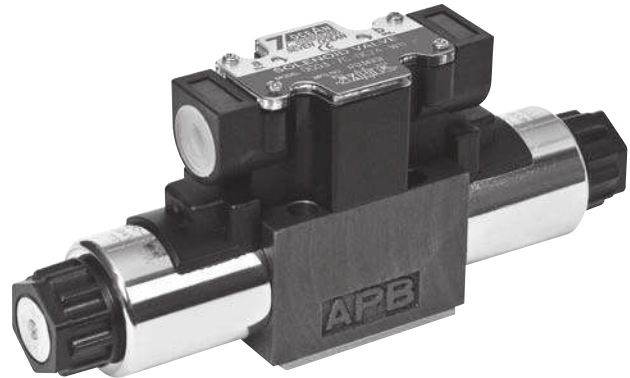


SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DGO3 SIZE 6

A
DGO3 SIZE 6

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



Model: DGO3-* *-DC24-WB-82

SPECIFICATION :

Maximum Flow Rate		80 L/Min (21 GPM)
Maximum Operating Pressure		320 Bar (4571 PSI)
Maximum Permissible Back Pressure		210 Bar (3045 PSI)
Ambient Temperature Range		-15°C ~ +50°C
Hydraulic Fluid Temperature		-15°C ~ +70°C
Viscosity Range		15~400 mm ² /S
Hydraulic Oil		ISO VG32, 46, 68
Fluid Cleanliness		NAS Class 9 MAX
Degree of Protection		IEC 144 Class IP 65
Maximum Change over Frequency		240 Times/Min (AC/DC)
Mounting Pattern		ISO 4401-AB-03-4-A
Approx. Weight (Kg)	Single solenoid (AC/DC)	1.5 / 1.8
	Double solenoid (AC/DC)	1.9 / 2.2
Valve Fixing Screws	Metric	M5 x 45L (4pcs)
	Inch	10#~24UNCx1-3/4"L (4pcs)
Tightening Torque		5~7Nm

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG03 SIZE 6

ORDERING CODE :

D G 03 - 2 C - A110 - DN - 82 - **
 1 2 3 4 5 6 7 8 9

1 DIRECTIONAL CONTROL VALVE

2 MANIFOLD OR SUBPLATE MOUNTING

3 NOMINAL VALVE SIZE:

NG 6, CETOP 3 and ISO 4401-03 (NFPA-D03/DIN 24340)

4 TYPE OF SPOOL (CENTER CONDITION)

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

0: Open center (All ports) 7: Open center (P to A, B)
 1: Open center (P, A to T) 8: Tandem center (P to T)
 2: Closed center (All ports) 11: Open center (P, B to T)
 3: Closed center (P, B) 22: Closed center (Two way)
 5: Closed center (T, B) 31: Closed center (P, A)
 6: Closed center (P only) 33: Closed center (Bleed A,B)

5 SPRING CRACKING PRESSUE

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 ELECTRIC POWER SOURCE INDICATION

A110: AC100V, 50/60 Hz; AC110V, 60 Hz

A120: AC110V, 50 Hz; AC120V, 60 Hz

A220: AC200V, 50/60 Hz; AC220V, 60 Hz

A240: AC220V, 50 Hz; AC240V, 60 Hz

DC12: DC12V

DC24: DC24V

R110: AC110V, 60 Hz; Rectifier built-in type

R220: AC220V, 60 Hz; Rectifier built-in type

7 ELECTRICAL OPTIONS:

DN: DIN 43650 Coils with indicator lights

DNO: DIN 43650 Coils without indicator lights

WB: Wiring housing with G1/2 thread and indicator lights

8 DESIGN NUMBER

82

9 OPTIONAL INQUIRY

LS: Surge Killer

SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE DG03 SIZE 6

SPOOL TYPES:

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 (H)	DG03-0C 	DG03-0B 	DG03-0BL
1 (F)	DG03-1C 	DG03-1B 	DG03-1BL
2 (E)	DG03-2C 	DG03-2B 	DG03-2BL
	/	DG03-2F 	DG03-2FL
3 (L)	DG03-3C 	DG03-3B 	DG03-3BL
5	DG03-5C 	DG03-5B 	DG03-5BL
6 (J)	DG03-6C 	DG03-6B 	DG03-6BL
7 (M)	DG03-7C 	DG03-7B 	DG03-7BL
8 (G)	DG03-8C 	DG03-8B 	DG03-8BL
11 (P)	DG03-11C 	DG03-11B 	DG03-11BL
31 (U)	DG03-31C 	DG03-31B 	DG03-31BL
33 (W)	DG03-33C 	DG03-33B 	DG03-33BL

*() : Rexroth Model

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG03 SIZE 6

SPOOL TYPES:

Position type during transition	Double solenoid valves, spring centered -N-	Single solenoid valves, solenoid at port A end -A-	Single solenoid valves, solenoid at port B end -AL-
0 (H)		DG03-0A 	DG03-0AL
2 (E)		DG03-2A 	DG03-2AL
6 (J)		DG03-6A 	DG03-6AL
7 (M)		DG03-7A 	DG03-7AL
22 (A)		DG03-22A 	DG03-22AL

*() : Rexroth Model

FEATURES OF ELECTRO-MAGNETIC COIL :

Solenoid Classification	Power Source	Voltage (V)	Frequency (Hz)	Inrush Current (A)	Holding Current (A)	Holding Power (W)	Permissible Voltage (V)	Insulation Grade	Coil Insulation Class	Insulation Resistance (MΩ)
AC	A110	AC100V	50	2.22	0.44	25.2	90~110	B	H (180°C)	>50
			60	2.05	0.38	18.7	90~110			
	A120	AC110V	60	2.29	0.40	24.0	100~120			
			50	2.08	0.43	26.4	100~120			
	A220	AC200V	50	1.26	0.29	32.0	190~210			
			60	1.11	0.21	23.7	190~210			
		AC220V	60	1.12	0.25	24.4	210~230			
			50	0.90	0.19	24.8	210~230			
A240	AC240V	60	0.87	0.17	21.6	230~250				
		50	0.90	0.19	24.8	210~230				
DC	DC12	DC12V	-	-	2.50	30.0	10.8~13.2	B	H (180°C)	>50
	DC24	DC24V	-	-	1.25	30.0	21.6~26.4			

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DGO3 SIZE 6

PERFORMANCE FIGURES & CURVES:

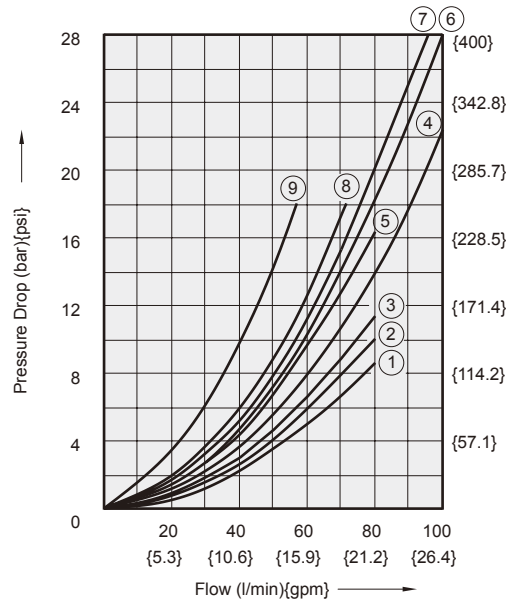
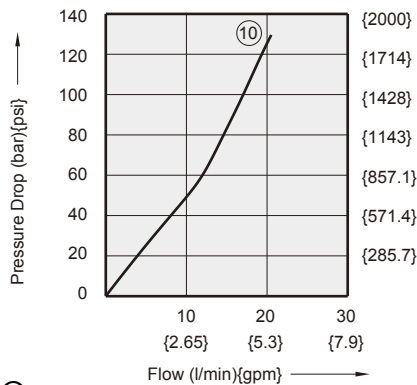
Pressure Drop Curve Reference Chart

Viscosity of Hydraulic Fluid: 20 mm²/s

Spool Type	C, B, BL									
	Control Position				Neutral Position					
	P→A	B→T	P→B	A→T	P→T	A→T	B→T	P→A	P→B	
0 (H)	4	3	4	3	4	1	1	4	4	
1 (F)	4	3	4	3	8	2	-	4	-	
2 (E)	6	4	6	4	-	-	-	-	-	
3 (L)	6	4	8	2	-	4	-	-	-	
6 (J)	8	2	8	2	-	4	4	-	-	
7 (M)	4	6	4	6	-	-	-	7	7	
8 (G)	7	5	7	5	8	-	-	-	-	
11 (P)	4	3	4	3	8	-	2	-	4	
31 (U)	8	2	6	4	-	-	4	-	-	
33 (W)	6	4	6	4	-	10	10	-	-	

Spool Type	A, AL			
	Control Position			
	P→A	B→T	P→B	A→T
0 (H)	5	4	5	4
2 (E)	7	6	7	8
6 (J)	7	4	8	4
7 (M)	5	8	5	9
22 (A)	6	-	7	-

Spool Type	N			
	Control Position			
	P→A	B→T	P→B	A→T
2 (E)	7	4	7	4



WIRING:

<p>■ DG03-*C*-*WB-82</p>	<p>■ DG03-*-*DN-82</p>
<p>Note:</p> <ol style="list-style-type: none"> 1. COM terminal is fitted in double solenoid valve for easiness of wiring. 2. Use an earth terminal when ground wiring is necessary. 3. Use a compressed terminal for M3. 4. Fasten the screw of the terminal with 0.5~0.7 N.m (4.3~6.1 lbs) torque. 	

SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE

DG03 SIZE 6

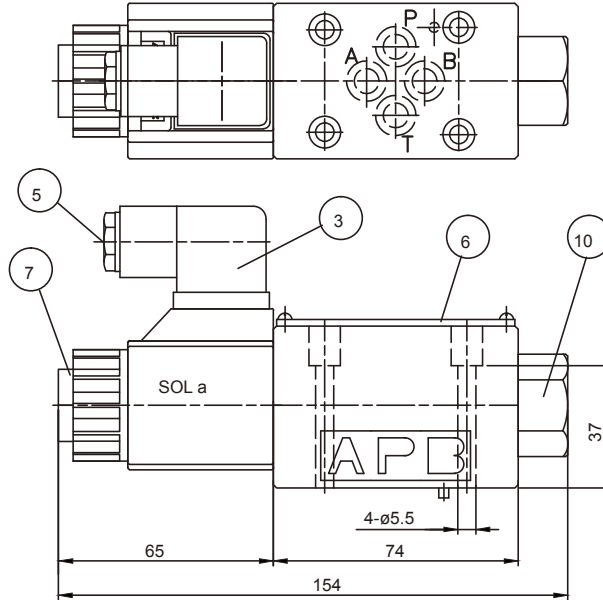
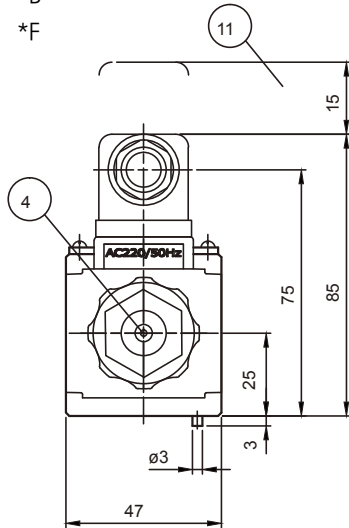
DIMENSIONS:

AC solenoid (DN Type)

■ DG03- *A-A*-DN-82

*B

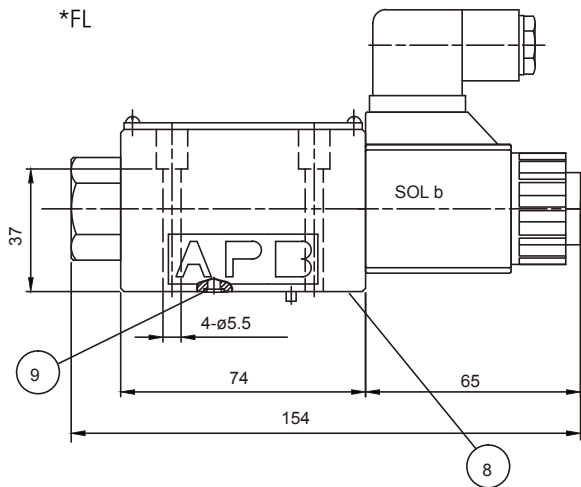
*F



■ DG03- *AL-A*-DN-82

*BL

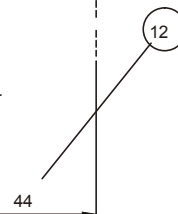
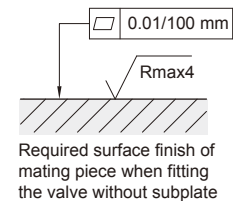
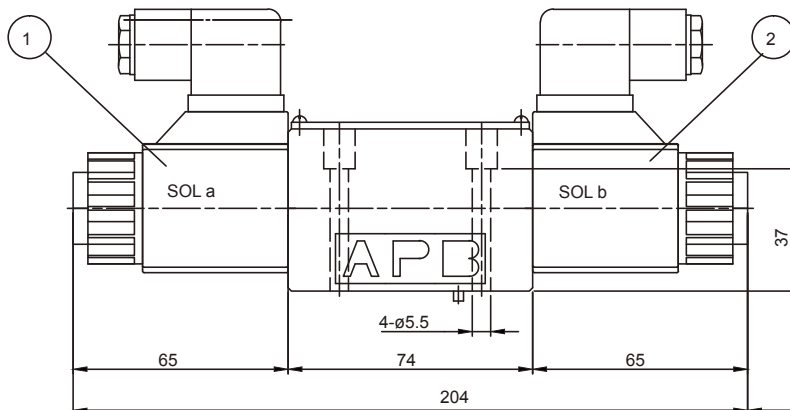
*FL



- 1: Solenoid a
- 2: Solenoid b
- 3: Angled plug to DIN 43650
- 4: Push pin for manual operation
- 5: Lead wire take-out (Cable diameter $\phi 6 \sim 9$ mm)
- 6: Nameplate
- 7: Lock nut with torque in the range 4~5 N.m
- 8: Connections to DIN 24340 (NG6, ISO 4401-AB-03-4-A); valve fixing screws M5x45; tightening torques 5~7 Nm
- 9: O-ring 1B~P9
- 10: Hex nut (for single solenoid)
- 11: Space required to remove plug
- 12: Coil removable length

