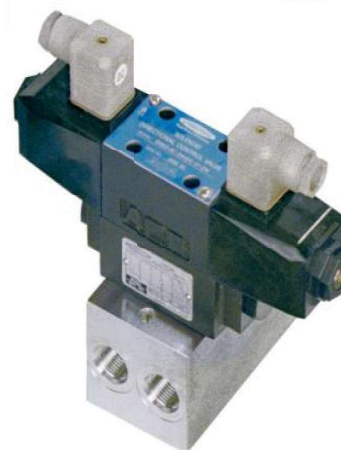


IFP DG03 SOLENOID OPERATED DIRECTIONAL CONTROL VALVE Size NG-6/CETOP-03



FEATURES :

- Highest performance in NG 6.
- Optimized spool design to reduce flow force
- Proven quality through 10 million endurance test
- Coil outside cover with BMC fire proof material
- Surge suppressor inside DC wiring box type
- Connections to DIN, ISO and CETOP

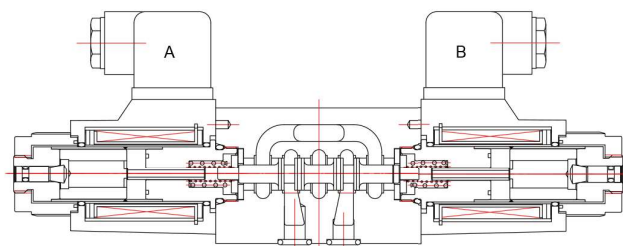


SPECIFICATION :

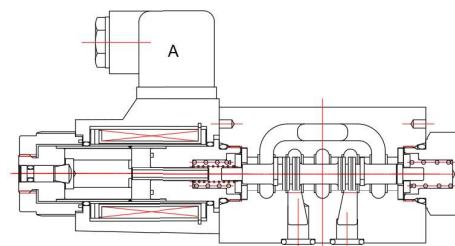
Maximum Flow Rate		25 GPM (95 LPM)
Maximum Operating Pressure		4500 PSI (360Bar)
Maximum Permissible Back Pressure		2285 PSI (160Bar)
Ambient Temperature Range		5°~122°F (-15°C~70°C)
Hydraulic Fluid Temperature		5°~158°F (-15°C~70°C)
Viscosity Range		15~400 mm²/S
Hydraulic Oil		ISO VG 32,46,68
Fluid Cleanliness		NAS Class 9 max
Degree of Protection to DIN40050 & IEP		IP 65
Maximum Change over Frequency		240 Times/min (AC/DC)
		120 Times/min (rF)
Mounting Pattern		ISO 4401-AB-03-4-A
App.Weight Lbs (Kg)	Single solenoid (AC/DC)	3.51bs (1.6) / 3.71bs (1.7)
	Double solenoid (AC/DC)	4.41bs (2.0) / 4.61bs (2.1)
Valve Fixing Screws	Metric	M5*45l (4pcs)
	Inch	10 ~24UNCx1-3/4"L (4pcs)
Tightening Torque		45 ~60in/lbs (5~7Nm)

CROSS SECTION DIAGRAM:

■ DG03-2C-AC*-72DN



■ DG03-2A-AC*-72DN





IFP DG03 SOLENOID OPERATED DIRECTIONAL CONTROL VALVE SIZE NG-6/CETOP-03

ORDERING CODE :

D G 03 - 2 C - 110V/60HzAC - 90 -DN -*

1 2 3 4 5 6 7 8 9

1 DIRECTIONAL CONTROL VALVE

2 MANIFOLD or SUBPLATE MOUNT

3 NOMINAL VALVE SIZE:

NG 6, CETOP 3 and ISO 4401-03

4 TYPE OF SPOOL (CENTER CONDITION)

0	1	2	3	5
6	7	8	11	22
31	33			

- 0: Open center (all ports)
- 1: Open center (P, a to T)
- 2: Closed center (all ports)
- 3: Closed center (P, B)
- 5: Closed center (T, B)
- 6: Closed center (P only)
- 7: Open center (P to a, B)
- 8: Tandem center (P to T)
- 11: Open center (P, B to T)
- 22: Closed center (two way)
- 31: Closed center (P, B)
- 33: Closed center (bleed AB)

5 SPRING ARRANGEMENT

- A: Spring offset to port "A" single solenoid
- AL: Spring offset to port "B" single solenoid
- B: Spring centered-single solenoid
- BL: Spring centered-single solenoid
- C: Spring centered-double solenoid
- N: Without spring with detent

