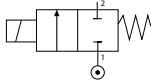




2/2 NC



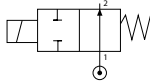
□ 32 x 32 mm

Page 8.2

Ex



2/2 NO



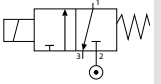
□ 32 x 32 mm

Page 8.4

Ex



3/2 NC



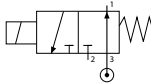
□ 32 x 32 mm

Page 8.6

Ex



3/2 NO



□ 32 x 32 mm

Page 8.8

Ex

Series F2F

Coils & Connectors



30 mm

Series C

Page 17.4

UL US
CSA C22.2



30 mm

Series D

Page 17.5

UL US
CSA C22.2



36 mm

Series E

Page 17.6

UL US
CSA C22.2



Connectors

Page 17.8 - 17.10

UL US
CSA C22.2

**DIRECT ACTING SOLENOID VALVES WITH FLANGE
FIXING AND BRASS CW510L BODY - $P_b \leq 0.1\%$**

CW510L / $P_b \leq 0.1\%$

Ex
II 2 G/D Ex h

C **UL** **US**
CSA C22.2

Series F2F



F2F

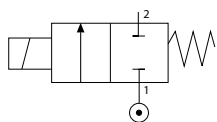
Series F2F

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 C = C series - SOL20 D = D series - SOL20 E = E series - SOL21	A A = 12V DC B = 24V DC 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	
①	①		inch (mm)	cSt	gpm (m³/h)	psi (bar)			DC	AC	Size	Series
						Min	Max DC	Max AC	W	VA	mm	C - Page 17.4 D - Page 17.5 E - Page 17.6
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
							725 (50)	725 (50)	14	21	30	D - SOL20
							725 (50)	725 (50)	22	31	36	E - SOL21
F2F J9 1 02 _ 0	F = NBR ❄️ -40°F +194°F (-40°C +90°C)		5/64 (2)	37	0.12 (0.10)	0	508 (35)	725 (50)	8	14	30	C - SOL20
							725 (50)	725 (50)	14	21	30	D - SOL20
							725 (50)	725 (50)	22	31	36	E - SOL21
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	305 (21)	508 (35)	8	14	30	C - SOL20
							435 (30)	580 (40)	14	21	30	D - SOL20
							653 (45)	725 (50)	22	31	36	E - SOL21
F2F J9 1 03 _ 0	P = PTFE * -40°F +356°F (-40°C +180°C) R = RUBY * -40°F +356°F (-40°C +180°C)		1/8 (3)	53	0.24 (0.21)	0	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
F2F J9 1 04 _ 0	C = CR -31°F +212°F (-35°C +100°C)		5/32 (4)	53	0.41 (0.35)	0	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

① Select seal material

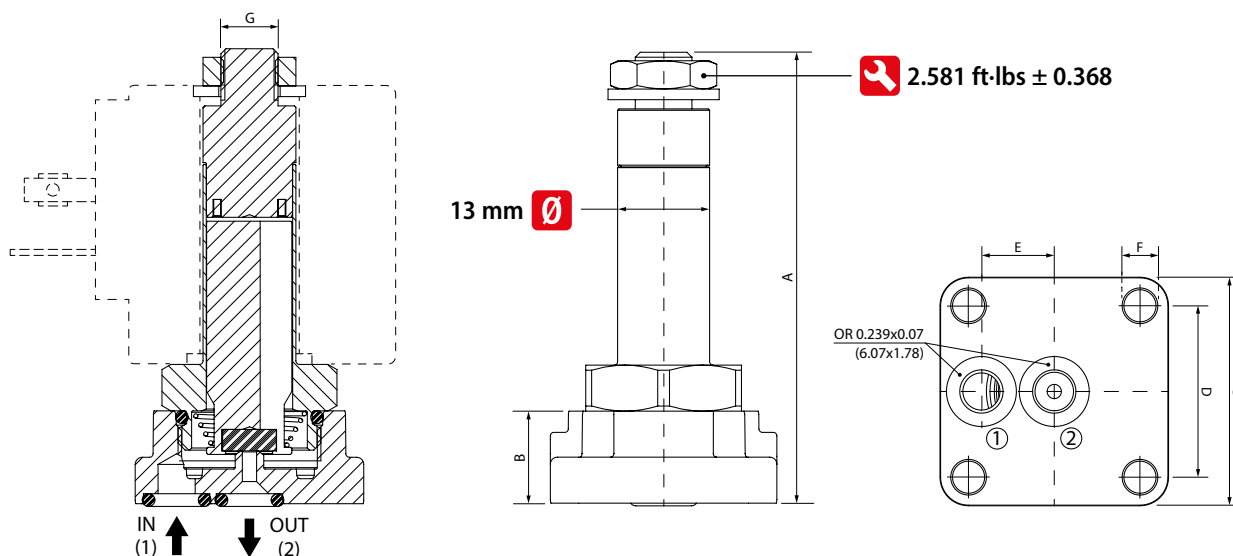
With steam: **EPDM - P max = 36 psi (2.5 bar) / PTFE & RUBY - P max = 145 psi (10 bar)**

