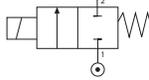


2/2 NC

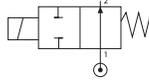



32 x 32 mm

Page 7.3



2/2 NO

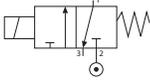



32 x 32 mm

Page 7.5



3/2 NC

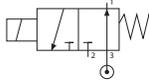



32 x 32 mm

Page 7.7



3/2 NO

32 x 32 mm

Page 7.9



30 mm



Series C

Page 15.4



30 mm



Series D

Page 15.5



36 mm



Series E

Page 15.6




Connectors

Page 15.8 - 15.10

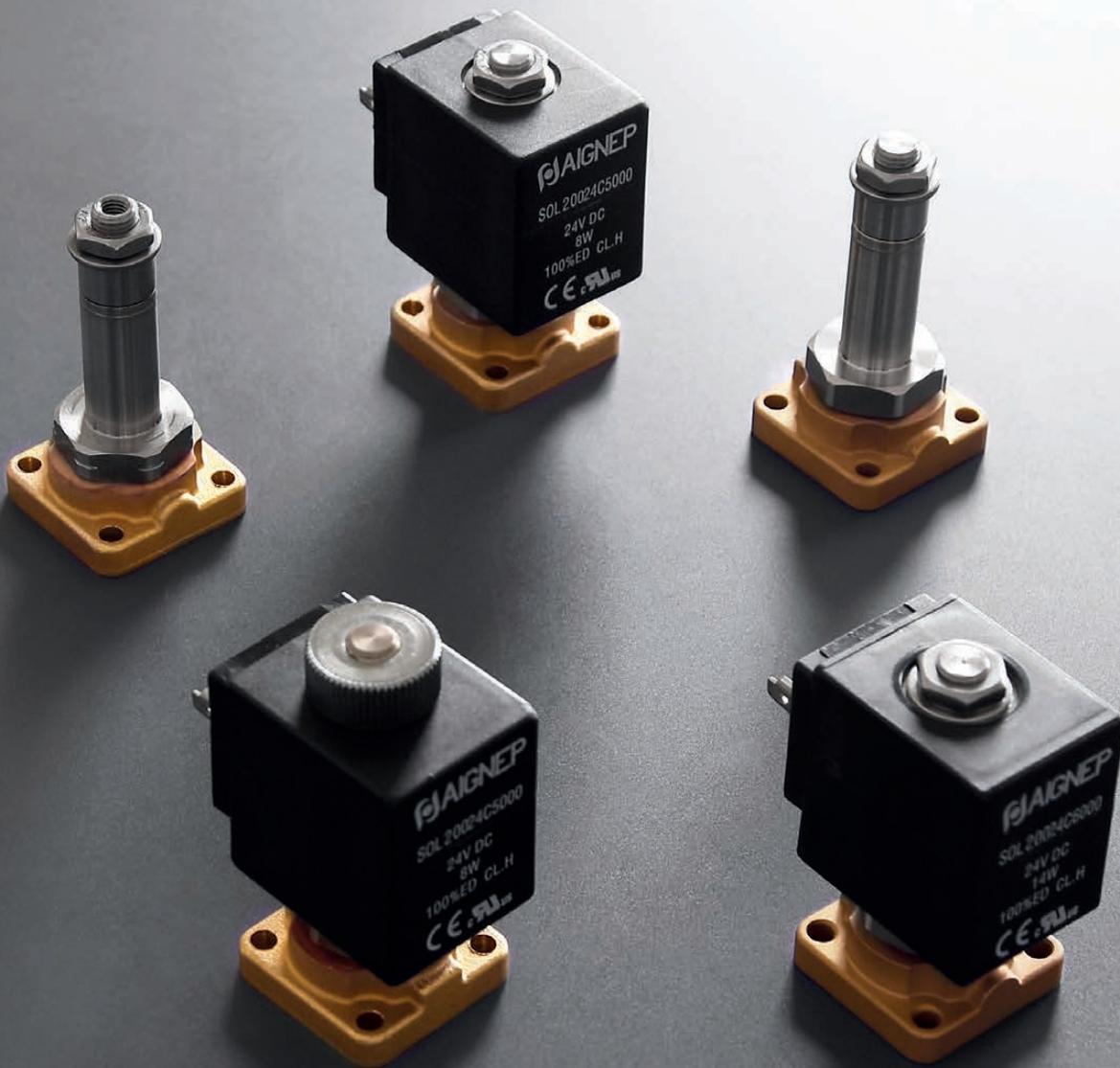


**DIRECT ACTING SOLENOID VALVES WITH FLANGE
FIXING AND BRASS CW510L BODY - PB ≤ 0.1%**

CW510L / Pb ≤ 0.1%

Ex
II 2 G/D Ex h

UL US
CSA C22.2



Series F2F

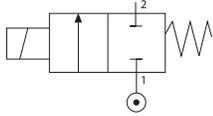
Series F2F

DIRECT ACTING SOLENOID VALVES WITH FLANGE FIXING AND BRASS CW510L BODY

2/2 NC

32 x 32 mm

**CW510L
Pb ≤ 0.1%**



Component Parts and Materials

- 1 Body: Brass CW510L - Pb ≤ 0.1%
- 2 Seals: NBR - NBR - EPDM - FKM - PTFE - RUBY - CR
- 3 Armature tube: Stainless steel
- 4 Fixed and mobile core: Stainless steel AISI 430FR
- 5 Springs: Stainless steel



