

solenoid valves



**The ultimate Technology
for fluid control**

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



European
Community
Conformity



Underwriters
Laboratories
Quality
Certificate



**The ultimate Technology
for fluid control**



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

PRODUCT INDEX

Product index	page 01
M&M solenoid valves: features and benefits	page 03
Valve selection	page 47
Technical information	page 48
Technical information page	page 50
Declaration of conformity to CE	page 52
Coding chart	page 53

PRODUCT INDEX

This catalogue is an extract from the M&M International wide range of products.
For additional requests please fax us the technical information page 50.

SOLENOID VALVES FOR THERMOHYDRAULICS



D223 ÷ 225
from 1 1/4" to 2"
page 04



B203 ÷ 222
from 1/4" to 1"
page 05



D505 ÷ 522
from 1/2" to 1"
page 06



D264 ÷ 266
from 1/4" to 1/2"
page 07

SOLENOID VALVES FOR AUTOMATION



D187 ÷ 293
from 1/4" to 1"
page 08



D884 ÷ 886
from 1/4" to 1/2"
page 09



D237 ÷ 239
from 1/4" to 1/2"
page 10



D262/263
1/8" and 1/4"
page 11



B297
1/8"
page 12



C 242
1/8"
page 13



B919 ÷ 921
manifold
page 14



D301
flange 32x32
page 15



D362/363
1/8" and 1/4"
page 16



B397
1/8"
page 17

SOLENOID VALVES FOR AIR TREATMENT



RD236
1/4"
page 18



RD213
1/8"
page 19



RB214
1/8"
page 20



D201
flange 32x32
page 21



D249
1/4"
page 22



ADV
with solenoid valves
page 23



STRAINERS
from 1/4" to 1/2"
page 24



ADV
with compact PAV
page 24

PRODUCT INDEX

SOLENOID VALVES FOR HIGH PRESSURE



D262/263
1/8" and 1/4"
page 25



D634 ÷ D636
from 1/4" to 1/2"
page 26



D232 ÷ D234
from 3/8" to 3/4"
page 27

SOLENOID VALVES FOR STEAM



D606/622
3/4" and 1"
page 28



D887 ÷ 892
from 1/4" to 1"
page 29



D634 ÷ D636
from 1/4" to 1/2"
page 30



D262/263
1/8" and 1/4"
page 31



D267 & D260/261
1/4" & 1/4" and 3/8"
page 32



RD236
1/4"
page 33

SOLENOID VALVES FOR AGGRESSIVE FLUIDS



B298
1/8"
page 34



D298/299
1/8" and 1/4"
page 35



B398
1/8"
page 36



D398/399
1/8" and 1/4"
page 37



D204 ÷ 222
from 3/8" to 1"
page 38



WB251
hose tail
page 39



246
hose tail
page 40



D211
3/8"
page 41

SPECIAL PRODUCTS



BESPOKEN PRODUCTS
page 42



EEX PROOF SOLENOID VALVE
(ATEX)
page 43



SERIES 2000/7000/8000
COILS
page 44



60000100-/60001100-
CONNECTORS
page 45

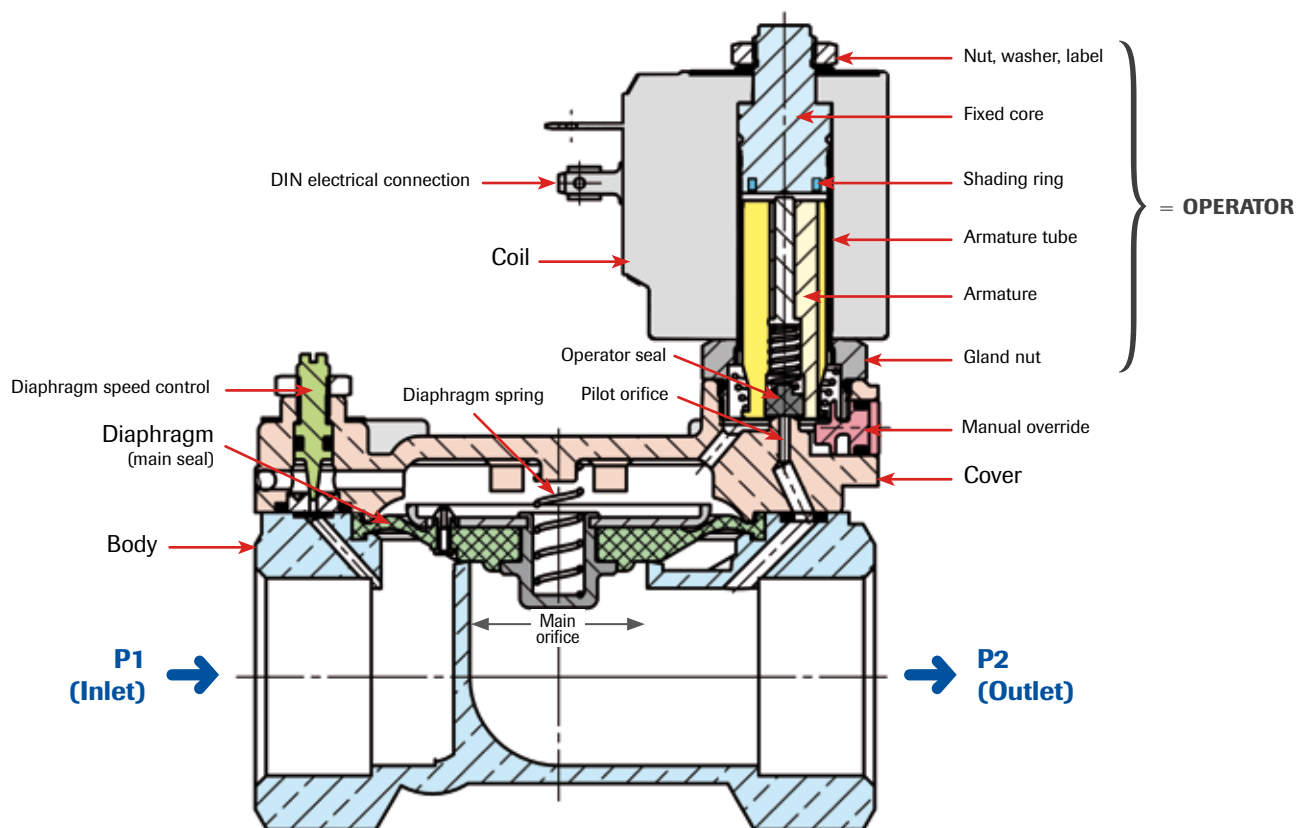


AT2000/DT3000
ANALOG/DIGITAL TIMERS
page 46

MISCELLANEOUS

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**

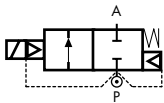
Coils tested 100% in compliance with the current EC directives
Compliance to RoHS directive and to relevant
international standards upon request

➔    

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

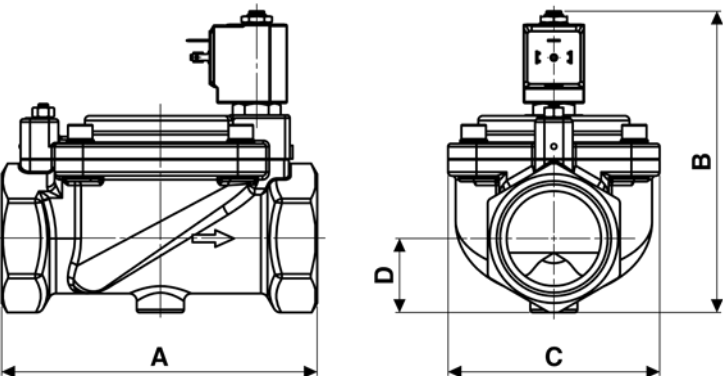
OPTIONS

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

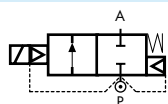
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
D223DBK	1 1/4"	40	370	0.5	16	16	7250	24v DC
D224DBK	1 1/2"	40	400	0.5	16	16	7200	24v 50/60Hz
D225DBJ	2"	50	540	0.5	16	16	7400	110v 50Hz - 120v 60Hz
							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)

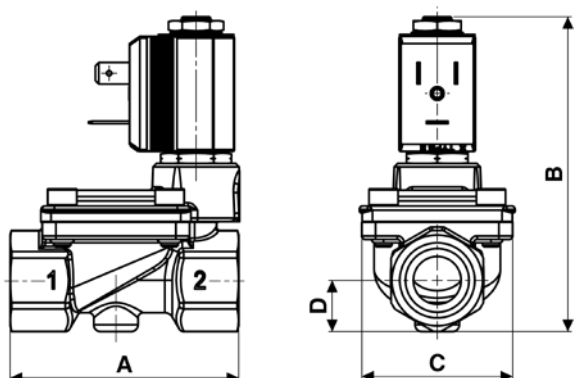
Version with operator ø 14,5 and coil type 7000 available upon request (e.g. code D205DBZ)

Version for vacuum only operator ø 14,5 (e.g. code D203DBZL)