6 SOLENOID VOLTAGE

110V/60HzAC

R1: AC110V, 50/60Hz; rectifier built-in type

220V/60HzAC

R2: CC220V, 50/60Hz; rectifier built-in type

12VDC: DC12V

24VDC: DC24V

7 DESIGN NUMBER:

90

8 ELECTRICAL OPTIONS

WB: WIRING HOUSING with 1/2" THREAD
c/w INDICATOR LIGHTS

DN: DIN 43650 COIL c/w INDICATOR LIGHTS

DEUTSCH COIL AVAILABLE UPON REQUEST

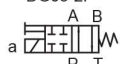
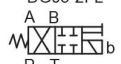
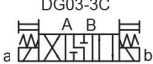
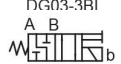
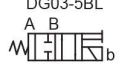
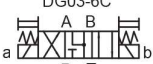
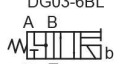
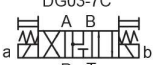
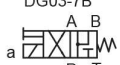
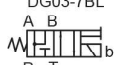
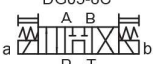
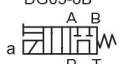
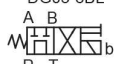
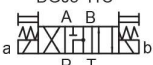
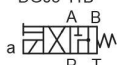
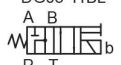
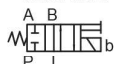
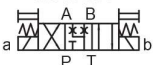
9 OPTIONAL INQUIRY

LS: Surge Killer

IFP DG03 SOLENOID OPERATED DIRECTIONAL CONTROL VALVE SIZE NG-6/CETOP-03

SPOOL TYPES:

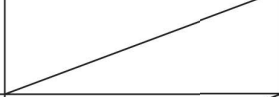
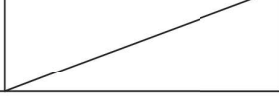
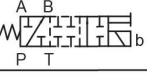
DG03 SIZE 6

Position type at neutral	Double solenoid valves, spring centered -C-	Single solenoid valves, solenoid at port A end -B-	Single solenoid valves, solenoid at port B end -BL-
0 	DG03-0C 	DG03-0B 	DG03-0BL 
1 	DG03-1C 	DG03-1B 	DG03-1BL 
2 	DG03-2C 	DG03-2B 	DG03-2BL 
		DG03-2F 	DG03-2FL 
3 	DG03-3C 	DG03-3B 	DG03-3BL 
5 	DG03-5C 	DG03-5B 	DG03-5BL 
6 	DG03-6C 	DG03-6B 	DG03-6BL 
7 	DG03-7C 	DG03-7B 	DG03-7BL 
8 	DG03-8C 	DG03-8B 	DG03-8BL 
11 	DG03-11C 	DG03-11B 	DG03-11BL 
31 	DG03-31C 	DG03-31B 	DG03-31BL 
33 	DG03-33C 	DG03-33B 	DG03-33BL 

IFP DG03 SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE SIZE NG-6/CETOP-03

SPOOL TYPES:

Position type during transition	Double solenoid valves, two-position (detented) -N-	Single solenoid valves, solenoid at port A end -A-	Single solenoid valves, solenoid at port B end -AL-
0 		DG03-0A 	DG03-0AL 
2 	DG03-2N 	DG03-2A 	DG03-2AL 
6 		DG03-6A 	DG03-6AL 
7 		DG03-7A 	DG03-7AL 
22 		DG03-22A 	DG03-22AL 

FEATURES OF ELECTRO-MANGNETIC COIL :

Solenoid Classification	Power Source	Voltage (V)		Inrush Current (A)	Holding Current (A)	Holding Power (W)	Permissible Voltage (%)	Insulation Grade	Coil Insulation Class	Insulation
AC	A1	110	50	1.6	0.47	23	+10,-15	B	H (180°C)	>50
		120	60	1.5	0.42	24	+10,-15			
	A2	220	50	0.8	0.24	23	+10,-15			
		240	60	0.75	0.21	24	+10,-15			
DC	D1	12	-	-	2.4	29	+10,-10	B	H (180°C)	
	D2	24	-	-	1.16	28				
RF	R1	AC110V, 50/60 Hz		-	0.33	30	+10,-10	B	H (180°C)	
		DC99V								
	R2	AC220V, 50/60 Hz		-	0.16	30	+10,-10			
		DC198V								

IFP DG03 SOLENOID OPERATED DIRECTIONAL CONTROL VALVE SIZE NG-6/CETOP-03

PERFORMANCE FIGURES & CURVES:

