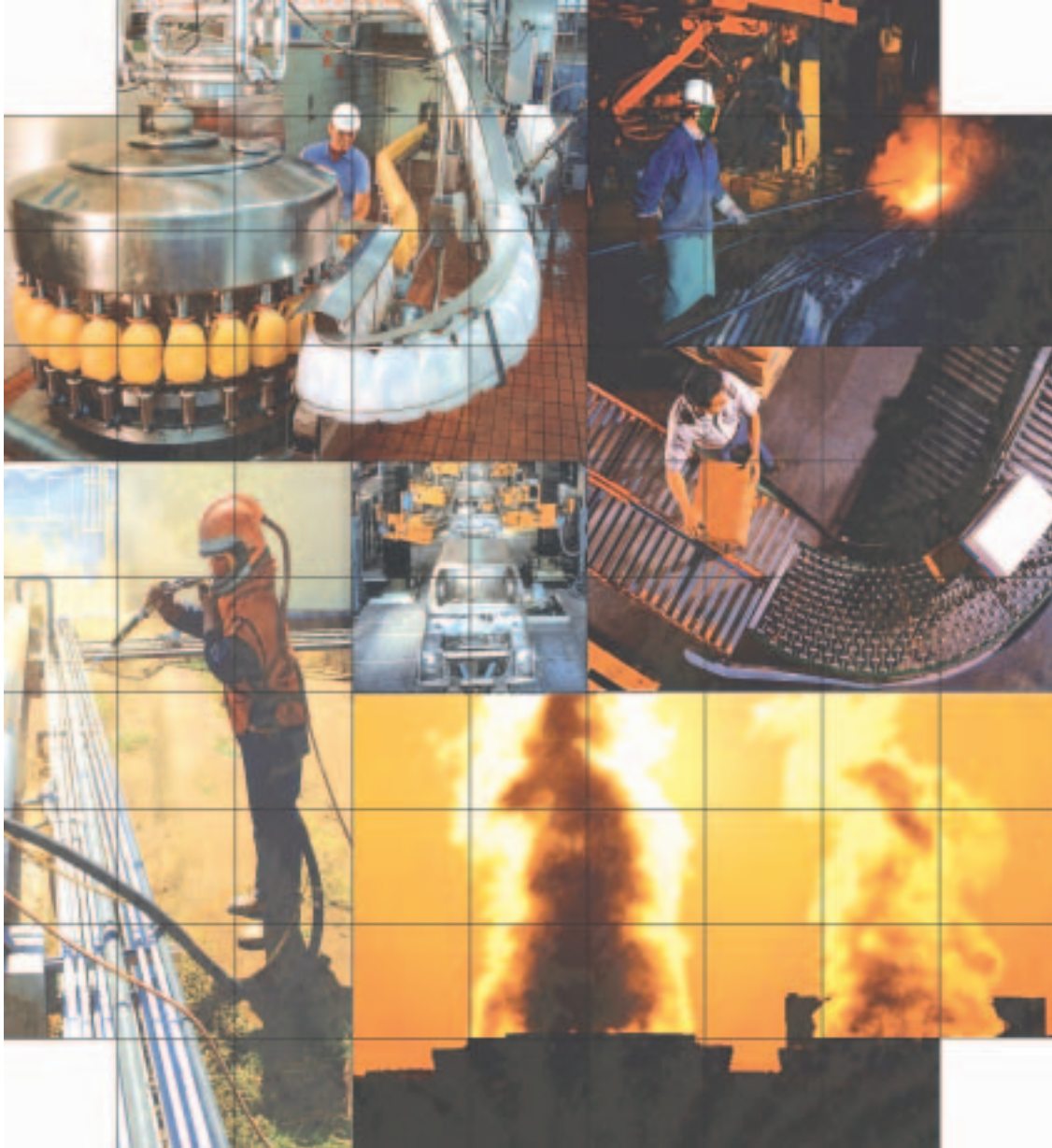


ASCO[®] Valve



Valves for the control of air, water and steam

www.ascovalve.net

SOLENOID VALVES

GENERAL PURPOSE APPLICATIONS

1/8" - 2"

TECHNICAL DATA

- **Fluids** : water, air & neutral gas; light oil < 40 cSt
- **Body** : Brass
- **Sealing** : NBR (steam: PTFE)
- **Maximum temperature**
 - Ambient** : +60 °C
 - Fluid** : +85 °C (106 Series : +80 °C)
- **Protection** : IP65
- **Standard voltage DC (=)** : 24V
- **Standard voltage AC (-)** : 110V / 50-60 Hz
220V / 50-60 Hz
230V / 50 Hz
Other voltages available upon request
- **Steam**
 - + 80 °C
 - + 170 °C



SPECIFICATIONS

pipe size G	orifice size (mm)	flow coef Kv (l/min)	operating pressure differential (bar)			power rating		catalog number
			min	maximum		AC (W)	DC (W)	
				air / gas / water / light oil	AC			
2 WAY NORMALLY CLOSED								
1/8"	1.5	1	0	20	12	4	6.9	10600058
1/8"	2.5	1.7	0	10	4	4	6.9	10600003
1/4"	1.5	1.1	0	20	12	4	6.9	10600187
1/4"	2.5	2.9	0	10	4	4	6.9	10600189
3/8"	12	40	0.3	10	10	4	6.9	SCE238A001
3/8"	12	40	0.3	16	16	5	6.9	SCE238A006
1/2"	12	40	0.3	10	10	4	6.9	SCE238A002
1/2"	12	40	0.3	16	16	5	6.9	SCE238A007
1/2"	15	70	0.3	10	10	4	6.9	SCE238B003
1/2"	15	70	0.3	16	16	5	6.9	SCE238B008
3/4"	20	110	0.3	10	10	4	6.9	SCE238A004
3/4"	20	110	0.3	16	16	5	6.9	SCE238A009
1"	25	165	0.3	10	10	4	6.9	SCE238A005
1"	25	165	0.3	16	16	5	6.9	SCE238A010
1 1/4"	30	250	0.5	10	10	6	9.5	SCG238A016
1 1/2"	45	450	0.5	10	10	6	9.5	SCG238A017
2"	45	566	0.5	10	10	6	9.5	SCG238A018

2 WAY NORMALLY CLOSED - STEAM / SUPERHEATED WATER

3/8"	10	33	0.4	8	-	6	-	SCG240A100
1/2"	10	42	0.4	8	-	6	-	SCG240A101
3/4"	16	75	0.4	6	-	9	-	SCG240A102
1"	18.5	142	0.4	6	-	9	-	SCG240A103

Note: Manual Operator, Viton and EPDM can be supplied

Conversion: Cv = 0.069kv (l/min)

bar = 100kpa = 14.5psi

°F = 9/5 °C + 32

Viscosity: 40cSt = 186SSU

PRESSURE OPERATED VALVES

MULTI PURPOSE APPLICATIONS

external pilot operated

1/2" - 2 1/2"

TECHNICAL DATA

- **Fluids** : air, neutral gas, water, light oil, superheated water, steam (bronze series) aggressive fluids (stainless steel series)
- **Temperature range**
 - Fluid** : - 10°C to + 80°C
 - Ambient** : - 10°C to + 60°C
- **Body** : Bronze / Stainless steel 316L
- **Stuffing box and disc seal** : PTFE



290 series

SPECIFICATIONS

pipe size G	orifice size (mm)	flow coef Kv (l/min)	pilot pressure (bar)		operating pressure differential (bar)			dimensions / weight ref.	catalog number for valve only	
					min.	maximum			bronze body	stainless steel body
			min ⁽¹⁾	max		air, gases, aggressive fluids	water, oil, superheated water, aggressive fluids			

2 WAY NORMALLY CLOSED - Entry under disc

1/2"	15	82	4	10	0	16	16	10	1	E290A384	E290A393
3/4"	20	157	4	10	0	10	10	10	2	E290A385	E290A394
1"	25	275	4	10	0	10	10	10	3	E290B010	E290B053
1 1/4"	32	450	4	10	0	12	12	10	4	E290A017	E290A060
1 1/2"	40	750	4	10	0	8	8	8	5	E290A021	E290A064
2"	50	1110	4	10	0	10	10	10	6	E290A485	E290A498
2 1/2"	65	1850	4	10	0	6	6	6	7	E290A488	E290A501

2 WAY NORMALLY CLOSED - Entry above disc (Version recommended for rapid-cycling steam applications)

1/2"	15	82	3.5	10	0	10	-	10	1	E290A390	E290A399
3/4"	20	157	4	10	0	10	-	10	2	E290A391	E290A400
1"	25	213	5	10	0	10	-	10	8	E290A392	E290A401
1 1/4"	32	450	5	10	0	10	-	10	9	E290A039	E290A082
1 1/2"	40	750	7	10	0	10	-	10	10	E290A040	E290A083
2"	50	983	10	10	0	10	-	10	11	E290A043	E290A086
2 1/2"	65	1567	10	10	0	10	-	10	12	E290A623	E290A625

(1) Minimum pilot pressure required to achieve 10 bar main line pressure or maximum rated pressure of valve (if rated under 10 bar). Lower minimum pilot pressures are possible if valve is being used at less than its maximum rating.