General features - F2F

- Universal mounting position
- Operator kit Ø 13 mm
- Valve certification: ATEX II 2G/D Ex h
- Coils: Class H - - CSA C22.2



Maximum allowable pressure

725 psi (50 bar)



Compatibility and materials table

Page 0.13 - 0.14



Room temperature with coil class H

+14°F +176°F
-10°C +80°C



Applications

- Food industry
- Coffee & vending
- Compressors
- Water and Neutral liquids
- Air and Inert gases
- Oils, Steam, Vacuum



Ordering codes

Series	Port size	Functions	Orifice inch (mm)	Sealing materials	Version	Suitable coils
F 2 F	J 9 J9 = □ 32x32 mm	1 1 = 2/2 NC	1 5 15 = 1/16 (1.5) 02 = 5/64 (2) 25 = 3/32 (2.5) 03 = 1/8 (3) 04 = 5/32 (4)	N N = NBR F = NBR E = EPDM V = FKM P = PTFE R = RUBY C = CR	0 0 = Standard 3 = Stainless Steel seat (on request)	C A C = C series - SOL20 A = 12V DC D = D series - SOL20 B = 24V DC E = E series - SOL21 1 = 24V AC 2 = 110V AC 3 = 220V AC

Valves and coils are supplied separately. Upon commercial agreements can be supplied assembled.