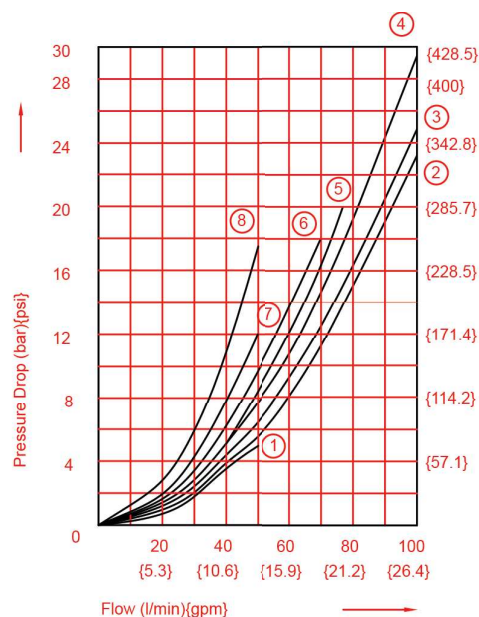
Pressure Drop Curve Reference Chart

Viscosity of Hydraulic Fluid: 20 mm²/s

Spool Type	C,B,BL				
	Control Position				
	P→A	B→T	P→B	A→T	P→T
0	4	1	4	1	5
1	6	8	6	8	7
2	4	2	4	2	-
3	5	2	5	2	-
6	5	2	5	2	-
7	4	3	4	3	-
8	6	8	6	8	7
11	6	8	6	8	7
31	5	8	5	2	-
33	5	2	5	2	-

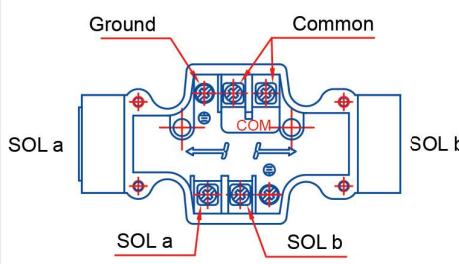
Spool Type	A,AL			
	Control Position			
	P→A	B→T	P→B	A→T
0	4	2	4	2
2	4	6	4	6
6	5	2	5	2
7	4	3	4	3
22	4	-	4	-

Spool Type	N			
	Control Position			
	P→A	B→T	P→B	A→T
2	3	4	3	4



WIRING:

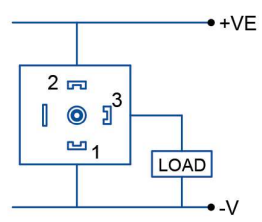
■ DG03-*C-*72-WB



Note:

- 1.Com terminal is fitted in double solenoid valve for easiness of wiring.
- 2.use a ground terminal when ground wiring is necessary.
- 3.use a compressed terminal for m3.
- 4.Fasten the screw of the terminal with 4.3 - 6.1 lbs torqu

■ DG03-*72-DN



IFP DG03 SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE SIZE 6 NG-6/CETOP-03

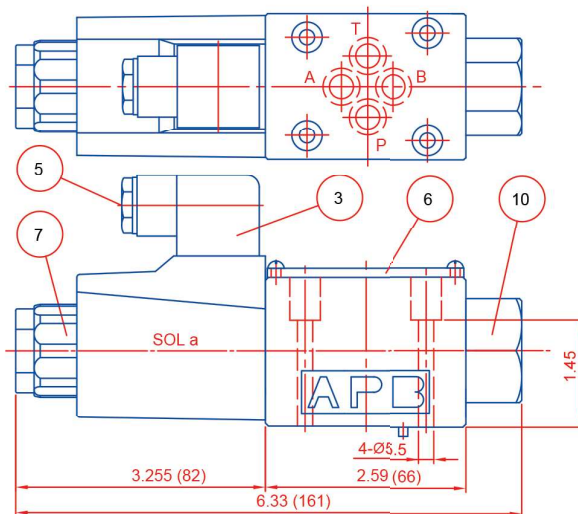
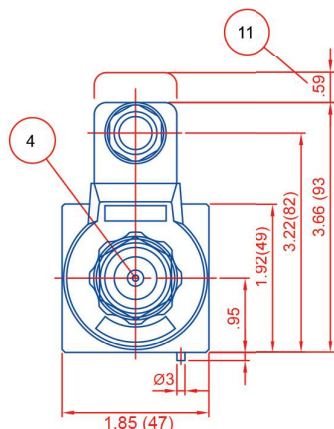
DIMENSIONS:

DC solenoid (DN Type)

