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02156	TDS 3000	Solar diverting valve TDS 3000 - G 3/4 - 72 °C	3/4"	10	8	1	5
7.030.02157	TDS 3000	Solar diverting valve TDS 3000 - G 1 - 72 °C	1"	10	9	1	5
7.030.02158	TDS 3000	Solar diverting valve TDS 3000 - G 1 1/4 - 72 °C	1"1/4	10	10	1	5



# TDS 3000 3 WAY 78 °C

DIVERTING THERMOSTATIC  
VALVES FOR SOLAR



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02159	TDS 3000	Solar diverting valve TDS 3000 - G 3/4 - 78 °C	3/4"	10	8	1	5
7.030.02160	TDS 3000	Solar diverting valve TDS 3000 - G 1 - 78 °C	1"	10	9	1	5
7.030.02161	TDS 3000	Solar diverting valve TDS 3000 - G 1 1/4 - 78 °C	1"1/4	10	10	1	5

## SPECIFICATIONS

- Available in 3 size (G 3/4" G 1" , G 1"1/4).
- Designed for high temperatures



# CARTRIDGE KIT

FOR TDS 3000 VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02163	Cartridge kit	Cartridge kit TDS 3000 - 45 °C	1	1
7.030.02164	Cartridge kit	Cartridge kit TDS 3000 - 50 °C	1	1
7.030.02128	Cartridge kit	Cartridge kit TDS 3000 - 55 °C	1	1
7.030.02165	Cartridge kit	Cartridge kit TDS 3000 - 63 °C	1	1
7.030.02166	Cartridge kit	Cartridge kit TDS 3000 - 72 °C	1	1
7.030.02167	Cartridge kit	Cartridge kit TDS 3000 - 78 °C	1	1

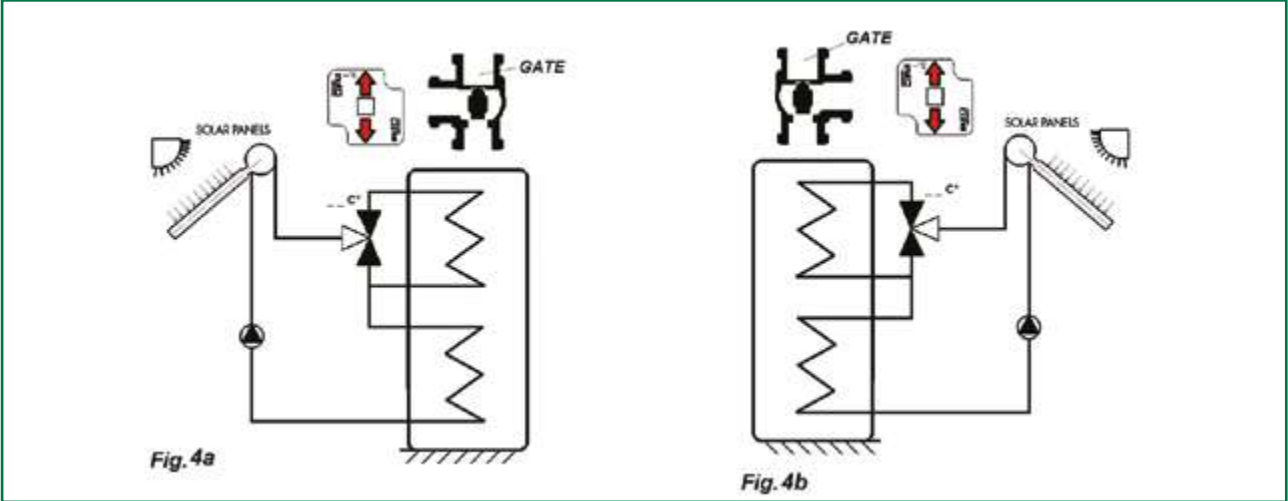


# SHELL INSULATION KIT

FOR TDS 3000 VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.02209	Shell kit	Shell insulation kit V3000 3 Way TM - TD3000	1	1

## APPLICATION DIAGRAM







# TWR RAX RANGE

## THERMOSTATIC MIXING VALVES

TWR RAX serie of thermostatic mixing valves, with body in antidezincification brass [CR] suitable for water for human use, have been designed for use in domestic water or heating systems served, for example, by a solar thermal system with natural or forced circulation. Their function is to keep the temperature of the mixed water constant (central MIX water outlet) to the user even when may vary the conditions of:

- temperature;
- supply pressure;
- flow rate of hot (H) and cold (C) water, coming from the side inlets.

TWR RAX thermostatic mixing valves have a temperature regulation range suitable for use as domestic hot water. The valve is supplied with pre-setting of the mixed water temperature at the outlet (MIX) to the minimum settable value - the tamper evident stamp (SIG), placed between the adjustment cap and the valve body - must be intact in the new product supplied.

The setting and fixing of the calibration of the water temperature leaving the central mixed way (MIX) must be carried out during installation by the installer. The valves have been studied and designed to be extremely compact, reliable and at the same time to guarantee high flow rates (high Kvs).



TECHNICAL DATASHEET



# TWR RAX RANGE

## THERMOSTATIC MIXING VALVES

EAC (CE)\*

### TECHNICAL DATA



Type of valve movement  
Thermostatic mixer valves



Type of movement  
Manual



Nominal pressure  
PN10



Max. ratio between input pressure (H-C o C-H)  
2:1



Max difference between the incoming pressure (H-C or C-H)  
4 bar



Fluid temperature (adjustable) range  
30°C ÷ 65°C



Temperature accuracy  
± 4K



Flows' temperature limits  
110°C



Working Fluid  
Acqua calda sanitaria Acqua per impianti termici,  
soluzioni glicolate (max 30%)



Flow coefficient Kvs  
([m<sup>3</sup>/h] at ΔP = 1 bar) Kvs = 2.4



Available Fittings Threads [ISO 228/1]  
G 3/4" male  
G 1" male  
G 1/2" male with pipe unions  
G 1" female with pipe unions

### \* PED 2014/68/EU, item 4.3

Pressure Equipment in conformity with PED 2014/68/EU, article 4.3 (sound engineering practice). According to the directive the equipment shall not carry any CE-mark.