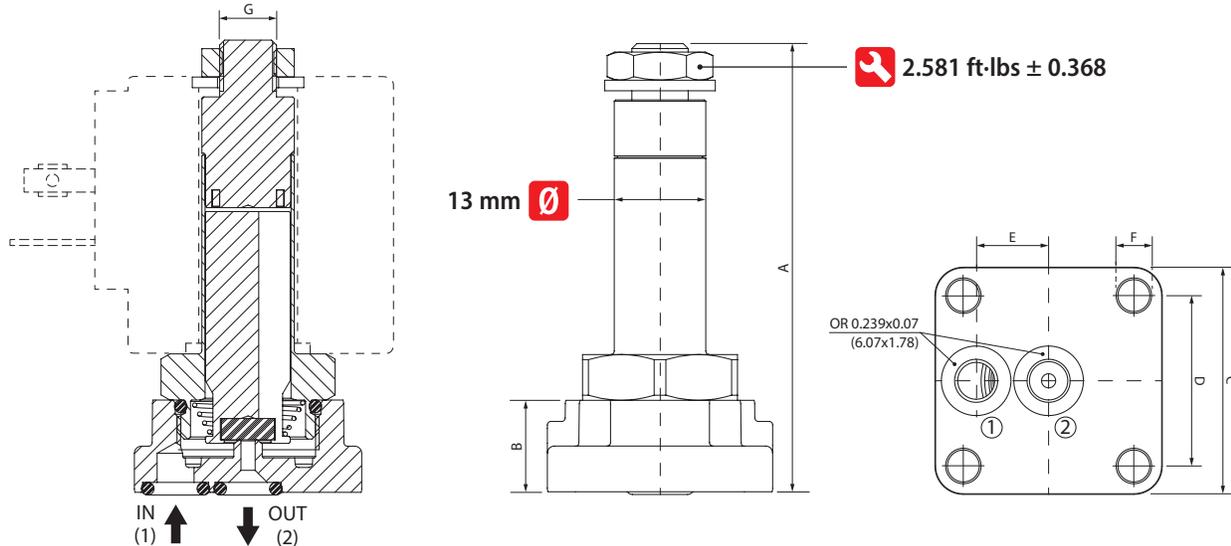
Code	Sealing materials	Port size	Ø Orifice	Viscosity	Cv (Kv)	Differential pressure (OPD)			Power		Coils					
						inch (mm)	cSt	gpm (m³/h)	psi (bar)			DC	AC	Size	Series	
									Min	Max DC	Max AC	W	VA	mm	C - Page 15.4 D - Page 15.5 E - Page 15.6	
F2F J9 1 15 _0	N = NBR +14°F +194°F (-10°C +90°C)	□ 32x32 mm	1/16 (1.5)	25	0.07 (0.06)	0	725 (50)	725 (50)	8	14	30	C - SOL20				
F2F J9 1 02 _0	F = NBR -40°F +194°F (-40°C +90°C)						5/64 (2)	37	0.12 (0.10)	0	725 (50)	725 (50)	14	21	30	D - SOL20
F2F J9 1 25 _0	V = FKM +14°F +284°F (-10°C +140°C)										3/32 (2.5)	53	0.17 (0.15)	0	725 (50)	725 (50)
F2F J9 1 03 _0	E = EPDM +14°F +284°F (-10°C +140°C)		1/8 (3)	53	0.24 (0.21)	0									508 (35)	725 (50)
F2F J9 1 04 _0	C = CR -31°F +212°F (-35°C +100°C)						5/32 (4)	53	0.41 (0.35)	0					435 (30)	580 (40)
															653 (45)	725 (50)
											145 (10)	305 (21)	8	14	30	C - SOL20
							362 (25)	435 (30)	14	21	30	D - SOL20				
							580 (40)	580 (40)	22	31	36	E - SOL21				
							44 (3)	145 (10)	8	14	30	C - SOL20				
							87 (6)	203 (14)	14	21	30	D - SOL20				
							218 (15)	290 (20)	22	31	36	E - SOL21				
F2F J9 1 15 _3	P = PTFE -40°F +356°F (-40°C +180°C) R = RUBY -40°F +356°F (-40°C +180°C)		□ 32x32 mm	1/16 (1.5)	25	0.07 (0.06)	0	290 (20)	580 (40)	8	14	30	C - SOL20			
F2F J9 1 02 _3								362 (25)	725 (50)	14	21	30	D - SOL20			
F2F J9 1 25 _3				5/64 (2)	37	0.12 (0.10)	0	0	218 (15)	508 (35)	8	14	30	C - SOL20		
F2F J9 1 03 P 3		362 (25)							725 (50)	14	21	30	D - SOL20			
F2F J9 1 04 P 3		3/32 (2.5)		53	0.17 (0.15)	0	0	116 (8)	290 (20)	8	14	30	C - SOL20			
								145 (10)	362 (25)	14	21	30	D - SOL20			
								145 (10)	305 (21)	8	14	30	C - SOL20			
								232 (16)	435 (30)	14	21	30	D - SOL20			
								44 (3)	145 (10)	8	14	30	C - SOL20			
								87 (6)	203 (14)	14	21	30	D - SOL20			

① Select seal material

With steam: EPDM - P max = 36 psi (2.5 bar) / PTFE & RUBY - P max = 145 psi (10 bar)

Allowable leakage: PTFE & RUBY = max 0.08 gph (300 cm³/h)

Coil not included



Size	A	B	C	D	E	F	G
	inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)	
□ 32x32 mm	2.507 (63.7)	0.511 (13)	1.259 (32)	0.944 (24)	0.401 (10.2)	0.177 (4.5)	M8 x 1