■ DG03-*DC*-72DN

*B

*F

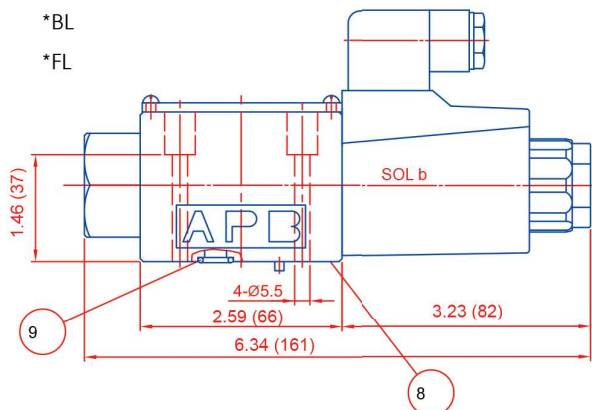


DIMENSIONS: Inches (mm)

■ DG03-*AL-DC*-72DN

*BL

*FL

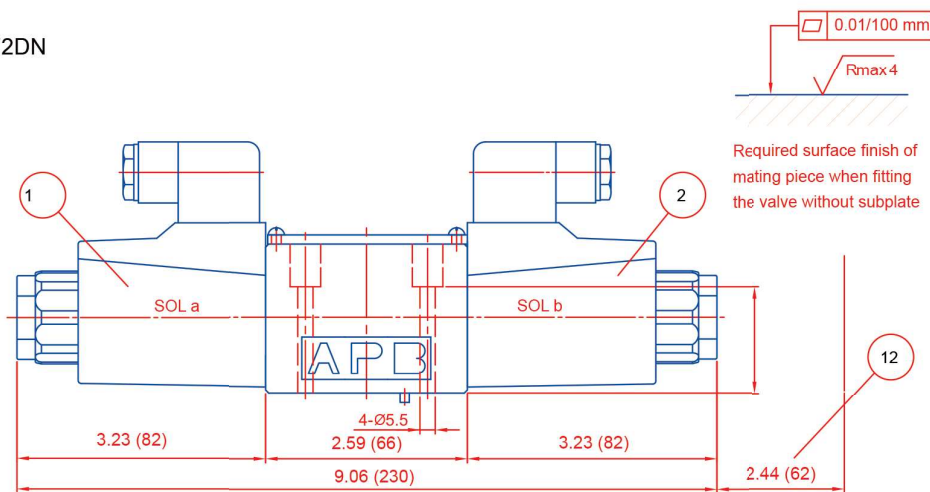


DIMENSIONS: Inches (mm)

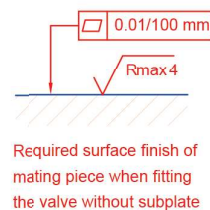
- 1: Solenoid a, color of plug: grey
- 2: Solenoid b, color of plug: black
- 3: Angled plug to DIN 43650
- 4: Push pin for manual operation
- 5: Lead wire take-out (Cable diameter $\bar{r}6 \sim 9\text{mm}$)
- 6: Nameplate
- 7: Lock nut with torque in the range $4 \sim 6 \text{ N.m}$
- 8: Connections to DIN 24340 from A6; valve fixing screws M5x45 DIN 912-10.9 tightening torque $5 \sim 7 \text{ Nm}$
- 9: O-ring P9 N90
- 10: Plug for valves with 1 solenoid
- 11: Space required to remove plug
- 12: Coil removable length

■ DG03-*C-DC*-72DN

*N



Dimensions: inches (mm)



IFP DG03 SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE SIZE NG-6/CETOP-03

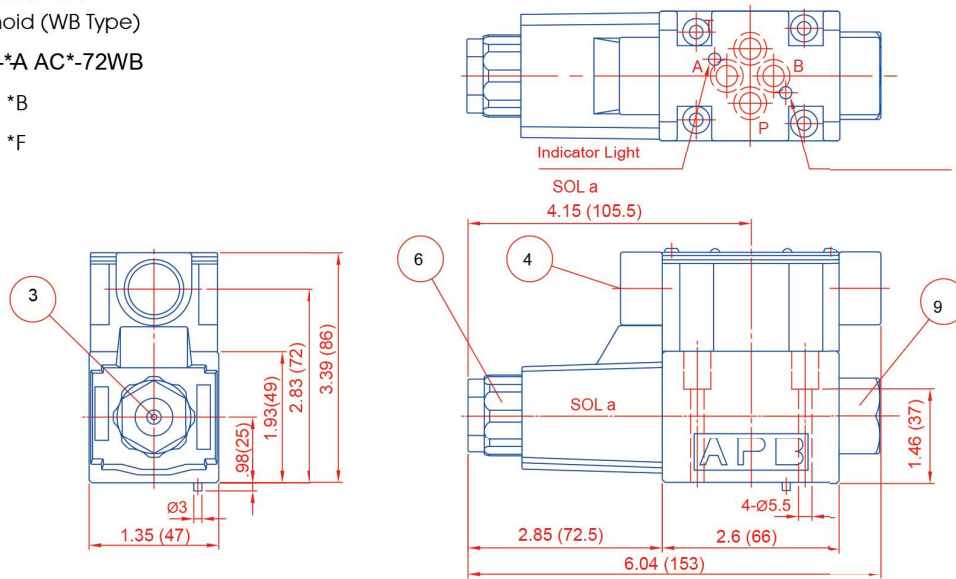
DIMENSIONS:

AC solenoid (WB Type)

■ DG03-*A AC*-72WB

*B

*F

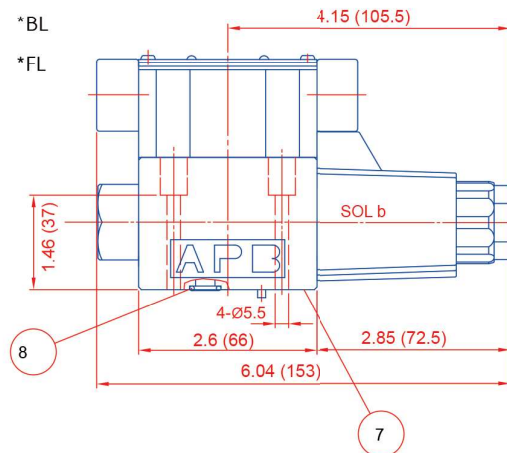


Dimensions: inches (mm)

■ DG03-*AL-AC*-72WB

*BL

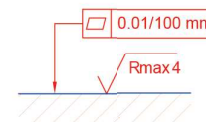
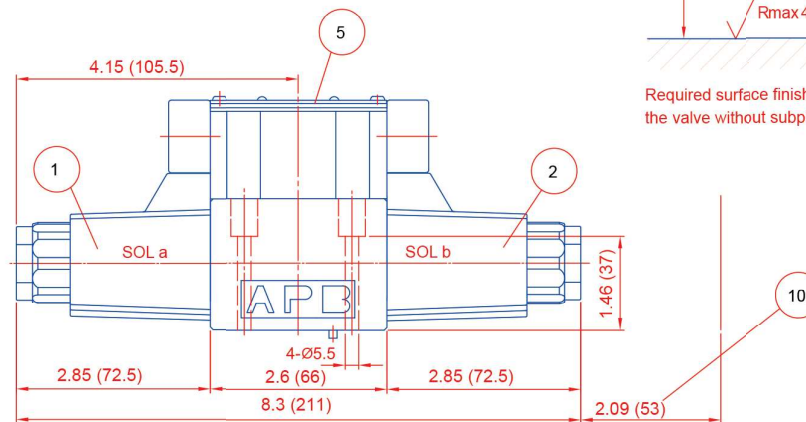
*FL



- 1: Solenoid a
- 2: Solenoid b
- 3: Push pin for manual operation
- 4: Lead wire take-out (G1/2")
- 5: Nameplate
- 6: Lock nut with torque in the range 4~6 N.m
- 7: Connections to DIN 24340 from A6; valve fixing screws M5x45 DIN 912-10.9 tightening torque 5~7 Nm
- 8: O-ring P9 N90
- 9: Plug for valves with 1 solenoid
- 10: Coil removable length

■ DG03-*C-AC*-72WB

*N



Required surface finish of mating piece when fitting the valve without subplate

Dimensions: inches (mm)

IFP DG03 SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE SIZE 6 NG-6/CETOP-03