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
B203DBZ	1/4"	13	26	0.3	16	16	2250	24v DC
B204DBZ	3/8"	13	55	0.3	16	16	2200	24v 50/60Hz
B205DBZ	1/2"	13	63	0.3	16	16	2400	110v 50Hz - 120v 60Hz
B206DBX compact	3/4"	21	100	0.3	16	16	2600	200v 50Hz - 220v 60Hz
B206DBY	3/4"	25	140	0.3	16	16	2700	230v 50Hz - 240v 60Hz
B222DBY	1"	25	160	0.3	16	16		

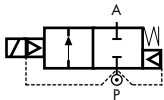


DIMENSIONS & WEIGHTS

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

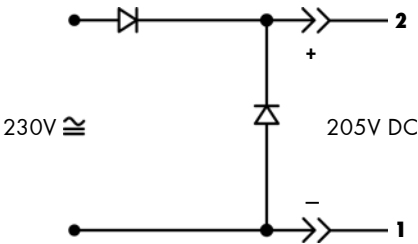
TYPE: D505/506/522

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 -

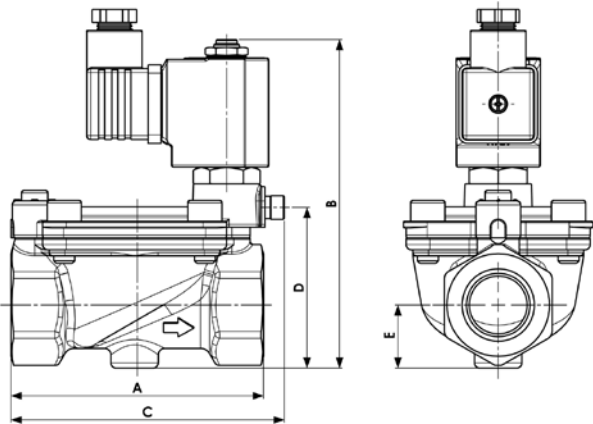
Connector with half-wave rectifier with reverse polarity code 600 042 00-



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD	
					max AC	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

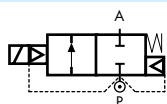
COILS	
code	[Volts/Hz]
7250	24v DC
7S51	205v DC



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

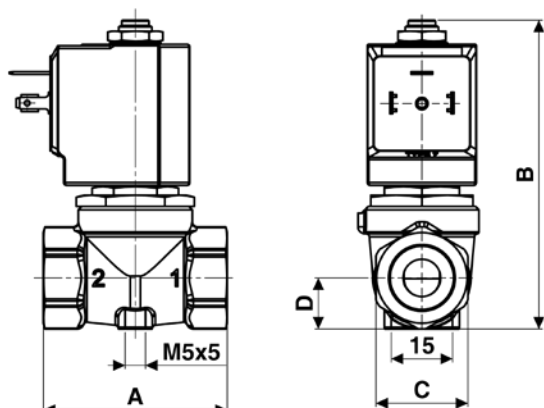
EPDM seal for air and hot water MAX 120°C (e.g. code D266DEU)

FKM seal for air, water, oil MAX 130°C (e.g. code D266DVU)



SELECTION TABLE

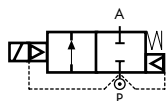
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	[Volts/Hz]
D264DBU	1/4"	10.5	21	0.1	16	7	7250 24v DC
D265DBU	3/8"	10.5	24	0.1	16	7	7200 24v 50/60Hz
D266DBU	1/2"	10.5	25	0.1	16	7	7400 110v 50Hz - 120v 60Hz
							7600 200v 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)

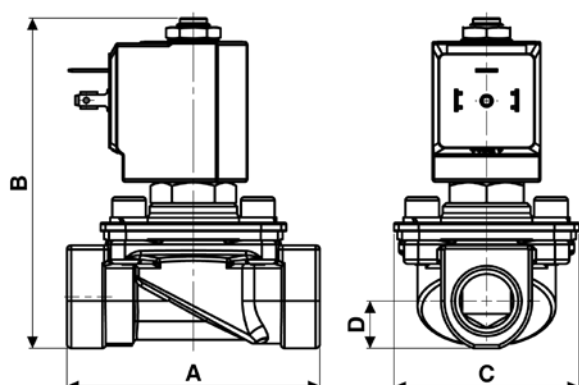
OPTIONS

- 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

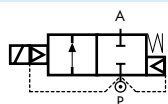
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
D187DBW	1/4"	15	50	0	16	•	7250	24v DC
D188DBW	3/8"	15	60	0	16	•	7200	24v 50/60Hz
D189DBW	1/2"	15	65	0	16	•	7400	110v 50Hz - 120v 60Hz
D190DBW	3/4"	15	80	0	16	•	7600	200v 50Hz - 220v 60Hz
D192DBW compact	1"	15	85	0	16	•	7700	230v 50Hz - 240v 60Hz
D293DBY (*)	1"	25	140	0	16	•		



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)

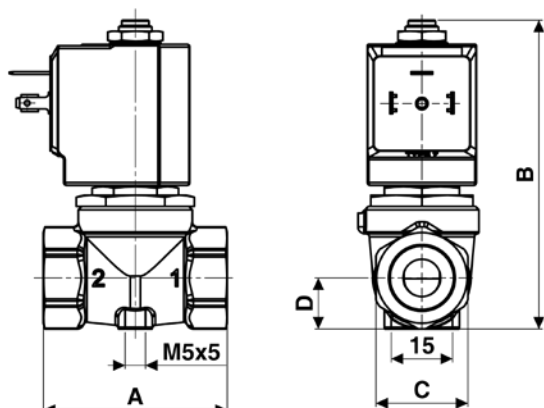
DC 14W

Protection class: IP 65 (with connector)



SELECTION TABLE

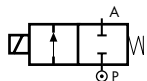
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code [Volts/Hz]
D884DVU	1/4"	10.5	21	0	16	6	7250 24v DC
D885DVU	3/8"	10.5	24	0	16	6	7200 24v 50/60Hz
D886DVU	1/2"	10.5	25	0	16	6	7400 110v 50Hz - 120v 60Hz
							7600 200v 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)

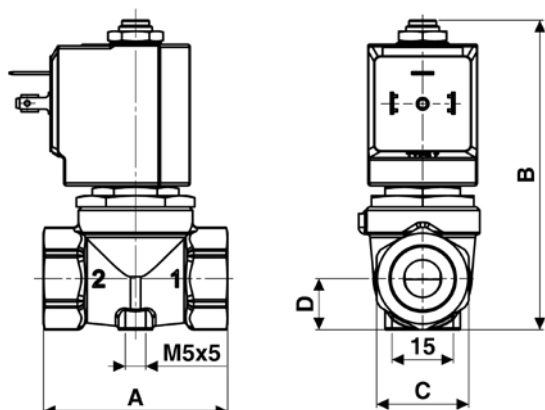


SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

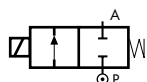
code	[Volts/Hz]
7250	24v DC
7200	24v 50/60Hz
7400	110v 50Hz - 120v 60Hz
7600	200v 50Hz - 220v 60Hz
7700	230v 50Hz - 240v 60Hz



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)

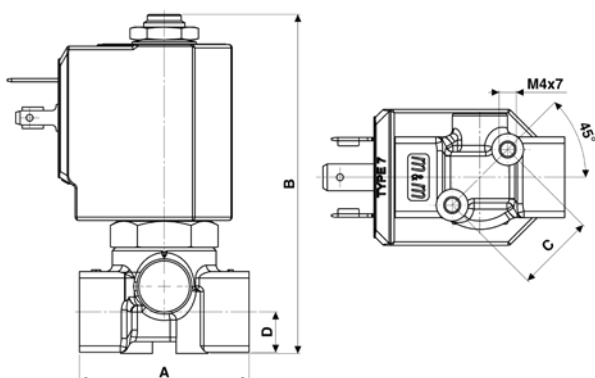
EEX proof version (please see page 43 for more information)



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	OPD		
				min	max AC	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

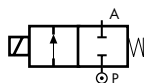
* NO, manual override and ruby seal versions not available



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 ①: 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)

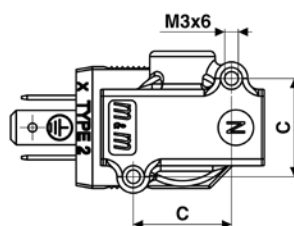
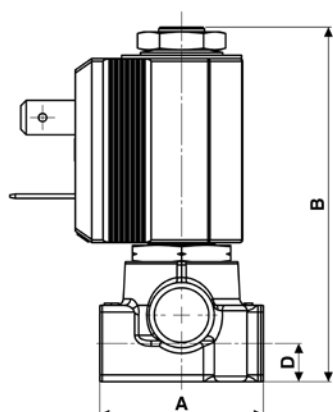
NOTES

① 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	min	OPD max AC	max DC	COILS	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
B297DVA	1/8"	1.0	0.5	0	30	28	2250	24v DC
B297DVB	1/8"	1.2	0.7	0	25	22	2200	24v 50/60Hz
B297DVC	1/8"	1.5	1.0	0	22	18	2400	110v 50Hz - 120v 60Hz
B297DVE	1/8"	2.0	1.7	0	18	9	2600	200v 50Hz - 220v 60Hz
B297DVG	1/8"	2.5	2.3	0	13	3	2700	230v 50Hz - 240v 60Hz
B297DVH	1/8"	3.0	3.0	0	8	1		

