

VALVOLE MISCELATRICI E DEVIATRICI MIXING AND DIVERTER VALVES

VALVOLE A ROTORE MOTORIZZABILI
MOTORIZABLE ROTOR VALVES



mut 
Thermal System Solutions

UK EAC CE

SERIE VM 3000/3000R/3000M/3000E



CARATTERISTICHE PRINCIPALI

Le valvole serie VM3000 sono progettate per impianti idronici centralizzati di riscaldamento e climatizzazione, dove assicurano una miscelazione efficace tra mandata e ritorno, evitando fenomeni di condensazione. La miscelazione avviene tramite profili interni sagomati a caratteristica lineare: con rotore a settore circolare nei modelli a 3 vie e a farfalla nei modelli a 4 vie. Corpo e rotore sono in ottone. L'azionamento è manuale ma facilmente motorizzabile con attuatori MUT serie V70. Il rotore ha un angolo utile di circa 90° (scala 0-10) e può ruotare fino a 360°. Le valvole sono disponibili da DN15 a DN50 con attacchi filettati ISO 228/1, PN10, e sono idonee per fluidi tra 5 °C e 110 °C. Il trafilamento è ≤ (0,3-1)% del Kvs, secondo modello.

MAIN CHARACTERISTICS

The VM3000 series valves are designed for centralized hydronic heating and cooling systems. They ensure efficient mixing of supply and return water, preventing condensation. Mixing occurs through profiled internal passages: circular sector rotor for 3-way models and butterfly rotor for 4-way models. Both valve body and rotor are made of brass. Standard control is manual, but the valves are easily motorized using MUT V70 series actuators. The rotor rotates approx. 90° (scale 0-10) and can turn 360° without mechanical stops. Available in DN15 to DN50 with ISO 228/1 threaded connections, PN10. Suitable for fluids from 5 °C to 110 °C. Internal leakage is ≤ (0.3-1)% of Kvs, depending on the model.

MATERIALI - MATERIALS

Corpo valvola / Valve body	Ottone / Brass CW617N (UNI EN 12165)
Otturatore / Shutter	Ottone / Brass CW617N (UNI EN 12165)
Alberino / Shaft	Acciaio inossidabile / Stainless steel AISI 303
Molla di richiamo / Return Spring	Acciaio inossidabile / Stainless steel
O-Ring di tenuta / Sealing O-ring	EPDM / FKM
Coperchio valvola / Valve cover	PA66 GF25
O-Ring di tenuta / Sealing O-ring	EPDM / FKM
Supporto tenuta O-Ring di tenuta O-ring sealing support	PPO GF20

DATI TECNICI - TECHNICAL DATA



Pressione nominale - Nominal pressure:
PN10



Limiti di temperatura del fluido - Fluid temperature limits
5 ÷ 110 °C [max]



Fluido d'impiego - Working fluid (UNI 8065:2019 / VDI 2035)
Acqua, soluzioni glicolate [max 50%]
Water, water and glycol [max 50%]



Coefficiente di portata Kvs - Flow coefficient Kvs
([m³/h] at ΔP = 1 bar):
Kvs = vedi nella tabella tab.1 dati dimensionali
Kvs = See reference on tab.1 dimensional data



Connessioni - Connections
DN15 ÷ DN50 filettati ISO 228/1
Threaded ISO 228/1 (DN15 to DN50)



Angolo di rotazione - Rotation angle
≈ 90° per regolazione (scala 0-10), rotazione libera fino a 360°
≈ 90° for adjustment (scale 0-10), full 360° free rotation

Trafilamento interno - Internal Leakage

Kvo ≤ (0,3 - 1) % Kvs a seconda del modello
Kvo ≤ (0.3-1)% of nominal flow rate (Kvs) depending on models

MUT - SERVOMOTORE - SERVOMOTOR (V70) (opzionale/optional)