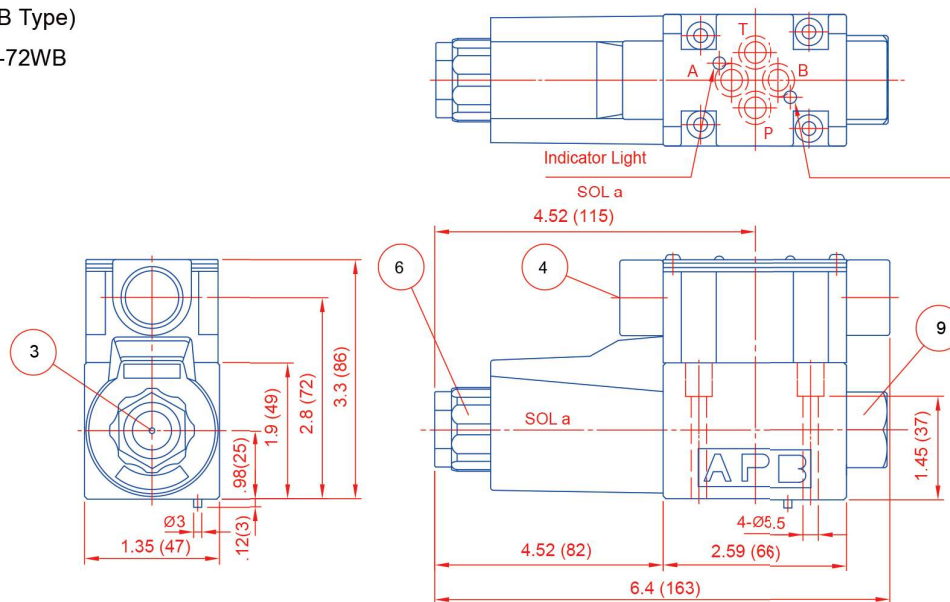
DIMENSIONS:

DC solenoid (WB Type)

■ DG03-*A-DC*-72WB

*B

*F

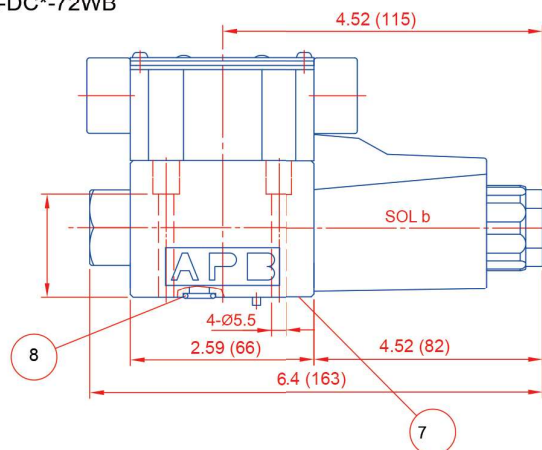


Dimensions: inches (mm)

■ DG03-*AL-DC*-72WB

*BL

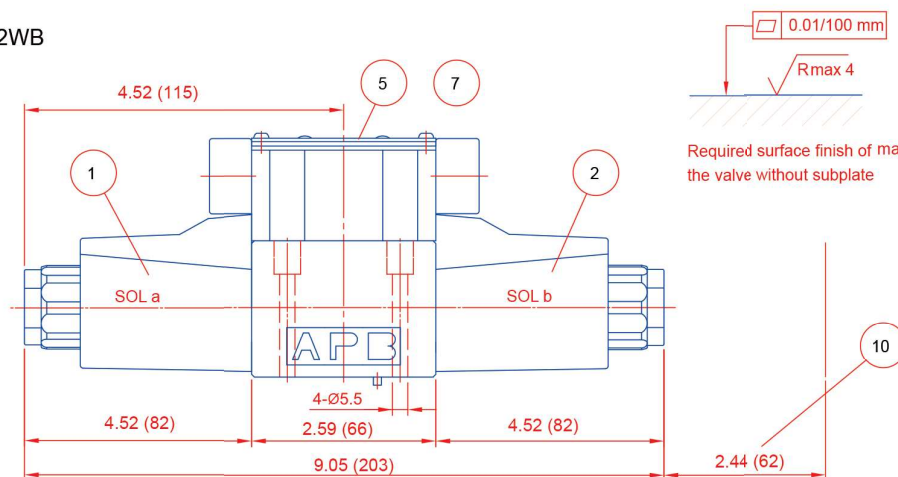
*FL



- 1: Solenoid a
- 2: Solenoid b
- 3: Push pin for manual operation
- 4: Lead wire take-out (G1/2")
- 5: Nameplate
- 6: Lock nut with torque in the range 4~6 N.m
- 7: Connections to DIN 24340 from A6; valve fixing screws M5x45 DIN 912-10.9 tightening torque 5~7 Nm
- 8: O-ring P9 N90
- 9: Plug for valves with 1 solenoid
- 10: Coil removable length

■ DG03-*C-DC*-72WB

*N



Dimensions: inches (mm)

