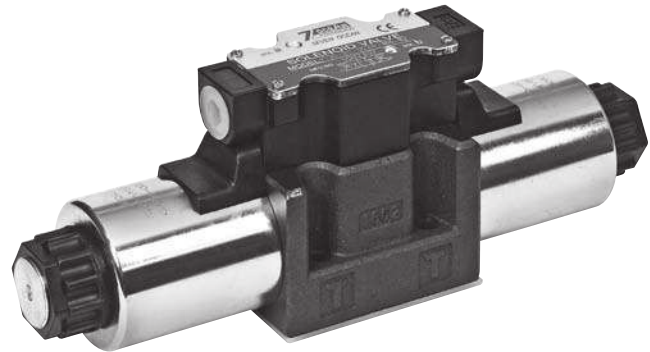


SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

A
DG05 SIZE 10

FEATURES :

- Highest performance in NG 10
- 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: DG05-* *-DC24-WB-82

SPECIFICATION :

Maximum Flow Rate		160 L/Min (42 GPM)
Maximum Operating Pressure		320 Bar (4500 PSI)
Maximum Permissible Back Pressure		160 Bar (2285 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 11 MAX
Degree of Protection		IEC 144 Class IP 65
Maximum Change over Frequency		180 Times/Min (DC)
Mounting Pattern		ISO 4401-AC-05-4-A
Approx. Weight (Kg)	Single solenoid	3.0 kg(AC) / 4.2 kg(DC)
	Double solenoid	4.0 kg(AC) / 5.8 kg(DC)
Valve Fixing Screws	Metric	M6 x 35L (4pcs)
	Inch	1/4"~20UNCx1-3/8"L (4pcs)
Tightening Torque		12~15 Nm

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

ORDERING CODE :

D G 05 - 2 C - DC24 - 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 10, CETOP 5 and ISO 4401-05 (NFPA-D05/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 DG05 SIZE 10

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)	DG05-0C 	DG05-0B 	DG05-0BL
1 (F)	DG05-1C 	DG05-1B 	DG05-1BL
2 (E)	DG05-2C 	DG05-2B 	DG05-2BL
	/	DG05-2F 	DG05-2FL
3 (L)	DG05-3C 	DG05-3B 	DG05-3BL
5	DG05-5C 	DG05-5B 	DG05-5BL
6 (J)	DG05-6C 	DG05-6B 	DG05-6BL
7 (M)	DG05-7C 	DG05-7B 	DG05-7BL
8 (G)	DG05-8C 	DG05-8B 	DG05-8BL
11 (P)	DG05-11C 	DG05-11B 	DG05-11BL
31 (U)	DG05-31C 	DG05-31B 	DG05-31BL
33 (W)	DG05-33C 	DG05-33B 	DG05-33BL

*() : Rexroth Model

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

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)		DG05-0A 	DG05-0AL
2 (E)		DG05-2A 	DG05-2AL
6 (J)		DG05-6A 	DG05-6AL
7 (M)		DG05-7A 	DG05-7AL
22 (A)		DG05-22A 	DG05-22AL

*() : 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	≤5.63	≤1.1	≤37	90~110	B	H (180°C)	>50
			60	≤4.86	≤0.7	≤32	90~110			
	A120	AC110V	50	≤5.41	≤0.9	≤41	100~120			
			60	≤5.23	≤1.0	≤38	100~120			
	A220	AC200V	50	≤4.87	≤0.8	≤40	110~130			
			60	≤2.86	≤0.5	≤39	190~210			
	A240	AC220V	50	≤2.40	≤0.4	≤33	190~210			
			60	≤2.64	≤0.45	≤42	210~230			
A240	AC240V	50	≤2.53	≤0.5	≤38	210~230				
		60	≤2.37	≤0.4	≤41	230~250				
DC	DC12	DC12V	-	-	≥3.0	≥36	11~13	B	F (140°C)	
	DC24	DC24V	-	-	≥1.5	≥36	22~26			

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

PERFORMANCE FIGURES & CURVES:

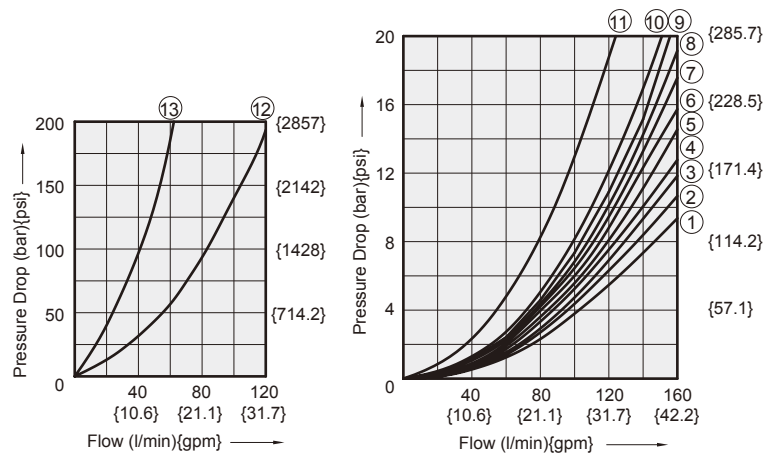
Pressure Drop Curve Reference Chart

Viscosity of Hydraulic Fluid: 36 mm²/s

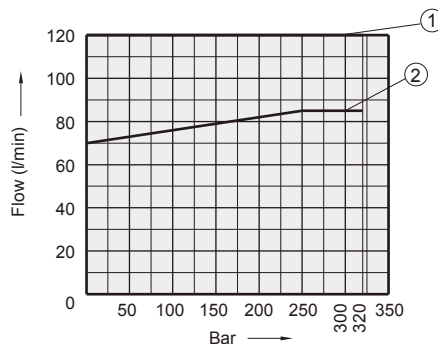
Spool Type	C, B, BL								
	Control Position				Neutral Position				
	P→A	B→T	P→B	A→T	P→T	A→T	B→T	P→A	P→B
0 (H)	7	10	7	10	8	8	8	6	6
1 (F)	6	3	9	11	10	2	-	6	-
2 (E)	5	3	5	3	-	-	-	-	-
3 (L)	5	3	5	9	-	4	-	-	-
6 (J)	5	9	5	9	-	4	4	-	-
7 (M)	6	3	6	3	-	-	-	7	7
8 (G)	1	10	1	10	11	-	-	-	-
11 (P)	9	11	6	3	10	-	2	-	6
31 (U)	5	9	5	3	-	-	4	-	-
33 (W)	5	3	5	3	-	13	13	-	-

Spool Type	A, AL			
	Control Position			
	P→A	B→T	P→B	A→T
0 (H)	6	9	6	6
2 (E)	6	3	6	3

Spool Type	N			
	Control Position			
	P→A	B→T	P→B	A→T
2 (E)	7	3	7	3



Max. Flow (L/Min) v.s. Pressure (Bar)					
Spool Type					
	0C	2C	6C	8C	2A
P→A B→T	①	①	①	②	①
P→B A→T	①	①	①	②	①



WIRING:

■ DG05-*C-DC*-WB-82

Note:

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.

■ DG05-*DC*-DN-82

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

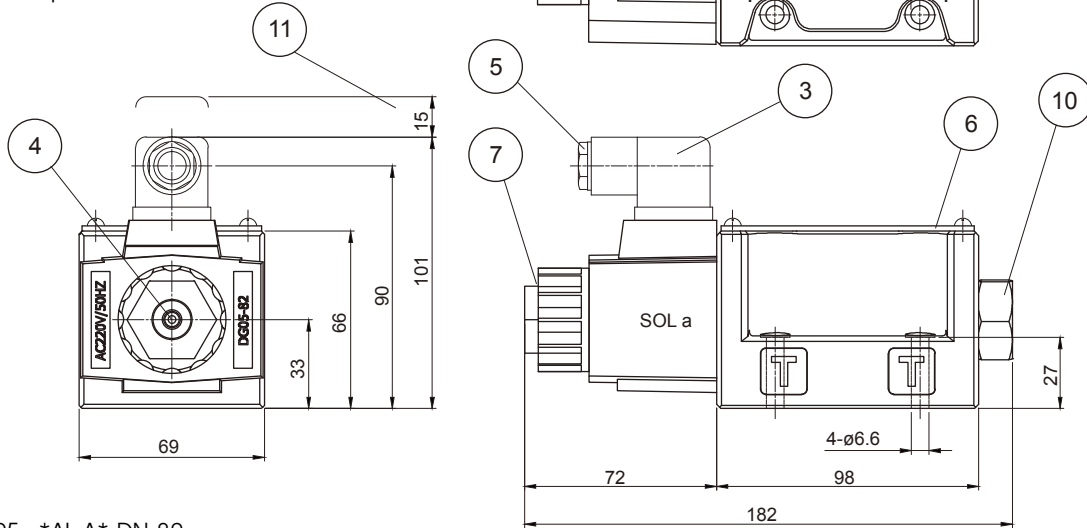
DIMENSIONS:

AC solenoid (DN Type)