Tipo di azionamento Type of drive control
Motore elettrico rotativo / Rotary electric motor



**Tensione di alimentazione nominale
Nominal power supply voltage:**
230 Vac - 50/60 Hz oppure / or 24 Vac - 50/60 Hz



Potenza assorbita - Absorbed power
4 W (max)



Portata dei contatti ausiliari - Auxiliary contacts capacity
3 (1) A, 250 V



Tempo di commutazione - commutation time
100 ÷ 220 sec. per 90°



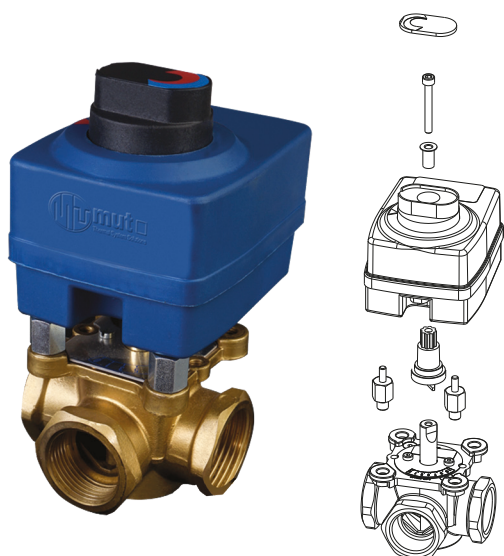
Tipo di connettore elettrico - Electrical connector type
Cavo/Cable - lunghezza - length: 1mw



Classe d'isolamento - Appliance insulation class
Classe I (EN 60730)



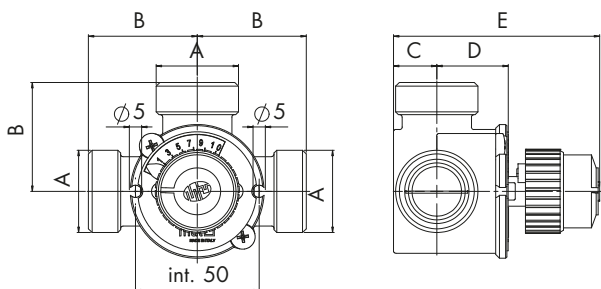
Grado di protezione - Protection rating
IP54 (secondo EN 60529) IP54 (according to EN 60529)





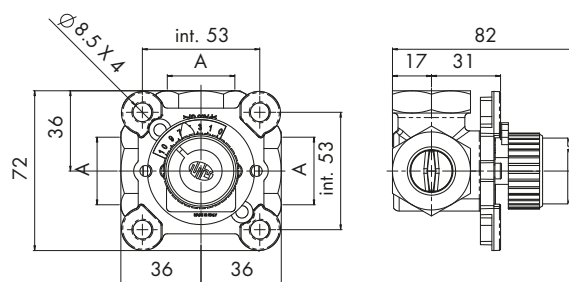
DATI DIMENSIONALI - DIMENSIONS

Dimensioni in [mm] / Dimensions in [mm]



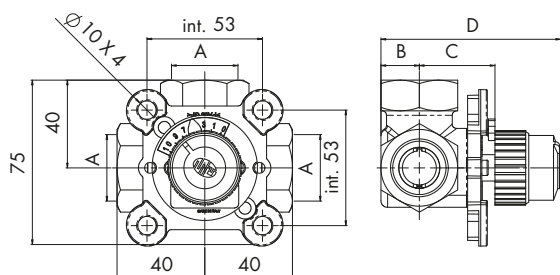
VDM3 3000E

CODICE	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



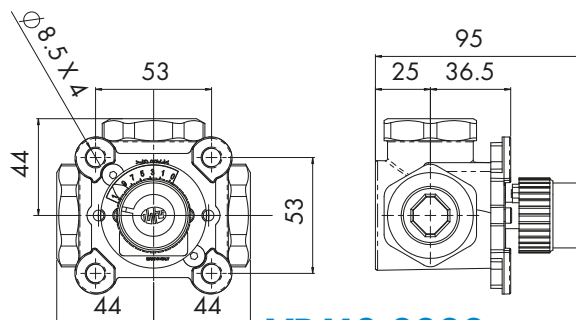
VDM3 3000R

CODICE	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"



