M&M international

spirax sarco Engineering Group

solenoid valves

The ultimate Technology for fluid control

COMPANY
WITH QUALITY SYSTEM
CERTIFIED BY DNV
=ISO 9001/2000=

CE

European
Community
Conformity

UL

Underwriters
Laboratories
Quality
Certificate

The ultimate Technology for fluid control

M&M international

means:

- Working with a staff of qualified professionals
- Enjoying the benefits of the most advanced technological research
- Quality at competitive price
- Warranty of a company conforming to the rigorous ISO 9001/2000 requirements
- Reliability of a 30-years experience on international markets
- To partner with a company belonging to a multinational group

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PRODUCT INDEX

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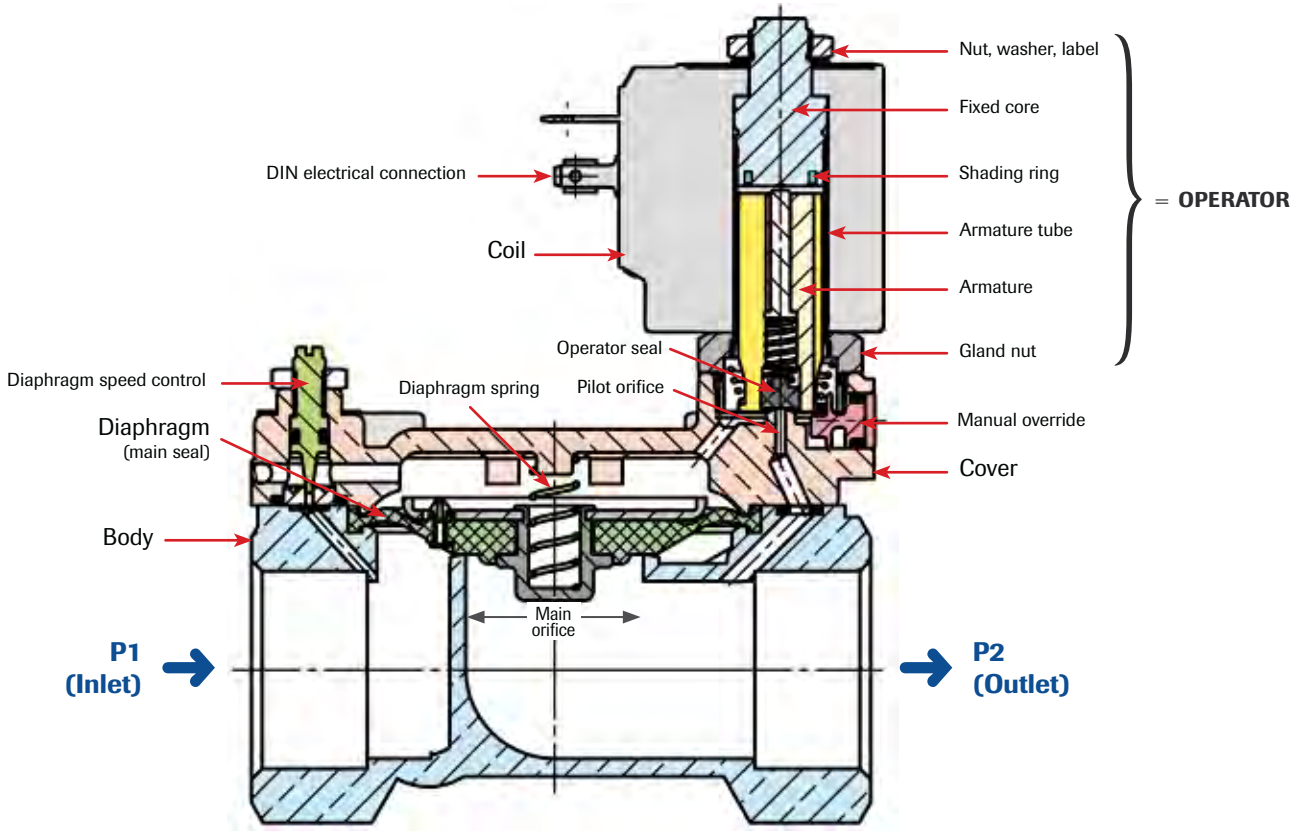
M&M INTERNATIONAL SOLENOID VALVES

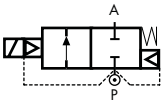
Scheme of components of M&M International solenoid valves



Benefits of M&M International solenoid valves

Robust construction for industrial use Stainless steel orifice	➡	High reliability Long life
Stainless steel operators with low residual magnetism according to 1.4105 EN 10088 (AISI 430F)	➡	Corrosion resistance High performance
High quality seal materials NBR, FKM, EPDM, PTFE, Sigodur (filled PTFE), Ruby, Kalrez®	➡	Maximum compatibility with fluids
Fully interchangeable coils with a wide range of AC and DC voltages	➡	High flexibility with reduced stock
Coils orientability at 360°	➡	Easy and quick installation
Coils tested 100% in compliance with the current EC directives Compliance to RoHS directive and to relevant international standards upon request	➡	CE cULus CSV Ex
Development and execution of special projects	➡	Customer oriented solutions

2/2 WAY PILOT OPERATED SOLENOID VALVE, G 1 1/4″ ÷ G 2″



normally closed

TYPE: D223/224/225

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +90°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Operator seal material: NBR
Seal and diaphragm material: NBR
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)
Speed control screw as standard

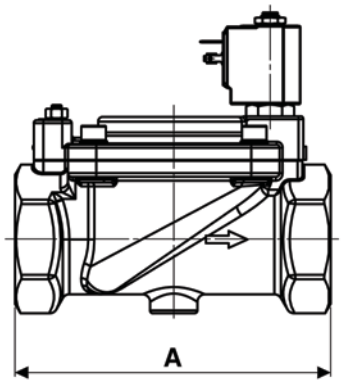
OPTIONS

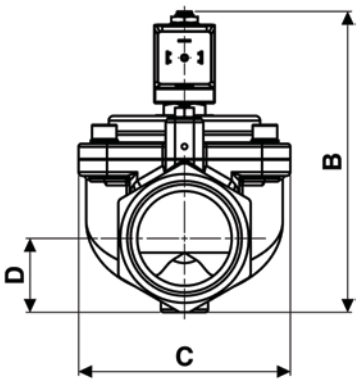
Normally open (e.g. code RD224DBK) with coils class “H” only
Manual override (e.g. code D223DBKM)
EPDM seal for air and hot water MAX 120°C (e.g. code D223DEK)
FKM seal for air, water, oil MAX 130°C (e.g. code D223DVK)
EEX proof version (please see page 43 for more information)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D223DBK	1 1/4″	40	370	0.5	16	16
D224DBK	1 1/2″	40	400	0.5	16	16
D225DBJ	2″	50	540	0.5	16	16

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

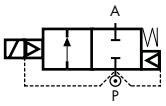




DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1 1/4″	140	140	96	31	2.8
1 1/2″	140	140	96	31	2.8
2″	168	158	112	39	3.9

2/2 WAY PILOT OPERATED SOLENOID VALVE, G 1/4″ ÷ G 1″



normally closed

TYPE: B203/204/205/206/222

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +90°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Operator seal material: NBR
Seal and diaphragm material: NBR
Coil power: AC 10VA (holding)
AC 16VA (inrush)
DC 7W
Protection class: IP 65 (with connector)

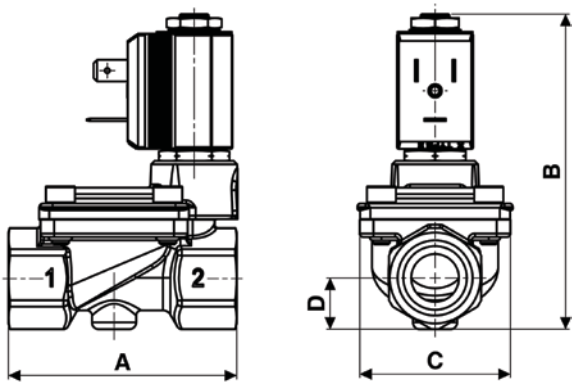
OPTIONS

Normally open (e.g. code RB206DBY)
Manual override (e.g. code B204DBZM)
Speed control screw (only for B206DBYV and B222DBYV)
EPDM seal for air and hot water MAX 120°C (e.g. code B204DEZ)
FKM seal for air, water, oil MAX 130°C (e.g. code B204DVZ)
Version with operator ø 14,5 and coil type 7000 available upon request (e.g. code D205DBZ)
Version for vacuum only operator ø 14,5 (e.g. code D203DBZL)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
B203DBZ	1/4″	13	26	0.3	16	16
B204DBZ	3/8″	13	55	0.3	16	16
B205DBZ	1/2″	13	63	0.3	16	16
B206DBX compact	3/4″	21	100	0.3	16	16
B206DBY	3/4″	25	140	0.3	16	16
B222DBY	1″	25	160	0.3	16	16

COILS	
code	[Volts/Hz]
2250	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz

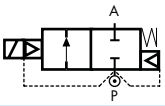


DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	67	90	45.6	15	0.4
3/8″	67	90	45.6	15	0.4
1/2″	67	90	45.6	15	0.4
3/4″ compact	82	105	51.6	20.25	0.6
3/4″	96	115	72	23	1.2
1″	96	115	72	23	1.2

2/2 WAY PILOT OPERATED SOLENOID VALVE, G 1/2″ ÷ G 1″ - MANUAL RESET

To open the valve you have to push manually the reset push-button. The closure of the valve is operated by a short electric impulse. The valve works with a standard DC coil. In case 230Vac is applied, it is necessary to add a connector with half-wave rectifier with reverse polarity (please refer to the wiring diagram).



normally closed

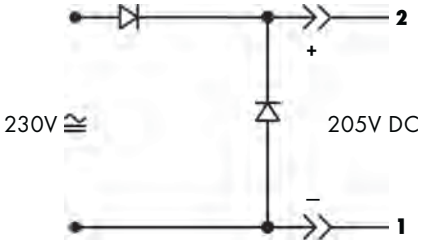
TYPE: D505/506/522

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +80°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Operator seal material: FKM
Seal and diaphragm material: FKM
Coil power: DC 14w
Protection class: IP 65 (with connector)

CONNECTOR - WIRING DIAGRAM -

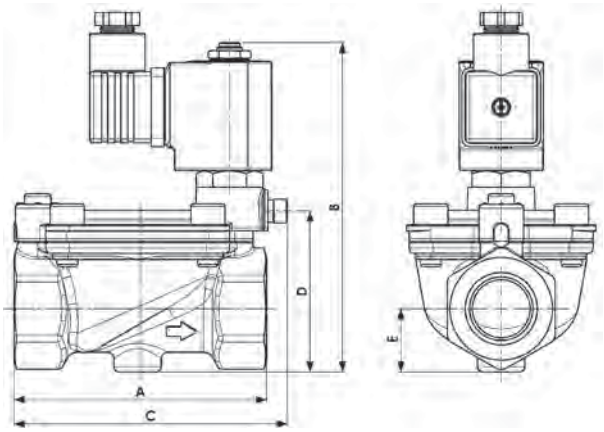
Connector with half-wave rectifier with reverse polarity
code **600 042 00-**



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D505DVZ	1/2″	13	63	0.3	-	16
D506DVY	3/4″	25	140	0.3	-	16
D522DVY	1″	25	160	0.3	-	16

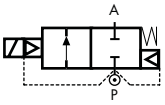
COILS	
code	[Volts/Hz]
7250	24v DC
7S51	205v DC



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	E	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
1/2″	67	102	75	38	15	1.1
3/4″	96	125	104	61.1	24	1.3
1″	96	125	104	61.1	24	1.5

2/2 WAY PILOT OPERATED SOLENOID VALVE, G 1/4″ ÷ G 1/2″



normally closed

TYPE: D264/265/266

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +90°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Operator seal material: NBR
Diaphragm material: NBR
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

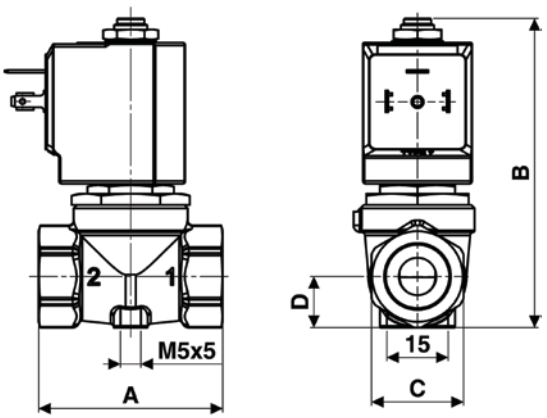
OPTIONS

EPDM seal for air and hot water MAX 120°C (e.g. code D266DEU)
FKM seal for air, water, oil MAX 130°C (e.g. code D266DVU)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D264DBU	1/4″	10.5	21	0.1	16	7
D265DBU	3/8″	10.5	24	0.1	16	7
D266DBU	1/2″	10.5	25	0.1	16	7

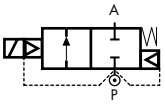
COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	54	89	Hex 27	15	0.4
3/8″	54	89	Hex 27	15	0.4
1/2″	54	89	Hex 27	15	0.4

2/2 WAY PILOT OPERATED VALVE WITH ASSISTED LIFT, G 1/4″ ÷ G 1″



normally closed

TYPE: D187/188/189/190/192/293

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +90°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Operator seal material: FKM
Seal and diaphragm material: NBR
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

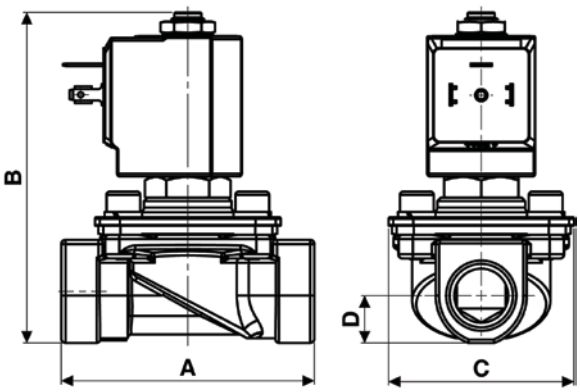
OPTIONS

EPDM seal for air and hot water MAX 120°C (e.g. code D188DEW)
FKM seal for air, water, oil MAX 130°C (e.g. code D187DVW)
• DC MAX 6 barg for D187 ÷ 192 (e.g. code C D187DBW)
• DC MAX 5 barg for D293 (e.g. code C D293DBY)
(*) Speed control screw as standard for type “D293”