### MATERIALS

Valve body	Dezinification resistant brass CB 770S (CR)
T adjusting screw	Brass
Shutter	PPS GF40 (DW)
Top closing tap	PPS GF40 (DW)
Adjustment knob	PA66 GF25 UL94 V0
Springs	Stainless steel AISI 302
Sealing O-Rings	EPDM Perox (DW)

\* Note: All the materials and components used are included in the current Positive list 4MS, i.e. materials suitable for water intended for human consumption (domestic hot water - DW)

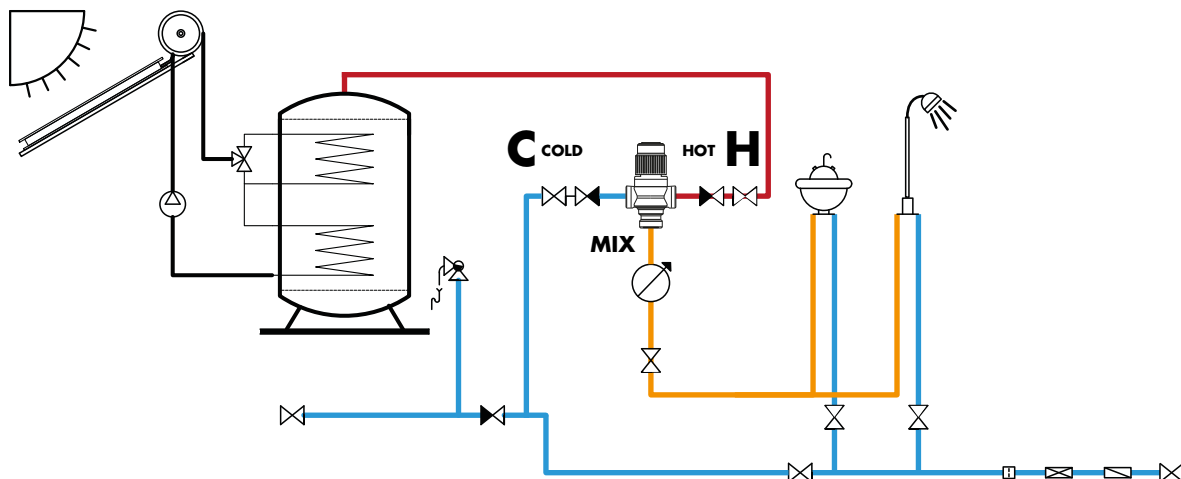
### INSTALLATION

Before installing the mixer, the pipes must be washed to prevent the impurities in circulation from compromising its performance. It is always recommended to install filters of adequate capacity at the water inlet from the water supply. Thermostatic mixing valves can be installed in any position, both vertical and horizontal.

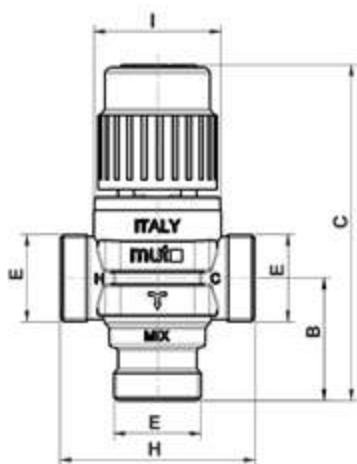
#### On the body of the mixer are highlighted:

- Hot water inlet with letter "H" (Hot)
- Cold water inlet with letter "C" (Cold)
- Mixed water outlet with "MIX" writing

## APPLICATION EXAMPLE TWR RAX RANGE



## SIZE DATA



### Twr RAX 20E cod. 7.030.02746

### Twr RAX 25E cod. 7.030.03000

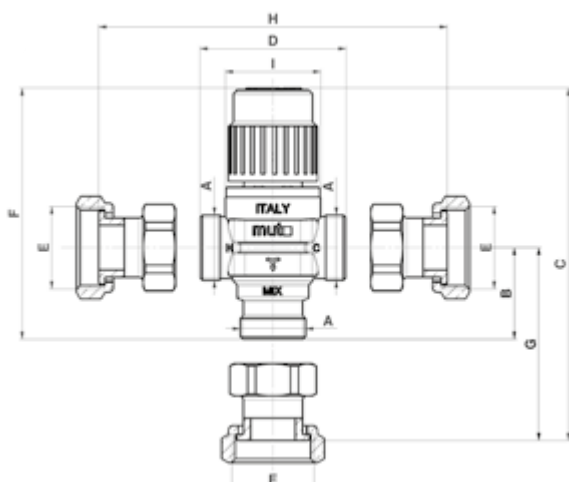
CODE	MOD	B [mm]	C [mm]	E [mm] [ISO 228/1]	H [mm]	I [mm]
7.030.02746	RAX 20E	37	99 [MAX 106]	G 3/4" B	59	Ø 39
7.030.03000	RAX 25E	39	101 [MAX 108]	G 1" B	63	Ø 39



Regolazione temperatura



entrata/uscita e miscelazione



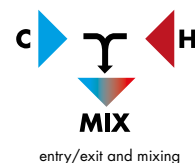
### Twr RAX 25 FFF cod. 7.030.02932

A [mm] [ISO 228/1]	B [mm]	C [mm]	D [mm]	E [mm] [ISO 228/1]	F [mm]	G [mm]	H [mm]	I [mm]
G 3/4" B	37	122 [MAX 129]	59	G 1"	99 [MAX 106]	60	105	Ø 39

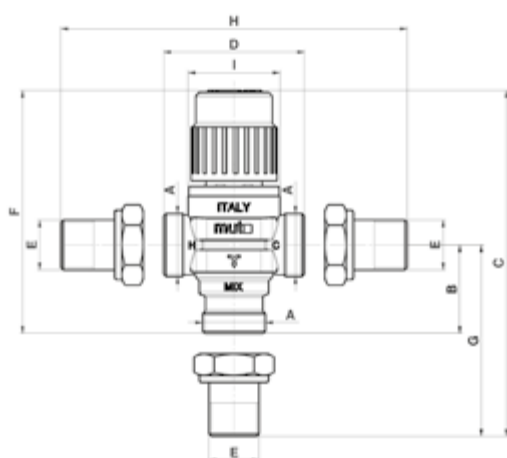
Size in [mm]