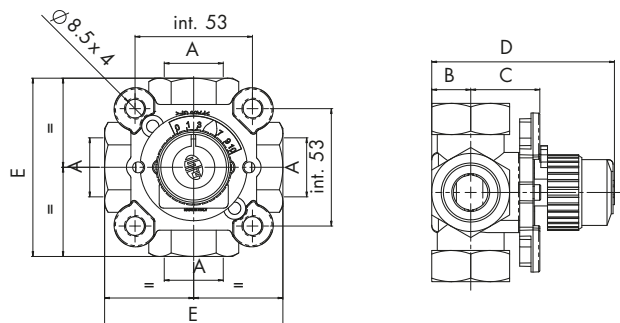
VDM3 3000M

CODICE	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



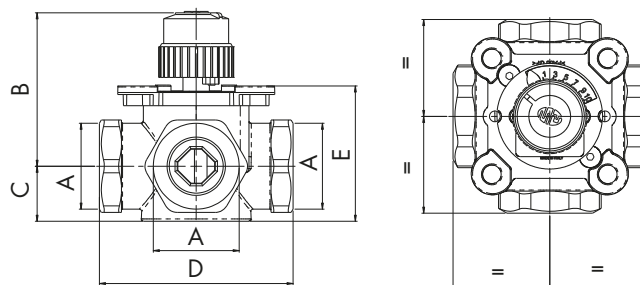
VDM3 3000

CODICE	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

CODICE	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

CODICE	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

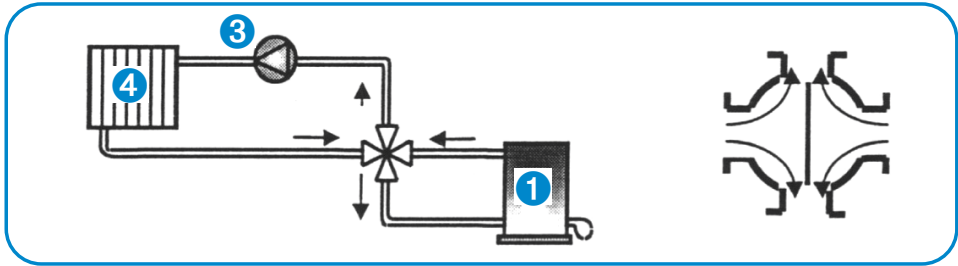
VM4 3000

CODICE	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

ESEMPI APPLICAZIONE - APPLICATION EXAMPLE

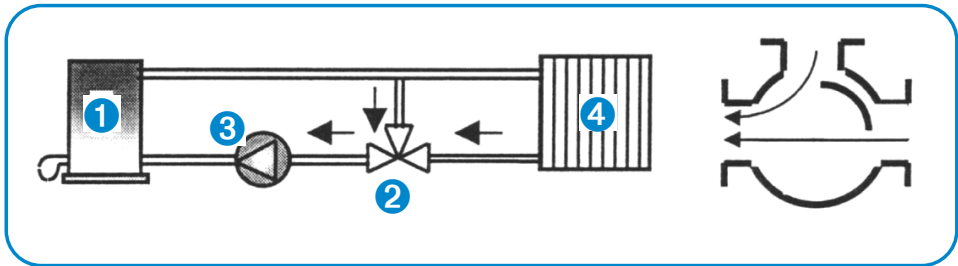
VALVOLA MISCELAZIONE A 4 VIE VM4

Installation layout for 4-way V M4 valve



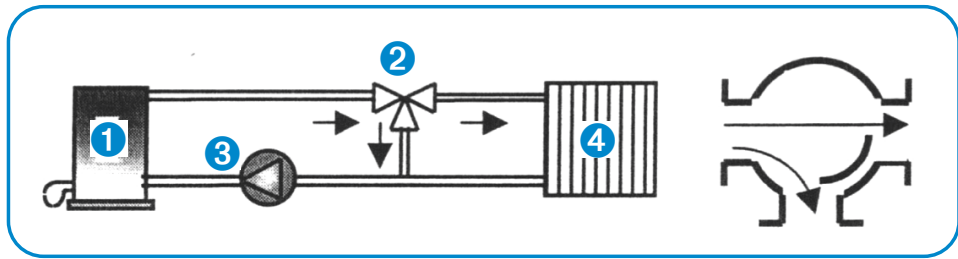
VALVOLA IN MISCELAZIONE A 3 VIE VDM3

Installation layout for 3way VDM3 valve in mixing



VALVOLA IN DEVIAZIONE A 3 VIE VM3

Installation layout for 3-way VM3 valve in deviation



LEGENDA / LEGEND

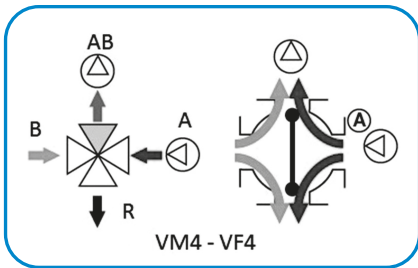
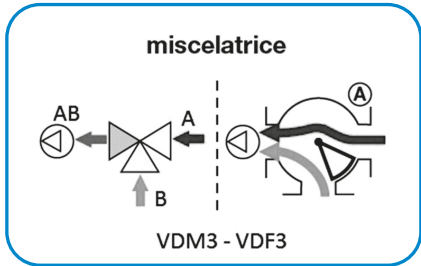
1 Caldaia - Boiler 2 Valvola - Valve 3 Pompa - Pump 4 Impianto - System

SCHEMI DI FUNZIONAMENTO APPLICATION DIAGRAMS

Legenda:

- A Mandata caldaia / Boiler supply