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D187DBW	1/4″	15	50	0	16	•
D188DBW	3/8″	15	60	0	16	•
D189DBW	1/2″	15	65	0	16	•
D190DBW	3/4″	15	80	0	16	•
D192DBW compact	1″	15	85	0	16	•
D293DBY (*)	1″	25	140	0	16	•

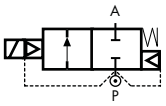
COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	75	108	55	14	0.5
3/8″	75	108	55	14	0.5
1/2″	75	108	55	14	0.5
3/4″	85	108	55	21.5	0.8
1″ compact	85	108	55	21.5	0.7
1″	100	113	70	21.5	1.2

2/2 WAY PILOT OPERATED VALVE WITH ASSISTED LIFT, G 1/4″ ÷ G 1/2″



normally closed

TYPE: D884/885/886

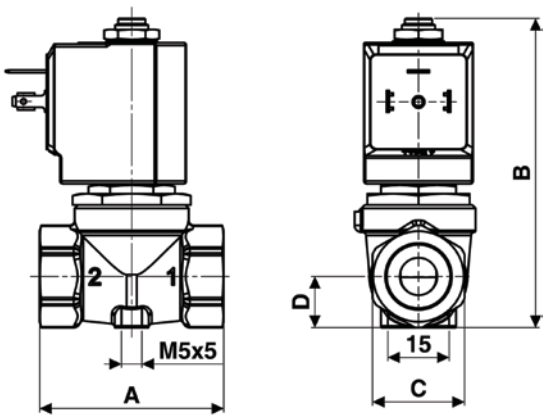
TECHNICAL SPECIFICATIONS

Media: water, oil, air	
Media temperature: -10°C ÷ +90°C	
Ambient temperature: -10°C ÷ +50°C	
Body material: brass (CW617N EN 12165)	
Operator material: stainless steel	
Operator seal material: FKM	
Seal and diaphragm material: FKM	
Coil power:	AC 18VA (holding)
	AC 36VA (inrush)
	DC 14W
Protection class: IP 65 (with connector)	

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D884DVU	1/4″	10.5	21	0	16	6
D885DVU	3/8″	10.5	24	0	16	6
D886DVU	1/2″	10.5	25	0	16	6

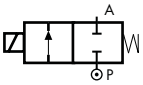
COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	54	89	Hex 27	15	0.45
3/8″	54	89	Hex 27	15	0.4
1/2″	54	89	Hex 27	15	0.4

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/4″ ÷ G 1/2″



normally closed

TYPE: D237/238/239

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Pilot material: stainless steel
Seal material: FKM
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

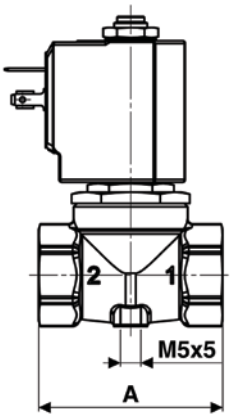
OPTIONS

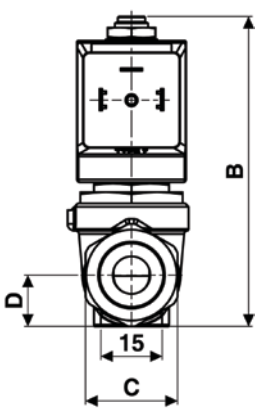
EPDM seal for air and hot water MAX 120°C (e.g. code D239DEU)
NBR seal for air, water, oil MAX 90°C (e.g. code D237DBU)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D237DVU	1/4″	10.5	21	0	0.4	0.2
D238DVL	3/8″	4.0	6	0	8	5
D238DVN	3/8″	5.0	7.5	0	5	2
D238DVP	3/8″	6.0	8.5	0	3.5	1.1
D238DVU	3/8″	10.5	24	0	0.4	0.2
D239DVL	1/2″	4.0	6	0	8	5
D239DVN	1/2″	5.0	7.5	0	5	2
D239DVP	1/2″	6.0	8.5	0	3.5	1.1
D239DVU	1/2″	10.5	25	0	0.4	0.2

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

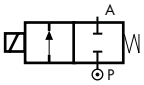




DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	54	89	Hex 27	15	0.45
3/8″	54	89	Hex 27	15	0.4
1/2″	54	89	Hex 27	15	0.4

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″ - G 1/4″



normally closed

TYPE: D262/263

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator: stainless steel
Seal material: foodgrade FKM A80
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

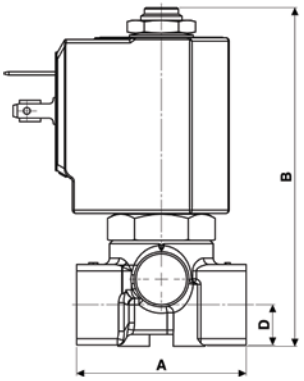
Normally open with class “H” coils only (e.g. code RD263DVG 7701)
Manual override (e.g. code D262DVHM) only up to Ø 3 mm orifice
EPDM seal for air and hot water MAX 120°C (e.g. code D262DEH)
Ruby seal -10°C +180°C for high temperature with class “H” coils only (e.g. code D262DRC 7201)
EEX proof version (please see page 43 for more information)

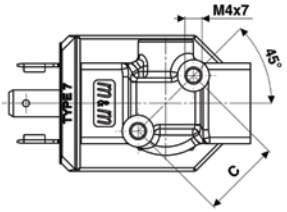
SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D262DVA	1/8″	1.0	0.5	0	30	30
D262DVC	1/8″	1.5	1.3	0	24	24
D262DVG	1/8″	2.5	3.4	0	18	16
D262DVH	1/8″	3.0	4.5	0	15	8
D263DVC	1/4″	1.5	1.3	0	24	24
D263DVG	1/4″	2.5	3.4	0	18	16
D263DVH	1/4″	3.0	4.5	0	15	8
D263DVL*	1/4″	4.0	6.0	0	8	5
D263DVN*	1/4″	5.0	7.5	0	5	2.5
D263DVP*	1/4″	6.0	8.5	0	3	1

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

* NO, manual override and ruby seal versions not available

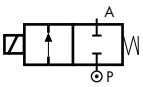




DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″ - 1/4″	40	77.5	18.5	9.5	0.26

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″



normally closed

TYPE: B297

TECHNICAL SPECIFICATIONS

Media ❶: water, oil, air
Media temperature: - 10°C ÷ + 130°C
Ambient temperature: - 10°C ÷ + 50°C
Body material: brass (CW719R EN 12165) low lead content
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: foodgrade FKM A80
Coil power: AC 10VA (holding)
AC 16VA (inrush)
DC 7W
Protection class: IP 65 (with connector)

OPTIONS

Normally open (e.g. code RB297DVC)
Manual override (e.g. code B297DVCM)
EPDM seal for air and hot water MAX 120°C (e.g. code B297DEC)
TEA® electroless nickel plating treatment (e.g. code B297DVEY)
NPT connection upon request (e.g. code B297DVEN)

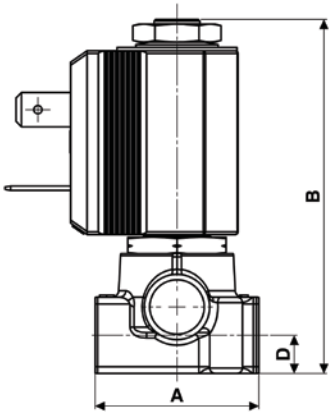
NOTES

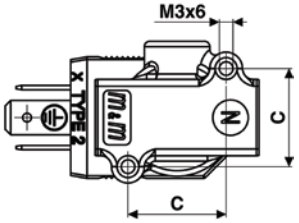
❶ Valve suitable for contact with food media as per the CEE Directives and Regulations. For more specific information, please contact M&M Sales Department.

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
B297DVA	1/8″	1.0	0.5	0	30	28
B297DVB	1/8″	1.2	0.7	0	25	22
B297DVC	1/8″	1.5	1.0	0	22	18
B297DVE	1/8″	2.0	1.7	0	18	9
B297DVG	1/8″	2.5	2.3	0	13	3
B297DVH	1/8″	3.0	3.0	0	8	1

COILS	
code	[Volts/Hz]
2250	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz



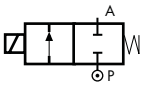


Flow direction overseat 1 → 2

DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″	30	65	18	7	0.15

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″



normally closed

TYPE: C 242

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: - 10°C ÷ + 130°C
Ambient temperature: - 10°C ÷ + 50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Seal material: foodgrade FKM A80
Coil power: DC 7w
Protection class: IP 65 (with connector)

OPTIONS

EPDM seal for air and hot water MAX 120°C (e.g. code C 242BEE)

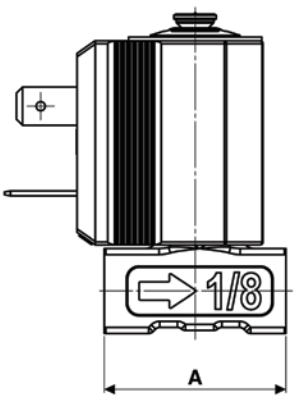
AUTOMATION

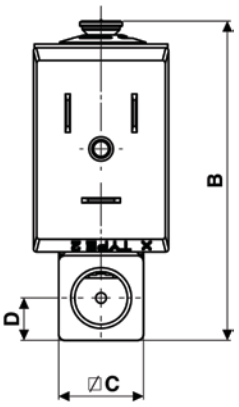
SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
C 242BVE	1/8″	2.0	1.5	0	-	9
C 242BVG	1/8″	2.5	2.5	0	-	2 *

COILS	
code	[Volts/Hz]
2150	12v DC
2250	24v DC

* The performance may increase up to max 4 barg. For more information, please contact M&M Sales Department

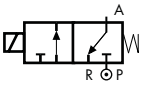




DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″	30	52.7	14	7	0.12

3/2 WAY DIRECT ACTING SOLENOID VALVE FOR MANIFOLDING, G 1/8″



normally closed

TYPE: B919/920/921

TECHNICAL SPECIFICATIONS

Media: water, oil, air	
Media temperature: -10°C ÷ +130°C	
Ambient temperature: -10°C ÷ +50°C	
Body material: brass (CW617N EN 12165)	
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)	
Operator material: stainless steel	
Seal material: foodgrade FKM A80	
Coil power:	AC 10VA (holding)
	AC 16VA (inrush)
	DC 7W
Protection class: IP 65 (with connector)	

OPTIONS

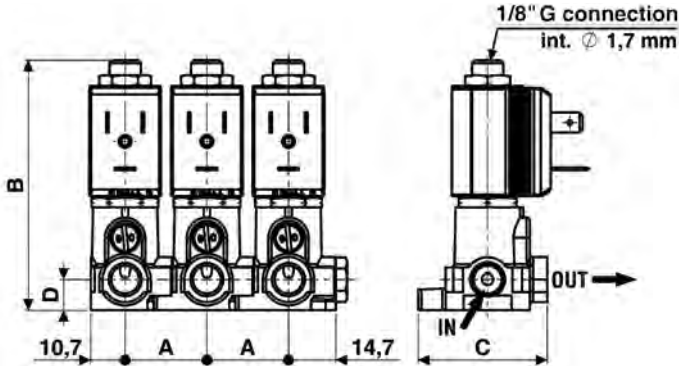
Normally open (e.g. code RB919CVC)
Assembly plug with silicone O-RING code 883 026 00-
Version 2/2 ways w/o manual override (e.g. code B919DVC)
Pre-assembled manifolds with max 4 valves will be delivered upon request
Manual override (e.g. code B919CVCM)

OPTION 2/2 WAY

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
B919CVC	1/8″	1.5	1.0	0	10	10
B920CVC	1/8″	1.5	1.0	0	10	10
B921CVC	1/8″	1.5	1.0	0	10	10

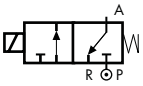
COILS	
code	[Volts/Hz]
2250	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″	25.4	77.7	40.1	9.5	0.18

3/2 WAY DIRECT ACTING SOLENOID VALVE, FLANGE 32x32



normally closed

TYPE: D301

TECHNICAL SPECIFICATIONS

Media: water, oil, air	
Media temperature: -10°C ÷ +130°C	
Ambient temperature: -10°C ÷ +50°C	
Body material: brass (CW617N EN 12165)	
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)	
Operator material: stainless steel	
Seal material: foodgrade FKM A80	
Coil power:	AC 18VA (holding)
	AC 36VA (inrush)
	DC 14W
Protection class: IP 65 (with connector)	

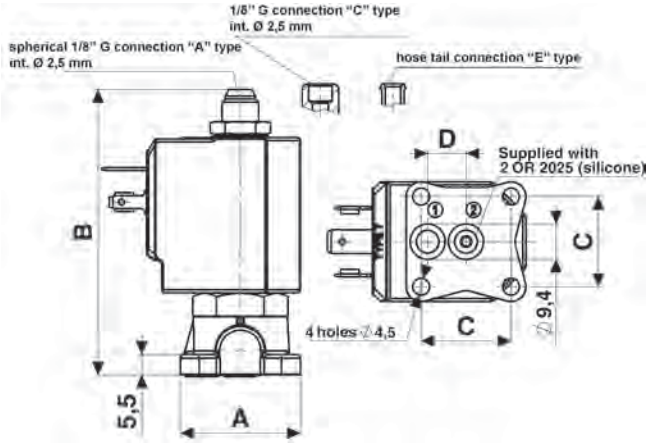
OPTIONS

- Normally open with class “H” coils only (e.g. code RD301CVG)
- Manual override (e.g. code D301AVCM)
- EPDM seal for air and hot water MAX 120°C (e.g. code D301CEC)
- Ruby seal -10°C +180°C for high temperature with class “H” coils only (e.g. code D301ARB 7201)
- Armature tube with spherical 1/8” G connection (e.g. code D301AVC)
- Armature tube with hose tail ø 6 mm (e.g. code D301EVE)

SELECTION TABLE

VALVE	square base	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[mm]	[mm]	[l/min]	[barg]	[barg]	[barg]
D301CVC	32x32	1.5	1.3	0	18	18
D301CVE	32x32	2.0	2.2	0	10	10
D301CVG	32x32	2.5	3.4	0	7	7