PILOT VALVES

direct operated

1/8" - 1/4"

TECHNICAL DATA

- **Standard voltage DC (=)** : 24V
- **AC (~)** : 110V / 50-60 Hz
220V / 50-60 Hz
230V / 50 Hz
Other voltages available upon request
- **Protection** : IP65



107 series

SPECIFICATIONS

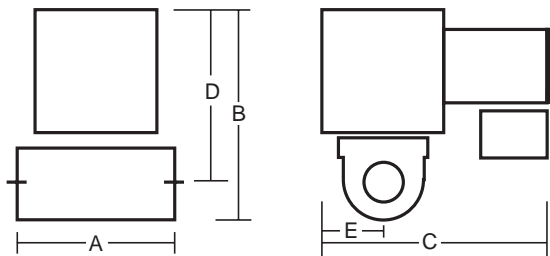
pipe size G	orifice size (mm)	flow coef Kv (l/min)	operating pressure differential (bar)			power rating		catalog number
			min	maximum		AC (W)	DC (W)	
				air / gas	water / oil			

3 WAY NORMALLY CLOSED

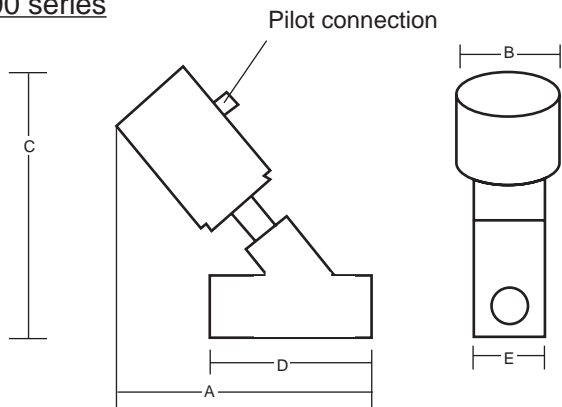
1/8"	1	0.5	0	15	15	4	6.9	10700001
1/4"	1.5	1	0	12	12	5	6.9	10700207

DIMENSIONS (mm), WEIGHT (kg)

238 / 106 / 240 / 107 series



290 series



catalog number	A	B	C	D	E	weight (kg)
238 series A001, A002 A006, A007	62	82	43	68.5	21.5	0.4 0.5
B003 B008	81.5	84.5	57	71	28.5	0.5 0.6
A004 A009	95	95.5	68	79.5	34	0.8 0.9
A005 A010	105.5	105	87	84.5	43.5	1.0 1.1
A016	113	135	81	109	40.5	1.7
A017	140	142	110	112	55	2.6
A018	145	153	110	117	55	2.9
106 series 106 00 058 106 00 003	33	52	60	45	14	0.14
106 00 187 106 00 189	40	61	60	51	15	0.17
240 series A100 A101 A102 A103	60 66 79 105	80 85 94.5 123	40 40 50 71	69 72 78 102	20 20 25 35.5	0.38 0.41 0.61 1.34
107 series 107 00 001 107 00 207	33 40	52 60	25 26.5	45 50	11 11.5	0.138 0.226

dimensions ref	A	B	C	D	E	pilot G thread	weight (kg)
290 series							
1	142	69	155	65	27	1/8"	0.9
2	151	69	159	75	32	1/8"	1
3	183	85	197	90	41	1/8"	1.7
4	236	118	246	110	50	1/4"	2.7
5	243	118	262	120	60	1/4"	3.5
6	315	156	328	150	70	1/4"	6.8
7	347	156	352	190	86	1/4"	8.1
8	155	69	165	90	41	1/4"	1.4
9	217	85	229	110	50	1/8"	2.1
10	224	85	245	120	60	1/8"	2.9
11	267	118	276	150	70	1/4"	4.3
12	299	118	300	190	86	1/4"	6.3

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Catalog sheets

FEATURES

- Compact design and low weight for easy installation
- Manual operator as standard
- Interchangeability of magnetic heads, AC and DC and for potentially explosive atmospheres to EEx m (encapsulation)

GENERAL

Differential pressure	0 to 20 bar [1 bar = 100 kPa]
Maximum allowable pressure	20 bar
Ambient temperature range	-10°C to +60°C
Maximum viscosity	40 cSt (mm ² /s)
Response time	5 - 10 ms (with air ΔP = 6 bar)

fluids	temperature ranges	sealings
Water, air, neutral gas, light oil	- 10°C to + 80°C	NBR (nitrile / buna-n)
Hydrocarbons	- 10°C to + 130°C	FPM (fluoroelastomer / viton)

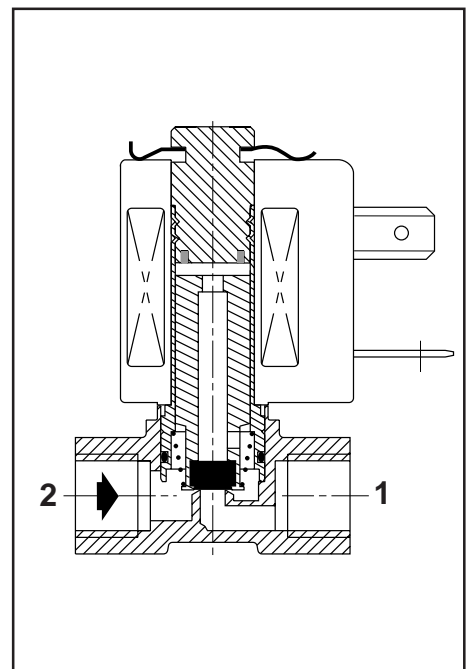
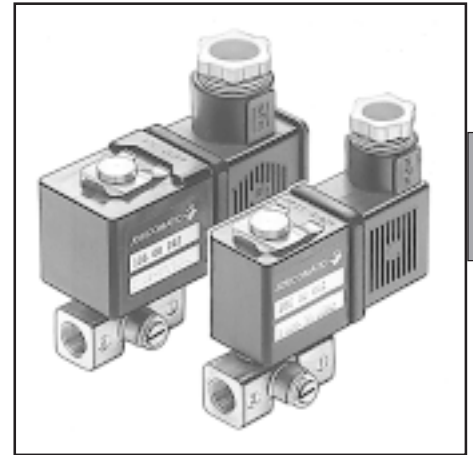
CONSTRUCTION

Body	Brass
Core tube	Stainless steel
Internal parts	Stainless steel
Spring	Stainless steel
Seat	Brass
Sealings	NBR or FPM
Shading coil	Copper
Coil insulation class	F
Connector	Spade plug
Connector specification	
for coil CM22-4W	3 x DIN 46244 (Pg 9P)
for coil CM25-5W	ISO 4400 (Pg 11P)
Electrical safety	VDE 0580

ELECTRICAL CHARACTERISTICS

Standard voltages DC (=): 24V
(Other voltages and 60 Hz on request) AC (~): 24V - 115V - 230V / 50 Hz

coil type	nominal power ratings				ambient temperature range (°C)	protection
	inrush ~ (VA)	holding		hot/cold = (W)		
		~ (VA)	(W)			
CM22-4W	12	6	4	5 / 6,9	-10 to +60	moulded IP65
CM25-5W (1)	15	7	5	5 / 6,9	-10 to +60	moulded IP65




SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)				coil type	(M)	catalogue number (~ / =)		
				min.	maximum		~ / =			NBR	FPM	
					air/gas	water/oil						
G	(mm)	(m ³ /h)	(l/min)									
NC - normally closed operation, brass body												
1/8	1	0,04	0,6	0	20	20	20	20	CM22-4W	●	106 00 001	106 00 004
	1,5	0,06	1	0	20	12	20	12	CM22-4W	●	106 00 058	106 00 064
					20	15	20	15	CM25-5W	●	106 00 242	106 00 244
	2,5	0,10	1,7	0	10	4	10	4	CM22-4W	●	106 00 003	106 00 006
14					7	14	7	CM25-5W	●	106 00 243	106 00 245	

(M) Manual operator: ●: screwdriver

(1) Coil CM25-5W is dual-voltage: (24V ~, 12V =) (48V ~, 24V =) (115V ~, 48V =) (230V ~, 110V =).

 The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly

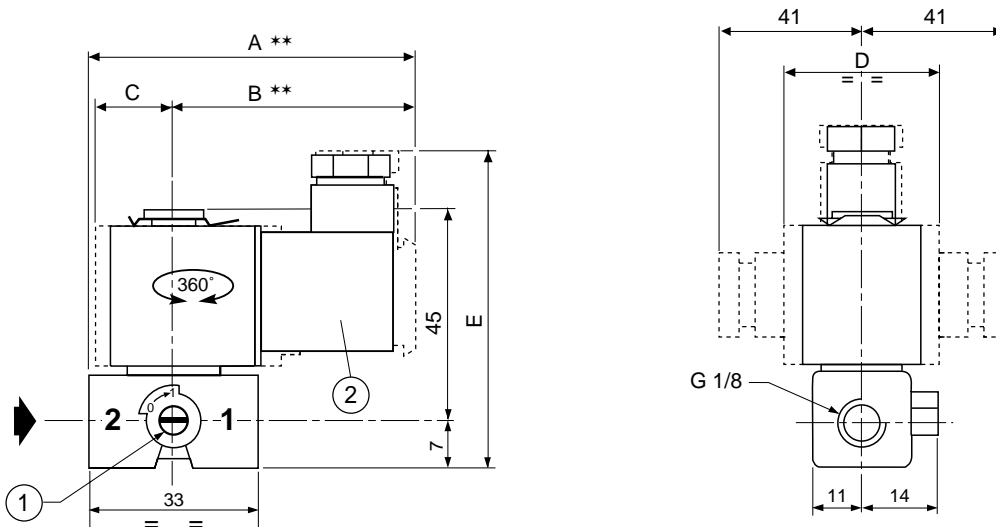
OPTIONS

- Encapsulation, EEx m (coil CM22), for potentially explosive atmospheres according to "CENELEC" (see Section 10)
- Solenoid heads "CSA" approved (coil CM22-4W)
- Compliance with "UL" standard (solenoid valves with coil CM22-4W)
- Magnetic latch executions (see Section 9/10)
- Oxygen service, catalogue number **970 517**
- Low consumption coil CM22-2,5W
- Connector with built-in indicator and electrical protection or prewired with cable length 2 m (see section 11)

INSTALLATION

- The solenoid valves can be mounted in any position
- Mounting bracket are available, catalogue number **976 00 327**
- Pipe connections have standard thread according to ISO 228/1
- Other pipe threads are available on request
- Installation/maintenance instructions are included with each solenoid valve
- Replacement coils are available

DIMENSIONS (mm), WEIGHT (kg)



coil type	A	B	C	D	E	weight (1)
CM22-4W	66	49	11	22	68	0,140
CM25-5W	73	56	15	30	75	0,200

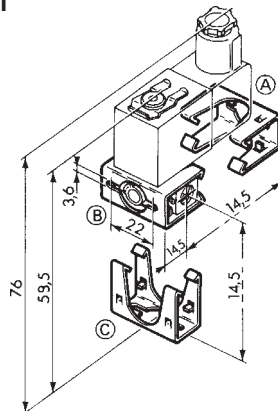
(1) incl. coil and connector

- ① Manual operator
- ② Plug connectors:
 - for coil CM22-4W: rotatable by 180°, Pg 9P
 - for coil CM25-5W: rotatable by 90°, Pg 11P.