Temperature regulation



entry/exit and mixing



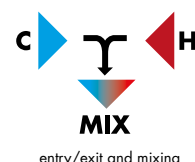
### Twr RAX 15 MMM cod. 7.030.02931

A [mm] [ISO 228/1]	B [mm]	C [mm]	D [mm]	E [mm] [ISO 228/1]	F [mm]	G [mm]	H [mm]	I [mm]
G 3/4" B	37	129 [MAX 136]	59	G 1/2" B	99 [MAX 106]	67	119	Ø 39

Size in [mm]



Temperature regulation



entry/exit and mixing

#### WARNING!

Given the particular intended uses of the thermostatic mixer, its commissioning must be carried out according to the regulations in force by qualified personnel, using suitable temperature measuring instruments.

**It is recommended to use a digital thermometer to measure the temperature of the mixed water.**



TWR RAX **20E - 25E**

THERMOSTATIC MIXING VALVES



- WITHOUT PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02746	TWR-RAX 20E	Thermostatic Mixer Valve adjustable 30-65° - 3/4" Male gas connections - interaxes 59	3/4"	10	2,4	1	5
7.030.03000	TWR-RAX 25E	Thermostatic Mixer Valve adjustable 30-65° - 1" Male gas connections - interaxes 63	1"	10	2,4	1	5



TWR RAX **25 FFF**

THERMOSTATIC MIXING VALVES



- WITH FEMALE PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02932	TWR-RAX 25FFF	Thermostatic Mixer Valve adjustable 30-65° - 1" Female gas connections - interaxes 105	1"	10	2,4	1	5



TWR RAX **15 MMM**

THERMOSTATIC MIXING VALVES



- WITH MALE PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02931	TWR-RAX15MMM	Thermostatic Mixer Valve adjustable 30-65° - 1/2" Male gas connections - interaxes 119	1/2"	10	2,4	1	5

# RA RANGE

## THERMOSTATIC MIXER VALVES

The RA thermostatic mixing valves are used in hot water systems for sanitary use. They keep the temperature of the mixed water supplied to the user constant even when the conditions listed below vary:

- TEMPERATURE
- SUPPLY PRESSURE
- INCOMING HOT AND COLD WATER FLOW

The RA thermostatic mixing valves have a temperature range that is ideal for heating a centralised water system with heater. They also have an internal anti-limestone.



### TECHNICAL DATA



Type of movement  
Thermostatic



Max. ratio between input pressures (H/C or C/H)  
2 : 1



Nominal pressure  
PN10



Flows' temperature limits  
120 °C [max]



Flows' adjustment field at output (mix)  
30 ÷ 60 °C [precision ±2 °C]



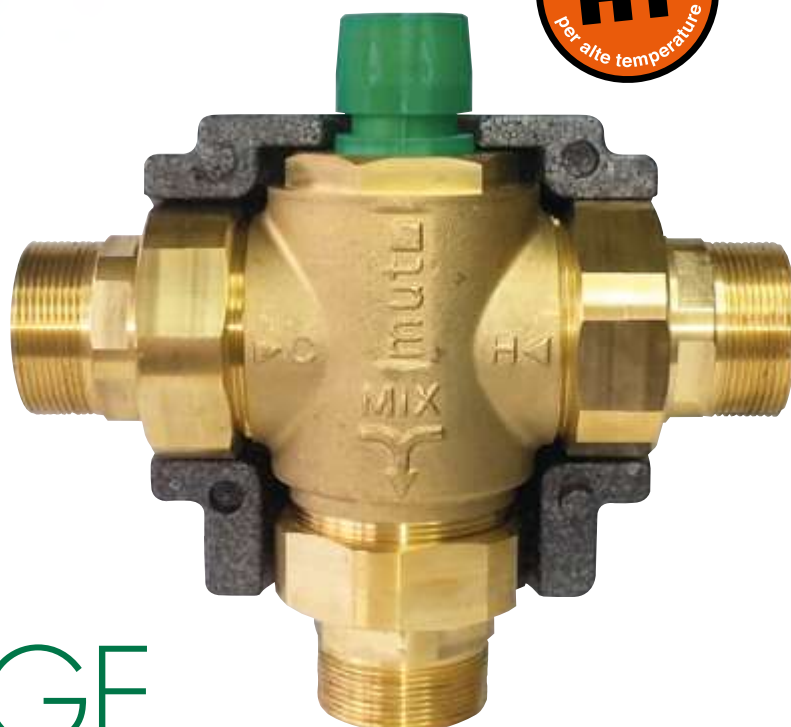
TECHNICAL DATASHEET



# VALVE RA RANGE

THERMOSTATIC MIXER VALVES

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK.	PACKAGING
7.030.01124	TWR-RA 15 E solar	Adjustable thermostat mixer valve DN 15 M - 30/60 °C with pipe connections	1/2"	10	1,7	1	5
7.030.01123	TWR-RA 20 E solar	Adjustable thermostat mixer valve DN 20 M - 30/60 °C with pipe connections	3/4"	10	1,7	1	5
7.030.01122	TWR-RA 25 E solar	Adjustable thermostat mixer valve DN 25 M 30/60 °C	1"	10	1,7	1	5



# RAJ RANGE

## THERMOSTATIC MIXER VALVES

The RAJ thermostatic mixing valves are applied in hot water sanitary systems production and distribution to users.

They guarantee a constant temperature (according to temperature set point value) of the mixed water to the users, even when the following conditions vary:

- Temperature of water flows before mixing (incoming hot water and cold water flows)
- Supply pressure
- Flow rates of incoming hot and cold water

The thermostatic mixing valves RAJ have a temperature range (adjustable), suitable for central water heating systems. The valve is provided as standard with a thermal insulating shell to reduce heat loss and avoid burns. The adjustable thermostatic mixing valves RAJ are available in 3 sizes (G 1 ¼", G 1 ½", G 2").

Max hot water temperature inlet: 110 °C.