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

* **RUBY - orifice max Ø 3/32" (2.5 mm):** Only with stainless steel seat

* **PTFE - orifice max Ø 5/32" (4 mm):** Only with stainless steel seat

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	2.507 (63.7)	0.511 (13)	1.259 (32)	0.944 (24)	0.401 (10.2)	0.177 (4.5)	M8 x 1

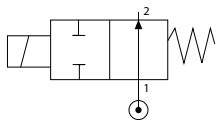
Series F2F

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

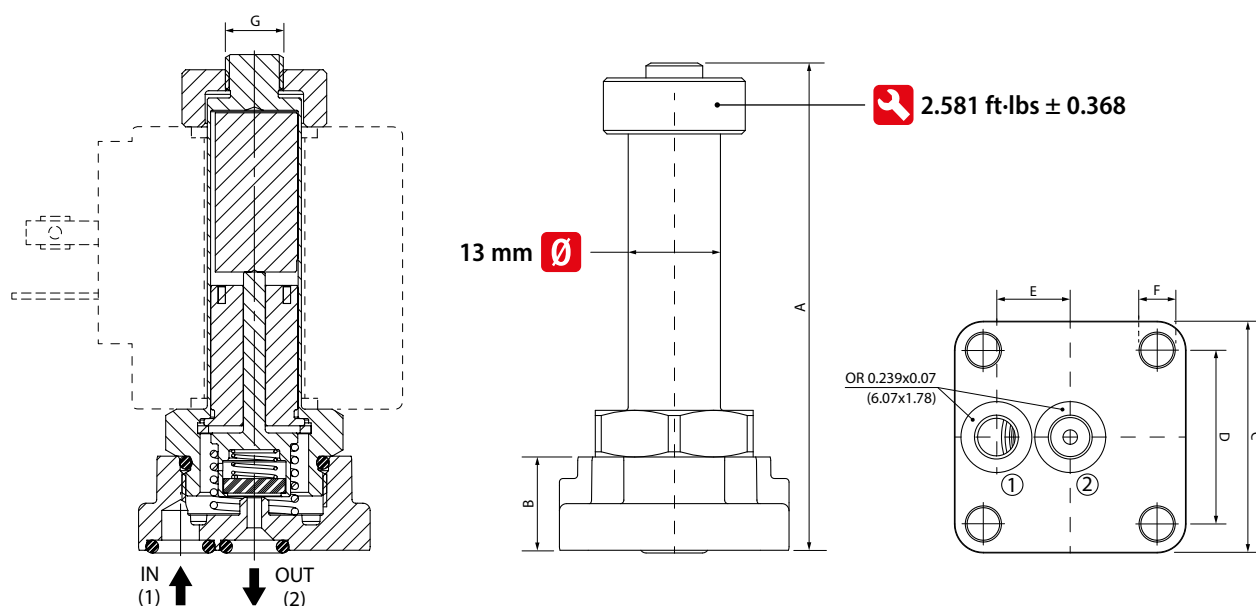
Series	Port size	Functions	Orifice inch (mm)	Sealing materials	Version	Suitable coils	
F 2 F	J 9	2	1 5	N	0	C	A
	J9 = □ 32x32 mm	2 = 2/2 NO	15 = 1/16 (1.5) 02 = 5/64 (2) 25 = 3/32 (2.5) 03 = 1/8 (3) 04 = 5/32 (4)	N = NBR E = EPDM V = FKM C = CR	0 = Standard	C = C series - SOL20 D = D series - SOL20 E = E series - SOL21	A = 12V DC B = 24V DC 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	
						psi (bar)			DC	AC	Size	Series
①	①		inch (mm)	cSt	gpm (m ³ /h)	Min	Max DC	Max AC	W	VA	mm	C - Page 17.4 D - Page 17.5 E - Page 17.6
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) 363 (25)	363 (25)	-	14	30	C - SOL20
F2F J9 2 02 _ 0			5/64 (2)	37	0.12 (0.10)	0	- 261 (18) 261 (18)	261 (18)	-	14	30	D - SOL20
F2F J9 2 25 _ 0			3/32 (2.5)	53	0.17 (0.15)	0	- 174 (12) 174 (12)	174 (12)	-	14	30	E - SOL21
F2F J9 2 03 _ 0			1/8 (3)	53	0.24 (0.21)	0	- 109 (7.5) 109 (7.5)	109 (7.5)	-	14	30	C - SOL20
F2F J9 2 04 _ 0			5/32 (4)	53	0.41 (0.35)	0	- 65 (4.5) 65 (4.5)	65 (4.5)	-	14	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