** + 15 mm for plug removal.

SOLENOID VALVE WITH MOUNTING BRACKET

Catalogue number mounting bracket: **976 00 327**



- Ⓐ Side mounting at rear.
- Ⓑ Side mounting at front.
- Ⓒ Bottom mounting.

ASCO/JOUCOMATIC reserves the right to alter the availability and specifications without notice.

FEATURES

- Compact design and low weight for easy installation
- Interchangeability of magnetic heads, AC and DC and for potentially explosive atmospheres to EEx m (encapsulation)

GENERAL

Differential pressure	0 to 20 bar [1 bar = 100 kPa]
Maximum allowable pressure	20 bar
Ambient temperature range	-10°C to +60°C
Maximum viscosity	40 cSt (mm ² /s)
Response time	5 - 10 ms (with air ΔP = 6 bar)

fluids	temperature ranges	sealings
Water, air, neutral gas, light oil	- 10°C to + 80°C	NBR (nitrile / buna-n)
Hydrocarbons	- 10°C to +130°C	FPM (fluoroelastomer / viton)

CONSTRUCTION

Body	Brass
Core tube	Stainless steel
Internal parts	Stainless steel
Spring	Stainless steel
Seat	Brass
Sealings	NBR or FPM
Shading coil	Copper
Coil insulation class	F
Connector	Spade plug
Connector specification	
for coil CM22-4W	3 x DIN 46244 (Pg 9P)
for coil CM25-5W	ISO 4400 (Pg 11P)
Electrical safety	VDE 0580

ELECTRICAL CHARACTERISTICS

Standard voltages DC (=): 24V
(Other voltages and 60 Hz on request) AC (~): 24V - 115V - 230V / 50 Hz

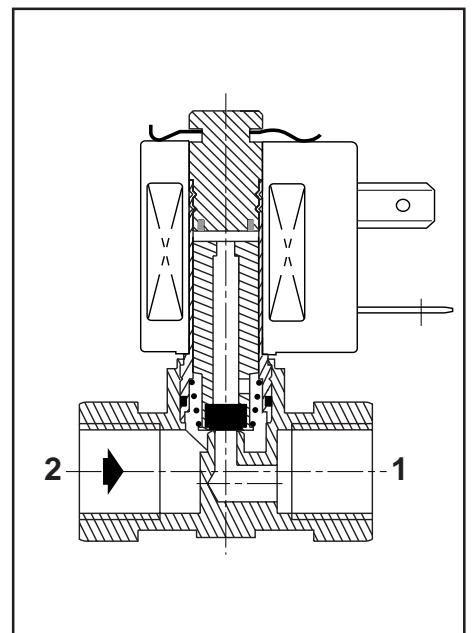
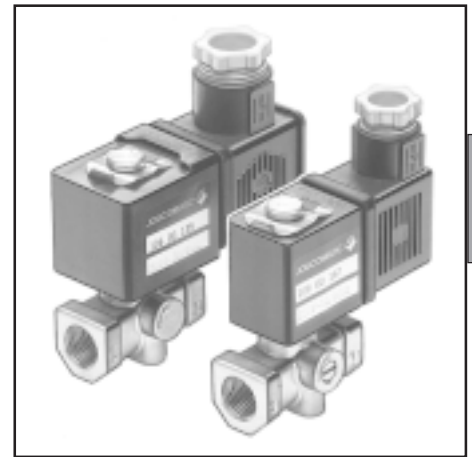
coil type	nominal power ratings				ambient temperature range (°C)	protection
	inrush ~ (VA)	holding ~ (VA)	hot/cold = (W)			
			~ (W)	= (W)		
CM22-4W	12	6	4	5 / 6,9	-10 to +60	moulded IP65
CM25-5W(1)	15	7	5	5 / 6,9	-10 to +60	moulded IP65

SPECIFICATIONS

pipe size (G*)	orifice size (mm)	flow coefficient Kv (m ³ /h) (l/min)		operating pressure differential (bar)				coil type ~ / =	(M)	catalogue number (~ / =)		
				min.	maximum		~ / =			sealings		
					air/gas	water/oil				NBR	FPM	
1/4	1	0,04	0,6	0	~ 20	= 20	~ 20	= 20	CM22-4W	●	106 00 186	106 00 191
	1,5	0,07	1,12	0	~ 20	= 12	~ 20	= 12	CM22-4W	●	106 00 187	106 00 192
					~ 20	= 15	~ 20	= 15	CM25-5W	●	106 00 257	106 00 259
	2,5	0,17	2,85	0	~ 10	= 4	~ 10	= 4	CM22-4W	●	106 00 189	106 00 194
					~ 14	= 7	~ 14	= 7	CM25-5W	●	106 00 258	106 00 260
	4	0,30	5	0	~ 5	= 1,5	~ 5	= 1,5	CM25-5W	X	106 00 135	106 00 142
5	0,39	6,5	0	~ 3	= 1	~ 3	= 1	CM25-5W	X	106 00 136	106 00 143	

(M) Manual operator: X: without ●: screwdriver.

(1) Coil CM25-5W is dual-voltage: (24V ~, 12V =) (48V ~, 24V =) (115V ~, 48V =) (230V ~, 110V =).



The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly

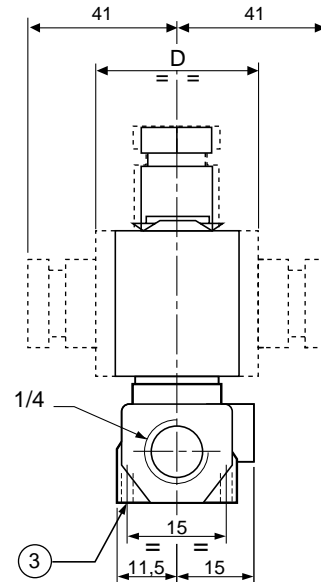
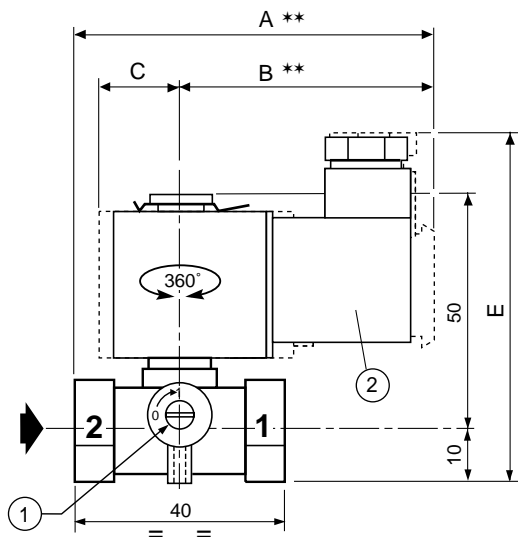
OPTIONS

- Encapsulation, EEx m (coils CM22), for potentially explosive atmospheres according to "CENELEC" (see Section 10)
- Solenoid heads "CSA" approved (coil CM22-4W)
- Oxygen service, catalogue number **970 517**
- Connector with built-in indicator and electrical protection or prewired with cable length 2 m (see Section 11)

INSTALLATION

- The solenoid valves can be mounted in any position
- These valves have 2 mounting holes in the body
- Pipe connections (G') have standard combination thread according to ISO 228/1 and ISO 7/1
- Other pipe threads are available on request
- Installation/maintenance instructions are included with each solenoid valve
- Replacement coils are available

DIMENSIONS (mm), WEIGHT (kg)



coil type	A	B	C	D	E	weight (1)
CM22-4W	68	49	11	22	79	0,170
CM25-5W	76	56	15	30	83	0,230

(1) incl. coil and connector

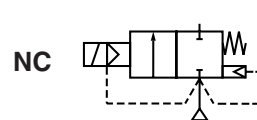
① Manual operator (except dia. 4 and 5)

② Plug connectors:
 • for coil CM22-4W:
 rotatable by 180°, Pg 9P
 • for coil CM25-5W:
 rotatable by 90°, Pg 11P

③ Mounting: two M4, depth 5 holes

** + 15 mm for plug removal.

ASCO/JOUCOMATIC reserves the right to alter the availability and specifications without notice.