Max working pressure (static): 14 bar.



### TECHNICAL DATA



Type of movement  
Thermostatic



Nominal pressure  
PN14



Max. ratio between input pressures (H/C or C/H)  
2 : 1



Fl temperature limits  
5 ÷ 110 °C [max]



Flows' adjustment range at output (mix)  
RAJ (R 1 ¼"): 30 ÷ 65 °C - RAJ (R 1 ½";  
R 2"): 35 ÷ 65 °C [precision: ±2 °C]



100%  
MADE IN  
ITALY



TECHNICAL DATASHEET



# RAJ 3 WAY

THERMOSTATIC VALVE



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.01732	TWR-RAJ	Thermostatic radiator valve with nuts and connections of R 1" 1/4 solar	R1" 1/4	14	9,1	1	1
7.030.01731	TWR-RAJ	Thermostatic radiator valve with nuts and connections of R 1" 1/2 solar	R1" 1/2	14	14,5	1	1
7.030.01730	TWR-RAJ	Thermostatic radiator valve with nuts and connections of R 2" solar	R2"	14	19	1	1



# CARTRIDGE KIT

FOR THERMOSTATIC RADIATOR VALVE

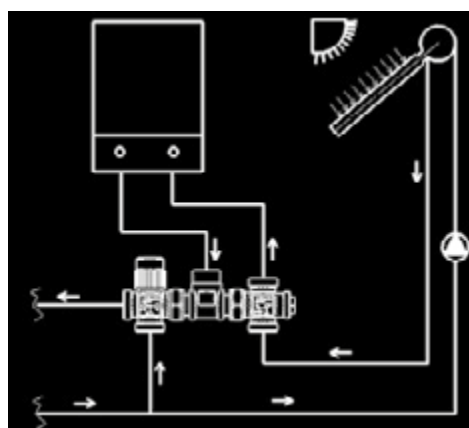
CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.01744	Cartridge kit	Cartridge kit for RAJ thermostatic radiator valve, R 2" and R 1" 1/2	1	1
7.030.01745	Cartridge kit	Cartridge kit for RAJ thermostatic radiator valve, R 1" 1/4	1	1





# SOLAR KIT

Offers double operation in a compact and efficient manner using thermostatic components only. This makes it completely independent, and makes installation much easier. The kit is made up of two thermostatic devices and a T connecting collector. If the water that enters from the solar collector is not hot enough, it is diverted towards a heater (e.g. wall heater) by the thermostatic shunt valve, and is mixed to the temperature required by the thermostatic mixer when it exits hot from the heater. If the water entering from the solar collector is warm enough, it is diverted towards the thermostatic mixer and directly mixed for use. Solar energy is used efficiently.



PANNELLI SOLARI  
SOLAR PANELS  
SOLARPANEELE  
Panneaux Solaires  
PANELES SOLARES

## TECHNICAL DATA



Type of movement  
Thermostatic



Nominal pressure  
10 bar



Fluid's temperature limits  
5 ÷ 120 °C [max]



Settable opening temperature values  
45°/55 ° ; 30 ÷ 60 °C



TECHNICAL DATASHEET



# THERMAL SOLAR KIT



CODE	DESCRIPTION	PACK	PACKAGING
7.030.01195	Thermal solar kit (45/55°C) (30/60°C)	1	1
7.030.01633	Thermal solar kit with G 3/4 (45/55°C) (30/60°C) connections	1	1
7.030.01634	Thermal solar kit with G 1 (45/55°C)(30/60°C) connections	1	1
7.030.03122	Shell insulation Solar Kit VTD - RAW	1	3



## VTD 3 WAY

### THERMOSTATIC DIVERTER VALVE



CODE	DESCRIPTION	KVS	PACK	PACKAGING
7.030.01446	Valve VTD 25E 45 °C - 55 °C	1,5	1	5
7.030.01635	Valve VTD 25E 40 °C - 50 °C	1,5	1	5



## RAW 3 WAY

### THERMOSTATIC VALVE ADJUSTABLE

- WITH PIPE UNIONS



CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.02049	TWR-RAW 25E Solar	Adjustable thermostatic mixing valve DN 25 M, without nozzles - 30-60°C"	1"	10	1,6	1	5



# INSULATION SHELL

FOR SOLAR KIT

CODE	DESCRIPTION	PACK	PACKAGING
7.030.03122	Kit solar Insulation Shell - VTD - RAW	1	1



# SOLAR KIT

THERMAL MOTORIZED



CODE	DESCRIPTION	PACK	PACKAGING
7.030.02113	Motorized solar kit with ball valve mod. TMO	1	1



# SOLAR KIT

THERMAL MOTORIZED WITH FITTING



CODE	DESCRIPTION	PACK	PACKAGING
7.030.01609	Motorized thermal solar kit with G 1 230 V (45/55°C) connections	1	1





# VMR HT SOLAR RANGE

ZONE VALVES WITH SHUTOFF

VMR valves are motorized valves used in home applications and small installations to control the flow of hot and cold water. They can be connected as deviator or mixer valves in central heating or cooling systems.



## TECHNICAL DATA

	Type of movement SSPDT, SPST, 3 points according to the model
	Max. differential pressure 392 kPa
	Nominal pressure PN10
	Insulation class I Ref. European Directive EN 60730
	Protection rating IP 40 Ref. European Directive IEC EN60529
	Way commutation time 6 sec.
	Way commutation time 6 sec.
	Flows' temperature limits 5 ÷ 120 °C [max]



TECHNICAL DATASHEET







- FEMALE CONNECTIONS
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR HT 2 WAY

2-WAY CLICK-CLOCK ZONE VALVES \*1 \*2

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00451	VMR 15-2 SPDT CR M1S	2-way valve - 230 V - Female gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	1/2"	10	3,0	1	5
7.030.00452	VMR 20-2 SPDT CR M1S	2-way valve - 230 V - Female gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	3/4"	10	5,3	1	5
7.030.00453	VMR 25-2 SPDT CR M1S	2-way valve - 230 V - Female gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	1"	10	6,0	1	5



- MALE CONNECTIONS
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR HT 2 WAY