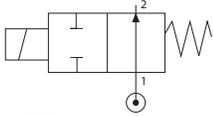
Series F2F

DIRECT ACTING SOLENOID VALVES WITH FLANGE FIXING AND BRASS CW510L BODY

2/2 NO

32 x 32 mm

CW510L
Pb ≤ 0.1%



Component Parts and Materials

- 1 Body: Brass CW510L - Pb ≤ 0.1%
- 2 Seals: NBR - EPDM - FKM - CR
- 3 Armature tube: Brass
- 4 Fixed and mobile core: Stainless steel AISI 430FR
- 5 Springs: Stainless steel



General features - F2F

- Universal mounting position
- Operator kit Ø 13 mm
- Valve certification: ATEX II 2G/D Ex h
- Coils: Class H - - CSA C22.2



Maximum allowable pressure

725 psi (50 bar)



Compatibility and materials table

Page 0.13 - 0.14



Room temperature with coil class H

+14°F +176°F
-10°C +80°C



Applications

- Food industry
- Coffee & vending
- Compressors
- Water and Neutral liquids
- Air and Inert gases
- Oils, Steam, Vacuum



Stainless Steel armature tube on request



Ordering codes

Series	Port size	Functions	Orifice inch (mm)	Sealing materials	Version	Suitable coils
F 2 F	J 9 J9 = □ 32x32 mm	2 2 = 2/2 NO	1 5 15 = 1/16 (1.5) 02 = 5/64 (2) 25 = 3/32 (2.5) 03 = 1/8 (3) 04 = 5/32 (4)	N N = NBR E = EPDM V = FKM C = CR	0 0 = Standard	C A C = C series - SOL20 A = 12V DC D = D series - SOL20 B = 24V DC E = E series - SOL21 1 = 24V AC 2 = 110V AC 3 = 220V AC

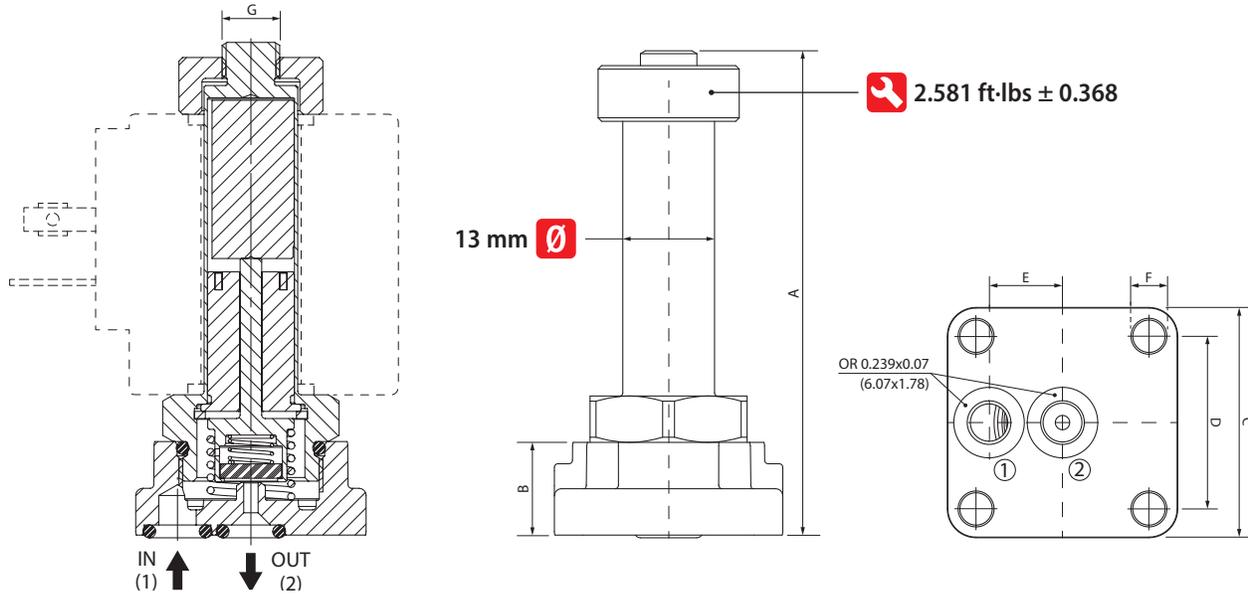
Valves and coils are supplied separately. Upon commercial agreements can be supplied assembled.