■ DG03- *C-A*-DN-82

*N



SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG03 SIZE 6

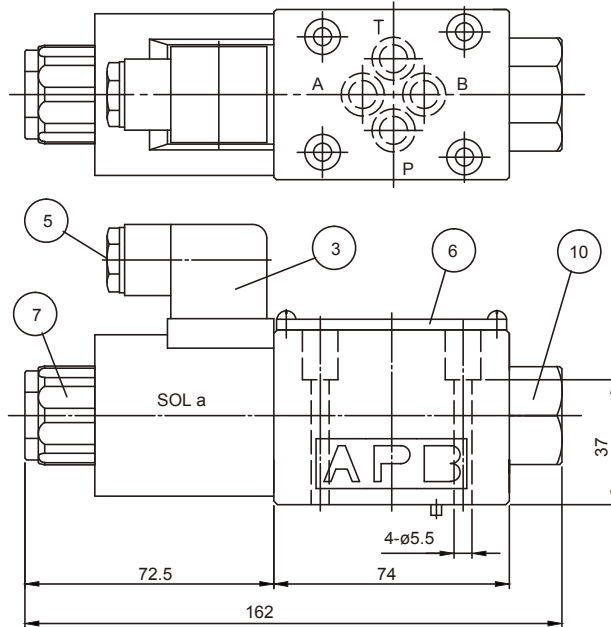
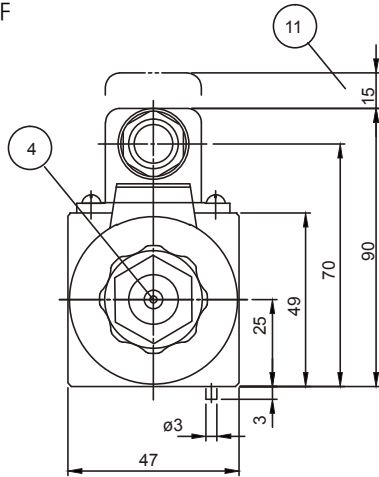
DIMENSIONS:

DC solenoid (DN Type)

■ DG03- *A-DC*-DN-82

*B

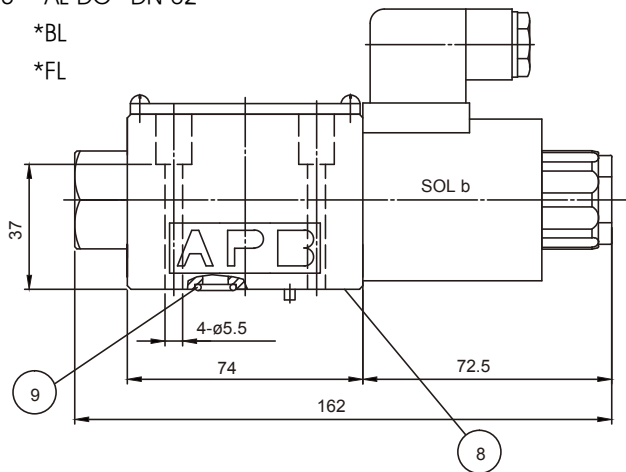
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■ DG03- *AL-DC*-DN-82

*BL

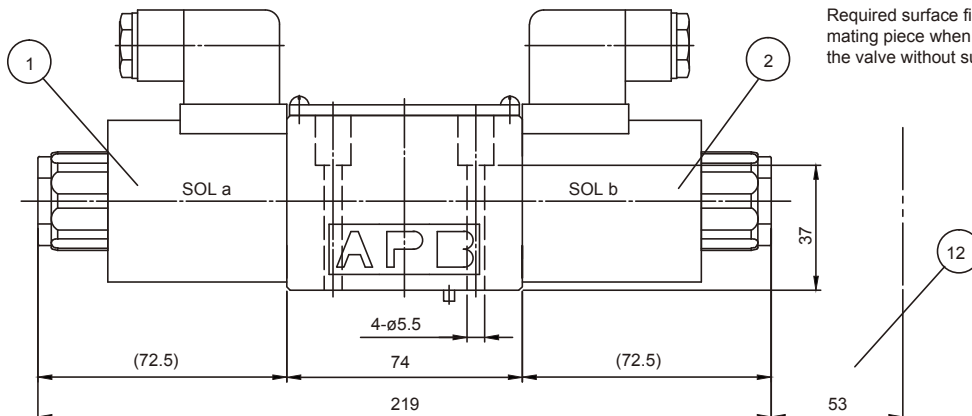
*FL



- 1: Solenoid a
- 2: Solenoid b
- 3: Angled plug to DIN 43650
- 4: Push pin for manual operation
- 5: Lead wire take-out (Cable diameter $\phi 6 \sim 9$ mm)
- 6: Nameplate
- 7: Lock nut with torque in the range 4~5 N.m
- 8: Connections to DIN 24340 (NG6, ISO 4401-AB-03-4-A); valve fixing screws M5x45; tightening torques 5~7 Nm
- 9: O-ring 1B~P9
- 10: Hex nut (for single solenoid)
- 11: Space required to remove plug
- 12: Coil removable length