V2-WAY CLICK-CLOCK ZONE VALVES \*1 \*2

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00454	VMR 20-2E SPDT CR M1S	2-way valve - 230 V - Male gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	3/4"	10	5,3	1	5
7.030.00455	VMR 25-2E SPDT CR M1S	2-way valve - 230 V - Male gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	1"	10	6,0	1	5

### SPECIFICATIONS

- \*1 All the VMR series valves can be supplied with a 24 V motor

- \*2 All the VMR series valves can be supplied with a fi cable (refer to MUT for the codes)





- CONNECTIONS FOR COPPER PIPES
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR HT 2 WAY

2-WAY CLICK-CLOCK ZONE VALVES \*<sup>1</sup> \*<sup>2</sup>

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00456	VMR 22-2B SPDT CR M1S	2-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipes- complete with nuts - ferrules - for high temperatures	22 mm	10	5,3	1	5
7.030.00457	VMR 28-2B SPDT CR M1S	2-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipes- complete with nuts - ferrules - for high temperatures	28 mm	10	6,0	1	5



- FEMALE CONNECTIONS
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR HT 2 WAY

2-WAY CLICK-CLOCK ZONE VALVES \*<sup>1</sup> \*<sup>2</sup>

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00458	VMR 15-2 SPST CR M1S	2-way valve - 230 V - Female gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	1/2"	10	3,0	1	5
7.030.00459	VMR 20-2 SPST CR M1S	2-way valve - 230 V - Female gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	3/4"	10	5,3	1	5
7.030.00460	VMR 25-2 SPST CR M1S	2-way valve - 230 V - Female gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	1"	10	6,0	1	5

### SPECIFICATIONS

- \*<sup>1</sup> All the VMR series valves can be supplied with a 24 V motor
- \*<sup>2</sup> All the VMR series valves can be supplied with a fi cable (refer to MUT for the codes)



- MALE CONNECTIONS
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR HT 2 WAY

2-WAY CLICK-CLOCK ZONE VALVES \*1 \*2

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00461	VMR 20-2E SPST CR M1S	2-way valve - 230 V - Male gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	3/4"	10	5,3	1	5
7.030.00462	VMR 25-2E SPST CR M1S	2-way valve - 230 V - Male gas union - with fast coupling - no cable - with auxiliary micro - for high temperatures	1"	10	6,0	1	5



- CONNECTIONS FOR COPPER PIPES
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR HT 2 WAY

2-WAY CLICK-CLOCK ZONE VALVES \*1 \*2

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00463	VMR 22-2EB SPST CR M1S	2-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipes - complete with nuts - ferrules - for high temperatures	22 mm	10	5,3	1	5
7.030.00464	VMR 28-2B SPST CR M1S	2-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipes - complete with nuts - ferrules - for high temperatures	28 mm	10	6,0	1	5



## SHUTTER

SHUTOFF SET FOR 2-WAY VALVES

CODE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.00476	KIT VMR	Shutoff set for 2-way valves - for high temperatures	1	5



- FEMALE CONNECTIONS
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR HT 3 WAY

2-WAY CLICK-CLOCK ZONE VALVES \*<sup>1</sup> \*<sup>2</sup>

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00439	VMR 15 SPDT CR M1S	3-way valve - 230 V - Female gas connections - with fast coupling - no cable - with auxiliary micro - for high temperatures	1/2"	10	3,5	1	5
7.030.00440	VMR 20 SPDT CR M1S	3-way valve - 230 V - Female gas connections - with fast coupling - no cable - with auxiliary micro - for high temperatures	3/4"	10	7,0	1	5
7.030.00441	VMR 25 SPDT CR M1S	3-way valve - 230 V - Female gas connections - with fast coupling - no cable - with auxiliary micro - for high temperatures	1"	10	8,0	1	5



- MALE CONNECTIONS
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR HT 3 WAY

3-WAY CLICK-CLOCK ZONE VALVES \*<sup>1</sup> \*<sup>2</sup>

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00442	VMR 20E SPDT CR M1S	3 way valve - 230 V - Male Gas connections - with quick connector - no cable - with auxiliary micro - for high temps.	3/4"	10	7,0	1	5
7.030.00443	VMR 25E SPDT CR M1S	3 way valve - 230 V - Male Gas connections - with quick connector - no cable - with auxiliary micro - for high temps.	1"	10	8,0	1	5

### SPECIFICATIONS

- \*<sup>1</sup> All the VMR series valves can be supplied with a 24 V motor
- \*<sup>2</sup> All the VMR series valves can be supplied with a fi cable (refer to MUT for the codes)



- CONNECTIONS FOR COPPER PIPES
- BIPOLAR EXTERNAL ELECTRIC CONTROL - SPDT
- AVAILABLE WITH 24 V MOTOR

## VMR HT 3 WAY

3-WAY CLICK-CLOCK ZONE VALVES \*<sup>1</sup> \*<sup>2</sup>

CODICE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00467	VMR 22EB SPDT CR M1S	3-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipes- complete with nuts - ferrules - for high temperatures	22 mm	10	7,0	1	5
7.030.00444	VMR 28B SPDT CR M1S	3-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipes- complete with nuts - ferrules - for high temperatures	28 mm	10	8,0	1	5



- FEMALE CONNECTIONS
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR HT 3 WAY

3-WAY CLICK-CLOCK ZONE VALVES \*<sup>1</sup> \*<sup>2</sup>

CODICE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00445	VMR 15 SPST CR M1S	3-way valve - 230 V - Female gas connections - with fast coupling - no cable - with auxiliary micro - for high temperature	1/2"	10	3,5	1	5
7.030.00446	VMR 20 SPST CR M1S	3-way valve - 230 V - Female gas connections - with fast coupling - no cable - with auxiliary micro - for high temperature	3/4"	10	7,0	1	5
7.030.00447	VMR 25 SPST CR M1S	3-way valve - 230 V - Female gas connections - with fast coupling - no cable - with auxiliary micro - for high temperature	1"	10	8,0	1	5

### SPECIFICATIONS

- \*<sup>1</sup> All the VMR series valves can be supplied with a 24 V motor

- \*<sup>2</sup> All the VMR series valves can be supplied with a fi cable (refer to MUT for the codes)