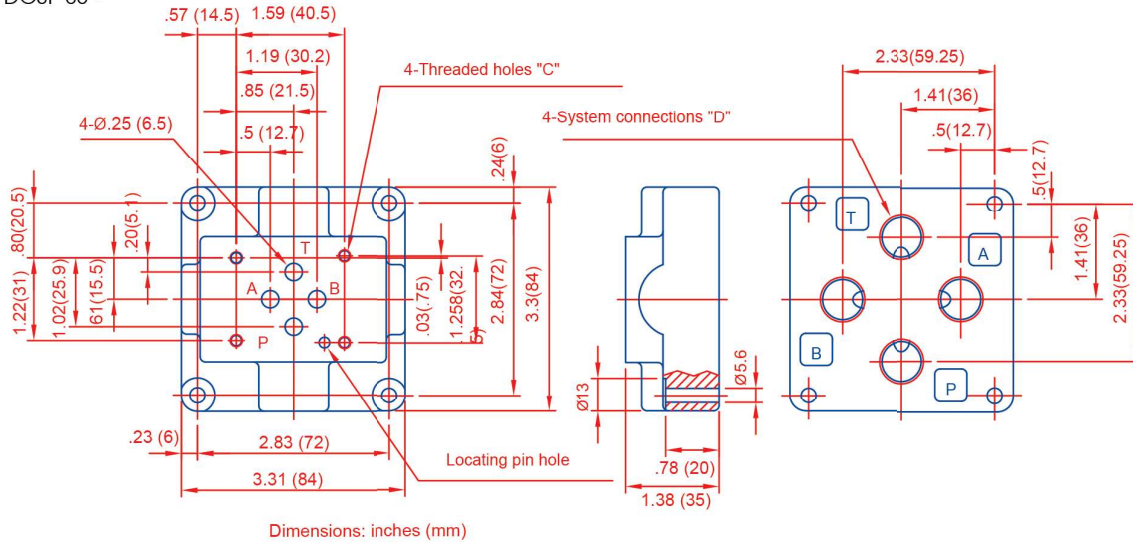
IFP DG03 SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE SIZE NG-6/CETOP-03

SUBPLATE DIMENSIONS:

Bottom Connection

■ DGSP-03*-*

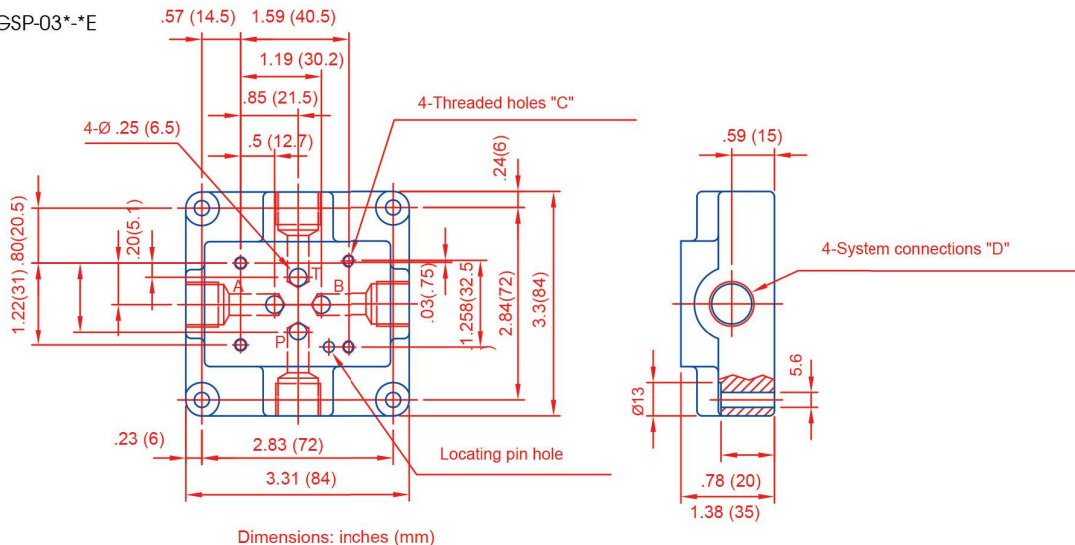


Model	C	D	Weight
DGSP-03N-6	NO. 10-24UNC-2B	3/8"NPT	3.0 Lbs 1.4 Kgs
DGSP-03N-8	Thrd. 1/2" Deep	1/2"NPT	
DGSP-03S-6	Full Thread Depth	3/8"SAE	
DGSP-03S-8		1/2"SAE	

Model	C	D	Weight
DGSP-03-6	M5 *14 Deep (Min) Full Thread Depth	3/8"Rc	3.0 Lbs 1.4Kgs
DGSP-03-8		1/2"Rc	
DGSP-03G-6		3/8"BSP	
DGSP-03G-8		1/2"BSP	