 - R Ritorno caldaia / Boiler return
 - AB Mandata impianto / System supply
 - B Ritorno impianto / System return
 - A Ingresso caldaia / Boiler inlet
- (con valvola in funzione miscelatrice) / (with valve in mixing mode)

Per funzionamento deviatrice:
invertire la direzione dei flussi
For diverting operation:
Reverse the flow direction



CARATTERISTICHE IDRAULICHE - HYDRAULIC CHARACTERISTICS

Modello/ Model	Diametri DN - DN diameters		
	½"	1"	1¼"
VDM3, VM4	20	25	32
Kvo (trafilamento) - Leakage	6.3	12	18
Kvo max - 3 vie - in miscelazione / 3 ways: during mixing	≤0.063	≤ 0.12	≤ 0.18
Kvo max - 3 vie - in deviazione / 3 ways: during deviation	≤ 0.025	≤0.036	≤0.054
Kvo max - 4 vie / 4 ways	≤0.063	≤ 0.12	≤ 0.18

VDM3, VM4	20	25	32
Kvs disponibili (Kvs Available)	1.5 / 4.2 / 6.3	6.3 / 8 / 12	12 / 18

Nella seguente tabella si riportano i coefficienti Kvs e Kvo [portata (m³/h) con ΔPv = 1 bar] al variare del diametro nominale DN e del modello della valvola: The following table gives Kvs and Kvo coefficients [delivery rate (m³/h) with ΔPv = 1 bar] in function of DN nominal diameter and valve model:



GAMMA VALVOLE - VALVE RANGE



VDM 3000E 3 VIE/3 WAY

VALVOLA MISCELATRICE E DEVIATRICE
DIVERTING AND MIXING VALVE



- ATTACCHI FEMMINA
- INTERASSE 72 MM
- FEMALE CONNECTIONS
- CENTER DISTANCE 72 MM

CODICE /CODE	MOD.	DESCRIZIONE	DESCRIPTION	MIS	PN	KVS
7.030.02493	VDM3 3000E	Valvola miscelatrice e deviatrice a 3 vie interasse 72 mm attacchi Gas Maschio	3-way mixer diverter valve interaxes 72 mm Male gas connections	1"	10	9
7.030.01283	VDM3 3000E	Valvola miscelatrice e deviatrice a 3 vie interasse 88 mm attacchi Gas Maschio	3-way mixer diverter valve interaxes 88 mm Male gas connections	1"	10	12
7.030.01282	VDM3 3000E	Valvola miscelatrice e deviatrice a 3 vie interasse 98 mm attacchi Gas Maschio	3-way mixer diverter valve interaxes 98 mm Male gas connections	1" 1/4	10	20
7.030.01281	VDM3 3000E	Valvola miscelatrice e deviatrice a 3 vie interasse 110 mm attacchi Gas Maschio	3-way mixer diverter valve interaxes 110 mm Male gas connections	1" 1/2	10	41
7.030.01277	VDM3 3000E	Valvola miscelatrice e deviatrice a 3 vie interasse 116 mm attacchi Gas Maschio	3-way mixer diverter valve interaxes 116 mm Male gas connections	2"	10	56
7.030.02506	VDM3 3000E	Valvola miscelatrice e deviatrice a 3 vie interasse 116 mm attacchi Gas Maschio	3-way mixer diverter valve interaxes 116 mm Male gas connections	2" 1/4	10	56



VDM 3000R 3 VIE/3 WAY

VALVOLA MISCELATRICE E DEVIATRICE
DIVERTING AND MIXING VALVE



- ATTACCHI FEMMINA
- INTERASSE 72 MM
- FEMALE CONNECTIONS
- CENTER DISTANCE 72 MM

CODICE /CODE	MOD.	DESCRIZIONE	DESCRIPTION	MIS	PN	KVS
7.030.00595	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R - attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	1
7.030.00596	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R - attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	1,5
7.030.000597	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R - attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	2,5
7.020.00090	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R - attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	3/4"	10	6,3
7.030.00569	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1"	10	6,3



VDM 3000R 4 VIE / 4 WAY

VALVOLA MISCELATRICE
MIXING VALVE



- ATTACCHI FEMMINA
- INTERASSE 72 MM
- FEMALE CONNECTIONS
- CENTER DISTANCE 72 MM

CODICE / CODE	MOD.	DESCRIZIONE	DESCRIPTION	MIS	PN	KVS
7.020.00093	VM4 3000R	Valvola miscelatrice a 4 vie mod. VM4 3000R - attacchi Gas Femmina	4-way mixer valve mod. VM4 3000R - Female gas connections	3/4"	10	6,3
7.030.00857	VM4 3000R	Valvola miscelatrice a 4 vie mod. VM4 3000R - attacchi Gas Femmina	4-way mixer valve mod. VM4 3000R - Female gas connections	1"	10	6,3



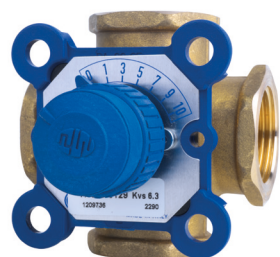
VDM 3000R 3 VIE / 3 WAY

VALVOLA MISCELATRICE E DEVIATRICE
DIVERTING AND MIXING VALVE



- ATTACCHI FEMMINA
- INTERASSE 80 MM
- FEMALE CONNECTIONS
- CENTER DISTANCE 80 MM

CODICE / CODE	MOD.	DESCRIZIONE	DESCRIPTION	MIS	PN	KVS
7.030.00595	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R - attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	1
7.030.00596	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R - attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	1,5
7.030.000597	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R - attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1/2"	10	2,5
7.020.00090	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R - attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	3/4"	10	6,3
7.030.00569	VDM3 3000R	Valvola miscelatrice deviatrice a 3 vie mod. VDM3000R attacchi Gas Femmina	3-way mixer diverter valve mod. VDM3000R - Female gas connections	1"	10	6,3