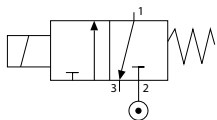
Series F2F

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	3	1 5	N	0	C	A
	J9 = □ 32x32 mm	3 = 3/2 NC	15 = 1/16 (1.5) 02 = 5/64 (2) 25 = 3/32 (2.5) 03 = 1/8 (3) 04 = 5/32 (4)	N = NBR E = EPDM V = FKM R = RUBY C = CR	0 = Standard 3 = Stainless Steel seat (on request)	C = C series - SOL20 D = D series - SOL20 E = E series - SOL21	A = 12V DC B = 24V DC 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	
①	①		inch (mm)		cSt	gpm (m³/h)		psi (bar)			DC	AC	Size	Series
			IN	EXH		IN	EXH	Min	Max DC	Max AC				
F2F J9 3 15 _ 0	N = NBR +14°F +194°F (-10°C +90°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)	8	14	30	C - SOL20
F2F J9 3 02 _ 0	V = FKM +14°F +284°F (-10°C +140°C)		5/64 (2)	3/32 (2.3)	37	0.12 (0.10)	0.15 (0.13)	0	363 (25)	363 (25)	14	21	30	D - SOL20
F2F J9 3 25 _ 0	E = EPDM +14°F +284°F (-10°C +140°C)		3/32 (2.5)	3/32 (2.3)	37	0.17 (0.15)	0.15 (0.13)	0	363 (25)	363 (25)	22	31	36	E - SOL21
F2F J9 3 03 _ 0	R = RUBY * -40°F +356°F (-40°C +180°C)		1/8 (3)	3/32 (2.3)	37	0.24 (0.21)	0.15 (0.13)	0	261 (18)	261 (18)	8	14	30	C - SOL20
F2F J9 3 04 _ 0	C = CR -31°F +212°F (-35°C +100°C)		5/32 (4)	3/32 (2.3)	37	0.41 (0.35)	0.15 (0.13)	0	261 (18)	261 (18)	14	21	30	D - SOL20
									261 (18)	261 (18)	22	31	36	E - SOL21
									189 (13)	189 (13)	8	14	30	C - SOL20
									189 (13)	189 (13)	14	21	30	D - SOL20
									189 (13)	189 (13)	22	31	36	E - SOL21
									145 (10)	145 (10)	8	14	30	C - SOL20
									145 (10)	145 (10)	14	21	30	D - SOL20
									145 (10)	145 (10)	22	31	36	E - SOL21
									87 (6)	87 (6)	8	14	30	C - SOL20
									87 (6)	87 (6)	14	21	30	D - SOL20
									87 (6)	87 (6)	22	31	36	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)

* RUBY - orifice max Ø 3/32" (2.5 mm): Only with stainless steel seat

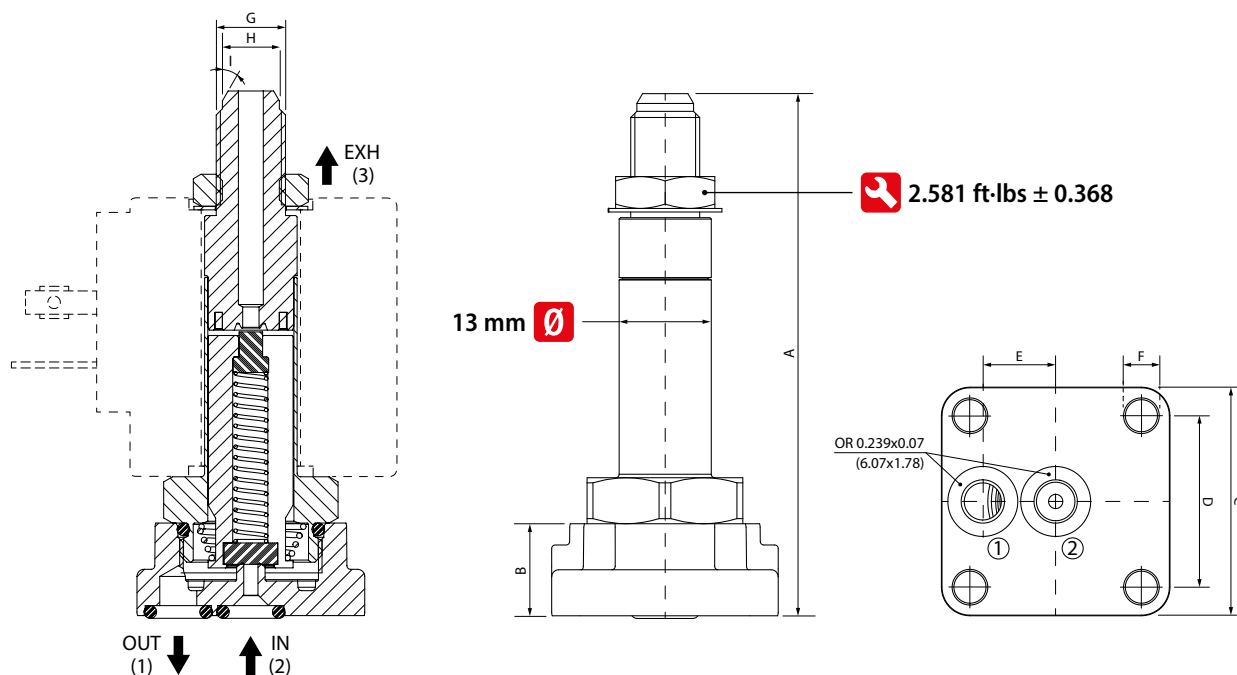
Performance with Ruby:

Ø orifice 1/16" (1.5 mm) = 218 psi (15 bar)

Ø orifice 5/64" (2 mm) = 145 psi (10 bar)

Ø orifice 3/32" (2.5 mm) = 87 psi (6 bar)

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°

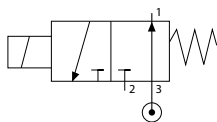
Series F2F

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 C = C series - SOL20 D = D series - SOL20 E = E series - SOL21	A A = 12V DC B = 24V DC 1 = 24V AC 2 = 110V AC 3 = 220V AC

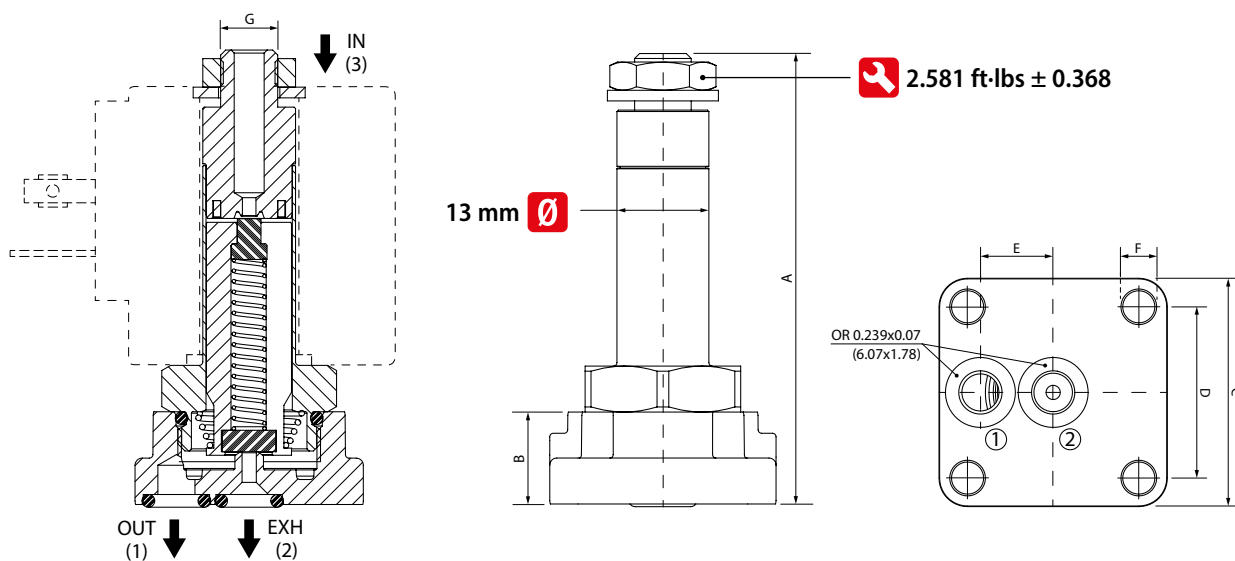
Valves and coils are supplied separately.
Upon commercial agreements can be supplied assembled.

Code	Sealing materials	Port size	Ø Orifice		Viscosity	Cv (Kv)		Differential pressure (OPD)			Power		Coils	
①	①		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 17.4 D - Page 17.5 E - Page 17.6
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)	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)	14	21	30	D - 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)	22	31	36	E - SOL21
F2F J9 4 03 _ 0			5/64 (1.9)	1/8 (3)	37	0.12 (0.10)	0.24 (0.21)	0	218 (15)	218 (15)	8	14	30	C - SOL20
F2F J9 4 04 _ 0			5/64 (1.9)	5/32 (4)	37	0.12 (0.10)	0.41 (0.35)	0	218 (15)	218 (15)	14	21	30	D - SOL20
									189 (13)	218 (15)	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)	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