- MALE CONNECTIONS
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR HT 3 WAY

3-WAY CLICK-CLOCK ZONE VALVES \*1 \*2

CODICE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00448	VMR 20E SPST CR M1S	3-way valve - 230 V - Male gas connections - with fast coupling - no cable - with auxiliary micro - for high temperature	3/4"	10	7,0	1	5
7.030.00449	VMR 25E SPST CR M1S	3-way valve - 230 V - Male gas connections - with fast coupling - no cable - with auxiliary micro - for high temperature	1"	10	8,0	1	5



- CONNECTIONS FOR COPPER PIPES
- UNIPOLAR EXTERNAL ELECTRIC CONTROL - SPST (WITH BUILT-IN RELAY)
- AVAILABLE WITH 24 V MOTOR

## VMR HT 3 WAY

3-WAY CLICK-CLOCK ZONE VALVES \*1 \*2

CODICE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00466	VMR 22EB SPST CR M1S	3-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipe - complete with nuts - ferrules - for high temperatures	22 mm	10	7,0	1	5
7.030.00450	VMR 28B SPST CR M1S	3-way valve - 230 V - with fast coupling - no cable - with auxiliary micro - with connections for copper pipe - complete with nuts - ferrules - for high temperatures	28 mm	10	8,0	1	5



## SHUTOFF

SHUTOFF SET FOR 3-WAY VALVES

CODICE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.00475	KIT VMR	Shutoff set for 3-way valves - for high temperatures	1	5



# SF HT SOLAR RANGE

## ZONE VALVES WITH SPRING RETURN\*

These are powered by an electric motor and can assume two operating positions depending on whether the motor is activated or not. One or two auxiliary switches can be installed on request. These are activated when the valve switches.

The valves are equipped with an external lever for manual positioning of the shut-off ball in a central position.



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### TECHNICAL DATA



**Type of movement**  
Spring return



**Max. differential pressure**  
90.2 kPa (2way) ; 62 ÷ 154 kPa (3way)



**Nominal pressure**  
PN10



**Insulation class**  
II Rif. Norma Europea EN60730



**Protection rating**  
IP 22 Rif. Norma Europea CEI EN 60529



**Way commutation time**  
10 sec./ 20 sec. (2/3 way)



**Way commutation time**  
4 sec./ 10 sec. (2/3 way)



**Fl temperature limits**  
5 ÷ 120 °C [max]



**Cable length**  
1000 mm



TECHNICAL  
DATASHEET  
SF 2 WAY



TECHNICAL  
DATASHEET  
SF 3 WAY



- FEMALE CONNECTIONS
- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF HT 2 WAY

ZONE VALVES WITH SPRING RETURN\*

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00422	SF 15-2 M1	2-way valve - 230 V - Female gas connections with auxiliary micro - for high temperatures	1/2"	10	6,0	1	5
7.030.00423	SF 20-2 M1	2-way valve - 230 V - Female gas connections with auxiliary micro - for high temperatures	3/4"	10	8,0	1	5
7.030.00424	SF 25-2 M1	2-way valve - 230 V - Female gas connections with auxiliary micro - for high temperatures	1"	10	10	1	5



- MALE CONNECTIONS
- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF HT 2 WAY

ZONE VALVES WITH SPRING RETURN\*

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00425	SF 15-2 E M1	2-way valve - 230 V - Male gas connections with auxiliary micro - for high temperatures	1/2"	10	6,0	1	5
7.030.00426	SF 20-2 E M1	2-way valve - 230 V - Male gas connections with auxiliary micro - for high temperatures	3/4"	10	8,0	1	5
7.030.00427	SF 25-2 E M1	2-way valve - 230 V - Male gas connections with auxiliary micro - for high temperatures	1"	10	10	1	5

## SPECIFICATIONS

- \* All the valves in the SF and SFC series can be supplied with 24 V and 110 V motors (please contact MUT for codes)





- CONNECTIONS FOR COOPER PIE
- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF HT 2 WAY

ZONE VALVES WITH SPRING RETURN\*

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00428	SF 15-2 EB M1	2-way valve - 230 V - connections for copper pipe with auxiliary micro - complete with nuts - ferrules for high temperatures	15 mm	10	6,0	1	5
7.030.00429	SF 16-2 EB M1	2-way valve - 230 V - connections for copper pipe with auxiliary micro - complete with nuts - ferrules for high temperatures	16 mm	10	6,0	1	5
7.030.00430	SF 20-2 EB M1	2-way valve - 230 V - connections for copper pipe with auxiliary micro - complete with nuts - ferrules for high temperatures	22 mm	10	8,0	1	5
7.030.00431	SF 25-2 B M1	2-way valve - 230 V - connections for copper pipe with auxiliary micro - complete with nuts - ferrules for high temperatures	28 mm	10	10	1	5



- MALE CONNECTIONS
- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF HT 2 WAY

ZONE VALVES WITH SPRING RETURN\*

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00420	SF BASE M1	2-way valve - 230 V - complete with flanges with auxiliary micros - for high temperatures	1" 1/4	10	12,6	1	5

### SPECIFICATIONS

- \* All the valves in the SF and SFC series can be supplied with 24 V and 110 V motors (please contact MUT for codes)



- FEMALE CONNECTIONS
- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF HT 3 WAY

ZONE VALVES WITH SPRING RETURN\*

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00410	SF 15 M1	3-way valve- 230 V - Female gas union with auxiliary micro - for high temperatures	1/2"	10	6,6	1	5
7.030.00411	SF 20 M1	3-way valve- 230 V - Female gas union with auxiliary micro - for high temperatures	3/4"	10	8,0	1	5
7.030.00387	SF 25 M1	3-way valve- 230 V - Female gas union with auxiliary micro - for high temperatures	1"	10	12,6	1	5



- MALE CONNECTIONS
- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF HT 3 WAY