FEATURES

- Solenoid valves satisfy all relevant EC directives
- Minimum operating pressure differential 0.3 / 0.5 bar
- Interchangeability of magnetic heads, AC and DC

GENERAL

Differential pressure	See "SPECIFICATIONS" (1 bar = 100 kPa)						
Ambient temperature range	-10°C to +60°C						
Maximum viscosity	40 cSt (mm ² /s)						
Response time (Air operation, ΔP = 6 bar)	3/8	1/2	3/4	1	1 1/4	1 1/2	2
opening time (ms)	25	30	55	70	300	300	1500
closing time (ms)	40	90	110	200	1000	1000	2000

fluids (*)	temperature range (TS)	sealings (*)
DN ≤ 25: air, inert gas and water DN > 25: air and water	-10 to +85°C	NBR (nitrile / buna-n)

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body	Brass
Internal parts	Stainless steel and brass
Springs	Stainless steel
Seals, diaphragm and disc	NBR
Shading coil	Copper

ELECTRICAL CHARACTERISTICS

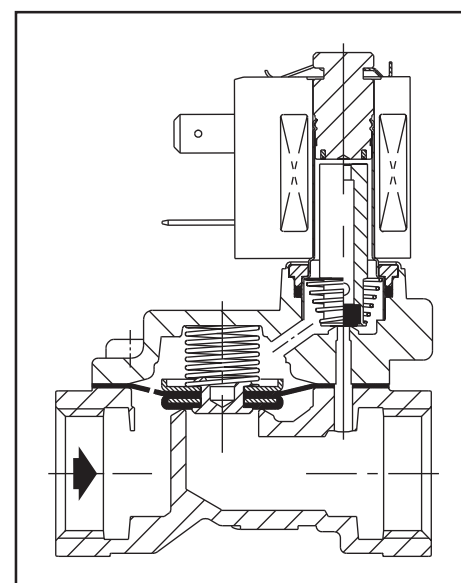
Coil isolation class	F
Connector	Spade plug
Connector specification	
for CM22-4W	3 x DIN 46244 (Pg 9P)
for CM25-5W / AMX	ISO 4400 (Pg 11P)
Electrical safety	VDE 0580
Standard voltages	DC (=): 24V
(Other voltages and 60 Hz on request)	AC (~): 24V - 115V - 230V / 50 Hz

coil type	nominal power ratings				ambient temperature range (TS) (°C)	protection
	inrush		holding			
	~ (VA)	(VA)	~ (W)	= (W)		
CM22-4W	12	6	4	5 / 6,9	-10 to +60	moulded IP65
CM25-5W	15	7	5	5 / 6,9		
AMX	20	10	6	7,5 / 9,5		

SPECIFICATIONS

pipe size	orifice size (mm)	flow coefficient Kv (m ³ /h) (l/min)		operating pressure differential (bar)				coil type	catalogue number	OPTIONAL			
				maximum (PS)						NBR sealings	FPM	EPDM	
				min.	air (*)		water (*)						
					~	=	~						=
G* 3/8	12	2,4	40	0,3	10	10	10	10	CM22-4W	SC E238A001	V	E	
G* 3/8	12	2,4	40	0,3	16	16	16	16	CM25-5W	SC E238A006	V	E	
G* 1/2	12	2,4	40	0,3	10	10	10	10	CM22-4W	SC E238A002	V	E	
G* 1/2	12	2,4	40	0,3	16	16	16	16	CM25-5W	SC E238A007	V	E	
G* 1/2	15	4,2	70	0,3	10	10	10	10	CM22-4W	SC E238B003	V	E	
G* 1/2	15	4,2	70	0,3	16	16	16	16	CM25-5W	SC E238B008	V	E	
G* 3/4	20	6,6	110	0,3	10	10	10	10	CM22-4W	SC E238A004	V	E	
G* 3/4	20	6,6	110	0,3	16	16	16	16	CM25-5W	SC E238A009	V	E	
G* 1	25	9,9	165	0,3	10	10	10	10	CM22-4W	SC E238A005	V	E	
G* 1	25	9,9	165	0,3	16	16	16	16	CM25-5W	SC E238A010	V	E	
G 1 1/4	30	15	250	0,5	10	10	10	10	AMX	SC G238A016	V	-	
G 1 1/2	45	27	450	0,5	10	10	10	10	AMX	SC G238A017	V	-	
G 2	45	34	566	0,5	10	10	10	10	AMX	SC G238B018	V	-	

The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly



OPTIONS

- Valves can also be supplied with FPM (fluorelastomer / viton), EPDM (ethylene-propylene) sealings, diaphragm and disc. Use the appropriate optional suffix letter for identification
- Manual operator, suffix **MO**
Versions 3/8 to 1:
- Explosionproof EEx **m** coil for hazardous areas (only for versions with coil CM22-4W); see V1037 (section 10)
- Compliance with "**UL**" and "**CSA**" standards (catalogue numbers A001/A002/B003/A004/A005 only, optional)
- Magnetic latch execution for CM22 coil type only; see V910-10 (Section 9/10)
- All versions:**
- Connectors with built-in indicator and electrical protection or prewired with cable length 2 m (see section 11)

INSTALLATION

- Solenoid valves can be mounted in any position without affecting operation
- Pipe connections (**G***) have standard combination thread according to ISO 228/1 and ISO 7/1. Pipe connections (**G**) have standard combination thread according to ISO 228/1
- The third digit in the catalogue number indicates the standard pipe connection: E= ISO 228/1 and ISO 7/1
- Other pipe connections are available on request
- Installation/maintenance instructions are included with each valve
- Spare parts kits and replacement coils are available (see section 11)

DIMENSIONS (mm), WEIGHT (kg)

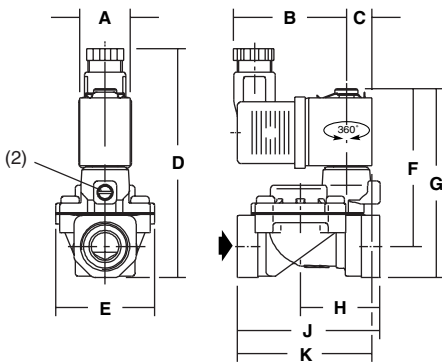


Fig. 1

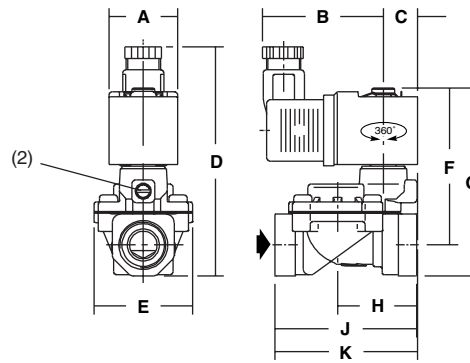


Fig. 2

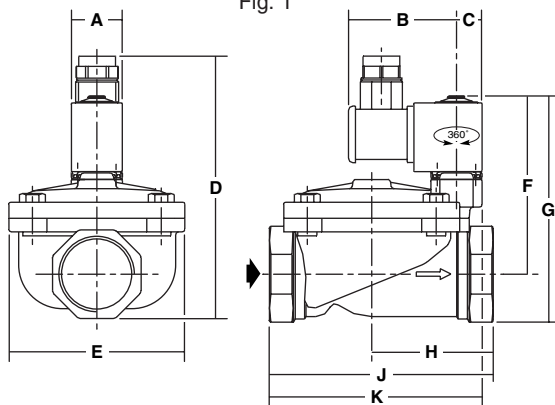
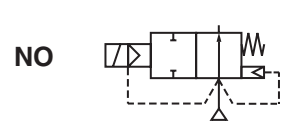


Fig. 3

catalogue number	Ø	A	B	C	D	E	F	G	H	J	K	weight (1)	(C)
SC E238A001	3/8	22	49	11	95	43	68,5	82	34,5	62	58,5	0,4	fig. 1
SC E238A002	1/2	22	49	11	95	43	68,5	82	34,5	62	58,5	0,4	
SC E238B003	1/2	22	49	11	97	57	71	84,5	45,5	81,5	74,5	0,5	
SC E238A004	3/4	22	49	11	108	68	79,5	95,5	53	95	86,5	0,8	
SC E238A005	1	22	49	11	118	87	84,5	105	58	105,5	94	1,0	
SC E238A006	3/8	30	57	15	96,5	43	68,5	82	34,5	62	62,5	0,5	fig. 2
SC E238A007	1/2	30	57	15	96,5	43	68,5	82	34,5	62	62,5	0,5	
SC E238B008	1/2	30	57	15	99	57	71	84,5	45,5	81,5	78,5	0,6	
SC E238A009	3/4	30	57	15	110	68	79,5	95,5	53	95	90,5	0,9	
SC E238A010	1	30	57	15	119,5	87	84,5	105	58	105,5	98	1,1	
SC G238A016	1 1/4	32	57	16	150	81	109 (3)	135 (3)	63	113	106	1,7	fig. 3
SC G238A017	1 1/2	32	57	16	157	110	112 (3)	142 (3)	80	140	129	2,6	
SC G238B018	2	32	57	16	168	110	117 (3)	153 (3)	85	157	129	2,9	

(1) Incl. coil and connector (2) Manual operated (option) (3) Manual operated, added +23 mm (C) Construction type

All leaflets are available on: www.ascojoucomatic.com



FEATURES

- Solenoid valves satisfy all relevant EC directives
- Two way normally open valves for automatic control of water, air and inert gas and other gases/liquids compatible with the sealing materials used
- Minimum operating pressure differential 0.3 bar
- Interchangeability of magnetic heads, AC and DC