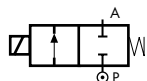


Flow direction overseat 1 → 2

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

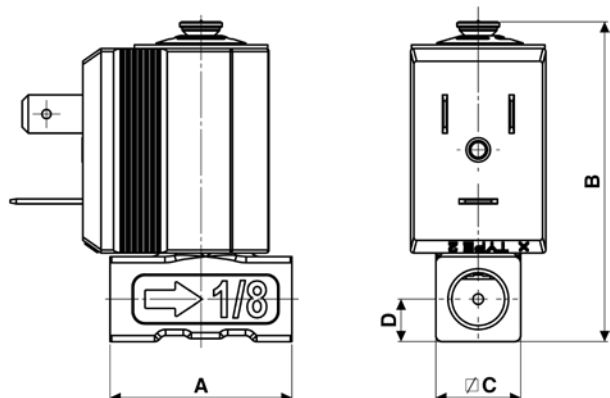
EPDM seal for air and hot water MAX 120°C (e.g. code C 242BEE)



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
C 242BVE	1/8"	2.0	1.5	0	-	9	2150	12v DC
C 242BVG	1/8"	2.5	2.5	0	-	2 *	2250	24v DC

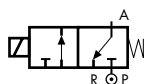
* The performance may increase up to max 4 barg. For more information, please contact M&M Sales Department



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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$
Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$
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 B919CVCMI)



OPTION 2/2 WAY

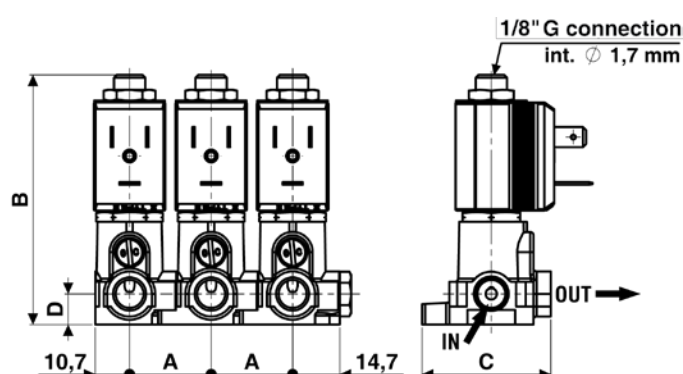


SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

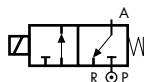
code	[Volts/Hz]
2250	24v DC
2200	24v 50/60Hz
2400	110v 50Hz - 120v 60Hz
2600	200v 50Hz - 220v 60Hz
2700	230v 50Hz - 240v 60Hz



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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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 $-10^{\circ}\text{C} \div +180^{\circ}\text{C}$ 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 $\varnothing 6$ mm (e.g. code D301EVE)

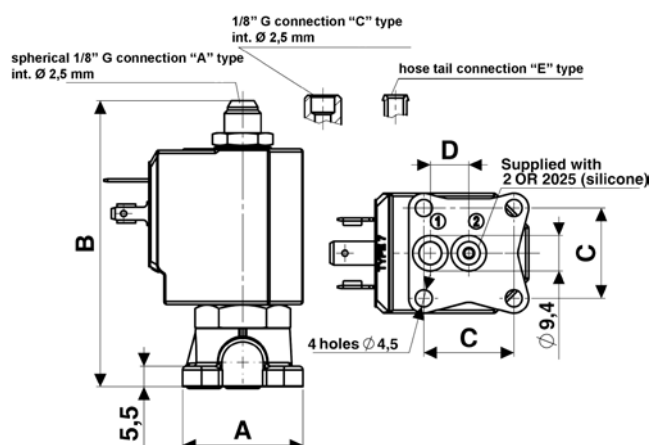


SELECTION TABLE

VALVE	square base	nominal diameter	flow rate Kvs	min	OPD max AC	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

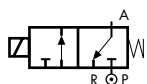
code	[Volts/Hz]
7250	24v DC
7200	24v 50/60Hz
7400	110v 50Hz - 120v 60Hz
7600	200v 50Hz - 220v 60Hz
7700	230v 50Hz - 240v 60Hz



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

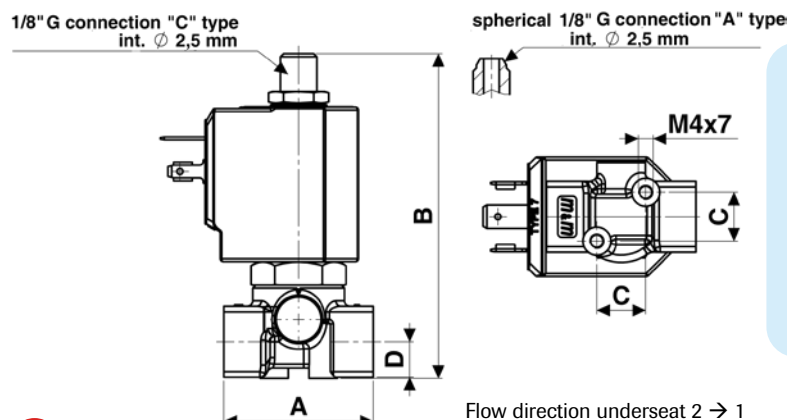
Normally open with class "H" coils only (e.g. code RD362CVC)
 Manual override (e.g. code D362CVGM) only up to Ø 3 mm orifice
 EPDM seal for air and hot water MAX 120°C (e.g. code D363CEC)
 Ruby seal -10°C +180°C for high temperature with class "H" coils only (e.g. code D363ARB 7201) only up to Ø 3 mm 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	min	OPD max AC	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

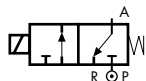


* NO, manual override and Ruby seal versions not available

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 <u>RB397C</u> VE)
Manual override (e.g. code B397CV <u>B</u> M)
EPDM seal for air and hot water MAX 120°C (e.g. code B397CE <u>C</u>)
Armature tube with hose tail Ø 6 mm (e.g. code B397E <u>V</u> E)
Electroless nickel plating treatment (e.g. code B397CV <u>C</u> K)
TEA® electroless nickel plating treatment (e.g. code B397CV <u>C</u> Y)

NOTES

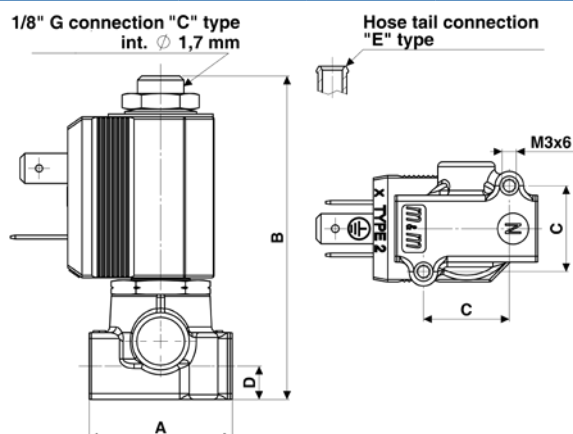
❶ Valve suitable for contact with food media as per the CEE Directives and Regulations. For more specific information, please contact M&M Sales Department.



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

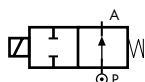
COILS	
code	[Volts/Hz]
2250	24v DC
2200	24v 50/60Hz
2400	110v 50Hz - 120v 60Hz
2600	200v 50Hz - 220v 60Hz
2700	230v 50Hz - 240v 60Hz



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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$
Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$
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)

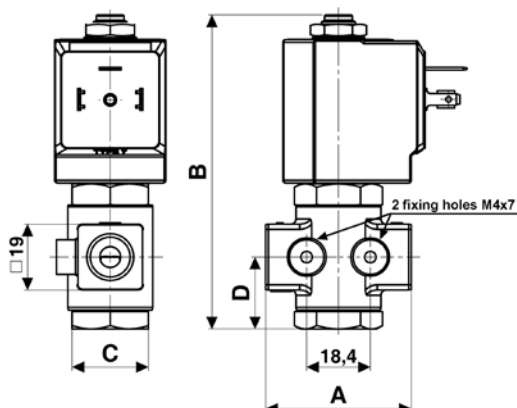
OPTIONS

EPDM seal for air and hot water MAX 120°C (e.g. code RD236DEC)
Ruby seal (for liquids only) $-10^{\circ}\text{C} \div +180^{\circ}\text{C}$ 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



SELECTION TABLE

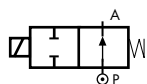
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
RD236DVA	1/4"	1.0	0.5	0	30	30	7250	24v DC
RD236DVC	1/4"	1.5	1.3	0	20	20	7200	24v 50/60Hz
RD236DVG	1/4"	2.5	2.8	0	15	15	7400	110v 50Hz - 120v 60Hz
RD236DVH	1/4"	3.0	3.5	0	12	12	7600	200v 50Hz - 220v 60Hz
RD236DVM	1/4"	4.5	5.5	0	5	5	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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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