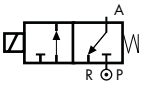
COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

Valve	A	B	C	D	weight
[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
D301	32	77	24	10.25	0.25

3/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″ - G 1/4″



normally closed

TYPE: D362/363

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: FKM
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

Normally open with class “H” coils only (e.g. code RD362CVC)
Manual override (e.g. code D362CVGM) only up to Ø 3 mm orifice
EPDM seal for air and hot water MAX 120°C (e.g. code D363CEC)
Ruby seal -10°C +180°C for high temperature with class “H” coils only (e.g. code D363ARB 7201) only up to Ø 3 mm orifice
Armature tube with spherical 1/8” G connection (e.g. code D362AVC)
EEX proof version (please see page 43 for more information)

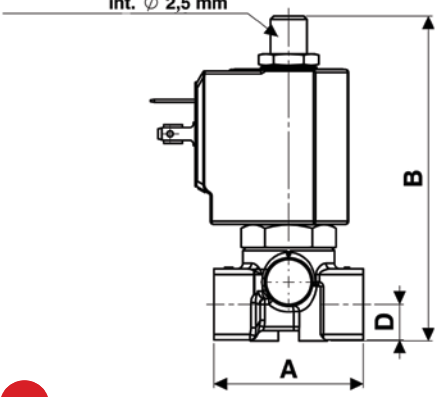
SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D362CVC	1/8″	1.5	1.3	0	18	18
D362CVE	1/8″	2.0	2.2	0	10	10
D362CVG	1/8″	2.5	3.4	0	7	7
D363CVC	1/4″	1.5	1.3	0	18	18
D363CVE	1/4″	2.0	2.2	0	10	10
D363CVG	1/4″	2.5	3.4	0	7	7
D363CVH	1/4″	3.0	4.5	0	5	5
D363CVL *	1/4″	4.0	6.0	0	3.5	3.5
D363CVN *	1/4″	5.0	7.5	0	2.5	2.5
D363CVP *	1/4″	6.0	8.5	0	1.5	1.5

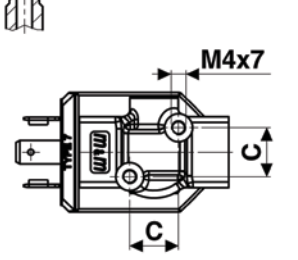
COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

* NO, manual override and Ruby seal versions not available

1/8" G connection "C" type
int. ∅ 2,5 mm



spherical 1/8" G connection "A" type
int. ∅ 2,5 mm

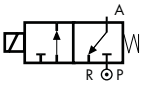


Flow direction underseat 2 → 1

DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″ - 1/4″	40	87	13	9.5	0.25

3/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″



normally closed

TYPE: B397

TECHNICAL SPECIFICATIONS

Media ❶: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: foodgrade FKM A80
Coil power: AC 10VA (holding)
AC 16VA (inrush)
DC 7W
Protection class: IP 65 (with connector)

OPTIONS

Normally open (e.g. code RB397CVE)
Manual override (e.g. code B397CVBM)
EPDM seal for air and hot water MAX 120°C (e.g. code B397CEC)
Armature tube with hose tail Ø 6 mm (e.g. code B397EVE)
Electroless nickel plating treatment (e.g. code B397CVCK)
TEA® electroless nickel plating treatment (e.g. code B397CVCY)

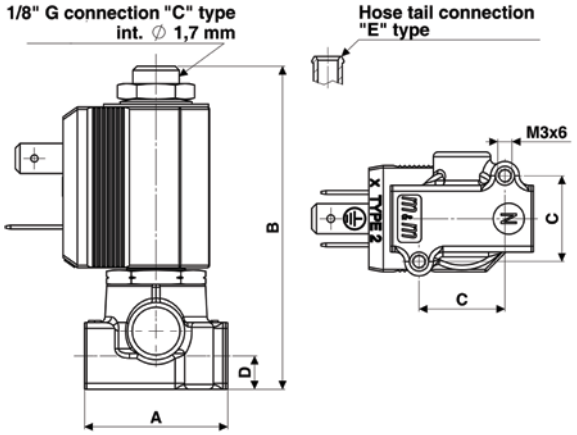
NOTES

❶ Valve suitable for contact with food media as per the CEE Directives and Regulations. For more specific information, please contact M&M Sales Department.

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
B397CVA	1/8″	1.0	0.5	0	18	18
B397CVB	1/8″	1.2	0.7	0	15	15
B397CVC	1/8″	1.5	1.0	0	10	10
B397CVE	1/8″	2.0	1.9	0	5	5
B397CVH	1/8″	3.0	3.5	0	2	2

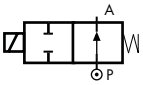
COILS	
code	[Volts/Hz]
2250	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″	30	67.8	18	7	0.15

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/4″



normally open

TYPE: RD236

TECHNICAL SPECIFICATIONS

Media: water, oil, air	
Media temperature: -10°C ÷ +130°C	
Ambient temperature: -10°C ÷ +50°C	
Body material: brass (CW617N EN 12165)	
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)	
Operator material: stainless steel	
Main seal material: foodgrade FKM A80	
Coil power:	AC 18VA (holding)
	AC 36VA (inrush)
	DC 14W
Protection class: IP 65 (with connector)	

OPTIONS

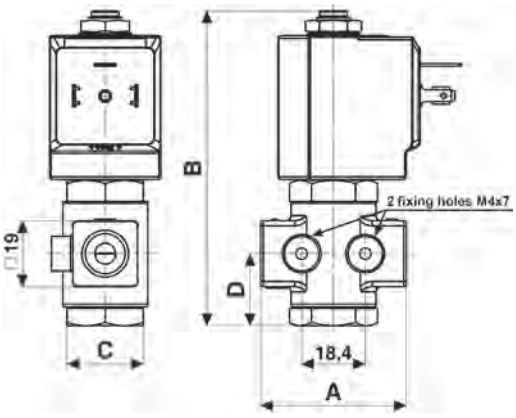
EPDM seal for air and hot water MAX 120°C (e.g. code RD236DEC)
Ruby seal (for liquids only) -10°C +180°C for high temperature and for high pressure with coils class "H" only:
RD236DRH 7201 max OPD AC/DC 30 barg,
RD236DRA 7701 max OPD AC/DC 150 barg

AIR TREATMENT

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
RD236DVA	1/4″	1.0	0.5	0	30	30
RD236DVC	1/4″	1.5	1.3	0	20	20
RD236DVG	1/4″	2.5	2.8	0	15	15
RD236DVH	1/4″	3.0	3.5	0	12	12
RD236DVM	1/4″	4.5	5.5	0	5	5

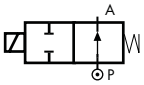
COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	42	91	Hex 22	20.75	0.25

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″



normally open

TYPE: RD213

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Main seal material: foodgrade FKM A80
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

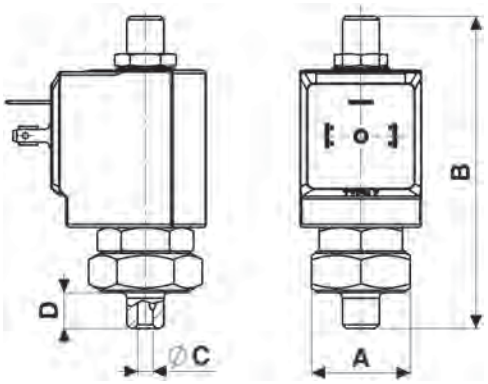
OPTIONS

EPDM seal for air and hot water MAX 120°C (e.g. code RD213CEG)
Armature tube with hose tail Ø 6 mm (e.g. code RD213AVG)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
RD213CVG	1/8″	2.5	2.4	0	16	16

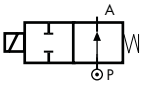
COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″	Hex 26	82.5	4	9.5	--

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″



normally open

TYPE: RB214

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Main seal material: foodgrade FKM A80
Coil power: AC 10VA (holding)
AC 16VA (inrush)
DC 7W
Protection class: IP 65 (with connector)

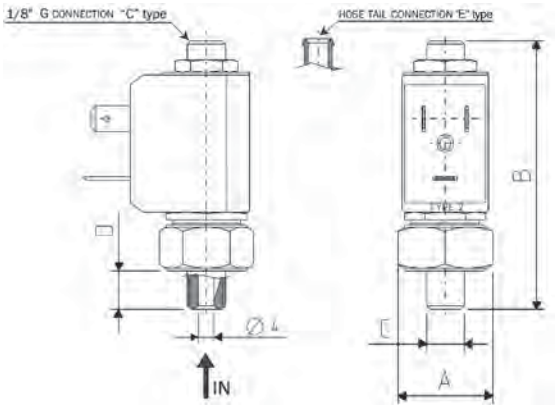
OPTIONS

EPDM seal for air and hot water MAX 120°C (e.g. code RB214CED)
Armature tube with hose tail Ø 6 mm (e.g. code RB214EVD)
NC version available upon request (e.g. code B214EVB)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
RB214CVD	1/8″	1.7	1.2	0	14	14

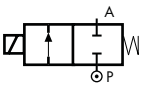
COILS	
code	[Volts/Hz]
2250	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″	21	65.7	1/8	9.5	

2/2 WAY DIRECT ACTING SOLENOID VALVE, FLANGE 32x32



normally closed

TYPE: D201

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: foodgrade FKM A80
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

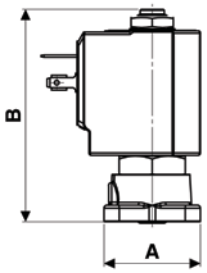
OPTIONS

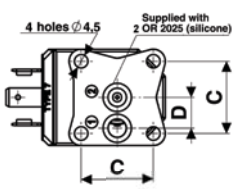
Normally open with class "H" coils only (e.g. code RD201DVC)
Manual override (e.g. code D201DVGM)
EPDM seal for air and hot water MAX 120°C (e.g. code D201DEC)
Ruby seal -10°C +180°C for high temperature with class "H" coils only (e.g. code D201DRG 7201)
Available with brass body, Ø 2 mm machined orifice only, Kalrez seal, PTFE O-Ring (please see the drawing below).
For more information, please contact M&M Sales Department.

SELECTION TABLE

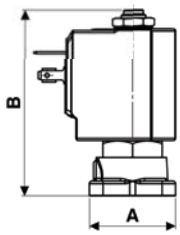
VALVE	square base	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[mm]	[mm]	[l/min]	[barg]	[barg]	[barg]
D201DVC	32x32	1.5	1.3	0	24	24
D201DVE	32x32	2.0	2.2	0	20	20
D201DVG	32x32	2.5	3.4	0	18	18

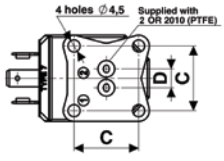
COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz





D201



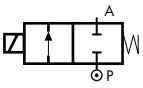


D202

DIMENSIONS & WEIGHTS

code	A	B	C	D	weight
[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
D201	32	70.6	24	10.25	0.25
D202	32	70	24	7	0.2

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/4″



normally closed

TYPE: D249

TECHNICAL SPECIFICATIONS

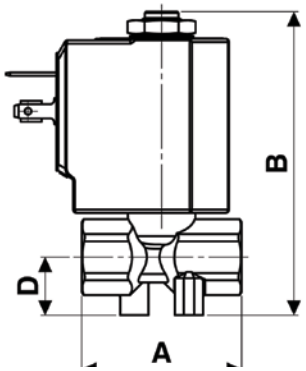
Media: water, oil, air	
Media temperature: -10°C ÷ +130°C	
Ambient temperature: -10°C ÷ +50°C	
Body material: brass (CW617N EN 12165)	
Operator material: stainless steel	
Seal material: FKM	
Coil power:	AC 18VA (holding)
	AC 36VA (inrush)
	DC 14W
Protection class: IP 65 (with connector)	

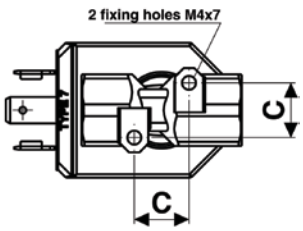
AIR TREATMENT

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D249DVD	1/4″	1.7	1.5	0	25	24
D249DVF	1/4″	2.2	2.4	0	18	16
D249DVH	1/4″	3.0	4.5	0	10	6

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50/60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz





DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	38	72.1	13	13.8	0.18

AUTOMATIC DRAIN VALVE SYSTEMS

Preassembled systems consisting of solenoid valve, timer and connector for time adjusted condensate discharge of tanks with compressed air, separators, mains drainage, dryers and filters.

TECHNICAL SPECIFICATIONS

Media: water, oil, air and inert gases
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Seal material: FKM
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)
Discharge time: 0,5 to 10 sec;
Interval time: 30 sec to 45 min;
Test switch: manual

OPTIONS

UL approved timers and coils
Valve with NPT connection upon request (e.g. code D249DVFN)
Available with analog and digital timers (see page 46)
For more detailed information about the various components (solenoid valve/timer/connector), please refer to each standard datasheet

USER BENEFITS:

- variable to suit your system needs
- indoor / outdoor installations
- reliable, long life
- easy on the pocket
- visual indication of operation
- manual override - test button

SELECTION TABLE

ADV	Valve	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC	Supply
code	code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	[Volts/Hz]
WITH DIRECT ACTING SOLENOID VALVES								SERIES 7000 COILS
888 120 00-	D249DVF	1/4"	2.2	2.4	0	18	-	110v 50Hz - 120v 60Hz
888 121 00-					0	18	-	230v 50Hz - 240v 60Hz
888 122 00-					0	-	16	24v DC
WITH PILOT OPERATED SOLENOID VALVES								SERIES 7000 COILS
888 123 00-	D264DVU	1/4"	10.5	21	0.1	16	-	110v 50Hz - 120v 60Hz
888 124 00-					0.1	16	-	230v 50Hz - 240v 60Hz
888 125 00-					0.1	-	7	24v DC
888 126 00-	D265DVU	3/8"	10.5	24	0.1	16	-	110v 50Hz - 120v 60Hz
888 127 00-					0.1	16	-	230v 50Hz - 240v 60Hz
888 128 00-					0.1	-	7	24v DC
888 129 00-	D266DVU	1/2"	10.5	25	0.1	16	-	110v 50Hz - 120v 60Hz
888 130 00-					0.1	16	-	230v 50Hz - 240v 60Hz
888 131 00-					0.1	-	7	24v DC

STRAINER FOR CONDENSATE DRAIN

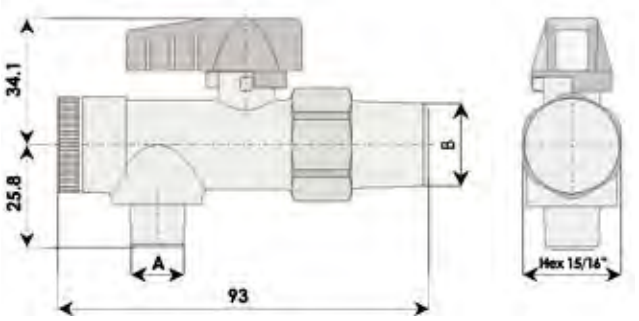
Strainer consisting of a ball valve with filter to be used together with the automatic drain valve.
In order to clean and check the filter it is enough to close the valve to isolate it and then unscrew the plug.