GENERAL

Differential pressure	0,5 to 10 bar (1 bar = 100 kPa)		
Ambient temperature range	-10°C to +60°C		
Maximum viscosity	40 cSt (mm ² /s)		
Response time (Air operation, ΔP = 6 bar)	1 1/4	1 1/2	2
opening time (ms)	300	300	1500
closing (ms)	1000	1000	2000

fluids (*)	temperature range (TS)	sealings (*)
air and water	-10°C to +85°C	NBR (nitrile / buna-n)

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body	Brass
Internal parts	Stainless steel and brass
Springs	Stainless steel
Seals, diaphragm and disc	NBR
Shading coil	Copper

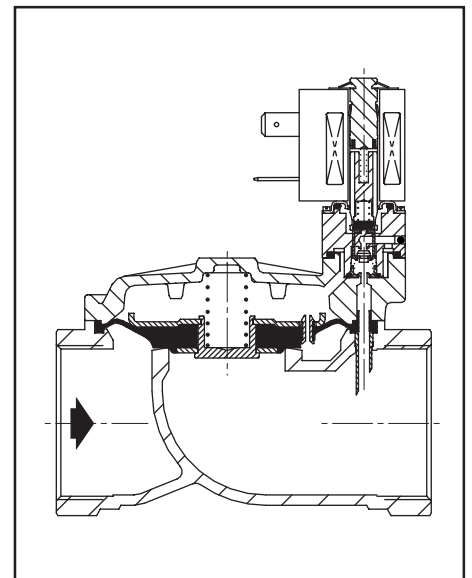
ELECTRICAL CHARACTERISTICS

Coil isolation class	F
Connector	Spade plug
Connector specification	ISO 4400
Electrical safety	VDE 0580
Standard voltages	DC (=) : 24V
(Other voltages and 60 Hz on request)	AC (~) : 24V - 115V - 230V / 50 Hz

coil type	nominal power ratings				ambient temperature range (TS) (°C)	protection
	inrush	holding	hot/cold			
	(VA)	(VA)	(W)	(W)		
AMX	20	10	6	7,5 / 9,5	-10 to +60	moulded IP65

SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)				coil type	catalogue number	OPTIONAL				
				maximum (PS)						NBR sealings	FPM			
				min.	air (*)		water (*)							
(G)	(mm)	(m ³ /h)	(l/min)		~	=	~	=	~/=					
1 1/4	30	15	250	0,5	10	10	10	10	AMX	SC G238A019	V			
1 1/2	45	27	450	0,5	10	10	10	10	AMX	SC G238A020	V			
2	45	34	566	0,5	10	10	10	10	AMX	SC G238B021	V			



The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly

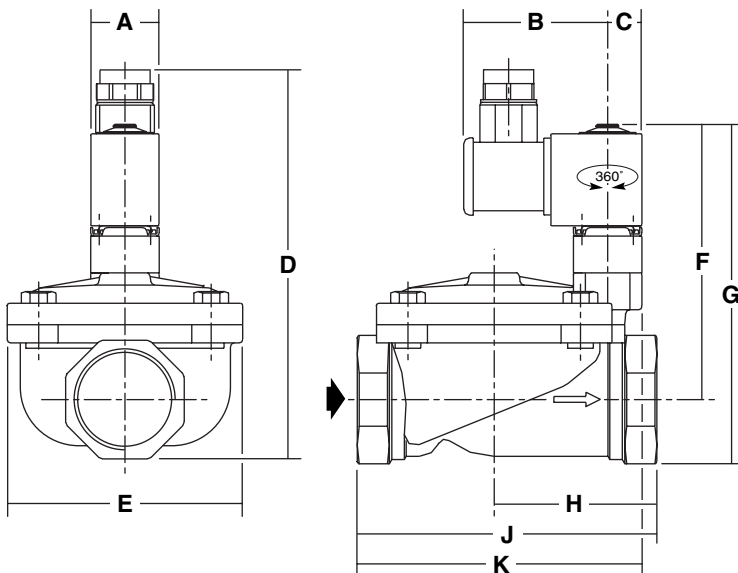
OPTIONS

- Valves can also be supplied with FPM (fluorelastomer / viton) sealings, diaphragm and disc.
Use the appropriate optional suffix letter for identification
- Connectors with built-in indicator and electrical protection or prewired with cable length 2 m (see section 11)

INSTALLATION

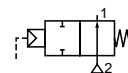
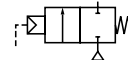
- Solenoid valves can be mounted in any position without affecting operation
- Pipe connections (G) have standard combination thread according to ISO 228/1
- The third digit in the catalogue number indicates the standard pipe connection
- Other pipe connections are available on request
- Installation/maintenance instructions are included with each valve
- Spare parts kits and replacement coils are available (see section 11)

DIMENSIONS (mm), WEIGHT (kg)



catalogue number	(G)	A	B	C	D	E	F	G	H	J	K	weight (1)
SC G238A019	1 1/4	32	57	16	168	81	127	153	63	113	106	1,9
SC G238A020	1 1/2	32	57	16	175	110	130	160	80	140	129	3,0
SC G238B021	2	32	57	16	186	110	135	171	85	157	129	3,4

(1) Incl. coil and connector



FEATURES

- Remote-controlled valves with disc for all neutral fluids (bronze body) or aggressive fluids (stainless steel body)
- High flow due to angled seat design
- Anti-waterhammer design (fluid entry under the disc)
- Vacuum operation up to 10^{-2} mbar
- A wide range of operators with piston-type operator (50 - 63 - 90 - 125 mm dia.), rotatable 360°, for maximum performance at different minimum pilot pressures
- High performance maintenance-free stuffing box

GENERAL

fluids	temperature range	disc seal
water, air, neutral gas, oil (bronze body)	- 10°C to + 180°C	PTFE
agressive fluids (stainless steel body)	- 10°C to + 180°C	PTFE
superheated water, steam	≤ + 180°C	PTFE

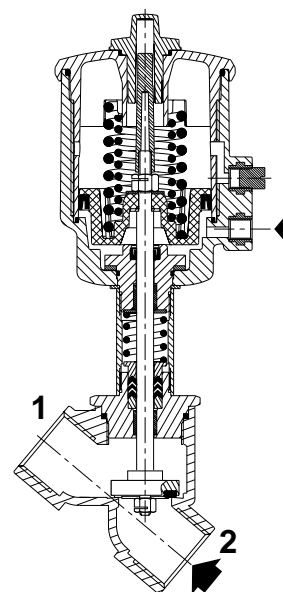
Differential pressure	0 to 16 bar [1 bar = 100 kPa]
Maximum allowable pressure	16 bar
Ambient temperature range	-10°C to +60°C
Maximum viscosity	600 cSt (mm ² /s)
Pilot	Filtered air or water
Max. pilot pressure	10 bar
Min. pilot pressure	See following page
Pilot fluid temperature	-10°C to +60°C
Response time	See sheet V402-5

CONSTRUCTION

Valve body	Bronze	Stainless steel body	AISI 316L
Bonnet	Brass	Stainless steel	All AISI 316L on request
Stem	Stainless steel	Stainless steel	
Disc	Brass	Stainless steel	
Stuffing box seal	PTFE chevrons	PTFE chevrons	
Disc seal	PTFE	PTFE	
Operator	Glass fibre filled polyamide (PA + FG)		
Optical position indicator	Supplied in standard on valves with 63, 90 and 125 mm operators		



63, 90 and 125 mm operators



NC function / entry under the disc

SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		pilot pressure (bar)		operating pressure differential (bar)				operator diameter	catalogue number for valve only	
						min.	maximum					
							air gases aggressive fluids	water superheated oil aggressive liquids	steam (180°C)		(mm)	BRONZE BODY
(G*)	(mm)	(m³/h)	(l/min)	min.	max.							
NC - normally closed - entry under disc (1)												
1/2	15	4,9	82	4	10	0	16	16	10	50	E290A384	E290A393
3/4	20	9,4	157	4	10	0	10	10	10	50	E290A385	E290A394
				4	10	0	16	16	10	63	E290B005	E290B048
1	25	12,8	213	4	10	0	6	6	6	50	E290A386	E290A395
				4	10	0	10	10	10	63	E290B010	E290B053
				4	10	0	16	16	10	90	E290B011	E290B054
1 1/4	32	27	450	4	10	0	6	6	6	63	E290A016	E290A059
				4	10	0	12	12	10	90	E290A017	E290A060
				4	10	0	16	16	10	125	E290A642	E290A646
1 1/2	40	45	750	4	10	0	4	4	4	63	E290A020	E290A063
				4	10	0	8	8	8	90	E290A021	E290A064
				4	10	0	16	16	10	125	E290A482	E290A495
2	50	59	983	4	10	0	2,5	2,5	2,5	63	E290A024	E290A067
				4	10	0	6	6	6	90	E290A025	E290A068
				4	10	0	10	10	10	125	E290A485	E290A498
2 1/2	65	94	1567	4	10	0	2	2	2	90	E290A487	E290A500
				4	10	0	6	6	6	125	E290A488	E290A501
NO - normally open - entry under disc												
1/2	15	4,9	82	I (*)	10	0	16	16	10	50	E290A387	E290A396
3/4	20	9,4	157	I (*)	10	0	16	16	10	50	E290A388	E290A397
				II (*)	10	0	16	16	10	63	E290B027	E290B070
1	25	12,8	213	I (*)	10	0	16	16	10	50	E290A389	E290A398
				II (*)	10	0	16	16	10	63	E290B028	E290B071
				III (*)	10	0	16	16	10	90	E290B029	E290B072
1 1/4	32	27	450	II (*)	10	0	16	16	10	63	E290A030	E290A073
				III (*)	10	0	16	16	10	90	E290A031	E290A074
1 1/2	40	45	750	II (*)	10	0	11	11	10	63	E290A032	E290A075
				III (*)	10	0	16	16	10	90	E290A033	E290A076
				IV (*)	10	0	16	16	10	125	E290A489	E290A502
2	50	59	983	II (*)	10	0	7	7	7	63	E290A034	E290A077
				III (*)	10	0	13	13	10	90	E290A035	E290A078
				IV (*)	10	0	16	16	10	125	E290A490	E290A503
2 1/2	65	94	1567	III (*)	10	0	7	7	7	90	E290A491	E290A504
				IV (*)	10	0	16	16	10	125	E290A492	E290A505
NC - normally closed - entry above disc (Version recommended for rapid-cycling steam applications)												
1/2	15	4,9	82	V (*)	10	0	10	-	10	50	E290A390	E290A399
3/4	20	9,4	157	V (*)	10	0	10	-	10	50	E290A391	E290A400
				VI (*)	10	0	10	-	10	63	E290B037	E290B080
1	25	12,8	213	V (*)	10	0	10	-	10	50	E290A392	E290A401
				VI (*)	10	0	10	-	10	63	E290B038	E290B081
1 1/4	32	27	450	VI (*)	10	0	10	-	10	63	E290A039	E290A082
				VII (*)	10	0	10	-	10	90	E290A136	E290A137
1 1/2	40	45	750	VI (*)	10	0	10	-	10	63	E290A040	E290A083
				VII (*)	10	0	10	-	10	90	E290A041	E290A084
2	50	59	983	VI (*)	10	0	9	-	9	63	E290A042	E290A085
				VII (*)	10	0	10	-	10	90	E290A043	E290A086
2 1/2	65	94	1567	VII (*)	10	0	10	-	10	90	E290A623	E290A625