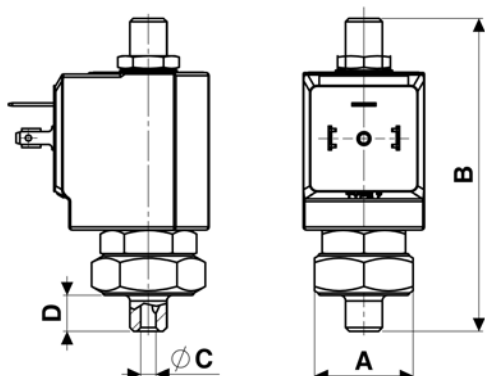
EPDM seal for air and hot water MAX 120°C (e.g. code RD213CEG)

Armature tube with hose tail \varnothing 6 mm (e.g. code RD213AVG)



SELECTION TABLE

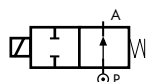
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	[Volts/Hz]
RD213CVG	1/8"	2.5	2.4	0	16	16	24v DC
							24v 50/60Hz
							110v 50Hz - 120v 60Hz
							200v 50Hz - 220v 60Hz
							230v 50Hz - 240v 60Hz



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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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)

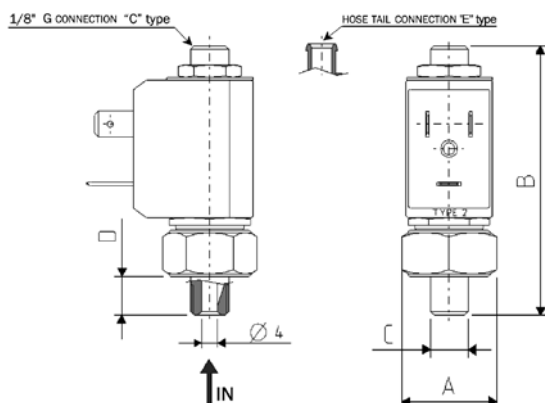
Armature tube with hose tail \varnothing 6 mm (e.g. code RB214EVD)

NC version available upon request (e.g. code B214EVB)



SELECTION TABLE

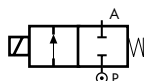
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code [Volts/Hz]
RB214CVD	1/8"	1.7	1.2	0	14	14	2250 24v DC
							2200 24v 50/60Hz
							2400 110v 50Hz - 120v 60Hz
							2600 200v 50Hz - 220v 60Hz
							2700 230v 50Hz - 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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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 $-10^{\circ}\text{C} + 180^{\circ}\text{C}$ for high temperature with class "H" coils only (e.g. code D201DRG 7201)

Available with brass body, $\varnothing 2$ mm machined orifice only, Kalrez seal, PTFE O-Ring (please see the drawing below).

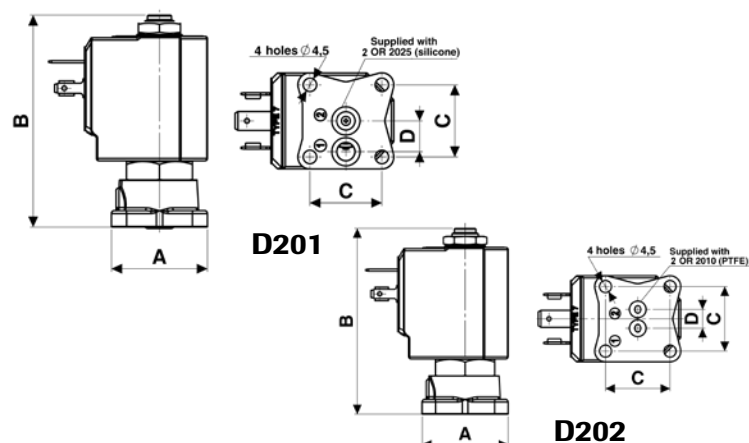
For more information, please contact M&M Sales Department.



SELECTION TABLE

VALVE	square base	nominal diameter	flow rate Kvs	min	OPD max AC	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



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

The diagram shows a Wheatstone bridge circuit. It consists of four resistors arranged in a diamond shape. The top-left resistor is labeled 'A' and is a variable resistor, indicated by a diagonal arrow through its rectangle. The bottom-left resistor is labeled 'P' and is a fixed resistor, indicated by a circle with a dot inside. The top-right resistor is labeled 'Q' and is a fixed resistor, indicated by a rectangle with a diagonal line through it. The bottom-right resistor is labeled 'R' and is a fixed resistor, indicated by a rectangle with a diagonal line through it. A galvanometer, represented by a circle with a vertical line through it, is connected between the junction of resistors A and P, and the junction of resistors Q and R.

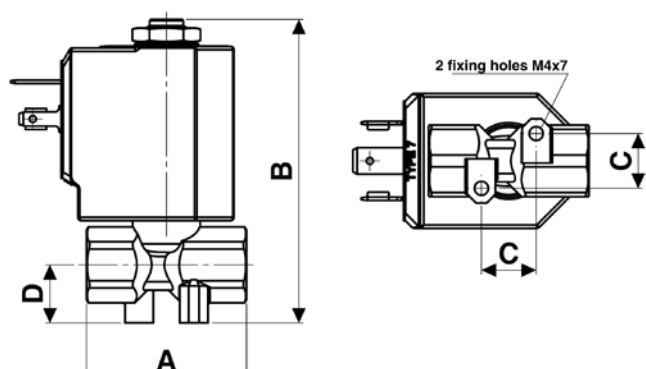
TYPE: D249

Protection class: IP 65 (with connector)



VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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



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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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

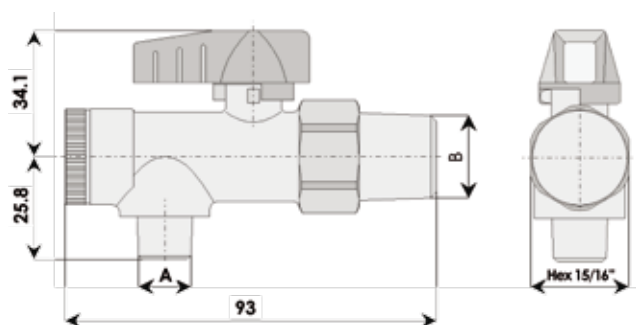
ADV	Valve	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	Supply
code	code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	[Volts/Hz]
WITH <u>DIRECT ACTING</u> SOLENOID VALVES								SERIES 7000 COILS
888 120 00-	D249DVF	1/4"	2.2	2.4	0	18	-	110v 50Hz - 120v 60Hz
888 121 00-					0	18	-	230v 50Hz - 240v 60Hz
888 122 00-					0	-	16	24v DC
WITH <u>PILOT OPERATED</u> 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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$
Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$
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.

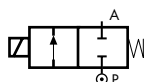
Condensate is a mixture of: water, oil and dirt, its "thickness" or viscosity increasing with low temperatures. Operating drain valves manually is time consuming and costly, and those awkward positions often get forgotten. The ADV overcomes all these problems allowing you to "tune" its operation, through 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"



normally closed

HIGH PRESSURE

TYPE: D262/263

TECHNICAL SPECIFICATIONS

Media: water, liquids

Media temperature: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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.

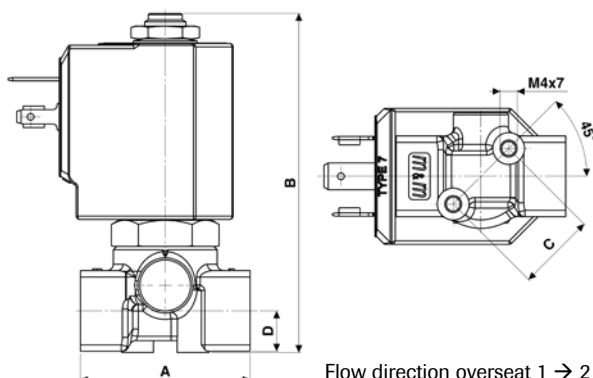


SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

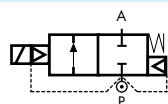


Flow direction overseat 1 → 2

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"



normally closed

HIGH PRESSURE

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)

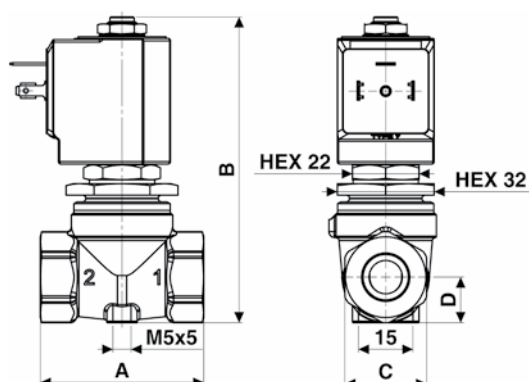
DC 22W

Protection class: IP 65 (with connector)