■ DG03- *C-DC*-DN-82

*N



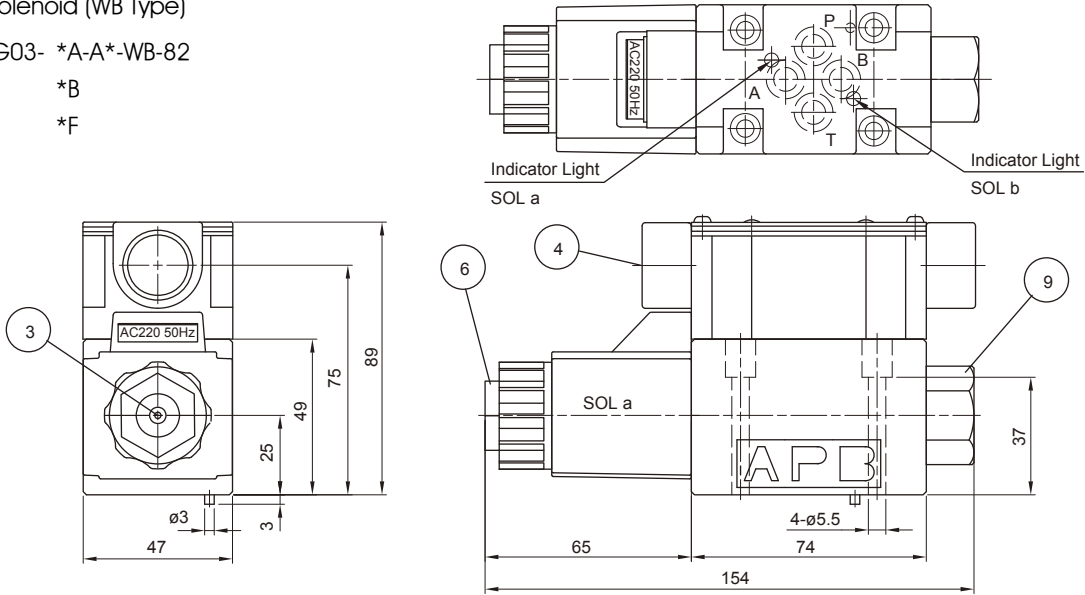
0.01/100 mm
Rmax4
Required surface finish of mating piece when fitting the valve without subplate

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG03 SIZE 6

DIMENSIONS:

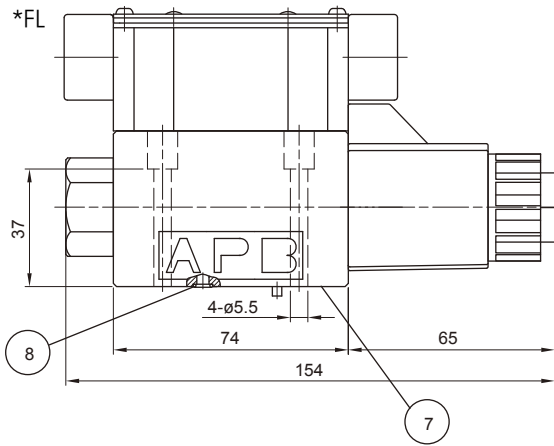
AC solenoid (WB Type)

- DG03- *A-A*-WB-82
- *B
- *F



- DG03- *AL-A*-WB-82

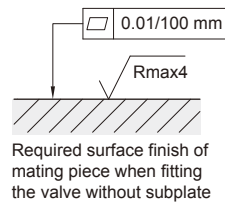
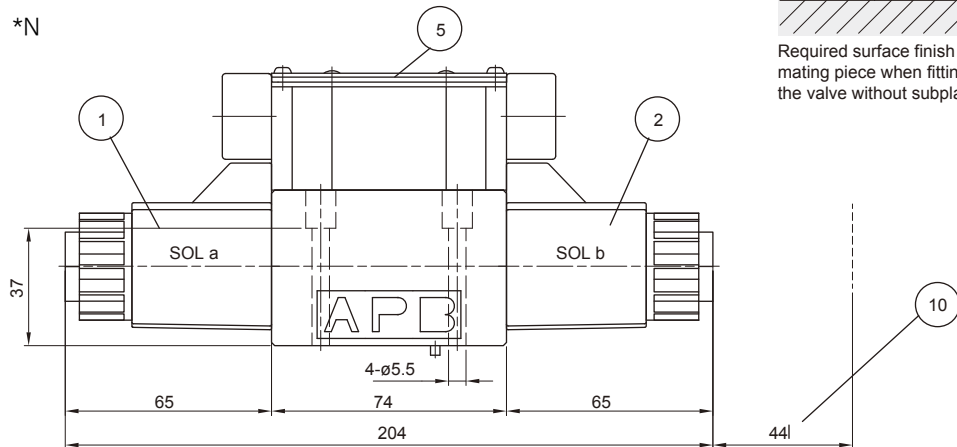
- *BL
- *FL