(*) Minimum pilot pressure varies with differential pressure, see V402-5

(1) Minimum pilot pressure 1,5 and 2,5 bar, optional

Calculation of the minimum pilot pressure with backpressure acceptable, within ΔP max. 10 bar (not recommended with liquids as waterhammer effect).

• 50 mm operator: 4 bar minimum pilot pressure version: add 2 bar to the minimum pilot pressure of Chart V, page V402-5.

• 63, 90 and 125 mm operators: 4 bar minimum pilot pressure version: add 1,5 bar to the minimum pilot pressure of Chart VI, VII or VIII, page V402-5.

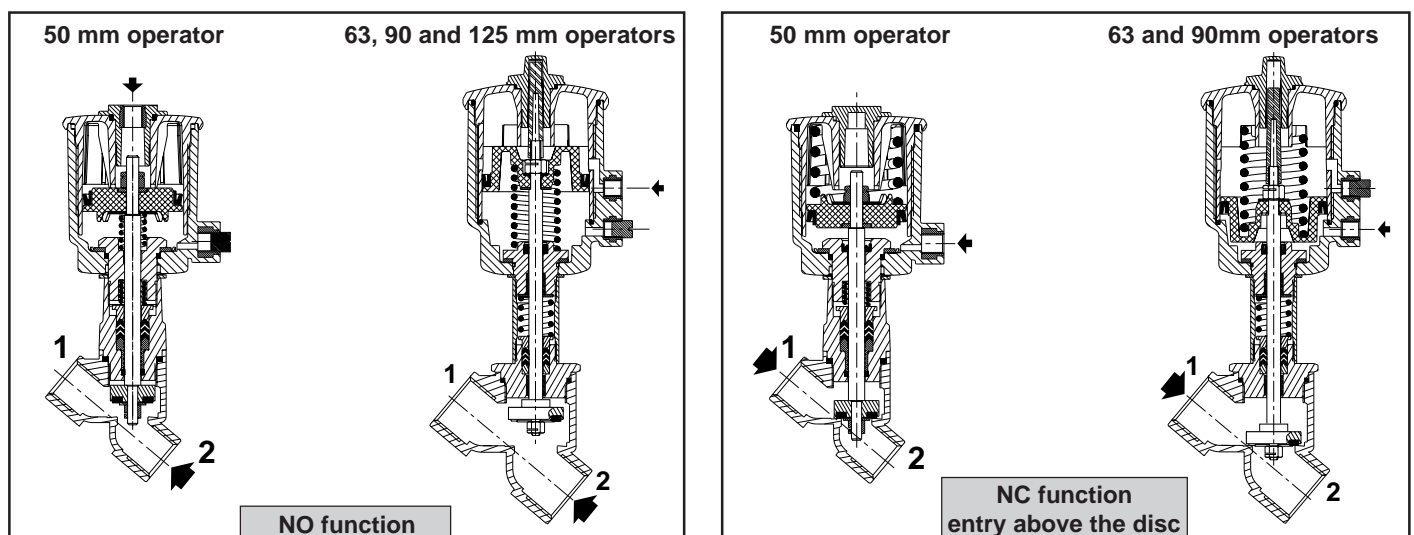
The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly

OPTIONS AND ACCESSORIES (See V435)

- Signaling box or compact signaling unit
- Stroke limiter for opening
- Manual safety device
- Optical position indicator on 50 mm operator, function NC
- Adapter plate for NAMUR pad mounting pilot
- Oxygen service
- Vacuum application up to $1,33 \cdot 10^{-3}$ mbar
- NET-INOX passivation treatment on stainless steel body valve
- All AISI 316L stainless steel version (NET-INOX passivation treatment included) recommended for very aggressive fluids

INSTALLATION

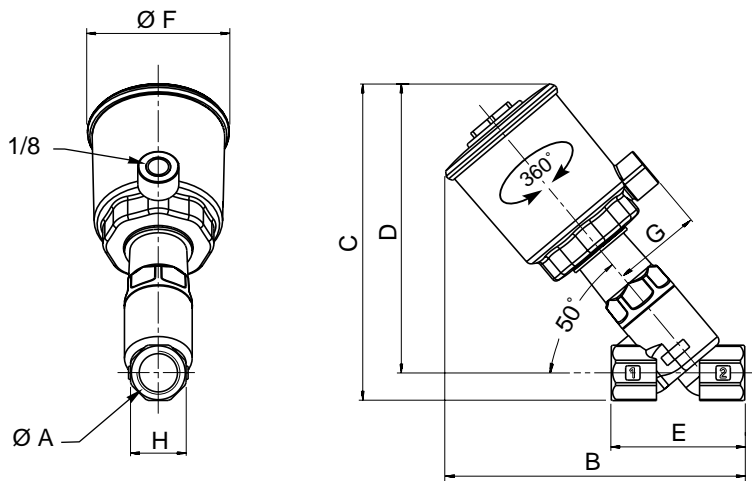
- The valves can be mounted in any position without affecting operation
- Compatible with ASTM 1, 2 and 3 oils
- Pipe connections (G') have standard combination thread according to ISO 228/1 and ISO 7/1
- Other pipe threads available on request
- Installation/maintenance instructions are included with each valve
- Spare parts kits are available



DIMENSIONS (mm), WEIGHT (kg)



50 mm operator

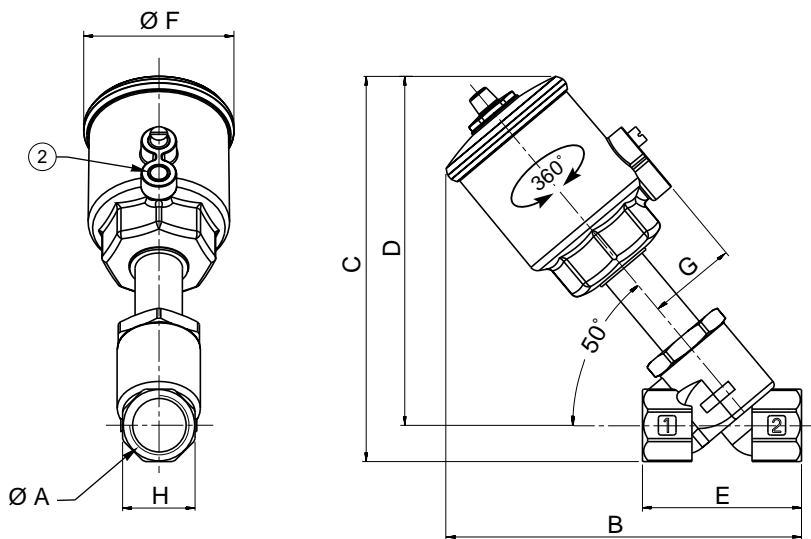


Construction with 50 mm operator

Ø A	B	C	D	E	ØF	G	H	weight (1)
1/2	142	154,5	141	65	69	43	27	0,9
3/4	150,5	159	143	75	69	43	32	1
1	155	165	145	90	69	43	41	1,4

NC and NO valves
entry **under** disc at 2
entry **above** disc at 1

63, 90 or 125 mm operator



Construction with 63 mm operator

Ø A	B	C	D	E	ØF	G	H	weight (1)
1/2	170	183	169	65	85	50,5	27	1,2
3/4	175	186	170	75	85	50,5	32	1,3
1	183	197	177	90	85	50,5	41	1,7
1 1/4	217	229	204	110	85	50,5	50	2,1
1 1/2	224	245	215	120	85	50,5	60	2,9
2	249	259	224	150	85	50,5	70	3,7

Construction with 90 mm operator

Ø A	B	C	D	E	ØF	G	H	weight (1)
1	204	217	197	90	118	67	41	2,3
1 1/4	236	246	221	110	118	67	50	2,7
1 1/2	243	262	232	120	118	67	60	3,5
2	267	276	241	150	118	67	70	4,3
2 1/2	299	300	257	190	118	67	86	6,3