SELECTION TABLE

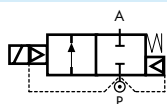
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS class "H" only
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code [Volts/Hz]
D634DTT1	1/4"	10	21	0.3	100	60	72Z1 24v DC
D635DTT1	3/8"	10	24	0.3	100	60	72K1 24v 50/60Hz
D636DTT1	1/2"	10	25	0.3	100	60	74K1 110v 50Hz - 120v 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"



normally closed

HIGH PRESSURE

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

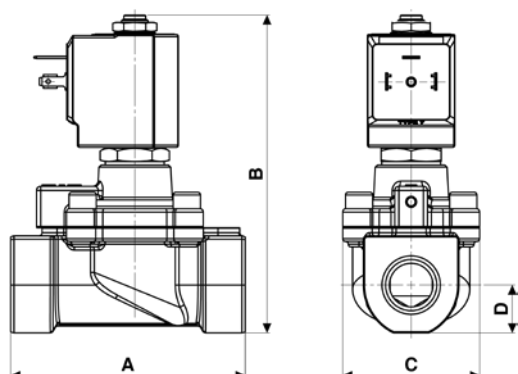
Normally open (e.g. code RD232DTW) with coils class "H" only
FKM seal for air, water, oil MAX 130°C (e.g. code D233DVW)
MAX OPD: 25 barg AC / DC



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs *	min	OPD max AC	max DC	COILS
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code [Volts/Hz]
D232DTW	3/8"	16.5	48 ❶	1	50	50	7250 24v DC
D233DTW	1/2"	16.5	62 ❷	1	50	50	7200 24v 50/60Hz
D234DTW	3/4"	16.5	64 ❸	1	50	50	7400 110v 50Hz - 120v 60Hz
							7600 200v 50Hz - 220v 60Hz
							7700 230v 50Hz - 240v 60Hz

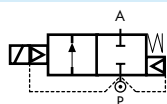
* NEW internal design! Kv increased: ❶ + 54% (was 31), ❷ + 77% (was 35), ❸ + 73% (was 37).



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"



normally closed

STEAM VERSION

TYPE: D606/622

TECHNICAL SPECIFICATIONS

Media: water, steam

Media temperature: +60°C ① ÷ +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

① For a correct functioning, the minimum working temperature of the solenoid valve cannot be below 60°C.

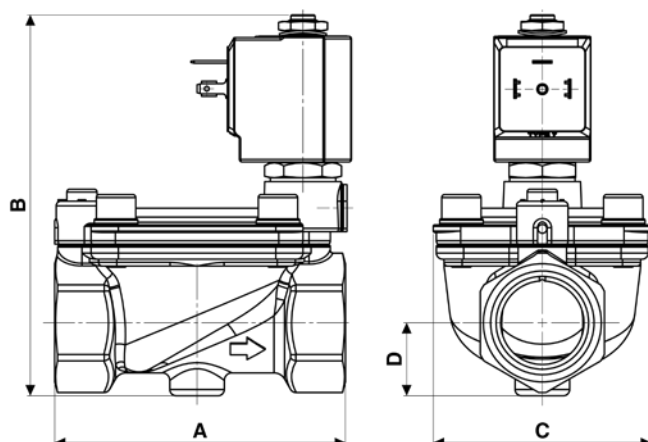


SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

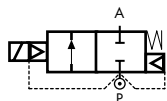
code	[Volts/Hz]
7151	12v DC
7251	24v DC
7201	24v 50/60Hz
7401	110v 50Hz - 120v 60Hz
7601	200v 50Hz - 220v 60Hz
7701	230v 50Hz - 240v 60Hz



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)

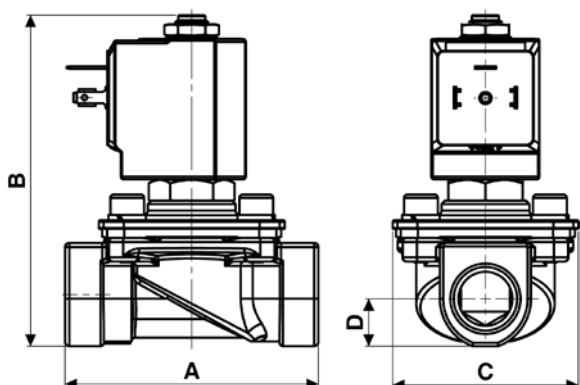
DC 22w

Protection class: IP 65 (with connector)



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS class "H" only	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
D887DPV	1/4"	11.5	35	0.3	4.5	4.5	72Z1	24v DC
D888DPV	3/8"	11.5	50	0.3	4.5	4.5	7201	24v 50/60Hz
D889DPV	1/2"	11.5	55	0.3	4.5	4.5	7401	110v 50Hz - 120v 60Hz
D890DPV	3/4"	11.5	70	0.3	4.5	4.5	7601	200v 50Hz - 220v 60Hz
D892DPV	1"	11.5	75	0.3	4.5	4.5	7701	230v 50Hz - 240v 60Hz

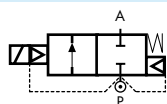


Flow direction overseat 1 → 2

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"



normally closed

STEAM VERSION

TYPE: D634/635/636

TECHNICAL SPECIFICATIONS

Media: water, steam

Media temperature: +80°C ① ÷ +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)

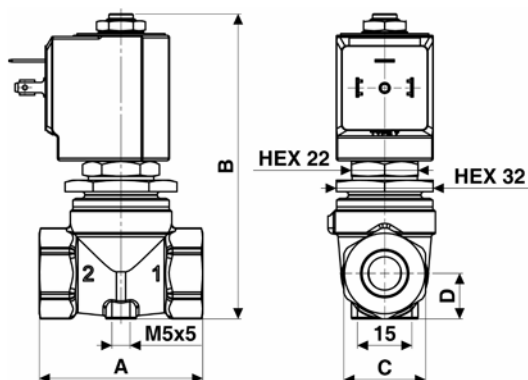
NOTES

① For a correct functioning, the minimum working temperature of the solenoid valve cannot be below 80°C.



SELECTION TABLE

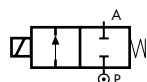
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS class "H" only
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code [Volts/Hz]
D634DTT	1/4"	10	21	0.3	9	9	7251 24v DC
D635DTT	3/8"	10	24	0.3	9	9	7201 24v 50/60Hz
D636DTT	1/2"	10	25	0.3	9	9	7401 110v 50Hz - 120v 60Hz
							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"



normally closed

STEAM VERSION

TYPE: D262/263

TECHNICAL SPECIFICATIONS

Media: steam

Media temperature: $-10^{\circ}\text{C} \div +180^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +70^{\circ}\text{C}$

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)



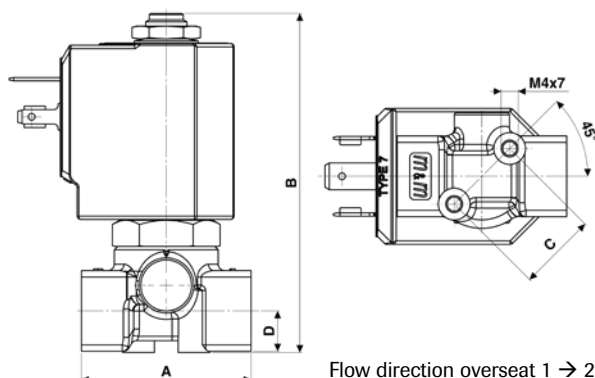
For water, oil, air see page 11.

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[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

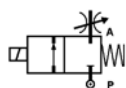


Flow direction overseat 1 → 2

DIMENSIONS & WEIGHTS

G connection	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 1/4" - G 3/8"



normally closed

WITH FLOW REGULATION - STEAM VERSION -

TYPE: D267

TECHNICAL SPECIFICATIONS

Media: water, steam

Media temperature: $-10^{\circ}\text{C} \div +180^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +70^{\circ}\text{C}$

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)

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



TYPE: D260/261

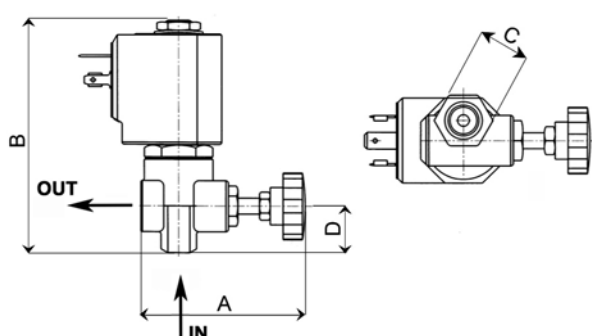


SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

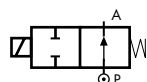
code	[Volts/Hz]
7251	24v DC
7201	24v 50/60Hz
7401	110v 50Hz - 120v 60Hz
7601	200v 50Hz - 220v 60Hz
7701	230v 50Hz - 240v 60Hz



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"



normally open

STEAM VERSION

TYPE: RD236

TECHNICAL SPECIFICATIONS

Media: steam

Media temperature: $-10^{\circ}\text{C} \div +180^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +70^{\circ}\text{C}$

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

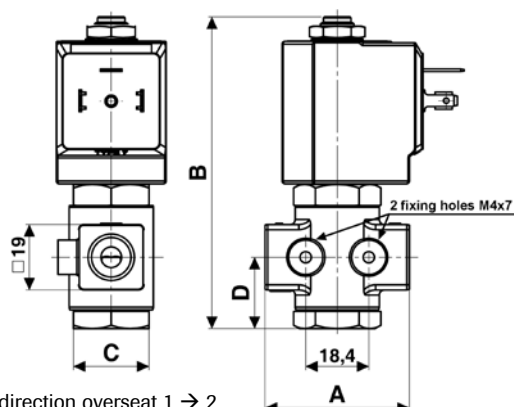
Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)



For water, oil, air see page 18.

SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS class "H" only	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
RD236DLA	1/4"	1.0	0.5	0	9	9	7251	24v DC
RD236DLC	1/4"	1.5	1.3	0	9	9	7201	24v 50/60Hz
RD236DLE	1/4"	2.0	2.0	0	9	9	7401	110v 50Hz - 120v 60Hz
RD236DLH	1/4"	3.0	3.5	0	9	9	7601	200v 50Hz - 220v 60Hz
							7701	230v 50Hz - 240v 60Hz

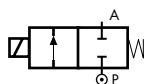


Flow direction overseat 1 → 2

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)

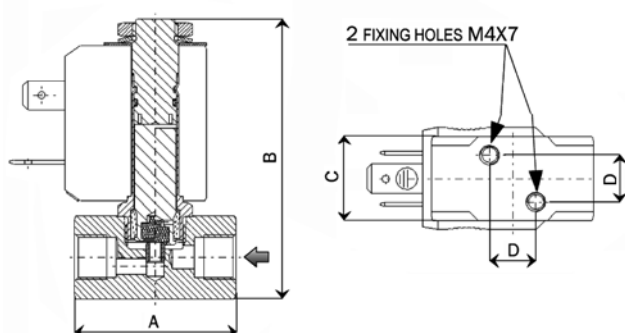
OPTIONS

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

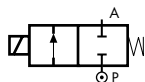
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS	
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code	[Volts/Hz]
B298DVC	1/8"	1.5	1.0	0	18	15	2250	24v DC
B298DVE	1/8"	2.0	1.9	0	12	9	2200	24v 50/60Hz
B298DVG	1/8"	2.5	2.7	0	8	3	2400	110v 50Hz - 120v 60Hz
B298DVH	1/8"	3.0	3.5	0	3	1	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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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)

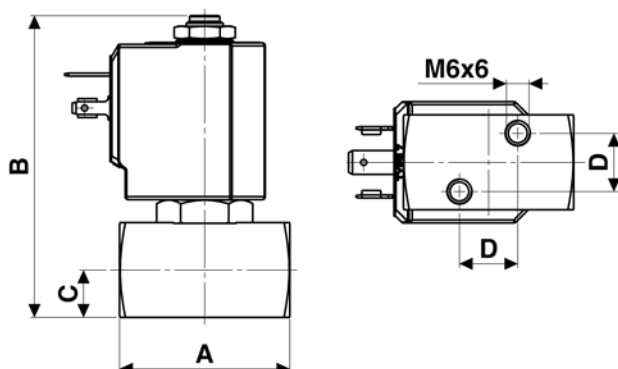
EEX proof version (please see page 43 for more information)



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code [Volts/Hz]
D298DVC	1/8"	1.5	1.3	0	24	24	7250 24v DC
D298DVG	1/8"	2.5	3.4	0	18	16	7200 24v 50/60Hz
D298DVH	1/8"	3.0	4.5	0	15	8	7400 110v 50Hz - 120v 60Hz
D299DVC	1/4"	1.5	1.3	0	24	24	7600 200v 50Hz - 220v 60Hz
D299DVG	1/4"	2.5	3.4	0	18	16	7700 230v 50Hz - 240v 60Hz
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	

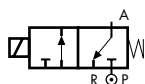
* NO version not available



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

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

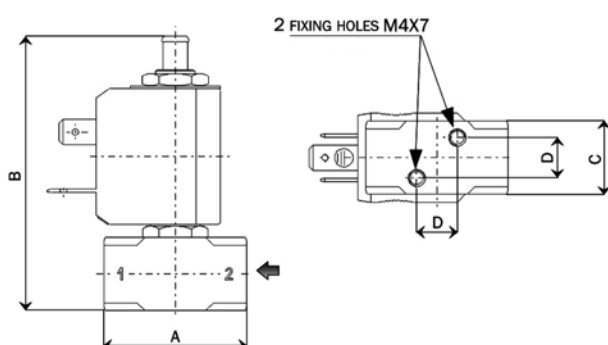
Kalrez® seal for use with acids, steam and aggressive chemicals and at high temperatures (depending on the limits indicated for the coil isolation class)



SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

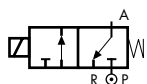
COILS	
code	[Volts/Hz]
2250	24v DC
2200	24v 50/60Hz
2400	110v 50Hz - 120v 60Hz
2600	200v 50Hz - 220v 60Hz
2700	230v 50Hz - 240v 60Hz



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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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)

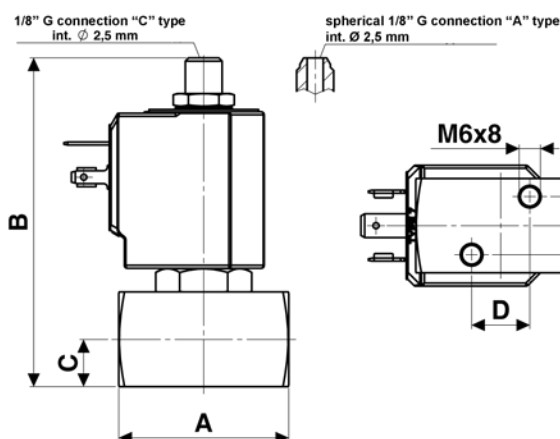
Also available with Ø 4 mm orifice (e.g. code D399CVL),

Ø 5,5 mm (e.g. code D399CVO)



SELECTION TABLE

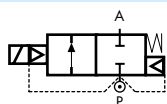
VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	max DC	COILS
code	[ISO 228 G]	[mm]	[l/min]	[barg]	[barg]	[barg]	code [Volts/Hz]
D398CVC	1/8"	1.5	1.3	0	18	18	7250 24v DC
D398CVE	1/8"	2.0	2.2	0	10	10	7200 24v 50/60Hz
D398CVG	1/8"	2.5	3.4	0	7	7	7400 110v 50Hz - 120v 60Hz
D399CVC	1/4"	1.5	1.3	0	18	18	7600 200v 50Hz - 220v 60Hz
D399CVE	1/4"	2.0	2.2	0	10	10	7700 230v 50Hz - 240v 60Hz
D399CVG	1/4"	2.5	3.4	0	7	7	
D399CVH	1/4"	3.0	4.5	0	5	5	



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

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)

NEW!!

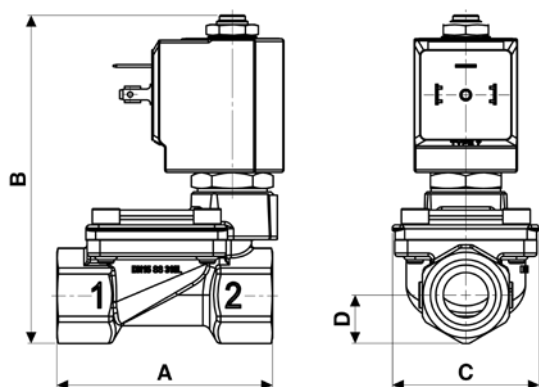


SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

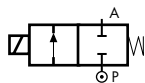


DIMENSIONS & WEIGHTS

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: $-10^{\circ}\text{C} + 95^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} + 50^{\circ}\text{C}$

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

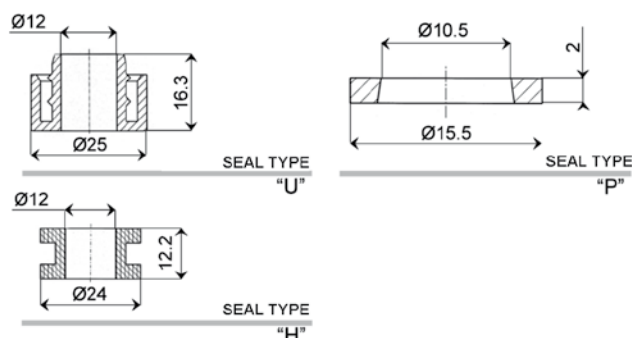
Protection class: IP 65 (with connector)