VM 3000M 4 VIE / 4 WAY

VALVOLA MISCELATRICE
MIXING VALVE



- ATTACCHI FEMMINA
- INTERASSE 80 MM
- FEMALE CONNECTIONS
- CENTER DISTANCE 80 MM

CODICE / CODE	MOD.	DESCRIZIONE	DESCRIPTION	MIS	PN	KVS
7.020.00128	VM4 3000M	Valvola miscelatrice a 4 vie mod. VM4 3000M - attacchi Gas Femmina	4-way mixer valve mod. VM4 3000M - Female gas connections	3/4"	10	6,3
7.020.00129	VM4 3000M	Valvola miscelatrice a 4 vie mod. VM4 3000M - attacchi Gas Femmina	4-way mixer valve mod. VM4 3000M - Female gas connections	1"	10	12
7.020.00130	VM4 3000M	Valvola miscelatrice a 4 vie mod. VM4 3000M - attacchi Gas Femmina	4-way mixer valve mod. VM4 3000M - Female gas connections	1" 1/4	10	18



VDM 3000 3 VIE / 3 WAY

VALVOLA MISCELATRICE/DEVIATRICE
DIVERTING AND MIXING VALVE



- ATTACCHI FEMMINA
- INTERASSE 88 MM
- FEMALE CONNECTIONS
- CENTER DISTANCE 88 MM

CODICE / CODE	MOD.	DESCRIZIONE	DESCRIPTION	MIS	PN	KVS
7.020.00020	VDM3 3000	Valvola miscelatrice/deviatrice a 3 vie - mod. VDM3000 attacchi Gas Femmina	3-way mixer diverter valve- mod. VDM3000 Female gas connections	3/4"	10	6,3
7.020.00001	VDM3 3000	Valvola miscelatrice/deviatrice a 3 vie - mod. VDM3000 attacchi Gas Femmina	3-way mixer diverter valve- mod. VDM3000 Female gas connections	1"	10	12
7.020.00026	VDM3 3000	Valvola miscelatrice/deviatrice a 3 vie - mod. VDM3000 attacchi Gas Femmina	3-way mixer diverter valve- mod. VDM3000 Female gas connections	1" 1/4	10	18



VM 3000 4 VIE / 4 WAY

VALVOLA MISCELATRICE/DEVIATRICE
DIVERTING AND MIXING VALVE



- ATTACCHI FEMMINA
- INTERASSE 88 MM
- FEMALE CONNECTIONS
- CENTER DISTANCE 88 MM

CODICE / CODE	MOD.	DESCRIZIONE	DESCRIPTION	MIS	PN	KVS
7.020.00021	VM4 3000	Valvola miscelatrice deviatrice a 4 vie - mod. VM4 3000 attacchi Gas Femmina	4-way mixer diverter valve- mod. VM4 3000 Female gas connections	3/4"	10	6,3
7.020.00012	VM4 3000	Valvola miscelatrice deviatrice a 4 vie - mod. VM4 3000 attacchi Gas Femmina	4-way mixer diverter valve- mod. VM4 3000 Female gas connections	1"	10	12
7.020.00028	VM4 3000	Valvola miscelatrice deviatrice a 4 vie - mod. VM4 3000 attacchi Gas Femmina	4-way mixer diverter valve- mod. VM4 3000 Female gas connections	1" 1/4	10	18