- 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 4~5 N.m
- 7: Connections to DIN 24340 (NG6, ISO 4401-AB-03-4-A); valve fixing screws M5x45; tightening torques 5~7 Nm
- 8: O-ring 1B~P9
- 9: Hex nut (for single solenoid)
- 10: Coil removable length

- DG03- *C-A*-WB-82

- *N



SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG03 SIZE 6

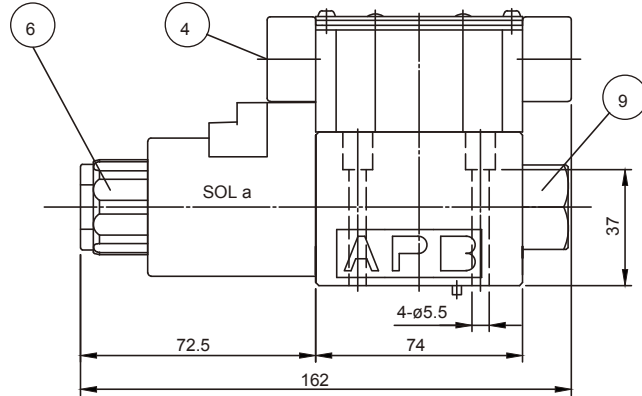
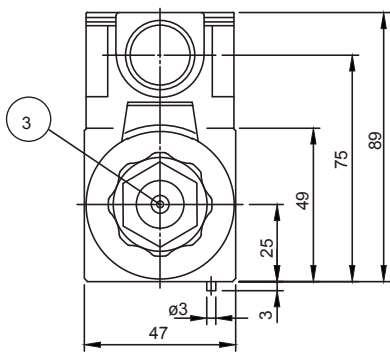
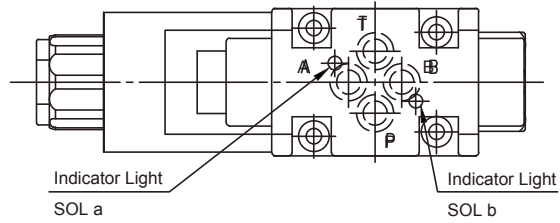
DIMENSIONS:

DC solenoid (WB Type)

■ DG03- *A-DC*-WB-82

*B

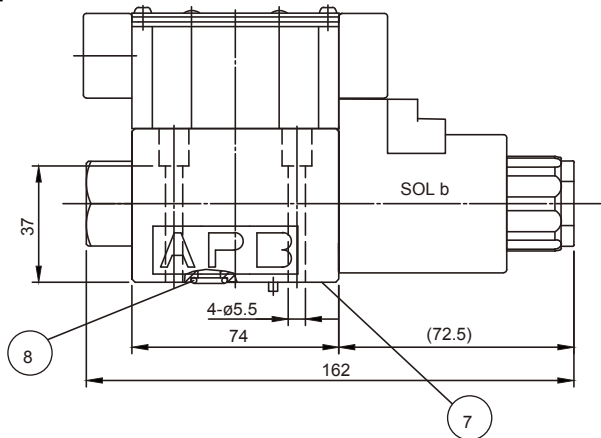
*F



■ DG03- *AL-DC*-WB-82

*BL

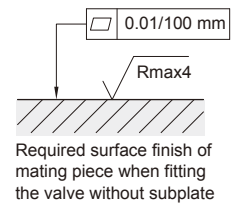
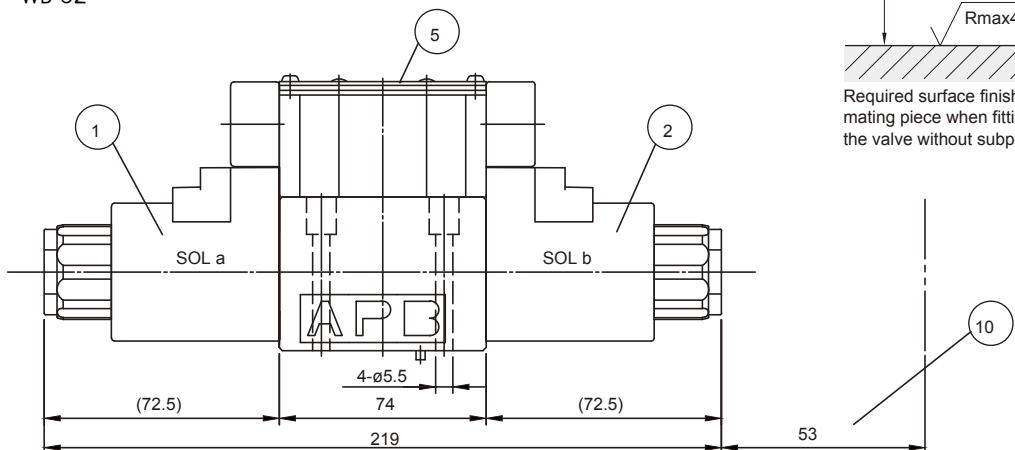
*FL