Nominal diameter: 9.0 mm

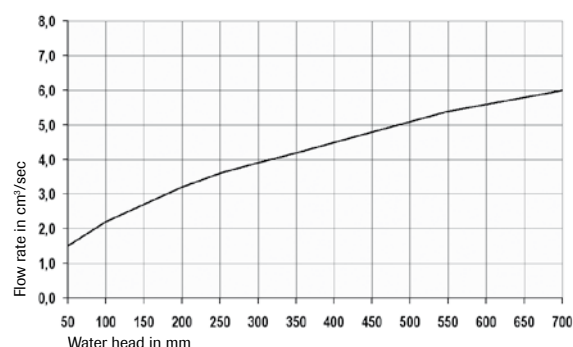
Standard flow regulation screw



OPTIONS

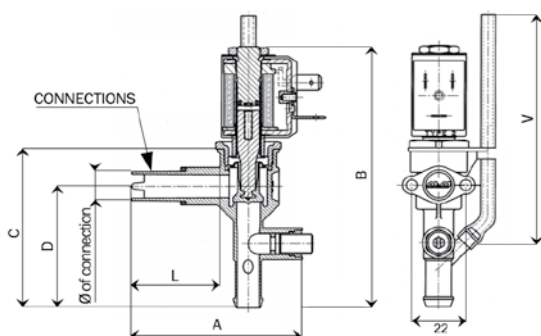


FLOW RATE CHART



SELECTION TABLE

VALVE	type of connection	seal type	length of the vent pipe (V)	OPD			COILS	
				min	max AC	max DC	code	[Volts/Hz]
code	[mm]	-	[mm]	[barg]	[barg]	[barg]	code	[Volts/Hz]
WB251DSS	Ø 12 x L=35	"P"	95	0	0.07	0.05	22V0	24v DC
WB251DSS1	Ø 12 x L=35	"P"	235				2200	24v 50/60Hz
WB251DSS01	Ø 11 x L=25	"P"	95				2400	110v 50Hz - 120v 60Hz
WB251DSSA1	Ø 12 x L=35	"U"	95				2600	200v 50Hz - 220v 60Hz
WB251DSSA2	Ø 12 x L=48	"U"	95				2700	230v 50Hz - 240v 60Hz
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					

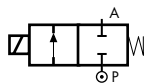


DIMENSIONS & WEIGHTS

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

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: $-10^{\circ}\text{C} \div +130^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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

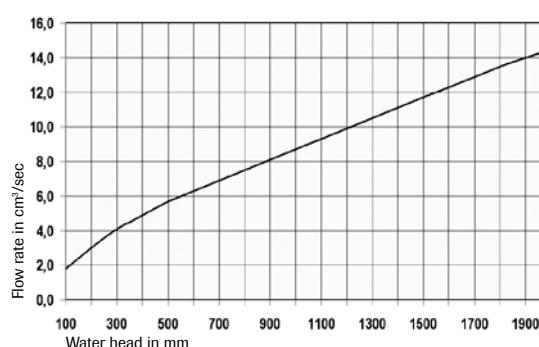
Brass body with electroless nickel plating treatment

(e.g. code 246DSK0E)

Brass fittings available upon request

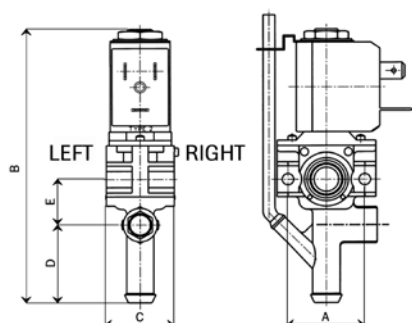


FLOW RATE CHART



SELECTION TABLE

VALVE	left hole	rigth hole	nominal diameter	OPD			COILS			
				min	max AC	max DC				
code	-	-	[mm]	[barg]	[barg]	[barg]	code	[Volts/Hz]		
246DSRDE	fast connection	cap	8.0	0	0.2	0.1	22V0	24v DC		
246DSRED	cap	fast connection					2200	24v 50/60Hz		
246DSREP	cap	hose tail					2400	110v 50Hz - 120v 60Hz		
246DSRE0	cap	1/4" threaded					2600	200v 50Hz - 220v 60Hz		
246DSR0E	1/4" threaded	cap					2700	230v 50Hz - 240v 60Hz		
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								

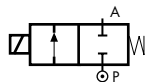


DIMENSIONS & WEIGHTS

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

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: $-10^{\circ}\text{C} \div +95^{\circ}\text{C}$

Ambient temperature: $-10^{\circ}\text{C} \div +50^{\circ}\text{C}$

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

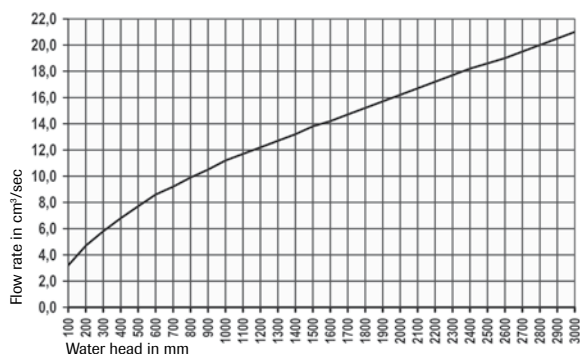
Protection class: IP 65 (with connector)

OPTIONS

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



FLOW RATE CHART *

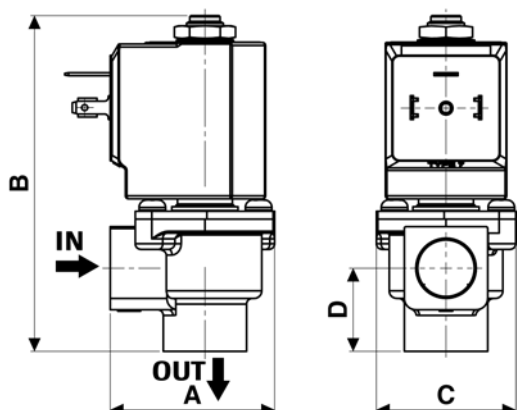


SELECTION TABLE

VALVE	G connection	nominal diameter	flow rate Kvs	min	OPD max AC	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

BESPOKEN PRODUCTS

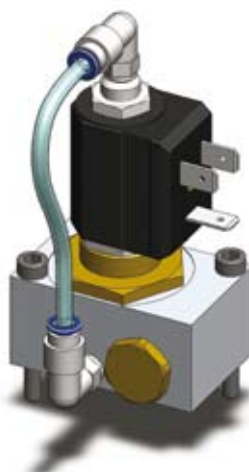
M&M is a company in continuous evolution, able to develop and offer new products to a more and more demanding and competitive market. For years, M&M has been operating in diversified industrial sectors and therefore has acquired a vast experience in innumerable applications: this consolidated know-how 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.

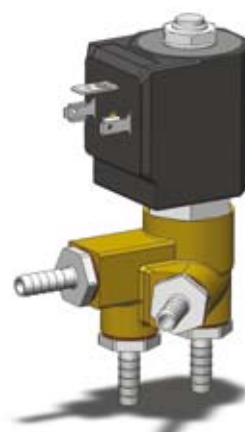
Please find below some examples:



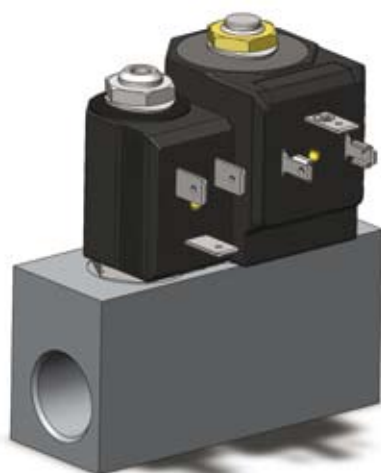
CAR AIR CONDITIONING REFILLER



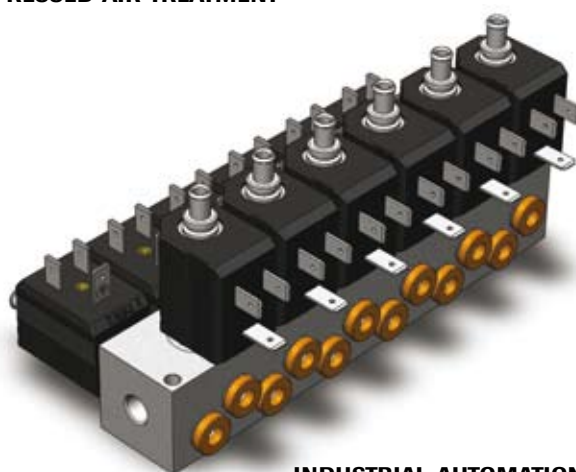
COMPRESSED AIR TREATMENT



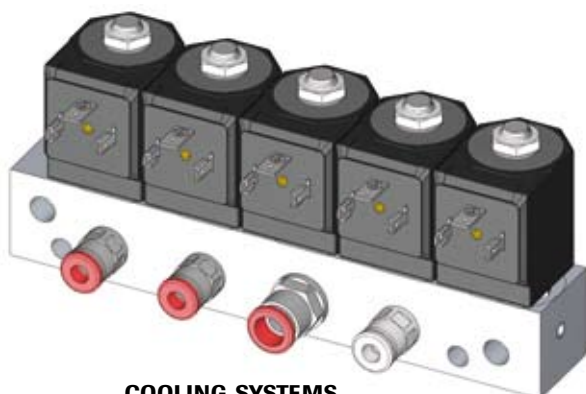
STERILIZERS



**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		media temperature		ED	fuse ⁽¹⁾
				min	max	min	max		
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