TECHNICAL SPECIFICATIONS

- Media: water, oil, air, inert gases
- Media temperature: -10°C ÷ +130°C
- Ambient temperature: -10°C ÷ +50°C
- Strainer material: brass (CW617N EN 12165)
- Ball valve material: chromed brass (EN 5705-65)
- Filter material: stainless steel (1.4305 EN 10088/AISI 304)
- Seal material: PTFE
- Strainer MAX working pressure: 50 barg
- Cap for inspection and cleaning

SELECTION TABLE

STRAINER	A	B	weight
code	[thread]	[thread]	[kg]
887 052 00-	1/2" NPT	1/2" NPT	0.23
887 053 00-	3/8" NPT	1/2" NPT	
887 054 00-	1/4" NPT	1/2" NPT	
887 057 00-	1/2" GAS	1/2" GAS	
887 058 00-	3/8" GAS	1/2" GAS	
887 059 00-	1/4" GAS	1/2" GAS	



AUTOMATIC DRAIN VALVE SYSTEMS WITH AIR ACTUATED VALVES

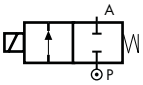
Compressed air systems must be engineered to allow condensate to collect at low points, where automatic drainage should be provided.
Condensate is a mixture of: water, oil and dirt, its "thickness" or viscosity increasing with low temperatures.
Operating drain valves manually is time consuming and costly, and those awkward positions often get forgotten.
The ADV overcomes all these problems allowing you to "tune" its operation, through the variable timers, to suit specific system conditions.

USER BENEFITS:

- no maintenance!
- design studied for severe conditions
- reliable, long life
- no minimum pressure required
- waterhammer-free desing (flow direction 2 → 1)

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″ - G 1/4″

HIGH PRESSURE



normally closed

TYPE: D262/263

TECHNICAL SPECIFICATIONS

Media: water, liquids
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator: stainless steel
Seal material: Ruby
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

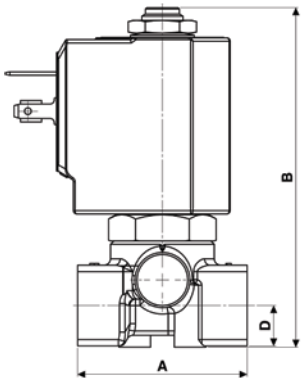
NBR seal available up to 80 barg. For more information please contact M&M Sales Department.

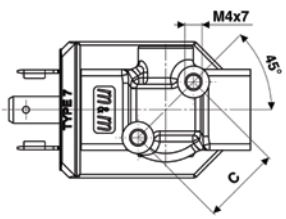
HIGH PRESSURE

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D262DRA1	1/8″	1.0	0.5	0	200	200
D262DRB1	1/8″	1.2	0.7	0	150	70
D262DRC1	1/8″	1.5	1.3	0	150	40
D263DRA1	1/4″	1.0	0.5	0	200	200
D263DRB1	1/4″	1.2	0.7	0	150	70
D263DRC1	1/4″	1.5	1.3	0	150	40

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz





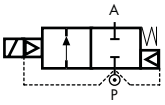
Flow direction overseat 1 → 2

DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″ - 1/4″	40	77.5	18.5	9.5	0.26

2/2 WAY PILOT OPERATED PISTON VALVE, G 1/4″ ÷ G 1/2″

HIGH PRESSURE



normally closed

TYPE: D634/635/636DTT1

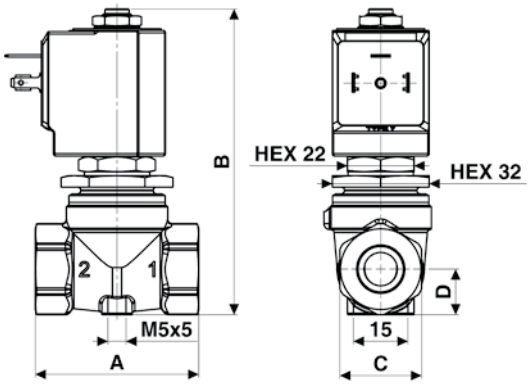
TECHNICAL SPECIFICATIONS

Media: water, air, oil	
Media temperature: +10°C ÷ +130°C	
Ambient temperature: -10°C ÷ +70°C	
Body material: brass (CW617N EN 12165)	
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)	
Operator material: stainless steel	
Seal material: PTFE	
Coil power:	AC 25VA (holding)
	AC 50VA (inrush)
	DC 22W
Protection class: IP 65 (with connector)	

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D634DTT1	1/4″	10	21	0.3	100	60
D635DTT1	3/8″	10	24	0.3	100	60
D636DTT1	1/2″	10	25	0.3	100	60

COILS class ″H″ only	
code	[Volts/Hz]
72Z1	24V DC
72K1	24V 50/60Hz
74K1	110V 50Hz - 120V 60Hz
77K1	230V 50Hz - 240V 60Hz

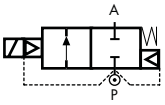


DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	54	100	HEX 27	15	0.5
3/8″	54	100	HEX 27	15	0.45
1/2″	54	100	HEX 27	15	0.45

2/2 WAY PILOT OPERATED SOLENOID VALVE, G 3/8″ ÷ G 3/4″

HIGH PRESSURE



normally closed

TYPE: D232/233/234

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Operator seal material: Ruby
Diaphragm material: FKM
Main seal material: PTFE
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

Normally open (e.g. code RD232DTW) with coils class “H” only
FKM seal for air, water, oil MAX 130°C (e.g. code D233DVW)
MAX OPD: 25 barg AC / DC

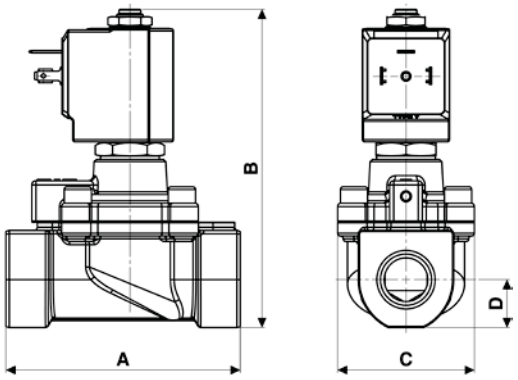
HIGH PRESSURE

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs ✷	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D232DTW	3/8″	16.5	48 ❶	1	50	50
D233DTW	1/2″	16.5	62 ❷	1	50	50
D234DTW	3/4″	16.5	64 ❸	1	50	50

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

✷ **NEW internal design! Kv increased:** ❶ + 54% (was 31), ❷ + 77% (was 35), ❸ + 73% (was 37).

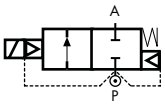


DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
3/8″	86	116.5	50.2	17.5	1
1/2″	86	116.5	50.2	17.5	0.9
3/4″	86	116.5	50.2	17.5	0.9

2/2 WAY PILOT OPERATED SOLENOID VALVE, G 3/4″ - G 1″

STEAM VERSION



normally closed

TYPE: D606/622

TECHNICAL SPECIFICATIONS

Media: water, steam
Media temperature: +60°C ❶ ÷ +180°C
Ambient temperature: -10°C ÷ +70°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Diaphragm and seal material: PTFE
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

Speed control screw ⇨ waterhammer free design
(e. g. code D622DTYV)

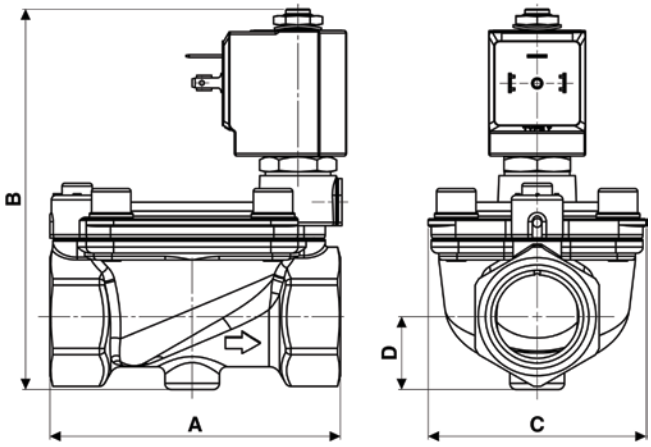
NOTES

❶ For a correct functioning, the minimum working temperature of the solenoid valve cannot be below 60°C.

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D606DTY	3/4″	24	120	1	9	9
D622DTY	1″	24	120	1	9	9

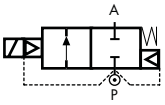
COILS class ″H″ only	
code	[Volts/Hz]
7151	12V DC
7251	24V DC
7201	24V 50/60Hz
7401	110V 50Hz - 120V 60Hz
7601	200V 50Hz - 220V 60Hz
7701	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
3/4″ - 1″	96	126	72	24	1.3

2/2 WAY PILOT OPERATED SOLENOID VALVE, G 1/4″ ÷ G 1″



normally closed

STEAM VERSION

TYPE: D887/888/889/890/892

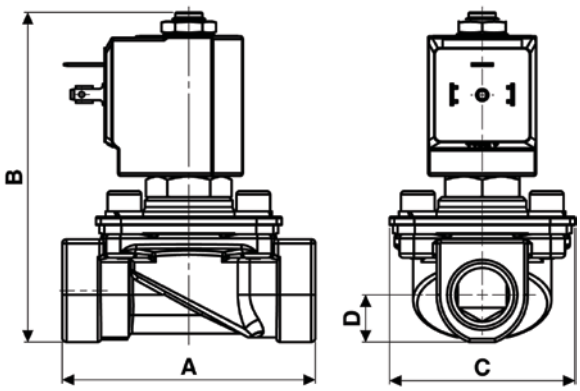
TECHNICAL SPECIFICATIONS

Media: hot water, steam
Media temperature: -10°C ÷ +150°C
Ambient temperature: -10°C ÷ +70°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Operator seal material: EPM PX 70/80
Diaphragm material: PTFE
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 22W
Protection class: IP 65 (with connector)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D887DPV	1/4″	11.5	35	0.3	4.5	4.5
D888DPV	3/8″	11.5	50	0.3	4.5	4.5
D889DPV	1/2″	11.5	55	0.3	4.5	4.5
D890DPV	3/4″	11.5	70	0.3	4.5	4.5
D892DPV	1″	11.5	75	0.3	4.5	4.5

COILS class ″H″ only	
code	[Volts/Hz]
72Z1	24V DC
7201	24V 50/60Hz
7401	110V 50Hz - 120V 60Hz
7601	200V 50Hz - 220V 60Hz
7701	230V 50Hz - 240V 60Hz



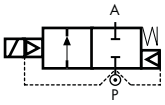
Flow direction overseat 1 → 2

DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	75	108	55	14	0.55
3/8″	75	108	55	14	0.5
1/2″	75	108	55	14	0.5
3/4″	85	108	55	21.5	0.8
1″	85	108	55	21.5	0.8

2/2 WAY PILOT OPERATED PISTON VALVE, G 1/4″ ÷ G 1/2″

STEAM VERSION



normally closed

TYPE: D634/635/636

TECHNICAL SPECIFICATIONS

Media: water, steam	
Media temperature: +80°C ❶ ÷ +180°C	
Ambient temperature: -10°C ÷ +70°C	
Body material: brass (CW617N EN 12165)	
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)	
Operator material: stainless steel	
Seal material: PTFE	
Coil power:	AC 18VA (holding)
	AC 36VA (inrush)
	DC 14W
Protection class: IP 65 (with connector)	

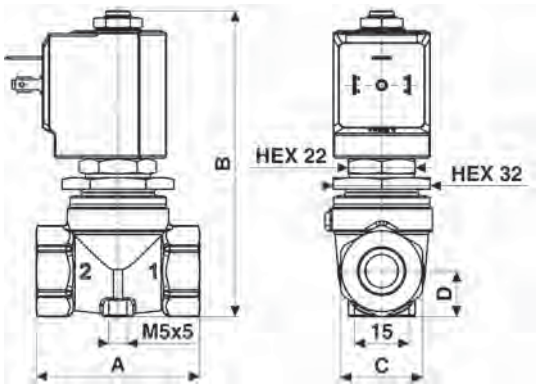
NOTES

❶ For a correct functioning, the minimum working temperature of the solenoid valve cannot be below 80°C.

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D634DTT	1/4″	10	21	0.3	9	9
D635DTT	3/8″	10	24	0.3	9	9
D636DTT	1/2″	10	25	0.3	9	9

COILS class ″H″ only	
code	[Volts/Hz]
7251	24V DC
7201	24V 50/60Hz
7401	110V 50Hz - 120V 60Hz
7601	200V 50Hz - 220V 60Hz
7701	230V 50Hz - 240V 60Hz

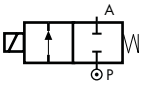


DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	54	100	HEX 27	15	0.5
3/8″	54	100	HEX 27	15	0.45
1/2″	54	100	HEX 27	15	0.45

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″ - G 1/4″

STEAM VERSION



normally closed

TYPE: D262/263

TECHNICAL SPECIFICATIONS

Media: steam
Media temperature: -10°C ÷ +180°C
Ambient temperature: -10°C ÷ +70°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator: stainless steel
Main seal material: Sigodur (filled PTFE)
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

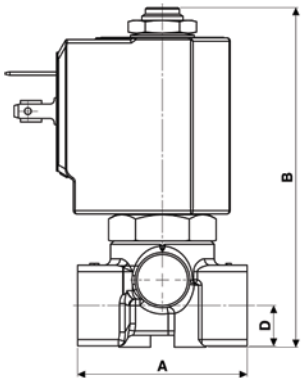
Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)
Also available with Ø 4 mm orifice (e.g. D262DLL), Ø 5 mm orifice (e.g. D262DLN), Ø 5,5 mm orifice (e.g. D262DLO)

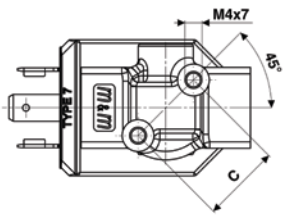
For water, oil, air see page 11.