- 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 4~5 N.m
- 7: Connections to DIN 24340 (NG6, ISO 4401-AB-03-4-A); valve fixing screws M5x45; tightening torques 5~7 Nm
- 8: O-ring 1B~P9
- 9: Hex nut (for single solenoid)
- 10: Coil removable length

■ DG03- *C-DC*-WB-82

*N

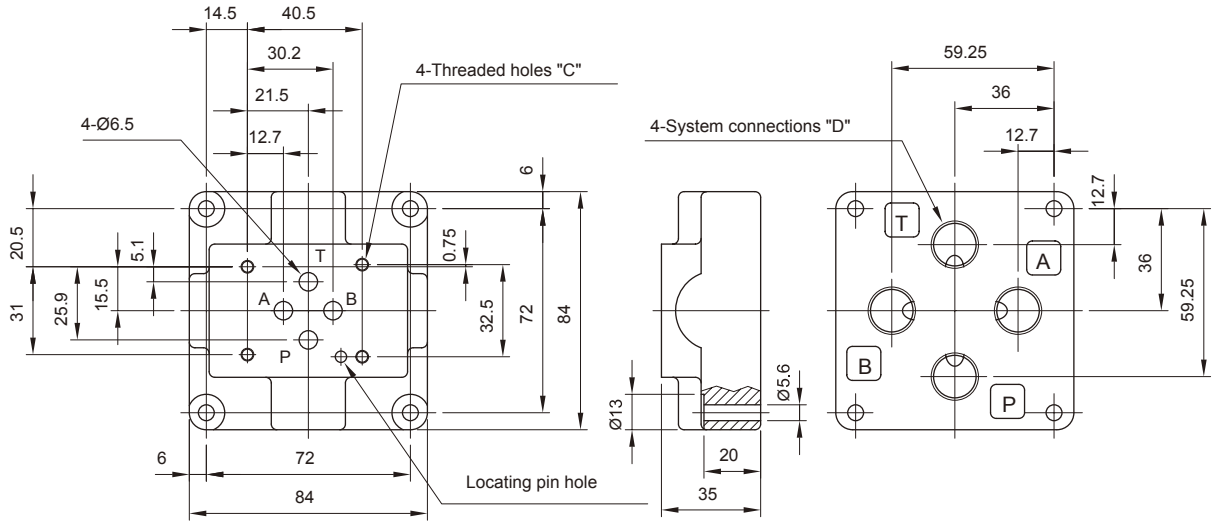


SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG03 SIZE 6

SUBPLATE DIMENSIONS:

Bottom Connection

■ DGSP-03*-*

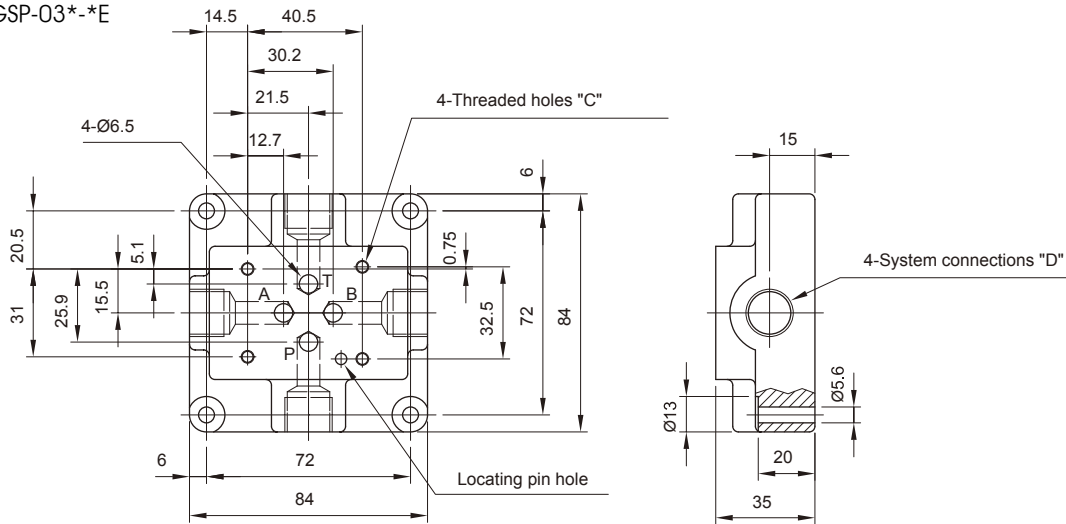


Model	C	D	Weight
DGSP-03-6		3/8" Rc	1.4 kgs
DGSP-03-8	M5x14 Deep (min)	1/2" Rc	
DGSP-03G-6	Full Thread Depth	3/8" BSP	
DGSP-03G-8		1/2" BSP	