Construction with 125 mm operator

Ø A	B	C	D	E	ØF	G	H	weight (1)
1 1/4	284	298	273	110	156	86	50	5,2
1 1/2	291	313,5	283,5	120	156	86	60	6,0
2	315	328	293	150	156	86	70	6,8
2 1/2	347	352	308	190	156	86	86	8,9

(1) Weight of valve without pilot. Pilot solenoid valves, see **V440** (63 mm operator) **V443** (90 - 125 mm operators)

- ② Pilot port
- 1/8 (with 63 mm operator)
 - 1/4 (with 90 or 125 mm operator)

FEATURES

- Compact design and low weight for easy installation
- Standard manual operator
- Interchangeable solenoid heads, AC / DC and for potentially explosive atmospheres

GENERAL

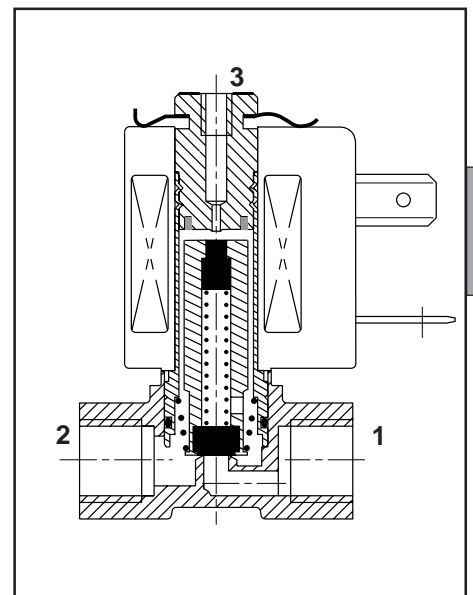
Differential pressure	0 to 15 bar [1 bar = 100 kPa]
Maximum allowable pressure	20 bar
Ambient temperature range	-10°C to +60°C
Maximum viscosity	40 cSt (mm ² /s)
Response time	5-10 ms (with air ΔP = 6 bar)

fluids	temperature ranges	sealings
Water, air, neutral gas, oil	-10°C to + 80°C	NBR (nitrile / buna-n)
Hydrocarbons	-10°C to +130°C	FPM (fluoroelastomer / viton)



CONSTRUCTION

Body	Brass
Core tube	Stainless steel
Internal parts	Stainless steel
Springs	Stainless steel
Seats	Brass
Sealing	NBR or FPM
Shading coil	Copper
Coil insulation class	F
Spade plug connection coil	3 x DIN 46244
Connector	Spade plug (Pg 9P)
Electrical safety	VDE 0580



ELECTRICAL CHARACTERISTICS

Standard voltages	DC (=): 24V
(Other voltages and 60 Hz on request)	AC (~): 24V - 115V - 230V / 50 Hz

coil type	nominal power ratings				ambient temperature range (°C)	protection
	inrush		holding			
	(VA)	(VA)	(W)	(W)		
CM22-4W	12	6	4	5 / 6,9	-10 to +60	moulded IP65

SPECIFICATIONS

pipe size	orifice size		flow coefficient Kv				operating pressure differential (bar)				coil type	(M)	catalogue number (~ / =)			
	1 → 2	2 → 3	1 → 2		2 → 3		maximum						sealings			
	(mm)	(mm)	(m ³ /h)	(l/min)	(m ³ /h)	(l/min)	min.	air/gas	water/oil	~			=	NBR	FPM	
G																
NC - normally closed, brass body																
1/8 (1)	1	1,2	0,030	0,5	0,060	1	0	15	15	15	15	CM22-4W	●	107 00 001	107 00 004	
	1,5	1,2	0,060	1	0,060	1	0	8	8	8	8	CM22-4W	●	107 00 124	107 00 130	
	2,5	1,2	0,108	1,8	0,060	1	0	3	3	3	3	CM22-4W	●	107 00 003	107 00 006	
NO - normally open, brass body																
1/8 (1)	1,5	1,2	0,030	0,5	0,036	0,6	0	8	8	8	8	CM22-4W	●	107 00 077	107 00 101	

(M) Manual operator: ●: screwdriver

(1) Pipe size orifices 1 and 2: G 1/8, orifice 3: M5.

The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly

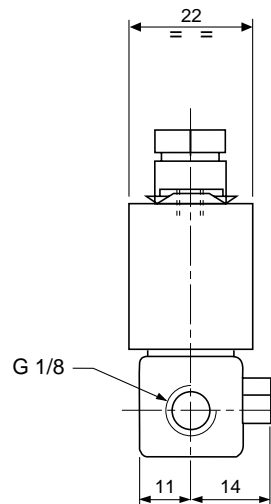
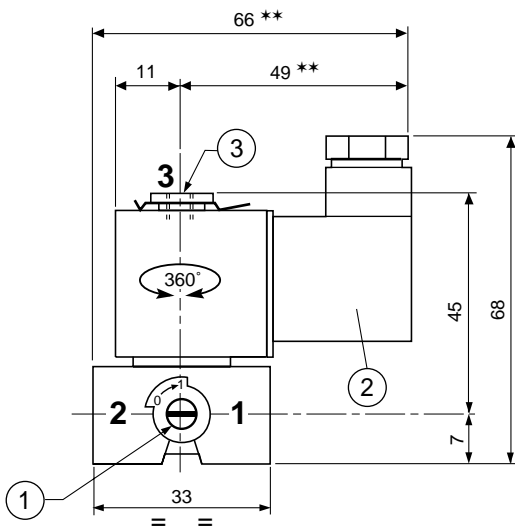
ACCESSORIES AND OPTIONS

- Encapsulation, EEx m (coils CM22), for explosive atmospheres according to "CENELEC" (see Section 10)
- Solenoid heads "CSA" approved
- Compliance with "UL" standard
- Magnetic latch executions (see Section 9/10)
- Oxygen service, catalogue number **970 517**
- Low consumption coil CM 22-2,5W
- Connector with built-in indicator and electrical protection or prewired with cable length 2 m (see Section 11)
- Exhaust port regulator M5 adaptable on port 3, catalogue number **346 00 380**

INSTALLATION

- The solenoid valves can be mounted in any position
- Mounting bracket are available, catalogue number **976 00 327**
- Pipe connections G 1/8 have standard thread according to ISO 228/1
- Other pipe threads are available on request
- Installation/maintenance instructions are included with each solenoid valve
- Replacement coils are available

DIMENSIONS (mm), WEIGHT (kg)



Inlet pressure:

- NC operation = port 1
- NO operation = port 3 (M5)

coil type	weight (1)
CM22-4W	0,138

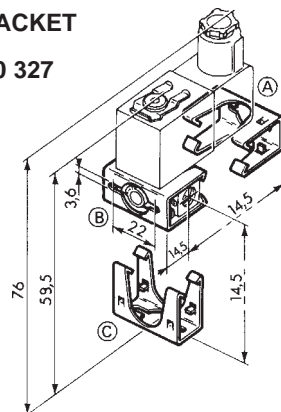
(1) Incl. coil and connector

- ① Manual operator
- ② Plug connector: size 22 rotatable by 180°, Pg 9P
- ③ Port 3 fitting M5, depth 5,5

** + 15 mm for plug removal

SOLENOID VALVE WITH MOUNTING BRACKET

Mounting bracket catalogue number: **976 00 327**



- (A) Side mounting at rear
- (B) Side mounting at front
- (C) Bottom mounting

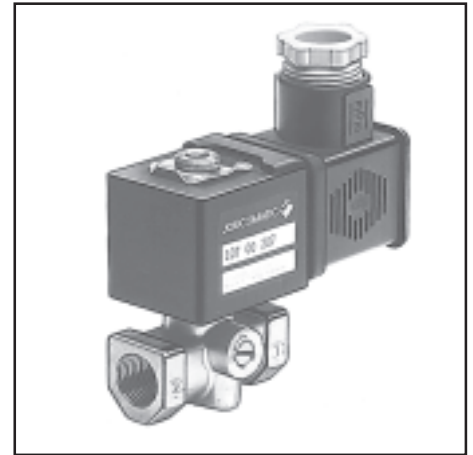
FEATURES

- Compact design and low weight for easy installation
- Manual operator as standard
- Interchangeability of magnetic heads, AC and DC

GENERAL

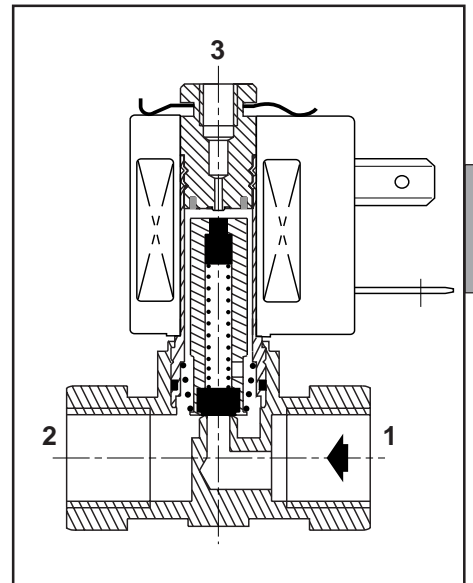
Differential pressure	0 to 15 bar [1 bar = 100 kPa]
Maximum allowable pressure	20 bar
Ambient temperature range	-10°C to +60°C
Maximum viscosity	40 cSt (mm ² /s)
Response time	5-10 ms (with air ΔP = 6 bar)

fluids	temperature ranges	sealings
Water, air, neutral gas, light oil	-10°C to + 80°C	NBR (nitrile / buna-n)
Hydrocarbons	-10°C to +130°C	FPM (fluoroelastomer / viton)