SELECTION TABLE

VALVE code	G connection [ISO 228 G]	nominal diameter [mm]	flow rate Kvs [l/min]	OPD min [barg]	OPD max AC [barg]	OPD max DC [barg]
D262DLA	1/8″	1.0	0.5	0	9	9
D262DLC	1/8″	1.5	1.3	0	9	9
D262DLG	1/8″	2.0	3.4	0	9	9
D262DLH	1/8″	3.0	4.5	0	9	8
D263DLA	1/4″	1.0	0.5	0	9	9
D263DLC	1/4″	1.5	1.3	0	9	9
D263DLG	1/4″	2.0	3.4	0	9	9
D263DLH	1/4″	3.0	4.5	0	9	8

COILS class ″H″ only code	[Volts/Hz]
7251	24V DC
7201	24V 50/60Hz
7401	110V 50Hz - 120V 60Hz
7601	200V 50Hz - 220V 60Hz
7701	230V 50Hz - 240V 60Hz





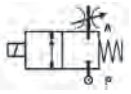
Flow direction overseat 1 → 2

DIMENSIONS & WEIGHTS

G connection [ISO 228 G]	A [mm]	B [mm]	C [mm]	D [mm]	weight [kg]
1/8″ - 1/4″	40	77.5	18.5	9.5	0.26

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/4″ - G 3/8″

WITH FLOW REGULATION - STEAM VERSION -



normally closed

TYPE: D267

TECHNICAL SPECIFICATIONS

Media: water, steam
Media temperature: -10°C ÷ +180°C
Ambient temperature: -10°C ÷ +70°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: Sigodur (filled PTFE)
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

TYPE: D260/261

OPTIONS

Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)

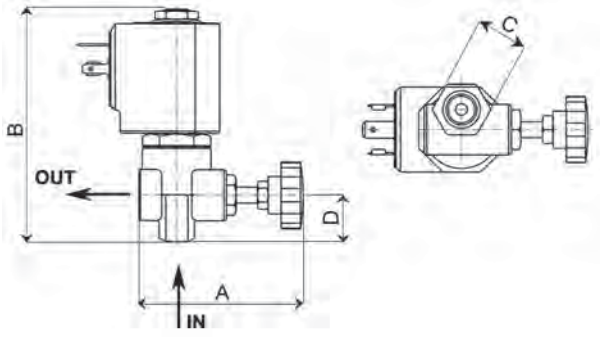
NOTES

D260/D261 not RoHS compliant

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D267DLE	1/4″	2.0	2.2	0	9	9
D267DLG	1/4″	2.5	3.4	0	9	9
D267DLH	1/4″	3.0	4.5	0	9	8
D267DLL	1/4″	4.0	6.0	0	8	5
D260DLP	1/4″	6.0	8.5	0	5	-
D261DLP	3/8″	6.0	8.5	0	5	-

COILS class ″H″ only	
code	[Volts/Hz]
7251	24V DC
7201	24V 50/60Hz
7401	110V 50Hz - 120V 60Hz
7601	200V 50Hz - 220V 60Hz
7701	230V 50Hz - 240V 60Hz

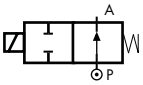


DIMENSIONS & WEIGHTS

VALVE	A	B	C	D	weight
[code]	[mm]	[mm]	[mm]	[mm]	[kg]
D267	55 ÷ 60	88	HEX 19	16.5	0.26
D260/261	72 ÷ 80	96	HEX 22	20	0.395

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/4″

STEAM VERSION



normally open

TYPE: RD236

TECHNICAL SPECIFICATIONS

Media: steam
Media temperature: -10°C ÷ +180°C
Ambient temperature: -10°C ÷ +70°C
Body material: brass (CW617N EN 12165)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Main seal material: Sigodur (filled PTFE)
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

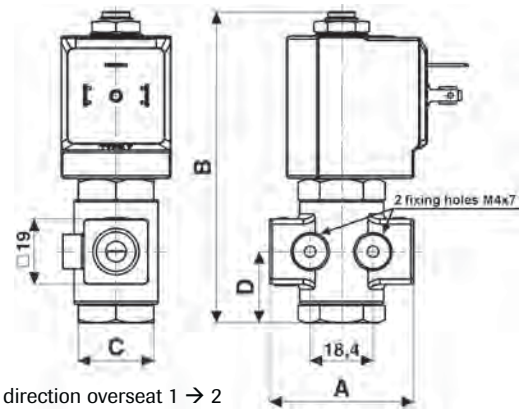
Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)

For water, oil, air see page 18.

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
RD236DLA	1/4″	1.0	0.5	0	9	9
RD236DLC	1/4″	1.5	1.3	0	9	9
RD236DLE	1/4″	2.0	2.0	0	9	9
RD236DLH	1/4″	3.0	3.5	0	9	9

COILS class ″H″ only	
code	[Volts/Hz]
7251	24V DC
7201	24V 50/60Hz
7401	110V 50Hz - 120V 60Hz
7601	200V 50Hz - 220V 60Hz
7701	230V 50Hz - 240V 60Hz

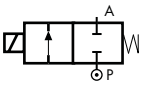


Flow direction overseat 1 → 2

DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/4″	42	91	Hex 22	20.75	0.25

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″



normally closed

TYPE: B298

TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive fluids
Media temperature: - 10°C ÷ + 130°C
Ambient temperature: - 10°C ÷ + 50°C
Body material: stainless steel (1.4305 EN 10088/AISI 303)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: foodgrade FKM A80
Coil power: AC 10VA (holding)
AC 16VA (inrush)
DC 7W
Protection class: IP 65 (with connector)

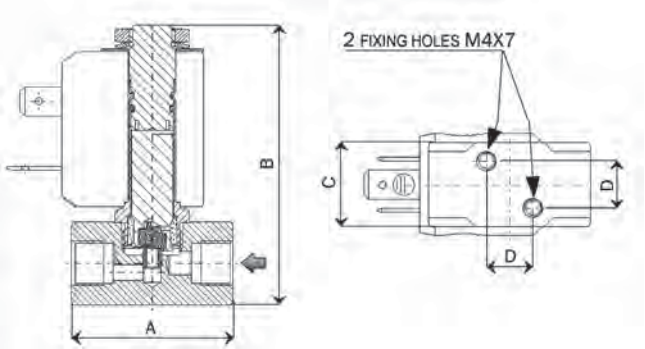
OPTIONS

Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
B298DVC	1/8″	1.5	1.0	0	18	15
B298DVE	1/8″	2.0	1.9	0	12	9
B298DVG	1/8″	2.5	2.7	0	8	3
B298DVH	1/8″	3.0	3.5	0	3	1

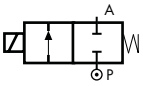
COILS	
code	[Volts/Hz]
2250	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″	35	60.6	18	10	0.1

2/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″ - G 1/4″



normally closed

TYPE: D298/299

TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive fluids
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: stainless steel (1.4305 EN 10088/AISI 303)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: foodgrade FKM A80
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

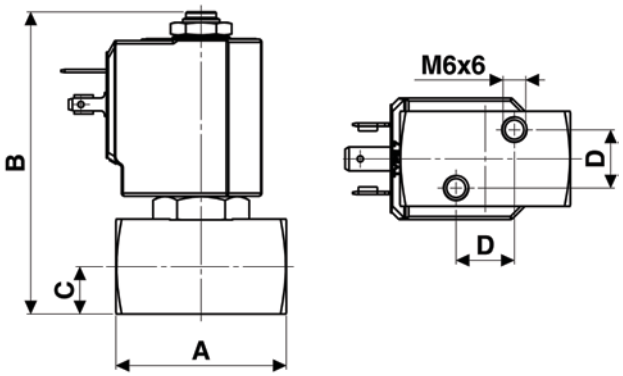
Normally open with class “H” coils only (e.g. code RD298DVG)
Silver shading ring (e.g. code D298DVCA)
Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)
Steam version available (e. g. code D299DLH)
High pressure version available (e. g. code D299DRH1)
EEX proof version (please see page 43 for more information)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D298DVC	1/8″	1.5	1.3	0	24	24
D298DVG	1/8″	2.5	3.4	0	18	16
D298DVH	1/8″	3.0	4.5	0	15	8
D299DVC	1/4″	1.5	1.3	0	24	24
D299DVG	1/4″	2.5	3.4	0	18	16
D299DVH	1/4″	3.0	4.5	0	15	8
D299DVL *	1/4″	4.0	6.0	0	8	5
D299DVN *	1/4″	5.0	7.5	0	5	2

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

* NO version not available

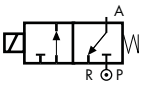


DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″ - 1/4″	45	80	12.5	15.4	0.36

AGGRESSIVE FLUIDS

3/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″



normally closed

TYPE: B398

TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive fluids
Media temperature: - 10°C ÷ + 130°C
Ambient temperature: - 10°C ÷ + 50°C
Body material: stainless steel (1.4305 EN 10088/AISI 303)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: foodgrade FKM A80
Coil power: AC 10VA (holding)
AC 16VA (inrush)
DC 7W
Protection class: IP 65 (with connector)

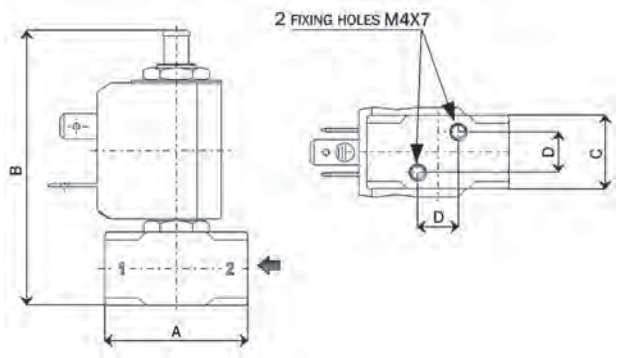
OPTIONS

Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
B398EVB	1/8″	1.2	0.7	0	15	15
B398EVC	1/8″	1.5	1.0	0	10	10
B398EVE	1/8″	2.0	1.9	0	5	5
B398EVG	1/8″	2.5	2.7	0	3	3

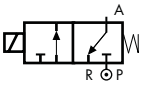
COILS	
code	[Volts/Hz]
2250	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″	35	68	18	10	0.1

3/2 WAY DIRECT ACTING SOLENOID VALVE, G 1/8″ - G 1/4″



normally closed

TYPE: D398/399

TECHNICAL SPECIFICATIONS

Media: water, oil, air, aggressive fluids
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: stainless steel (1.4305 EN 10088/AISI 303)
Orifice material: stainless steel (1.4305 EN 10088/AISI 303)
Operator material: stainless steel
Seal material: foodgrade FKM A80
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

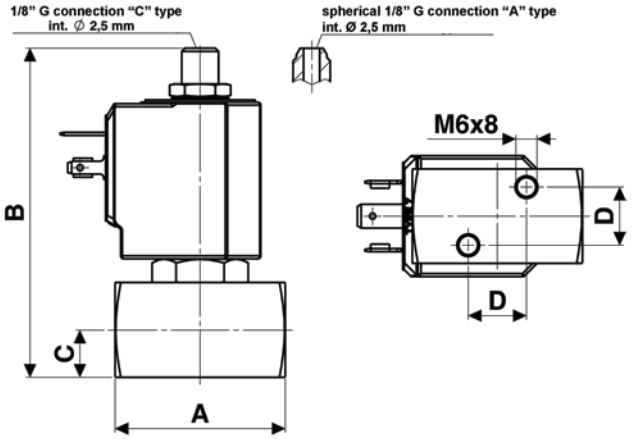
OPTIONS

Normally open with class “H” coils only (e.g. code RD399CVH)
Armature tube with spherical 1/8” G connection (e.g. code D398AVC)
Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)
Also available with Ø 4 mm orifice (e.g. code D399CVL), Ø 5,5 mm (e.g. code D399CVO)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D398CVC	1/8″	1.5	1.3	0	18	18
D398CVE	1/8″	2.0	2.2	0	10	10
D398CVG	1/8″	2.5	3.4	0	7	7
D399CVC	1/4″	1.5	1.3	0	18	18
D399CVE	1/4″	2.0	2.2	0	10	10
D399CVG	1/4″	2.5	3.4	0	7	7
D399CVH	1/4″	3.0	4.5	0	5	5

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

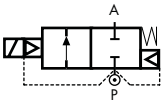


DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
1/8″ - 1/4″	45	87	12.5	15.4	0.35

AGGRESSIVE FLUIDS

2/2 WAY PILOT OPERATED SOLENOID VALVE, G 3/8″ ÷ G 1″



normally closed

TYPE: D204/205/206/222

TECHNICAL SPECIFICATIONS

Media: water, oil, air
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: AISI 316L (ASME SA351/351M GRADE CF3M)
Operator material: stainless steel
Operator seal material: FKM
Seamless tube as standard, suitable for steam
Seal and diaphragm material: FKM
Silver shading ring
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

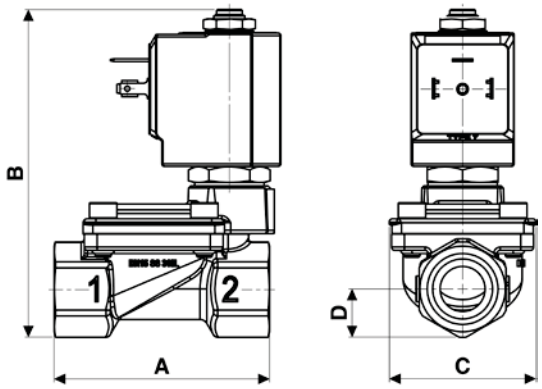
OPTIONS

Normally open with coil with insulation class “H” (e.g. code RD205DVZI 7251)
Manual override (e. g. code D205DBZIM)
EPDM seal for air and hot water MAX 120° C (e. g. code D204DEZI)
NBR seal for air, water, oil MAX 90° C (e. g. code D206DBYI)
NPT connection available upon request; please contact M&M Sales Department
cULus UL coil upon request (e.g. code 770R)
EEX proof version (please see page 43 for more information)