KIT TENUTA VALVOLE VALVE SEAL KIT

COMPATIBILE/COMPATIBLE CON/WITH VM3000 RANGE

CODICE/CODE	DESCRIZIONE	DESCRIPTION
7.030.01469	Kit tenuta valvole V3000	Valve seal kit V3000
7.030.01470	Kit tenuta valvole VMX-X/H,V3000R/M	Valve seal kit VMX-X/H,V3000R/M



KIT GUSCIO DI ISOLAMENTO INSULATION SHELL KIT

COMPATIBILE CON LA SERIE V3000
COMPATIBLE WITH V3000 SERIE

CODICE /CODE	DESCRIZIONE	DESCRIPTION
7.030.02207	Kit guscio di isolamento V3000R 3 Vie	Shell insulation kit V3000R 3 way
7.030.02208	Kit guscio di isolamento V3000R 4 Vie	Shell insulation kit V3000R 4 way
7.030.02209	Kit guscio di isolamento V3000 3 Vie TM - TD3000	Shell insulation kit V3000 3 way TM - TD3000



MOTORE/MOTOR V70

PER VALVOLE MISCELATRICI/DEVIATRICI A ROTORE
FOR MIXER/DIVERTING ROTOR VALVES



CODICE /CODE	MOD.	DESCRIZIONE	DESCRIPTION	VOLT.
7.019.00074	V70/220/00	Motore V70 On/Off 3 punti per valvole serie 3000, VMX e VMH - Corsa 90° in 220 sec. (su richiesta 50/100/440 sec.) Completo di micro ausiliario e giunto K3	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
7.019.00072	V70/220/00	Motore V70 On/Off 3 punti per valvole serie 3000, VMX e VMH - Corsa 90° in 220 sec. (su richiesta 50/100/440 sec.) Completo di micro ausiliario e giunto K3	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
7.019.00111	V70/100/MO	Motore V70 modulante per valvole serie 3000, VMX e VMH - Corsa 90° in 100 sec. (su richiesta 60/160 sec.) Modulazione 0-10 Vcc (su richiesta 0-5 V; 1-5 V; 2-10 V; 0-20 mA; 4-20 mA); rif 0 % segnale in A; completo di giunto K3	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

TESTO DI CAPITOLATO

Descrizione generale

Valvola miscelatrice per impianti idronici di riscaldamento e climatizzazione centralizzati, idonea anche per uso come valvola deviatrice. La geometria interna assicura una miscelazione fluida tra mandata e ritorno, prevenendo la condensazione.

Caratteristiche

- Disponibile a 3 o 4 vie
- Corpo e rotore in ottone
- Azionamento manuale, motorizzabile con attuatore MUT V70
- Angolo utile 90°, rotazione libera 360°
- Filettatura ISO 228/1, attacchi da DN15 a DN50
- Campo di temperatura fluido: 5 ÷ 110 °C
- Fluido: acqua o soluzione glicolata (max 50%)
- Pressione nominale: PN10

Accessori consigliati

Attuatore V70 con comando 3 punti o modulante (MO) = 0-10V;
7 Nm, IP54, microinterruttore ausiliario incluso

SPECIFICATION SUMMARIES

General Description

Mixing valve for centralized hydronic heating and cooling systems, also suitable for diverting function. The internal geometry ensures smooth flow mixing between supply and return, reducing condensation risk.

Features

- Available in 3 or 4-way versions
- Brass body and rotor
- Manual operation, motorizable with MUT V70 actuator
- 90° effective angle, full 360° free rotation
- ISO 228/1 threaded, sizes from DN15 to DN50
- Fluid temperature range: 5 ÷ 110 °C
- Medium: water or glycol solutions (max 50%)
- Nominal pressure: PN10

Recommended Accessories

V70 actuator with 3-point control o modulant (MO) = 0-10V,
7 Nm, IP54, integrated auxiliary microswitch

Ci riserviamo il diritto di apportare miglioramenti e modifiche ai prodotti descritti ed ai relativi dati tecnici in qualsiasi momento e senza preavviso.

We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice.



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