Side Connection

■ DGSP-03*-*E



Model	C	D	Weight
DGSP-03N-6E	Nbr. 10-24UNC-2B Thrd. 1/2" Deep Full Thread Depth	3/8"NPT	3.0 Lbs 1.4 Kgs
DGSP-03N-8E		1/2"NPT	
DGSP-03S-6E		3/8"SAE	
DGSP-03S-8E		1/2"SAE	

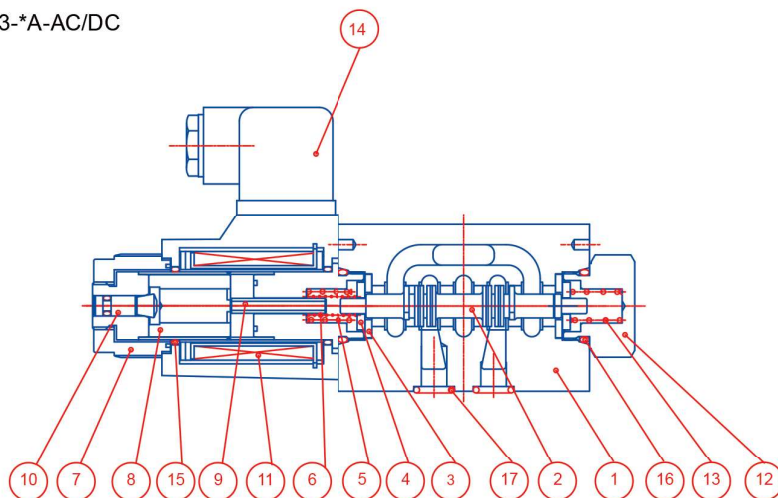
Model	C	D	Weight
DGSP-03-6E	M5*14 Deep (min) Full Thread Depth	3/8"RC	1.4 Kgs
DGSP-03-8E		1/2"R	
DGSP-03G-6E		3/8"BSP	
DGSP-03G-8E		1/2"BSP	

IFP DG03 SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE SIZE NG-6/CETOP-03

CROSS SECTION DRAWING:

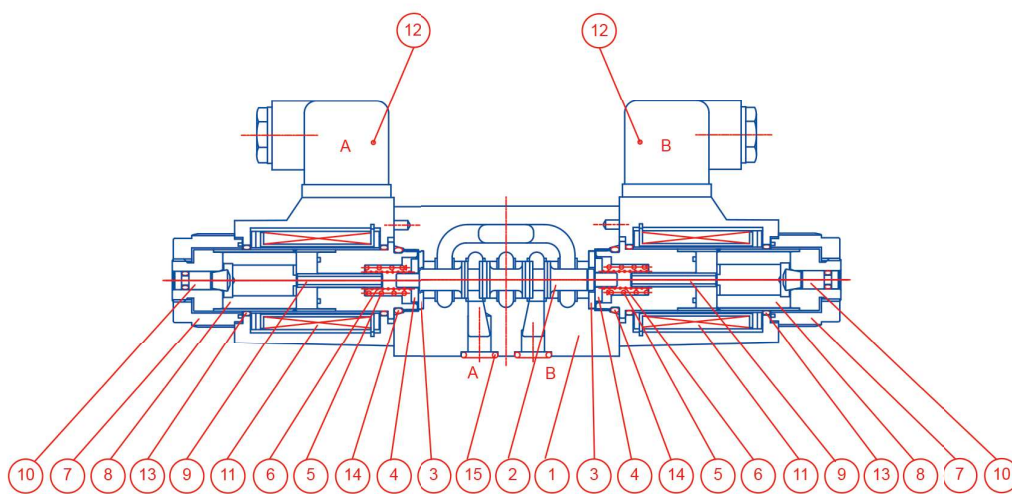
■ DG03-*A-AC/DC



NO.	PARTS NAME	PARTS NO.	Q'TY
15	O-ring	AS568-019 N70	2
16	O-ring	P18 N90	2
17	O-ring	P9 N90	4

NO.	parts name
1	body
2	spool
3	retainer A
4	retainer B
5	spring
6	spring
7	nut
8	plunger
9	push pin
10	pin
11	coil
12	plug
13	spring
14	connector
15	O-ring
16	O-ring
17	O-ring

■ DG03-*C-AC/DC



NO.	PARTS NAME	PARTS NO.	Q'TY
13	O-ring	AS568-019 N70	4
14	O-ring	P18 N90	2
15	O-ring	P9 N90	4

NO.	parts name
1	body
2	spool
3	retainer A
4	retainer B
5	spring
6	spring
7	nut
8	plunger
9	push pin
10	pin
11	coil
12	connector
13	O-ring
14	O-ring
15	O-ring