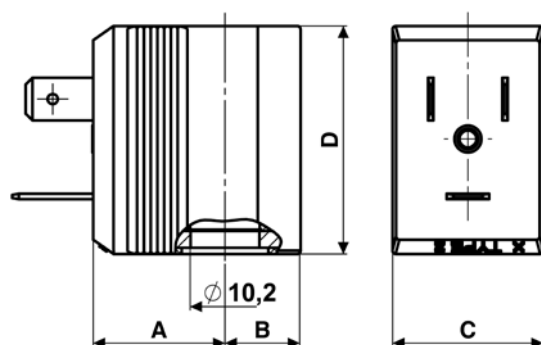


SELECTION TABLE

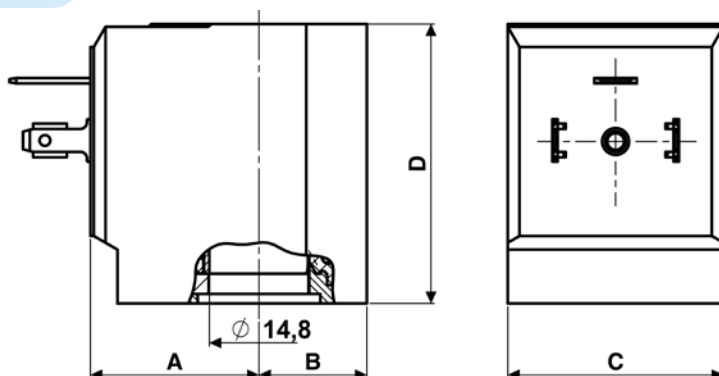
CODE	voltage	power		class	ambient temp.		media temp.		ED
		holding	inrush		min	max	min	max	
2250	24V DC	7W	—	"F" 155°C	-10°C	+50°C	-10°C	+130°C	100%
2200	24V 50/60Hz	10VA	16VA						
2400	110V 50Hz - 120V 60Hz	10VA	16VA						
2600	200V 50Hz - 220V 60Hz	10VA	16VA						
2700	230V 50Hz - 240V 60Hz	10VA	16VA						
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.

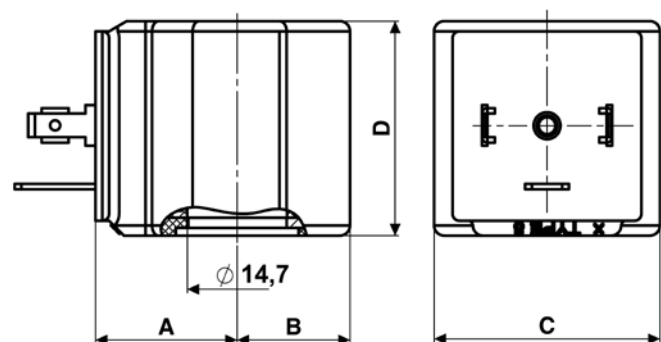
COILS - DIMENSIONS & WEIGHTS



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 mm ² (Max.)
Cable entry:	PG9 (6 – 8 mm)
Protection class:	IP 65 (only with gasket)
Insulation class:	group C - VDE 0110
Housing colour:	black

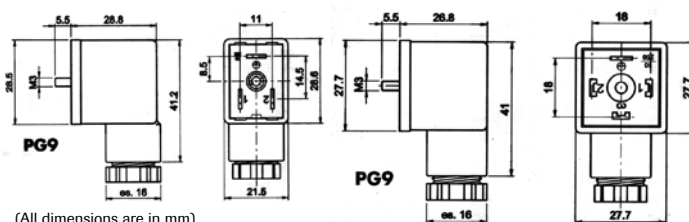
OPTIONS

- 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.

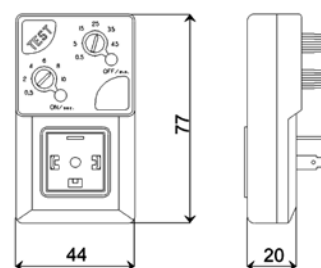
ANALOG AND DIGITAL ELECTRONIC TIMERS

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

ANALOG TIMER TECHNICAL SPECIFICATIONS



Supply voltage	120 ÷ 240V AC/DC - 50/60Hz for  US and CE  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

SERIES: AT2000

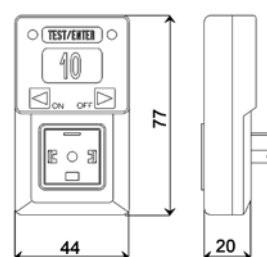


All dimensions in mm

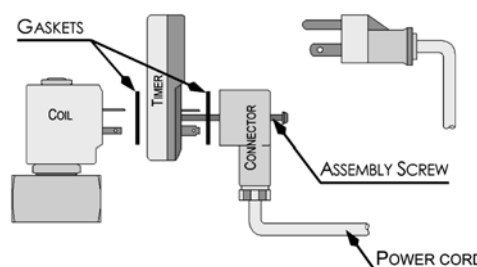
DIGITAL TIMER TECHNICAL SPECIFICATIONS


Supply voltage	120 ÷ 240V AC/DC - 50/60Hz for  US and CE  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

SERIES: DT3000



All dimensions in mm



 US approval number E200580

● 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

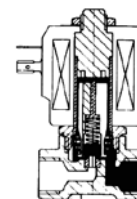
A solenoid valve should be chosen whenever the following conditions are met:

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

VALVE TYPES

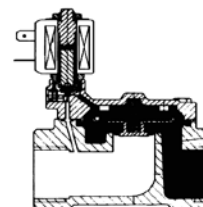
✓ Direct acting solenoid valves 2/2 and 3/2 way NC or NO

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 $5 \div 25$ ms.



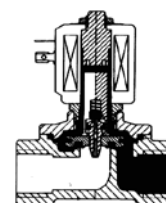
✓ Pilot operated solenoid valves 2/2 way NC or NO

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 $50 \div 500$ 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 orifice. 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 $50 \div 500$ 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 measure)

The SI unit of pressure is the pascal (Pa), defined as 1 newton of force per square metre (1 N/m²).

As Pa is such a small unit, the kPa (1 kilonewton/m²) or MPa (1 Meganewton/ m²) 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 10⁵ N/ m², and approximates to 1 atmosphere. This unit is used throughout this publication.

Other units often used include lb/in² (PSI), kg/cm², atm in H₂O 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.

$$\text{Gauge pressure} = \text{Absolute pressure} - \text{Atmospheric pressure}$$

Pressure above atmospheric will always 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 mm²/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 on the 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**

✓ **Name and position**

✓ **Fax number**

✓ **Actuator** ☐ solenoid ☐ pneumatic
 ✓ **Operation** ☐ direct act. ☐ pilot operated
 ✓ **Tpe** ☐ 2/2 ☐ 3/2

✓ **Connections**

✓ **Media temperature**

✓ **Media pressure**

nominal ----- min. ----- max -----

✓ **Ambient temperature**

✓ **Application**

✓ **Sketches or Drawings**

✓ **NOTES**

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

✓ **Date**

✓ **Address**

✓ **Telephone number**

✓ **E-mail address**

☐ assisted lift

✓ **Function** ☐ NO ☐ NC

✓ **Controlled media**

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

✓ **Flow**

✓ **Electrical supply** ☐ AC ☐ DC

Volts ----- Frequency -----

Max. Power Consumption -----

✓ **Annual quantity**

✓ **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

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



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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Società soggetta all'attività di direzione e coordinamento di Spirax-Sarco Engineering plc

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N.B. M&M International declines to accept any responsibility for any errors in this catalogue and reserves the right to modify or change the contents or technical specifications without prior notice.

e.g. code

B

2

9

7

D

V

E

K

2

7

0

0

CODE

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

ELECTRICAL SUPPLY

- =

AC

C =

DC

FUNCTION

- =

Normally closed

S =

2nd Service

R =

Normally open

W =

Vending

SERIAL LETTER

B =

Armature Ø 10 mm

D =

Armature Ø 14,5 mm

N =

Armature Ø 14,5 mm for EEX proof SV

WAYS / TYPE OF VALVE

1 =

2/2 ways assisted lift

2 =

2/2 ways

3 =

3/2 ways

6 =

For steam

8 =

Various

9 =

Manifold

ID. CODE

Valve body identification

Ø ORIFICE

tenths of mm

MARK

A =

1.0

B =

1.2

C =

1.4 - 1.5 - 1.6

D =

1.7 - 1.8

E =

2.0

F =

2.2 - 2.3

G =

2.5

H =

3.0 - 3.2

L =

4.0

M =

4.5

N =

5.0

O =

5.5

P =

6.0

T =

10.0

U =

10.5 - 11.0

V =

11.5

Z =

13.0

W =

14.0 - 15.0 - 15.5 -

X =

18.0 - 20.0

Y =

24.0 - 25.0

K =

40.0

J =

50.0

SPECIAL EXECUTIONS

A =

Silver shading ring

K =

Electroless nickel plating treatment

M =

Manual override

N =

NPT thread

V =

Speed control screw

Y =

Ternary Eco Alloy (T.E.A.®) treatment

COIL CODE

SEAL MATERIAL

MARK

MATERIAL

MARK

MATERIAL

B =

NBR

P =

EPDM

E =

EPDM

R =

RUBY

K =

KALREZ®

S =

SILICONE

L =

Sigodur (filled PTFE)

T =

PTFE

N =

NEOPRENE

V =

FKM

FIXED CORE TYPE

A =

3/2 way 1/8" gas, spherical

C =

3/2 way 1/8" gas for bicone

D =

2/2 way 1/8" gas

E =

3/2 way gasket holder



spirax
/sarco Engineering Group

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