ZONE VALVES WITH SPRING RETURN\*

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00412	SF 15 E M1	3-way valve- 230 V - Male gas union with auxiliary micro - for high temperatures	1/2"	10	6,6	1	5
7.030.00413	SF 20 E M1	3-way valve- 230 V - Male gas union with auxiliary micro - for high temperatures	3/4"	10	8,0	1	5
7.030.00414	SF 25 E M1	3-way valve- 230 V - Male gas union with auxiliary micro - for high temperatures	1"	10	12,6	1	5

## SPECIFICATIONS

- \* All the valves in the SF and SFC series can be supplied with 24 V and 110 V motors (please contact MUT for codes)



- CONNECTIONS FOR COOPER PIE
- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF HT 3 WAY

ZONE VALVES WITH SPRING RETURN\*

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00415	SF 15 EB M1	3-way valve - 230 V - connections for copper pipe with auxiliary micros - complete with nuts - ferrules - for high temperatures	15 mm	10	6,6	1	5
7.030.00416	SF 16 EB M1	3-way valve - 230 V - connections for copper pipe with auxiliary micros - complete with nuts - ferrules - for high temperatures	16 mm	10	6,6	1	5
7.030.00417	SF 20 EB M1	3-way valve - 230 V - connections for copper pipe with auxiliary micros - complete with nuts - ferrules - for high temperatures	22 mm	10	8,0	1	5
7.030.00418	SF 25 B M1	3-way valve - 230 V - connections for copper pipe with auxiliary micros - complete with nuts - ferrules - for high temperatures	28 mm	10	12,6	1	5



- COMPLETE WITH FLANGES
- WITH AUXILIARY MICRO
- AVAILABLE WITH 24 V AND 110 V MOTOR

## SF HT 3 WAY

ZONE VALVES WITH SPRING RETURN\*

CODE	MODEL	DESCRIPTION	SIZE	PN	KVS	PACK	PACKAGING
7.030.00419	SF BASE M1	3-way valve - 230 V - complete with flanges with auxiliary micros - for high temperatures		10	12,6	1	5
7.030.00421	SF BASE M1	3-way valve - 230 V - complete with flanges with auxiliary micros - for high temperatures	1" 1/4	10	12,6	1	5

### SPECIFICATIONS

- \* All the valves in the SF and SFC series can be supplied with 24 V and 110 V motors (please contact MUT for codes)



- MALE CONNECTINS
- WITH AUXILIARY MICRO

# ACCESSORIES

FOR SF SERIES VALVES\*

CODE	DESCRIPTION	SIZE	PACK	PACKAGING
7.030.00471	Mount for 3-way valve - 230 V with auxiliary micro - for high temperatures	1/2"-3/4"	1	5
7.030.00472	Mount for 3-way valve - 230 V with auxiliary micro - for high temperatures	1"	1	5
7.030.00473	Mount for 2-way valve - 230 V with auxiliary micro - for high temperatures	1/2"-3/4"	1	5
7.030.00474	Mount for 2-way Basic SF and SFC valves 230 V with auxiliary micro - for high temperatures	1"	1	5

## SPECIFICATIONS

- \* All the valves in the SF and SFC series can be supplied with 24 V and 110 V motors (please contact MUT for codes)

# SOLAR DIRECT BOOST UNIT

FOR SOLAR HEATING SYSTEM

The MUT SOLAR GRD direct boost unit is used in the primary circuit of solar systems. Its main function is to facilitate the flow of fluid from the solar panel to the hot water storage tank while simultaneously regulating the temperature inside the boiler. The unit is equipped with safety devices and other accessories that contribute to the efficient operation of the circuit. It comes standard with preformed Closed cell expanded PEX insulation and a high-efficiency pump.



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ErP 2009/125/EU  
Erp 2015

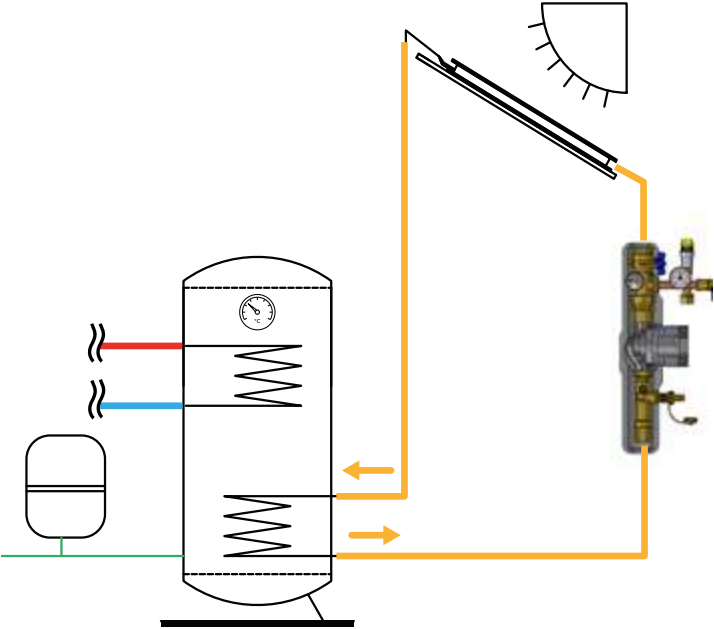


TECHNICAL DATASHEET

TECHNICAL DATA

	Connections Inlet side G 3/4" - Outlet side G 1"
	Working fluids Water, glycol solutions [max 50%]
	Max. differential pressure 10 bar
	Max operating temperature 110 °C [max]
	Safety valve setting 6 bar
	Minimum opening pressure for check valve (Dp) 2 kPa
	Temperature range for safety valve -30-160 °C
	Campo di misura termometro 0-160 °C
	Thermometer measurement range 0-10 bar
	Flowmeter 1 ÷ 13 l/min
	Loading/discharge connection measurement with rubber port Ø 15 mm / without rubber port G 3/4"

APPLICATION EXAMPLE



SOLAR DIRECT BOOST UNIT  
FOR SOLAR HEATING SYSTEM

CODICE	MODEL	DESCRIPTION	PACK	PACKAGING
7.030.03308	GRD SOLAR	Direct Expansion Group for solar systems Dab Evosta 2 sol 70/130 pump	1	1
7.030.03387	GRD SOLAR	Direct Expansion Group for Solar Systems Wilco STG 8/130 Pump	1	1