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

Side Connection

■ DGSP-03*-*E



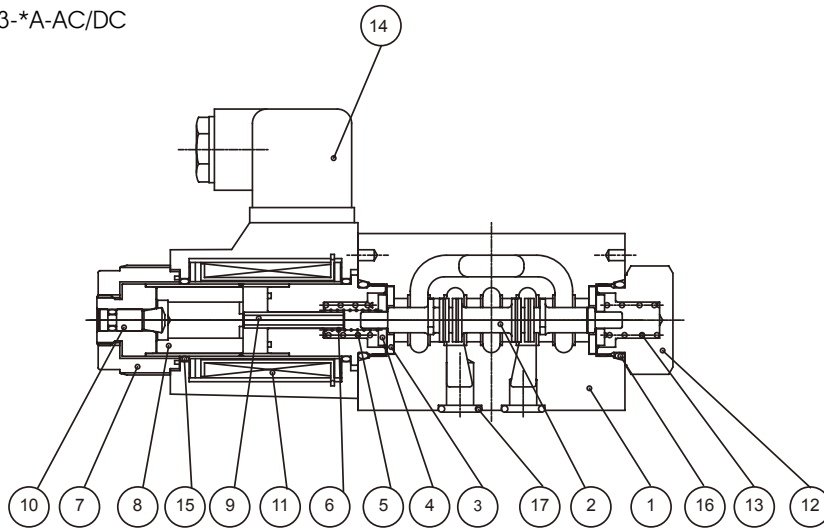
Model	C	D	Weight
DGSP-03-6E		3/8" Rc	1.4 kgs
DGSP-03-8E	M5x14 Deep (min)	1/2" Rc	
DGSP-03G-6E	Full Thread Depth	3/8" BSP	
DGSP-03G-8E		1/2" BSP	

Model	C	D	Weight
DGSP-03N-6E		3/8" NPT	1.4 kgs
DGSP-03N-8E	NO.10-24UNC-2B Thd. x 1/2" Deep	1/2" NPT	
DGSP-03S-6E	Full Thread Depth	3/8" SAE	
DGSP-03S-8E		1/2" SAE	

CROSS SECTION DIAGRAM WITH SPEC

CROSS SECTION DRAWING:

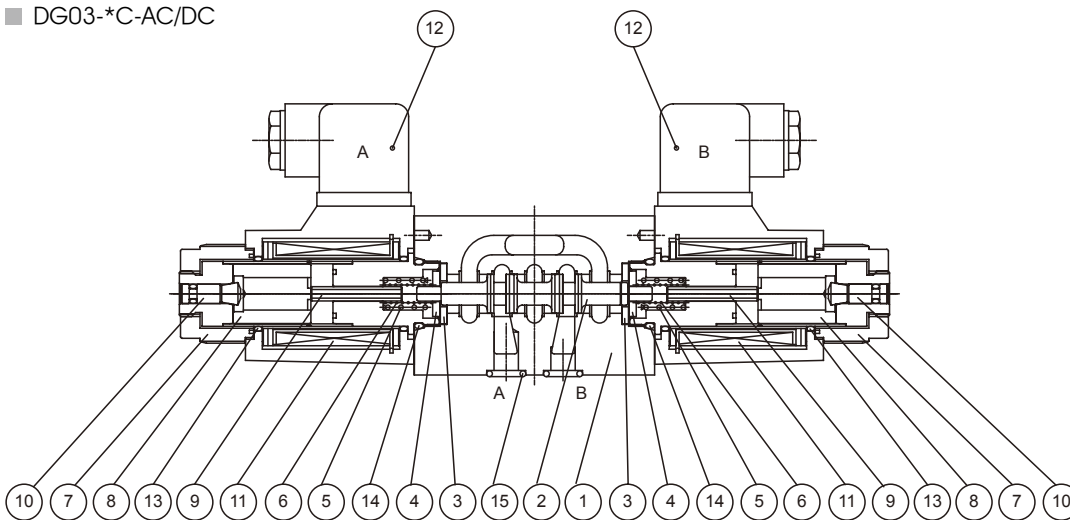
■ DG03-*A-AC/DC



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

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

■ DG03-*C-AC/DC



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

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