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D204DVZI	3/8″	13	55	0.3	16	16
D205DVZI	1/2″	13	63	0.3	16	16
D206DVYI	3/4″	25	140	0.3	16	16
D222DVYI	1″	25	216	0.3	16	16

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz

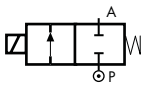


DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
3/8″	67	102	45.6	15	0.49
1/2″	67	102	45.6	15	0.49
3/4″	96	125.1	72	24	1.1
1″	96	125.1	72	24	1.1

2/2 WAY DIRECT ACTING "DRY ARMATURE" SOLENOID VALVE

TOTAL SEPARATION BETWEEN INTERNAL PARTS AND MEDIUM



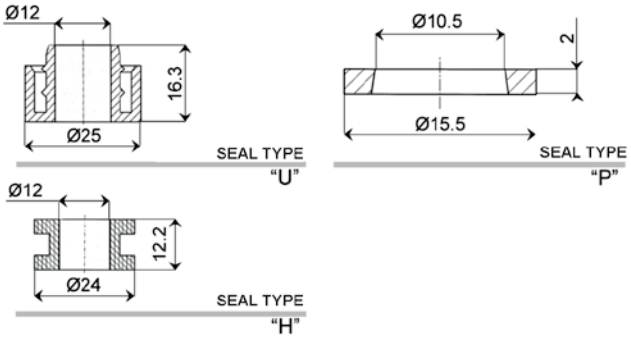
normally closed

TYPE: WB251

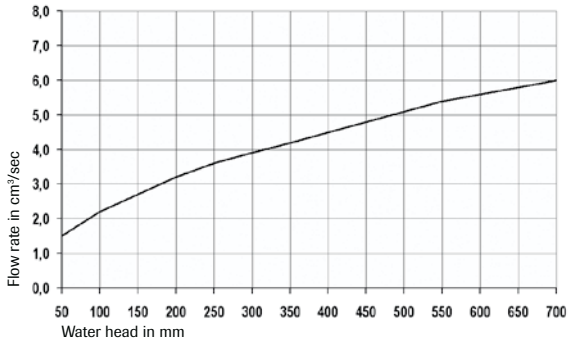
TECHNICAL SPECIFICATIONS

Media: water and beverages	
Media temperature: -10°C ÷ +95°C	
Ambient temperature: -10°C ÷ +50°C	
Body material: Natural Polysulphone FDA listed	
Operator material: stainless steel	
Seal material: silicone FDA listed	
Coil power:	AC 10VA (holding)
	AC 16VA (inrush)
	DC 10W
Protection class: IP 65 (with connector)	
Nominal diameter: 9.0 mm	
Standard flow regulation screw	

OPTIONS



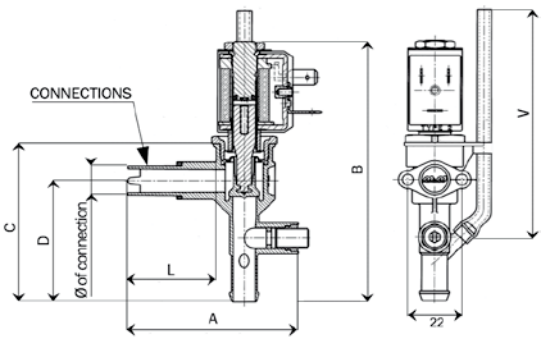
FLOW RATE CHART



SELECTION TABLE

VALVE	type of connection	seal type	length of the vent pipe (V)	OPD min	OPD max AC	OPD max DC
code	[mm]	-	[mm]	[barg]	[barg]	[barg]
WB251DSS	Ø 12 x L=35	"P"	95	0	0.07	0.05
WB251DSS1	Ø 12 x L=35	"P"	235			
WB251DSS01	Ø 11 x L=25	"P"	95			
WB251DSSA1	Ø 12 x L=35	"U"	95			
WB251DSSA2	Ø 12 x L=48	"U"	95			
WB251DSSB1	Ø 12 x L=35	"H"	95			
WB251DSSB2	Ø 12 x L=48	"H"	95			
WB251DSS11	Ø 11 x L=15.2	"P"	95			
WB251DSS12	Ø 11 x L=25	"P"	195			
WB251DSS13	Ø 12 x L=48	"H"	215			
WB251DSSVE	Ø 11 x L=10.5	"P"	95			

COILS	
code	[Volts/Hz]
22V0	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz



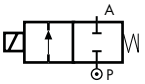
DIMENSIONS & WEIGHTS

VALVE TYPE	A	B	C	D	weight
[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
WB251DSS/1	70	108	65.5	50.2	0.175
WB251DSS11	49.7	108	65.5	50.2	0.175
WB251DSS01/12	59.5	108	65.5	50.2	0.175
WB251DSSA2/B2/13	82.5	108	65.5	50.2	0.175
WB251DSSA1/B1	70	108	65.5	50.2	0.175
WB251DSSVE	45	108	65.5	50.2	0.175

AGGRESSIVE FLUIDS

2/2 WAY DIRECT ACTING "DRY ARMATURE" SOLENOID VALVE

TOTAL SEPARATION BETWEEN INTERNAL PARTS AND MEDIUM



normally closed

TYPE: 246

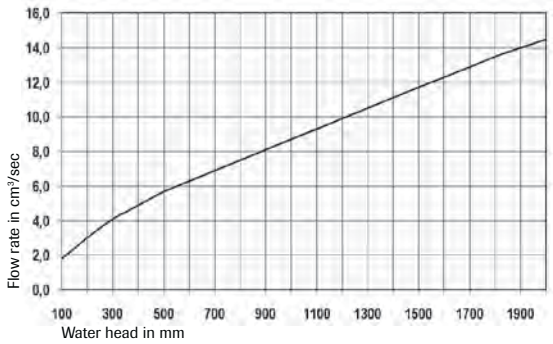
TECHNICAL SPECIFICATIONS

Media: water, food and beverages
Media temperature: -10°C ÷ +130°C
Ambient temperature: -10°C ÷ +50°C
Body material: 246DSR brass (CW617N EN 12165)
246DSQ natural hostaform (C13021)
Operator material: stainless steel
Seal material: silicone FDA listed
Coil power: AC 10VA (holding)
AC 16VA (inrush)
DC 10W
Protection class: IP 65 (with connector)
Length of the vent pipe: 85 mm
Standard flow regulation screw

OPTIONS

Brass body with electroless nickel plating treatment
(e.g. code 246DSK0E)
Brass fittings available upon request

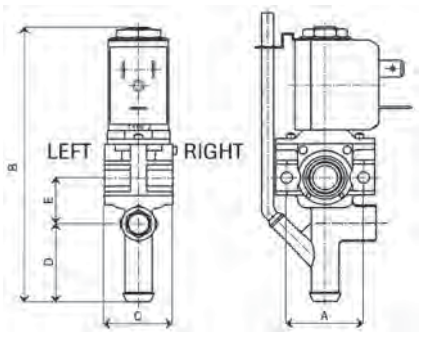
FLOW RATE CHART



SELECTION TABLE

VALVE	left hole	rigth hole	nominal diameter	OPD min	OPD max AC	OPD max DC
code	-	-	[mm]	[barg]	[barg]	[barg]
246DSRDE	fast connection	cap	8.0	0	0.2	0.1
246DSRED	cap	fast connection				
246DSREP	cap	hose tail				
246DSRE0	cap	1/4" threaded				
246DSR0E	1/4" threaded	cap				
246DSR00	1/4" threaded	1/4" threaded				
246DSRPE	hose tail	cap				
246DSQAA	open without threads	open without threads	7.5			
246DSQDG	fast connection	closed				
246DSQGD	closed	fast connection				
246DSQG0	closed	1/4" threaded				
246DSQ0G	1/4" threaded	closed				
246DSQ00	1/4" threaded	1/4" threaded				

COILS	
code	[Volts/Hz]
22V0	24V DC
2200	24V 50/60Hz
2400	110V 50Hz - 120V 60Hz
2600	200V 50Hz - 220V 60Hz
2700	230V 50Hz - 240V 60Hz



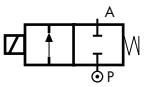
DIMENSIONS & WEIGHTS

VALVE TYPE	A	B	C	D	E	weight
[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[kg]
246DSR..	28	101	25	29	17	0.2
246DSQ..	28	101	25	29	17	0.125

AGGRESSIVE FLUIDS

2/2 WAY DIRECT ACTING "DRY ARMATURE" SOLENOID VALVE, G 3/8″

TOTAL SEPARATION BETWEEN INTERNAL PARTS AND MEDIUM



normally closed

TYPE: D211

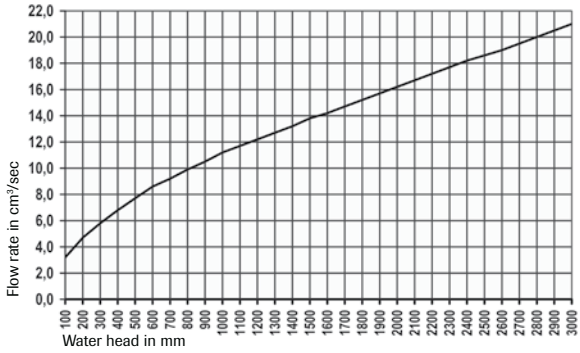
TECHNICAL SPECIFICATIONS

Media: water and beverages
Media temperature: -10°C ÷ +95°C
Ambient temperature: -10°C ÷ +50°C
Body material: brass (CW617N EN 12165)
Operator material: stainless steel
Seal material: silicone FDA listed
Coil power: AC 18VA (holding)
AC 36VA (inrush)
DC 14W
Protection class: IP 65 (with connector)

OPTIONS

Electroless nickel plating treatment (e.g. code D211DSUK)

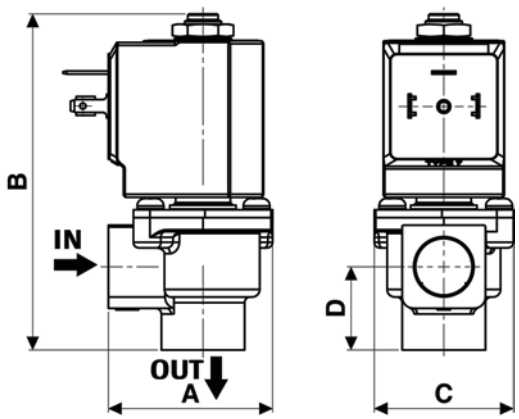
FLOW RATE CHART *



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD min	OPD max AC	OPD max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]
D211DSU	3/8″	11	*	0	0.3	-
C D211DSU	3/8″	11	*	0	-	0.2

COILS	
code	[Volts/Hz]
7250	24V DC
7200	24V 50/60Hz
7400	110V 50Hz - 120V 60Hz
7600	200V 50Hz - 220V 60Hz
7700	230V 50Hz - 240V 60Hz



DIMENSIONS & WEIGHTS

G connection	A	B	C	D	weight
[ISO 228 G]	[mm]	[mm]	[mm]	[mm]	[kg]
3/8″	43.4	88.8	36	22	0.340

AGGRESSIVE FLUIDS

BESPOKEN PRODUCTS

M&M is a company in continuous evolution, able to develop and offer new products to a more and more demanding and competitive market. For years, M&M has been operating in diversified industrial sectors and therefore has acquired a vast experience in innumerable applications: this consolidated know-how allows M&M to understand positively the manufacturing and design requirements of each customer.
M&M is able to offer and develop new customized solenoid valve models according to the customer's technical requirements and needs, integrating them with more functions and optimizing space use and costs of existing applications.

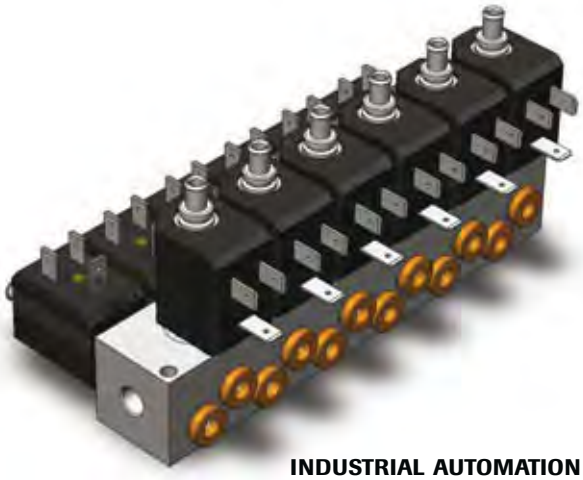
Please find below some examples:

CAR AIR CONDITIONING REFILLER

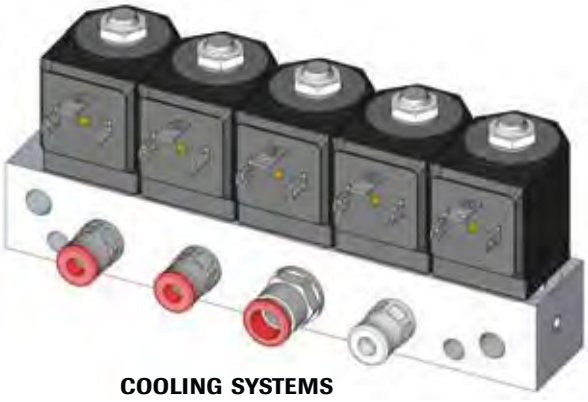
COMPRESSED AIR TREATMENT

STERILIZERS

PACKAGING WITH
VACUUM SYSTEMS FOR INDUSTRY



INDUSTRIAL AUTOMATION



COOLING SYSTEMS

FIREFIGHTING SYSTEMS

SOLENOID VALVE FOR USE IN HAZARDOUS LOCATIONS (ATEX)

SERIES: N

The following M&M valves can be fitted with explosion-proof operator, class EEX m II 2GD T4.