# MOTOR - VALVE COMPATIBILITY TABLE



PAG. 140

## MK

FROM G 1/2" TO G 1" 1/4

MOTOR  
AS 250  
PAG. 143



MOTOR  
AS 400  
PAG. 144



PAG. 140

## MK

FROM G 1/2" TO G 2"

MOTOR  
AS 800  
PAG. 145



PAG. 150

## MK DN

FROM DN 50 TO DN 100

MOTOR  
AS 1400  
PAG. 151



PAG. 150

## MK DN

FROM DN 125 TO DN 150

MOTOR  
AS 3200  
PAG. 151



PAG. 106

## VM/VF 1000

FROM DN 32 TO DN 50

MOTOR  
V 200  
PAG. 123



PAG. 106

## VM/VF 1000

FROM DN 65 TO DN 125

MOTOR  
M 1000  
PAG. 123



PAG. 128

## VM/VDM 2000

FROM G 3/4" TO G 1" 1/2

MOTOR  
V 200  
PAG. 123







PAG. 104

# VM 3000

FROM DN 15 TO DN 50

MOTOR  
V 70  
PAG.109



PAG. 134

# VMX

MOTOR  
V 70  
PAG.135



PAG. 170

# VDE

MOTOR  
MR  
PAG.46



PAG. 181

# VPR

RANGE 2,5 MM



MOTOR V3  
PAG.181



MOTOR ARM  
PAG.181



PAG. 181

# VPR

RANGE 6 MM



MOTOR V3  
PAG.175



PAG. 176

# FV3 V3B



MOTOR V3  
PAG.189



MOTOR ARM  
PAG.190



MOTOR V3EC  
PAG.191



PAG. 186

# F2V



MOTOR V3  
PAG.189



MOTOR ARM  
PAG.190



MOTOR V3EC  
PAG.191

















# MUT TERMS OF SALE

## GENERAL CONDITIONS

Stipulation of the agreement)

Unless otherwise agreed in writing, the agreement is stipulated upon acceptance of the Customer's order by MUT and, if the acceptance contains modifications to the order, upon subsequent confirmation by the Customer.

These general terms apply to the agreement. Any exemptions or additions to said terms are valid only if specifically accepted by MUT in writing. These general terms will also apply to agreements stipulated subsequently with the same customer, without the need for further deeds or procedures for stipulation and acceptance thereof.

Orders collected or commitments undertaken by our representatives are valid after our acceptance or written confirmation has been given.

The Customer's general conditions will not be applied under any circumstances, even partially.

(Amendments to the agreement) . Any amendments to the agreement, proposed by the Customer, will be valid only if accepted in writing by MUT.

(Competent court of jurisdiction) The parties agree that any dispute arising out of this agreement shall be finally settled by the Vicenza courts. To the extent allowed by law, MUT may take concurrent Proceedings in any number of court..

## INDUSTRIAL INFORMATION

(Industrial information communicated by MUT)

Any drawing, design, document or technical information, software or any other industrial information transmitted or communicated, also verbally, to the Customer prior to or after stipulation of the agreement remains the sole property of MUT. In particular, said industrial information may not be used by the Customer, copied or reproduced, transmitted, communicated or disclosed to third parties without the prior written consent of MUT.

## CATALOGUES AND PRICE LISTS

The technical data, measurements, specifications, performance and all other information reproduced in our catalogues, price lists, brochures, circulars etc. are intended as a guide only and may be amended without notice. The parameters are binding only if specified in the order acknowledgement.

## WARRANTY AND LIABILITY OF MUT

(Extension and duration of the warranty - Reporting of defects) MUT has no knowledge of the use the Customer intends to make of the product. MUT guarantees the Customer that the product complies with what has been agreed and with the specifications provided in the technical data sheet and that it is free from design and manufacturing defects.

It furthermore guarantees efficient operation of the product if used correctly, in addition to compliance with the technical regulations, safety regulations, environmental regulations and other regulations in force in Italy.

Our warranty is limited to replacement and/or repair of the faulty part at our factory. The parts produced by us, recognised by us as defective, after written communication thereof by the Customer within 15 (fifteen) days from the date of discovery of said defect, on pain of forfeiture, are replaced and/or repaired by us and dispatched ex works. The warranty will run for 12 (twelve) months starting from the invoice date.

The liability of MUT is limited to elimination of the defects that occur during normal operation, in the course of correct use and diligent performance of assembly and maintenance of the parts. Claims for direct and indirect damages, loss of production, compensation of any type, penalties and any costs are excluded.

All guarantees for components or products that have been tampered with or repaired or altered outside our factory without our authorisation are furthermore excluded.

In any case MUT accepts no liability for damage relating to non-operation or interrupted operation of a plant in which the Customer has inserted the product. (Extracontractual liability)

It is understood that any liability deriving from plants or machinery in which the Customer has inserted the products, including any injury to persons or damage to things, pertains solely to the Customer.

## DELIVERY AND PAYMENTS

The goods are delivered ex works. Also in the case of different methods of dispatch, requested by the Customer and confirmed by us in the order acceptance, the goods will travel at the Customer's risk. Customers who request in writing insurance cover against transport risks shall sustain the related costs. The carrier declines all liability and undertaking for any strikes, transport interruptions, delays and unforeseen events of any type that can be attributed to circumstances beyond its control. The goods are packed by us with maximum care and to the highest standards, therefore in the event of damage the Customer shall address all reservations and any complaints directly to the carrier.

The time required for production of the supply and the consequent delivery terms indicated in our offers and acknowledgements are indicative and not binding. Causes of force majeure such as fire, flooding, natural catastrophes, strikes etc. suspend the obligation to observe said times and terms. (Payments) The terms and conditions of payment are those scheduled in the order. In the event of delay in payment, interest in the amount provided for by the Legislative Decree 231/2002 will be due to MUT, as from the due date originally agreed. MUT may suspend production and deliveries in the event of non-fulfilment of the Customer or if circumstances exist making it likely that the Customer will not regularly fulfil the agreement.

We reserve the right to modify our products, to make technical improvements and to develop them further.

All illustrations, numerical data, etc. are not binding.



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