CONSTRUCTION

Body	Brass
Core tube	Stainless steel
Internal parts	Stainless steel
Springs	Stainless steel
Seats	Brass
Sealings	NBR or FPM
Shading coil	Copper
Coil insulation class	F
Connector	Spade plug (Pg 11P)
Connector specification	ISO 4400
Electrical safety	VDE 0580



ELECTRICAL CHARACTERISTICS

Standard voltages	DC (=): 24V
(Other voltages and 60 Hz on request)	AC (~): 24V - 115V - 230V / 50 Hz

coil type	nominal power ratings				ambient temperature range (°C)	protection
	inrush ~ (VA)	holding		hot/cold = (W)		
		~ (VA)	~ (W)			
CM25-5W (1)	15	7	5	5 / 6,9	-10 to +60	moulded IP65

SPECIFICATIONS

pipe size	orifice size		flow coefficient Kv				operating pressure differential (bar)				coil type	(M)	catalogue number (~ / =)		
	1→2	2→3	1→2		2→3		maximum						~ / =	sealings	
			min.	air/gas	water/oil	~	=	NBR	FPM						
(G*)	(mm)	(mm)	(m ³ /h)	(l/min)	(m ³ /h)	(l/min)									
1/4 (2)	1	1,5	0,030	0,5	0,075	1,25	0	15	15	15	15	CM25-5W	●	107 00 206	107 00 209
	1,5	1,5	0,060	1	0,075	1,25	0	12	12	12	12	CM25-5W	●	107 00 207	107 00 210
	2,5	1,5	0,144	2,4	0,075	1,25	0	5	5	5	5	CM25-5W	●	107 00 208	107 00 211

(M) Manual operator: ●: screwdriver

(1) Coil CM25-5W is dual-voltage: (24V ~, 12V =) (48V ~, 24V =) (115V ~, 48V =) (230V ~, 110V =).

(2) Pipe size orifices 1 and 2: 1/4, orifice 3: M5.

The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly

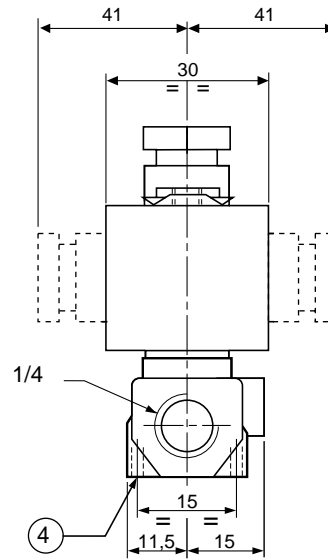
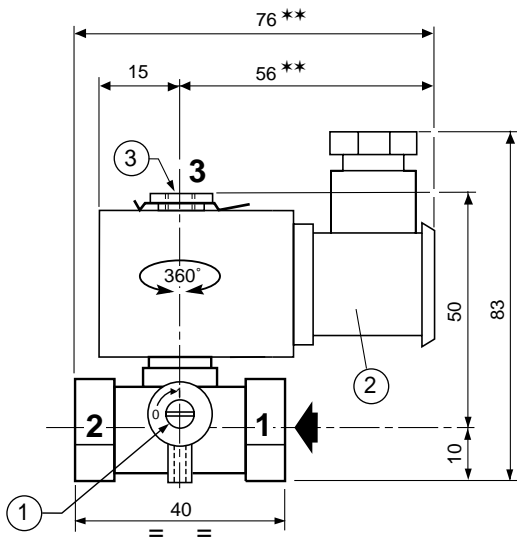
ACCESSORIES AND OPTIONS

- Oxygen service, catalogue number **970 517**
- Connector with built-in indicator and electrical protection or prewired with cable length 2 m (see Section 11)
- Exhaust port regulator M5 adaptable on port 3, catalogue number: **346 00 380**

INSTALLATION

- The solenoid valves can be mounted in any position
- This valves have 2 mounting holes in the body
- Pipe connections (G*) have standard combination thread according to ISO 228/1 and ISO 7/1
- Other pipe threads are available on request
- Installation/maintenance instructions are included with each solenoid valve
- Replacement coils are available

DIMENSIONS (mm), WEIGHT (kg)



coil type	weight (1)
CM25-5W	0,226

(1) incl. coil and plug

- ① Manual operator
- ② Plug connector: size 30 rotatable by 90°, Pg 11P
- ③ Port 3: fitting M5, depth 5,5
- ④ Mounting: two M4, depth 5 holes

** + 15 mm for plug removal

FEATURES

- Solenoid valves satisfy all relevant EC directives
- Two-way normally closed valves for automatic control of superheated water / steam, air and inert gas and other gases/liquids compatible with the sealing materials used
- Minimum operating differential pressure 0.4 bar

GENERAL

Differential pressure 0,4 to 8 bar (1 bar = 100 kPa)
Maximum viscosity 37 cSt (mm²/s)
Response time 100 to 1500 ms

fluids (*)	temperature range (TS)	sealings (*)
superheated water - steam	+60°C to +170°C	reinforced PTFE (rulon)

MATERIALS IN CONTACT WITH FLUID

(*) Ensure that the compatibility of the fluids in contact with the materials is verified

Body Brass
Internal parts Stainless steel and brass
Springs Stainless steel
Seals, diaphragm PTFE
Disc Reinforced PTFE
Seating Stainless steel
Shading coil Copper

ELECTRICAL CHARACTERISTICS

Coil isolation class H
Connector Spade plug
Connector specification
for BMX 3 x DIN 46244 (Pg 9P)
for AMX ISO 4400 (Pg 11P)
Electrical safety VDE 0580

Standard voltages

(Other voltages and 60 Hz on request) AC (~) : 24V - 115V - 230V / 50 Hz

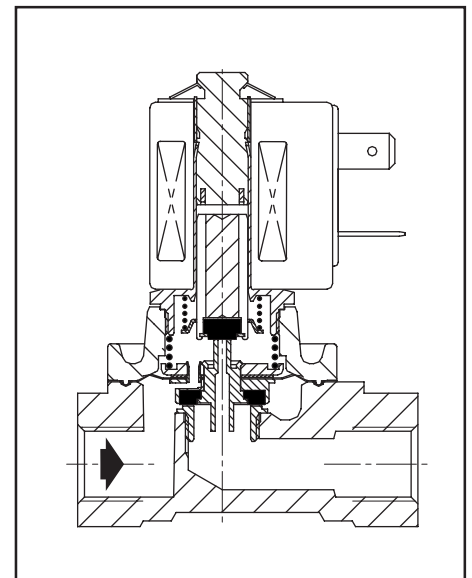
coil type	nominal power ratings			ambient temperature range (TS) (°C)	protection
	inrush ~	holding ~	hot/cold =		
	(VA)	(VA) (W)	(W)		
BMX	16	10	6	-	moulded IP65
AMX	23	14	6	-	

SPECIFICATIONS

pipe size	orifice size	flow coefficient Kv		operating pressure differential (bar)			max. fluid temp. (1) (°C)	coil type	catalogue number
				min.	maximum (PS)				
(G)	(mm)	(m ³ /h)	(l/min)		steam (*)	water (*)			
3/8	10	2	33,3	0,4	8	8	170	BMX	SC G240A100
1/2	10	2,5	41,6	0,4	8	8	170	BMX	SC G240A101
3/4	16	4,5	75,0	0,4	6	6	170	AMX	SC G240A102
1	18,5	8,5	141,6	0,4	6	6	170	AMX	SC G240A103

(1) Min. fluid temperature: + 60°C.

The codes in the grey shaded areas correspond to commonly used products which can be supplied rapidly



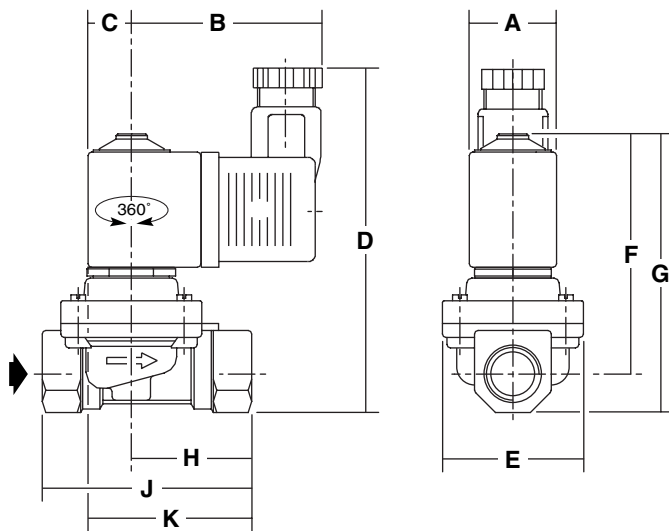
OPTIONS

- Connectors with built-in indicator and electrical protection or prewired with cable length 2 m (see section 11)

INSTALLATION

- Solenoid valves can be mounted in any position without affecting operation
- Pipe connections (G) have standard combination thread according to ISO 228/1
- The third digit in the catalog number indicates the standard pipe connection
- Other pipe connections are available on request
- Installation/maintenance instructions are included with each valve
- Spare parts kits and replacement coils are available (see section 11)

DIMENSIONS (mm), WEIGHT (kg)



catalogue number	(G)	A	B	C	D	E	F	G	H	J	K	weight (1)
SC G240A100	3/8	25	49	12,5	95	40	69	80	34,5	60	47	0,38
SC G240A101	1/2	25	49	12,5	100	40	72	85	33	66	45,5	0,41
SC G240A102	3/4	32	57	16	109,5	50	78	94,5	39,5	79	55,5	0,61
SC G240A103	1	32	57	16	138	71	102	123	59	105	75	1,34

(1) Incl. coil and connector