D223 - D224 - D225	⇨	see page 05
D262/263	⇨	see page 10
D362/363	⇨	see page 12
D298/D299	⇨	see page 35
D204 ÷ D222 (SS and brass)	⇨	see page 38

D326 ⇨ see M&M Piston Valves Catalogue

- **Assisted lift version not available**
- **Manual override and NO version not available**
- **MAX orifice available Ø 3 mm**
- **The ATEX pilot performance is restricted to a maximum of 10 barg**

OPERATOR TECHNICAL SPECIFICATIONS

Operator material: stainless steel
Seal material: FKM

COILS TECHNICAL SPECIFICATIONS

Coils are supplied with a 3 m power cable only, wired on a non-removable plug
Cable type : H05V2V2-F 3G1
Protection class: IP 65
Insulation class: “F” EN 60730
Voltage tolerance: -10% ÷ +10%
Operation: continuous
Protection class: EEx m II 2GD T4

e. g. code D262DVC 24V DC (OPD 24 bar MAX) with ATEX pilot ⇨ N262DVC N253 (OPD 10 bar MAX)

SELECTION TABLE

CODE	voltage	power holding	insulation class	room temperature min	room temperature max	media temperature min	media temperature max	ED	fuse (1)
N253	24V DC	10,1 W	F	-20°C	+50°C	-20°C	+80°C	100%	800
N203	24V 50/60Hz	7,2 VA							800
N403	110V - 50Hz	9,1 VA							200
NK03	120V - 60Hz	8,6 VA							200
N703	230V - 50Hz	8,5 VA							100

SAFETY WARNINGS

(1) A mains fuse or equivalent means of protection (breaking value shown on the table for each coil) shall be installed on the mains supplyline. Absence of mains protection is a non conformity to safety standards (EC Directives 94/9/CE and 1999/92/CE) and is a possible cause of explosion.

(2) Valves for potentially explosive atmospheres are available from factory only.

USE OF COIL OR OPERATOR ONLY DOESN’T MAKE THE VALVE EXPLOSION-PROOF.

SPECIAL VERSIONS AVAILABLE UPON REQUEST. PLEASE CONTACT M&M FOR MORE DETAILED INFORMATION.

COILS FOR M&M INTERNATIONAL SOLENOID VALVES

Coils manufactured by M&M International are designed for continuous duty in conformity to the EN60730 safety standards. They are encapsulated in a self-extinguishing synthetic material and offer high mechanical protection and excellent thermal dissipation. They are fully interchangeable on all M&M International solenoid valves, thereby reducing warehouse inventories.

TECHNICAL DATA

Series **2000**: connection to DIN 46244		
Electrical connection: fast on connection 6.3x0.8		
Series **7000/8000**: connection to DIN EN 175301-803 form A (ex DIN 43650-A)		
Protection class: IP 65 (CEI EN60529) - NEMA 4 (UL 50) with connector and gasket		
Insulation class (compliant with EN60730): "F" and "H"		
Operation: continuous		
Voltage tolerance:	AC	DC
SERIES **2000/7000/8000**	+10% ÷ –15%	+10% ÷ –5%
Coil power:	AC	DC
SERIES **2000**	10VA (holding) 16VA (inrush)	7W
SERIES **7000**	18VA (holding) 36VA (inrush)	14W
SERIES **8000**	12VA (holding) 24VA (inrush)	10W

OPTIONS

Class “H” insulation coils series 2000/7000: e.g. coil 7251

UL Approved coils series 2000/7000: e.g. coil 240R

Impregnated coils for use with applications in specially damp /humid environments: e.g. coil B400 for series 2000, D700 for series 7000 and E250 for series 8000. To be used absolutely with connector and gasket (see page 45 for more information)

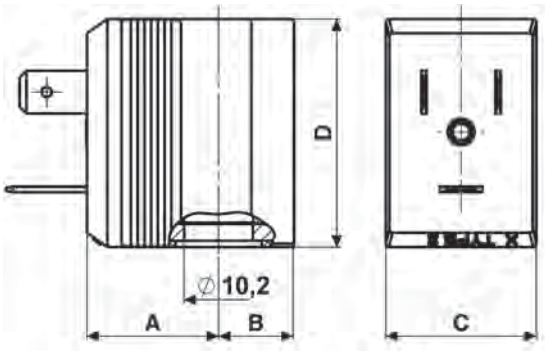
SERIES: 2000 - 7000 - 8000

SELECTION TABLE

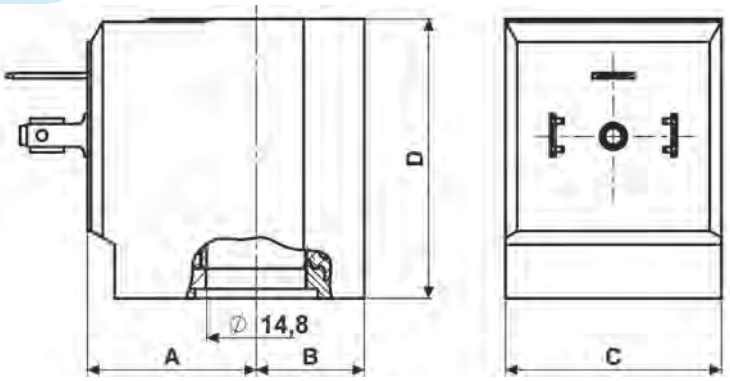
CODE	voltage	power holding	power inrush	class	ambient temp. min	ambient temp. max	media temp. min	media temp. max	ED
2250	24V DC	7W	–	“F” 155°C	-10°C	+50°C	-10°C	+130°C	100%
2200	24V 50/60Hz	10VA	16VA						
2400	110V 50Hz - 120V 60Hz	10VA	16VA						
2600	200V 50Hz - 220V 60Hz	10VA	16VA						
2700	230V 50Hz - 240V 60Hz	10VA	16VA						
7250	24V DC	14W	–						
7200	24V 50/60Hz	18VA	36VA						
7400	110V 50Hz - 120V 60Hz	18VA	36VA						
7600	200V 50Hz - 220V 60Hz	18VA	36VA						
7700	230V 50Hz - 240V 60Hz	18VA	36VA						
8250	24V DC	10W	–						
8200	24V 50/60Hz	12VA	24VA						
8400	110V 50Hz - 120V 60Hz	12VA	24VA						
8600	200V 50Hz - 220V 60Hz	12VA	24VA						
8700	230V 50Hz - 240V 60Hz	12VA	24VA						

Custom voltages and low power consumption available: please contact M&M Sales Department.

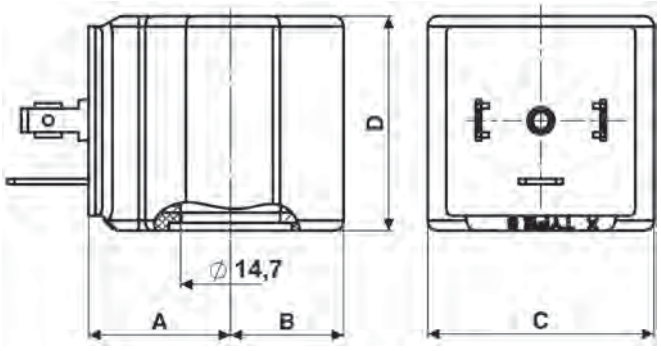
COILS – DIMENSIONS & WEIGHTS



Coil series 2000



Coil series 7000



Coil series 8000

DIMENSIONS & WEIGHTS

Series	A	B	C	D	weight
[code]	[mm]	[mm]	[mm]	[mm]	[kg]
2000	19.5	11.2	22.3	33.7	0.060
7000	25	16	32	41.4	0.146
8000	21	16.75	33.5	31.7	0.09

DIN CONNECTORS FOR SOLENOID VALVES

Coil connectors provide the safest flexible system for connecting M&M International solenoid valves and give a protection class of IP65. They are designed and made of synthetic material offering a high level of electrical insulation.
Compliance with UL 1977 and VDE Regulations.

TECHNICAL DATA

Rated voltage (Max.):	250V AC / 300V DC
Nominal current:	10 A (Rated) / 16A (Max.)
Wire cross-section:	1.5 mm² (Max.)
Cable entry:	PG9 (6 – 8 mm)
Protection class:	IP 65 (only with gasket)
Insulation class:	group C - VDE 0110
Housing colour:	black

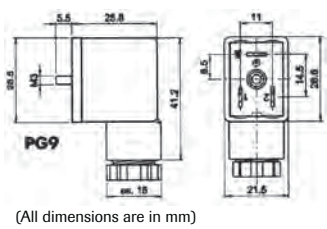
OPTIONS

Connectors with protection circuits
Connectors with LED
Connectors with flying leads

NOTES

Connectors are supplied with thermoplastic rubber bordered gasket, fixing screw and preinstalled position with ground H 12 (the connector can be spinned when connected)

SERIES: 600 001 00- / 600 011 00-



(All dimensions are in mm)

For **coil series 2000, connector code 600 001 00-**, weight: 0.019 Kg

For **coil series 7000, connector code 600 011 00-**, weight: 0.020 Kg

Other versions available upon request and depending on quantity: please contact M&M Sales Department.

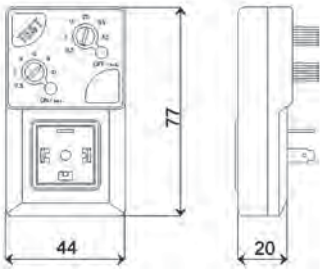
ANALOG AND DIGITAL ELECTRONIC TIMERS

Ideal for: Automatic Drain Valves - Sampling Valves - Lubrication Systems - Air Dryers.

ANALOG TIMER TECHNICAL SPECIFICATIONS

SERIES: AT2000

Supply voltage	120 ÷ 240V AC/DC - 50/60Hz
	for c UL us and CE ❶ approved timer
	(Code AT2000C02I *)
Absorption:	4 mA Max
Operating temperature:	- 10° C ÷ + 50° C
Class protection:	IP 65 - EN 60529 (with connector and gasket)
Switch holding voltage:	400V Max
Switch capacity:	1A
Inrush current:	10A for 10 ms
Duty cycle:	100% ED
Switch life:	3•08"
Repeat accuracy:	± 1%
Timing temperature coefficient:	± 0.005% - C°
Time ON:	▪ from 0.5 to 10 s.
Time OFF:	▪ from 30 s. to 45 min.
Set/Reset/Test:	Membrane key
Circuit:	UL 94 V0
Indicators:	GREEN LED for "power ON"
	RED LED for "valve open"
Manual override:	Test
Colour:	Black

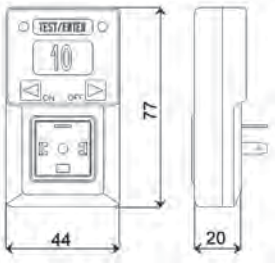


All dimensions in mm

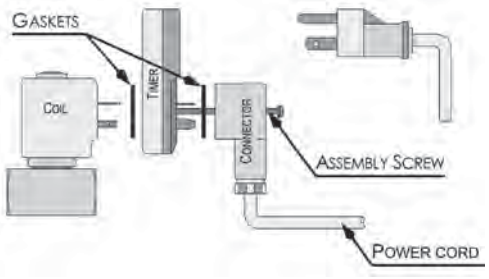
DIGITAL TIMER TECHNICAL SPECIFICATIONS

SERIES: DT3000

Supply voltage	120 ÷ 240V AC/DC - 50/60Hz
	for c UL us and CE ❶ approved timer
	(Code DT3000C12I *)
Absorption:	4 mA Max
Operating temperature:	- 10° C ÷ + 50° C
Class protection:	IP 65 - EN 60529 (with connector and gasket)
Switch holding voltage:	400V Max
Switch capacity:	1A
Inrush current:	10A for 10 ms
Duty cycle:	100% ED
Switch life:	3•08"
Repeat accuracy:	± 0.01%
Timing temperature coefficient:	± 0.0001% - C°
Time ON:	▪ from 0 to 9.5 s., step 0.5 s.
	from 10 to 99 s., step 1.0 s.
Time OFF:	▪ from 0 to 9.5 min., step 0.5 min.
	from 10 to 99 min., step 1 min.
Indicators:	GREEN LED for "power ON"
	RED LED for "valve open"
Manual override:	Test
Colour:	Black



All dimensions in mm



c UL us approval number E200580

❶ For supply voltage 24V AC/DC please contact Sales Department.

Note: Timers are supplied in single boxes with two squared gaskets and M3x50 fixing screw (see assembling scheme).

VALVE SELECTION

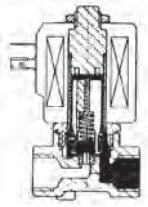
A solenoid valve should be chosen whenever the following conditions are met:

- ✔ Media with few dirt particles
- ✔ Moderate flow volumes
- ✔ Average differential pressures
- ✔ High speed in operation

VALVE TYPES

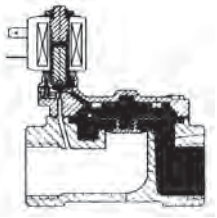
✔ **Direct acting solenoid valves 2/2 and 3/2 way NC or NO**

The supply coil electrically generates a magnetic force that attracts the armature, which contains the seat that acts upon a passage orifice. The armature, rising, lets the fluid pass. The range of operating pressures depends directly on the attraction force of the coil. Average response time 5 ÷ 25 ms.



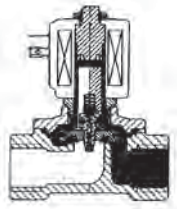
✔ **Pilot operated solenoid valves 2/2 way NC or NO**

This solenoid valve uses the force of the fluid to operate the valve via a suitable integral pilot valve. The inlet pressure must always be at least the same as the minimum ΔP figure shown on the datasheets. Using the same coils as direct acting valves much higher fluid volumes and pressures can be controlled with this solenoid valve. Average response time 50 ÷ 500 ms.



✔ **Pilot operated solenoid valves with assisted lift 2/2 way NC**

These solenoid valves are a combination of the pilot operated valves and the direct acting valves. The armature is mechanically connected to the diaphragm on which there is a pilot office. With minimal pressures the solenoid valve acts like a direct acting valve. Total opening as well as full flow do not occur at low pressures. With higher pressures it works as a pilot operated valve with full opening. Average response time 50 ÷ 500 ms.



FUNCTION TYPES

2/2 way function indicates valves with inlet and outlet connections, whilst valves with 3/2 way functions have 3 connections and 2 flow passages. One orifice always remains open and one closed. Connections and flow direction are shown in the symbols on each technical datasheet (DIN-ISO 1219).

At rest valves can be either normally closed (NC) or normally open (NO):

- Normally closed (NC): the valve opens when the coil is energised.
- Normally open (NO): the valve closes when the coil is energised.