Code	Sealing materials	Port size	Ø Orifice	Viscosity	Cv (Kv)	Differential pressure (OPD)			Power		Coils				
						inch (mm)	cSt	gpm (m ³ /h)	psi (bar)			DC	AC	Size	Series C - Page 15.4 D - Page 15.5 E - Page 15.6
									Min	Max DC	Max AC	W	VA	mm	
F2F J9 2 15 _0	N = NBR +14°F +194°F (-10°C +90°C) V = FKM +14°F +284°F (-10°C +140°C) E = EPDM +14°F +284°F (-10°C +140°C) C = CR -31°F +212°F (-35°C +100°C)	 32x32 mm	1/16 (1.5)	25	0.07 (0.06)	0	-	363 (25)	-	14	30	C - SOL20			
F2F J9 2 02 _0			5/64 (2)	37	0.12 (0.10)		363 (25)	363 (25)	-	261 (18)	14	21	30	D - SOL20	
							363 (25)	363 (25)	-	261 (18)	22	31	36	E - SOL21	
F2F J9 2 25 _0			3/32 (2.5)	53	0.17 (0.15)	0	-	174 (12)	-	14	14	30	C - SOL20		
							174 (12)	174 (12)	14	21	30	D - SOL20			
F2F J9 2 03 _0	1/8 (3)	53	0.24 (0.21)	0	-	109 (7.5)	-	14	14	30	C - SOL20				
					109 (7.5)	109 (7.5)	14	21	30	D - SOL20					
F2F J9 2 04 _0	5/32 (4)	53	0.41 (0.35)	0	-	65 (4.5)	-	14	14	30	C - SOL20				
					65 (4.5)	65 (4.5)	14	21	30	D - SOL20					
							-	22	31	36	E - SOL21				

① Select seal material

With steam: EPDM - P max = 36 psi (2.5 bar)

Coil not included



Size	A inch (mm)	B inch (mm)	C inch (mm)	D inch (mm)	E inch (mm)	F inch (mm)	G
32x32 mm	2.696 (68.5)	0.511 (13)	1.259 (32)	0.944 (24)	0.401 (10.2)	0.177 (4.5)	M8 x 1

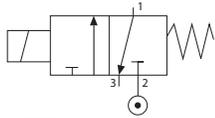
Series F2F

DIRECT ACTING SOLENOID VALVES WITH FLANGE FIXING AND BRASS CW510L BODY

3/2 NC

32 x 32 mm

CW510L
Pb ≤ 0.1%



Component Parts and Materials

- 1 Body: Brass CW510L - Pb ≤ 0.1%
- 2 Seals: NBR - EPDM - FKM - RUBY - CR
- 3 Armature tube: Stainless steel
- 4 Fixed and mobile core: Stainless steel AISI 430FR
- 5 Springs: Stainless steel



General features - F2F

- Universal mounting position
- Operator kit Ø 13 mm
- Valve certification: ATEX II 2G/D Ex h
- Coils: Class H - - CSA C22.2



Maximum allowable pressure

725 psi (50 bar)



Compatibility and materials table

Page 0.13 - 0.14



Room temperature with coil class H

+14°F +176°F
-10°C +80°C



Applications

- Food industry
- Coffee & vending
- Compressors
- Water and Neutral liquids
- Air and Inert gases
- Oils, Steam, Vacuum



Ordering codes

Series	Port size	Functions	Orifice inch (mm)	Sealing materials	Version	Suitable coils
F 2 F	J 9 J9 = □ 32x32 mm	3 3 = 3/2 NC	1 5 15 = 1/16 (1.5) 02 = 5/64 (2) 25 = 3/32 (2.5) 03 = 1/8 (3) 04 = 5/32 (4)	N N = NBR E = EPDM V = FKM R = RUBY C = CR	0 0 = Standard 3 = Stainless Steel seat (on request)	C A C = C series - SOL20 A = 12V DC D = D series - SOL20 B = 24V DC E = E series - SOL21 1 = 24V AC 2 = 110V AC 3 = 220V AC

Valves and coils are supplied separately. Upon commercial agreements can be supplied assembled.