OPTIONAL FEATURES

✔ **Manual Override (M)**

Normally closed direct acting and pilot operated solenoid valves can be supplied with a manual override which allows the valve to be opened independently of electrical current.

✔ **Waterhammer Control (V)**

Pilot operated solenoid valves (only versions specified in each datasheet) can be supplied with a system that regulates the closing speed of the diaphragm in order to control waterhammer.

The seal closing speed is operated by the adjusting screw: by screwing it clockwise (in the "+" direction) when using liquid, the valve will close slower reducing any waterhammer effect that may occur in the solenoid valve and the relative pipes.

In case of valves of higher dimensions (1 1/2" and 2"), please check that the valve is closing in the highest time possible compatible with your requirements in order to avoid any damages that may affect the functioning of the equipment and valve due to waterhammer effect.

TECHNICAL INFORMATION

The following points should be considered to ensure a correct choice of valve:

✔ **Connections and Nominal Diameters**

Threaded connections are either "G"- inches (ISO 228) or metric. Nominal diameters (DN) are expressed in millimetres and correspond to the diameter of the valve's main orifice.

✔ **Operating Pressure Differential (OPD)**

Pressure values shown in this catalogue are maximum pressures expressed in barg with zero pressure at outlet. For 3/2 way solenoid valves the pressure range can vary when used in other functions or systems. The maximum working pressure (PN) that the valve can bear is generally equal to 1.5 times the maximum value of the operating pressure differential (OPD).

✔ **Pressure (units of measurre)**

The SI unit of pressure is the pascal (Pa), defined as 1 newton of force per square metre (1 N/m^2).
As Pa is such a small unit, the kPa (1 kilonewton/m^2) or MPa (1 Meganewton/ m^2) tend to be more appropriate to steam engineering.
However, probably the most commonly used metric unit for pressure measurement in steam engineering is the bar. This is equal to 10^5 N/ m^2, and approximates to 1 atmosphere. This unit is used throughout this pubblication.
Other units often used include lb/in^2 (PSI), kg/cm^2, atm in H_2O and mm Hg. Conversion factors are readily available from many sources.

Absolute pressure (bar a)

This is the pressure measured from the datum of a perfect vacuum: i.e. a perfect vacuum has a pressure of 0 bar a.

Gauge pressure (bar g)

This is the pressure measured from the datum of the atmospheric pressure. Although in reality the atmospheric pressure will depend upon the climate and the height above sea level, a generally accepted value of 1.013 25 bar a (1 atm) is often used. This is the average pressure exerted by the air of the earth's atmosphere at sea level.

Gauge pressure = Absolute pressure - Atmospheric pressure

Pressure above atmospheric will alway yield a positive gauge pressure. Conversely a vacuum or negative pressure is the pressure below that of the atmosphere. A pressure of -1 bar g corresponds closely to a perfect vacuum.

✔ **Differential pressure**

This is simply the difference between two pressures. When specifying a differential pressure, it is not necessary to use the suffixes 'g' or 'a' to denote either gauge pressure or absolute pressure respectively, as the pressure datum point becomes irrelevant. Therefore the difference between two pressures will have the same value whether these pressures are measured in gauge pressure or absolute pressure, as long as the two pressures are measured from the same datum.

✔ **Flow**

The flow is the quantity of fluid that passes through the valve's main orifice which has the nominal diameter (DN) shown in the tables. The flow is given with a constant Kv value (according to VDI/VDE 2173) that shows how many litres of water, at a temperature of 20°C, flow through the valve in one minute with a pressure difference of one barg across the valve.
To determine the flow at higher pressures, multiply the Kv value by the square root of the differential pressure. Flow values shown in the selection tables are subject to a tolerance of ± 15%.

✔ **Seal materials**

Consideration of the media should be made when selecting seal and body types.

NBR should be used for air, water, neutral gases, diesel and in general it is resistant to oils and grease from -10° C to +90°C.

EPDM for hot water and steam. It is resistant to bases and acids in weak concentrations from -40°C to +140°C. EPDM seals should not be used for media containing oil.

FKM combines most of the characteristics of NBR and EPDM and is particularly suitable for hot water and hydrocarbons from -10°C to +140°C.

PTFE is practically resistant to all media. It is rigid and is used from -20°C to +180°C.

SIGODUR (filled PTFE) and **RUBY** are stiff materials particularly suitable for heavy duty applications. All the data shown in the selection tables refer to media with a viscosity not higher than 21 cST (3°E)(1 centistoke=1 mm^2/s).

KALREZ® perfluoroelastomer from DuPont, is designed specifically for the chemical process industry, combines innovative polymer and cure technology to give outstanding performance in the widest possible range of chemicals and temperatures. This product is an excellent choice to be used with acids, bases, amines, steam and many other aggressive chemicals.

The maximum working temperature is a lot more higher than the limits indicated for the coil.

✔ **Coil power supply**

It is important that the exact voltage and frequency of the coil is used for the valve to operate correctly. Provided the coil is fitted correctly on the operator and that the armature is not obstructed, the valve can be operated for an indefinite time within the temperature limitations indicated. All solenoid valves have a copper shading ring to reduce vibrations caused by alternating currents.

✔ **Media and Ambient Temperatures**

Temperature limits for the media are shown and should be used as a guide to valve selection. Normally the maximum ambient temperature can reach +50°C for solenoid valves with coils in class "F", +70°C for class "H". For applications outside these limits please contact our Technical Department.

✔ **General purpose solenoid valves**

Solenoid valves shown in this catalogue, either normally open or normally closed, are intended to control the flow of fluids and cannot be used as safety valves.

VALVE INSTALLATION

✔ **Safety**

Always connect the coil's earth terminal to ground to ensure the safety of the user and installation.

✔ **Installation**

Keep the valve operator in a vertical position, facing upwards. This prevents limescale or dirt particles in the operator tube which could restrict the armature or create excessive noise whilst operating.

✔ **Connections**

To ensure that the solenoid valve works properly, do not connect to pipework with an internal diameter less than the nominal diameter (DN) of the valve. Clean all pipework before connection to the solenoid valve. **The recommended tightening torque of the coil nut to avoid damage of the valve components is 0,5 Nm.**

✔ **Flow Direction**

Respect the direction of flow across the valve, shown with an arrow or by numbers on the valve body, depending onthe model type.

✔ **Filtration**

If the fluid contains dirt particles it is necessary to install a filter upstream of the solenoid valve. Dirt is the most frequent cause of malfunction.

✔ **Environment**

Coils fitted with suitable connectors have a protection class of IP65. However, it is advisable not to use the solenoid valve outside or in very damp conditions without adequate protection. Provide sufficient ventilation for the solenoid valve. **During continuous service the coil of the solenoid valve becomes hot and should not be touched.**

TECHNICAL INFORMATION PAGE

For additional technical information please copy this page and fax it to us duly completed at No. +39 035 531763. We will be pleased to answer all your enquiries.

✔ **Company**

✔ **Address**

✔ **Name and position**

✔ **Telephone number**

✔ **Fax number**

✔ **E-mail address**

✔ **Actuator** ❑ solenoid ❑ pneumatic

✔ **Operation** ❑ direct act. ❑ pilot operated ❑ assisted lift

✔ **Tpe** ❑ 2/2 ❑ 3/2

✔ **Function** ❑ NO ❑ NC

✔ **Connections**

✔ **Controlled media**

✔ **Media temperature**

✔ **Pilot media / Pilot media pressure**
(only for pneumatic valves)

✔ **Media pressure**

nominal _____ min. _____ max _____

✔ **Flow**

✔ **Ambient temperature**

✔ **Electrical supply** ❑ AC ❑ DC

Volts _____ Frequency _____

Max. Power Consumption _____

✔ **Application**

✔ **Sketches or Drawings**

✔ **NOTES**

✔ **Valve presently in use** (brand / type)

✔ **Annual quantity**

✔ **Date**

✔ **Signature**

CE MARKING

The CE mark indicates that the product satisfies all the regulations governing safety laid down by the European Community. Products displaying this mark can be freely distributed within the markets of the European Community.

✔ **EC Directives**

EC directives for product safety were issued to unify regulations and working practices in force in the countries of the community prior to the constitution of the European Union. The following three directives concern electrical appliances and machines in general:
Machinery Directive
EMC Directive
Low Voltage Directive
The directive EC 97/23 concerns safety of pressure bearing equipment.
The directive 2002/95/EC (RoHS) limits the use of dangerous substances in electrical and electronic equipment.

✔ **M&M International products conforming to the EC directives**

Products subject to the Low Voltage Directive are given a certification by the European Community.
M&M International issues declarations of conformity such as in the attached form "Declaration of conformity to EC".

We believe that our products are components and as such do not form a part of the range of products subject to the EMC directive. However, conformity of M&M International products to the EMC directive could change depending on the function of the product's use, of the configuration (for example the use of connectors with passive electronic components, LED etc.), or the conditions of the electrical connection. For this reason it is recommended that you check the compliance of the final product with the EMC Directive.

DECLARATION OF CONFORMITY TO CE

DECLARATION OF CONFORMITY CE

spirax sarco Engineering Group

We, M&M International S.r.l. , registered office via A. Manzoni 43 – 20121 Milano - Italy, declare under our sole responsibility that the products:

SOLENOID VALVES FOR GENERAL PURPOSES, 2/2 WAY AND 3/2 WAY, DIRECT ACTING AND PILOT OPERATED

equipped with encapsulated coils identified by M&M codes series "2", "7", "8", "9", "B" e "D"

are complying to the following harmonized standard(s)

EN 60730-1

EN 60529

Therefore the products comply with the essential requirements of the Directive:

2006/95/EC (ex 73/23/EC) **and amendment 93/68/EC**

M&M valves are also developed and constructed in compliance with the requirement of the directive concerning pressure bearing equipment

97/23/EC, art. 3.3 Pressure Equipment Directive

Orio al Serio, Italy, August 2007

The General Manager
Maurizio Forno

ATTENTION!

The attention of the purchaser, installer or user is drawn to special measures and limitations to use that must be observed when the product is used, installed or taken into service. Details of these special measures and limitations to use are available on request and are also contained in the product label and in the Installation, Maintenance and User Instructions provided together with the product.

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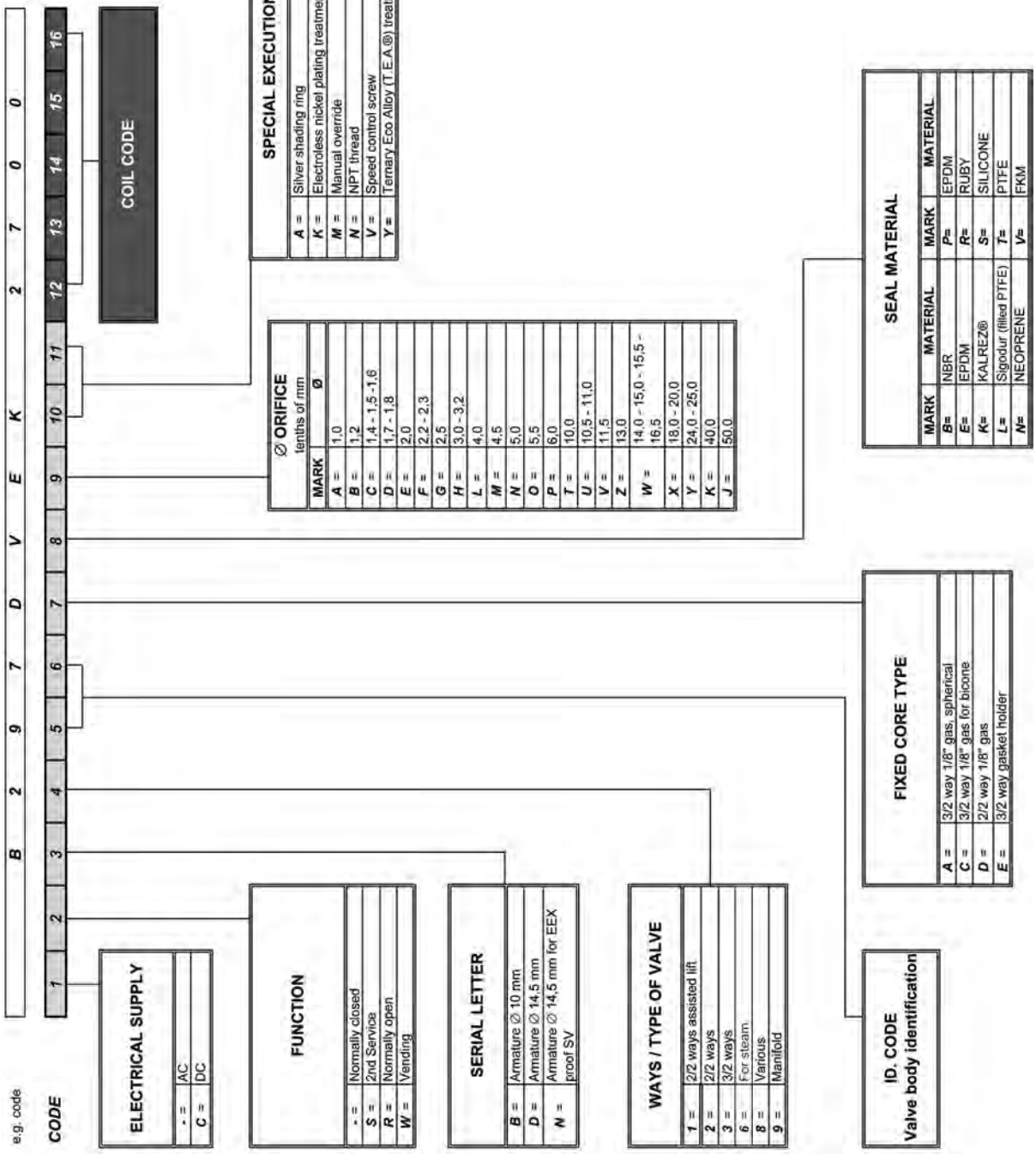
Cap.Soc.: € 2.000.000,00 i.v. - C.F.: 0249760 016 9 P.IVA: 0322288 096 9 – Int'l VAT N. IT03222880969 • R.E.A. MILANO n. 1658695 — Iscr. Registro Imprese Milano al n. 02497600169
Società soggetta all'attività di direzione e coordinamento di Spirax-Sarco Engineering plc



For more information, please contact M&M Sales Department.

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