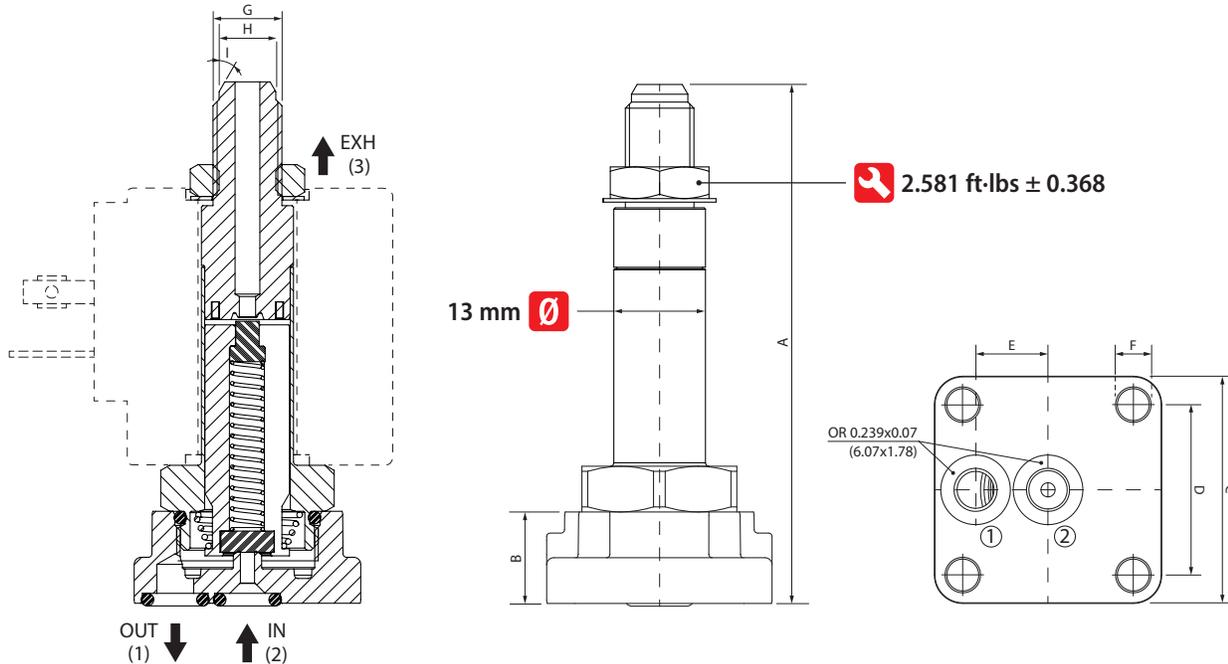
Code	Sealing materials	Port size	Ø Orifice		Viscosity	Cv (Kv)		Differential pressure (OPD)			Power		Coils				
			inch (mm)			cSt	gpm (m³/h)		psi (bar)			DC	AC	Size	Series		
			IN	EXH	IN		EXH	Min	Max DC	Max AC	W	VA	mm			C - Page 15.4 D - Page 15.5 E - Page 15.6	
F2F J9 3 15 _0	N = NBR +14°F +194°F (-10°C +90°C) V = FKM +14°F +284°F (-10°C +140°C) E = EPDM +14°F +284°F (-10°C +140°C) C = CR -31°F +212°F (-35°C +100°C)	□ 32x32 mm	1/16 (1.5)	3/32 (2.3)	25	0.07 (0.06)	0.15 (0.13)	0	363 (25)	363 (25)	363 (25)	363 (25)	8	14	30	C - SOL20	
F2F J9 3 02 _0			5/64 (2)	3/32 (2.3)	37	0.12 (0.10)	0.15 (0.13)	0	261 (18)	261 (18)	261 (18)	261 (18)	261 (18)	8	14	30	D - SOL20
F2F J9 3 25 _0			3/32 (2.5)	3/32 (2.3)	37	0.17 (0.15)	0.15 (0.13)	0	189 (13)	189 (13)	189 (13)	189 (13)	189 (13)	8	14	30	E - SOL21
F2F J9 3 03 _0			1/8 (3)	3/32 (2.3)	37	0.24 (0.21)	0.15 (0.13)	0	145 (10)	145 (10)	145 (10)	145 (10)	145 (10)	8	14	30	C - SOL20
F2F J9 3 04 _0			5/32 (4)	3/32 (2.3)	37	0.41 (0.35)	0.15 (0.13)	0	87 (6)	87 (6)	87 (6)	87 (6)	87 (6)	87 (6)	8	14	30
F2F J9 3 15 R 3	R = RUBY -40°F +356°F (-40°C +180°C)	□ 32x32 mm	1/16 (1.5)	3/32 (2.3)	25	0.07 (0.06)	0.15 (0.13)	0	217 (15)	217 (15)	217 (15)	217 (15)	8	14	30	C - SOL20	
F2F J9 3 02 R 3			5/64 (2)	3/32 (2.3)	37	0.12 (0.10)	0.15 (0.13)	0	145 (10)	145 (10)	145 (10)	145 (10)	145 (10)	8	14	30	D - SOL20
F2F J9 3 25 R 3			3/32 (2.5)	3/32 (2.3)	37	0.17 (0.15)	0.15 (0.13)	0	87 (6)	87 (6)	87 (6)	87 (6)	87 (6)	8	14	30	E - SOL21

① Select seal material

With steam: EPDM - P max = 36 psi (2.5 bar) / RUBY - P max = 145 psi (10 bar)

Allowable leakage: RUBY = max 0.08 gph (300 cm³/h)

Coil not included



Size	A	B	C	D	E	F	G	H	I
	inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)			
□ 32x32 mm	2.901 (73.7)	0.511 (13)	1.259 (32)	0.944 (24)	0.401 (10.2)	0.177 (4.5)	1/8"	Ø 8	30°

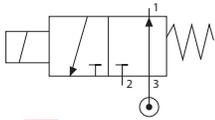
Series F2F

DIRECT ACTING SOLENOID VALVES WITH FLANGE FIXING AND BRASS CW510L BODY

3/2 NO

32 x 32 mm

**CW510L
Pb ≤ 0.1%**



Component Parts and Materials

- 1 Body: Brass CW510L - Pb ≤ 0.1%
- 2 Seals: NBR - EPDM - FKM - CR
- 3 Armature tube: Stainless steel
- 4 Fixed and mobile core: Stainless steel AISI 430FR
- 5 Springs: Stainless steel



General features - F2F

- Universal mounting position
- Operator kit Ø 13 mm
- Valve certification: ATEX II 2G/D Ex h
- Coils: Class H - - CSA C22.2



Maximum allowable pressure

725 psi (50 bar)



Compatibility and materials table

Page 0.13 - 0.14



Room temperature with coil class H

+14°F +176°F
-10°C +80°C



Applications

- Food industry
- Coffee & vending
- Compressors
- Water and Neutral liquids
- Air and Inert gases
- Oils, Steam, Vacuum



Ordering codes

Series	Port size	Functions	Orifice inch (mm)	Sealing materials	Version	Suitable coils
F 2 F	J 9 J9 = □ 32x32 mm	4 4 = 3/2 NO	1 5 15 = 1/16 (1.5) 02 = 5/64 (2) 25 = 3/32 (2.5) 03 = 1/8 (3) 04 = 5/32 (4)	N N = NBR E = EPDM V = FKM C = CR	0 0 = Standard	C A C = C series - SOL20 A = 12V DC D = D series - SOL20 B = 24V DC E = E series - SOL21 1 = 24V AC 2 = 110V AC 3 = 220V AC

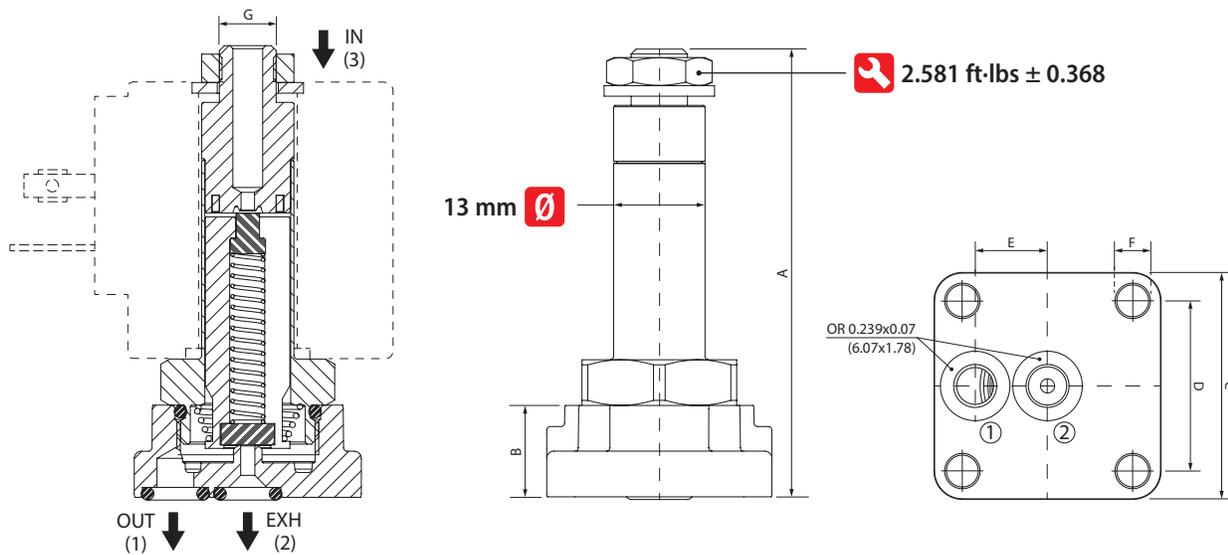
Valves and coils are supplied separately. Upon commercial agreements can be supplied assembled.

Code	Sealing materials	Port size	Ø Orifice		Viscosity	Cv (Kv)		Differential pressure (OPD)			Power		Coils				
			inch (mm)			cSt	gpm (m³/h)		psi (bar)			DC	AC	Size	Series		
			IN	EXH			IN	EXH	Min	Max DC	Max AC	W	VA			mm	C - Page 15.4 D - Page 15.5 E - Page 15.6
F2F J9 4 15 _ 0	N = NBR -10°C +90°C V = FKM -10°C +140°C E = EPDM -10°C +140°C C = CR -31°F +212°F (-35°C +100°C)	 32x32 mm	5/64 (1.9)	1/16 (1.5)	25	0.12 (0.10)	0.07 (0.06)	0	218 (15)	218 (15)	218 (15)	218 (15)	8	14	30	C - SOL20	
F2F J9 4 02 _ 0			5/64 (1.9)	5/64 (2)	37	0.12 (0.10)	0.12 (0.10)	0	218 (15)	218 (15)	218 (15)	218 (15)	218 (15)	8	14	30	C - SOL20
F2F J9 4 25 _ 0			5/64 (1.9)	3/32 (2.5)	37	0.12 (0.10)	0.17 (0.15)	0	218 (15)	218 (15)	218 (15)	218 (15)	218 (15)	14	21	30	D - SOL20
F2F J9 4 03 _ 0			5/64 (1.9)	1/8 (3)	37	0.12 (0.10)	0.24 (0.21)	0	145 (10)	218 (15)	218 (15)	218 (15)	218 (15)	14	21	30	D - SOL20
F2F J9 4 04 _ 0			5/64 (1.9)	5/32 (4)	37	0.12 (0.10)	0.41 (0.35)	0	58 (4)	145 (10)	102 (7)	218 (15)	218 (15)	14	21	30	D - SOL20
													22	31	36	E - SOL21	

① Select seal material

With steam: **EPDM - P max = 36 psi (2.5 bar)**

Coil not included



Size	A	B	C	D	E	F	G	H
	inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)		
32x32 mm	2.507 (63.7)	0.511 (13)	1.259 (32)	0.944 (24)	0.401 (10.2)	0.177 (4.5)	M8 x 1	M5