■ DG05- *A-A*-DN-82

*B

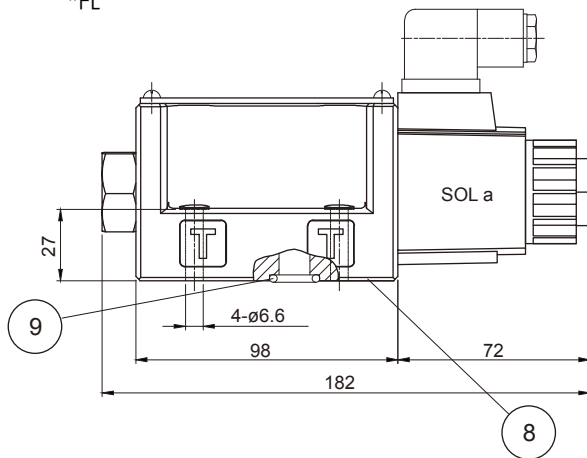
*F



■ DG05- *AL-A*-DN-82

*BL

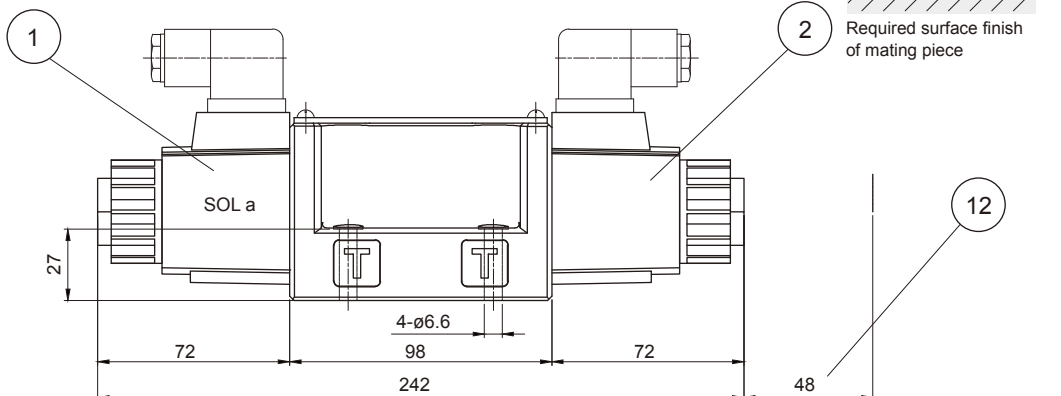
*FL



- 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 10.5 Nm
- 8: Connections to DIN 24340 (NG10, ISO 4401-AC-05-4-A); valve fixing screws M6x35; tightening torques 12~15 Nm
- 9: O-ring AS568-014 (Hs 90)
- 10: Hex nut (for single solenoid)
- 11: Space required to remove plug
- 12: Coil removable length

■ DG05- *C-A*-DN-82

*N



SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

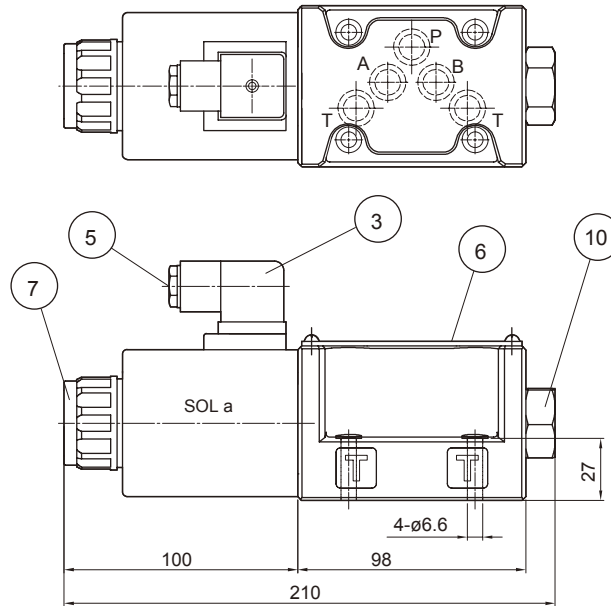
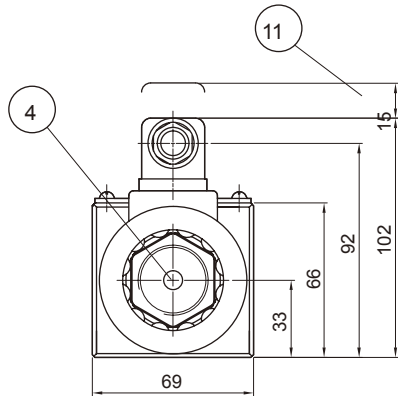
DIMENSIONS:

DC solenoid (DN Type)

■ DG05- *A-DC*-DN-82

*B

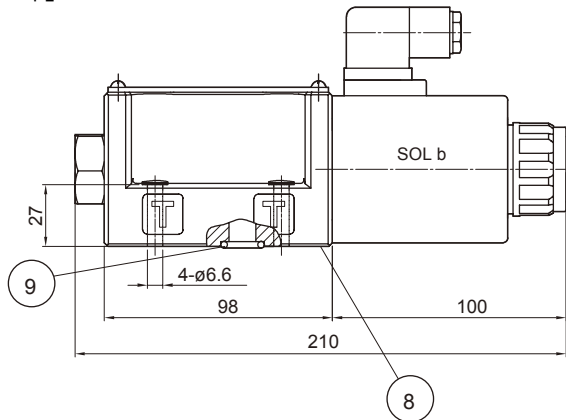
*F



■ DG05- *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 10.5m

8: Connections to DIN 24340 (NG10, ISO 4401-AC-05-4-A); valve fixing screws M6x35; tightening torques 12~15 Nm

9: O-ring AS568-014 (Hs 90)

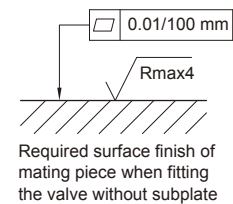
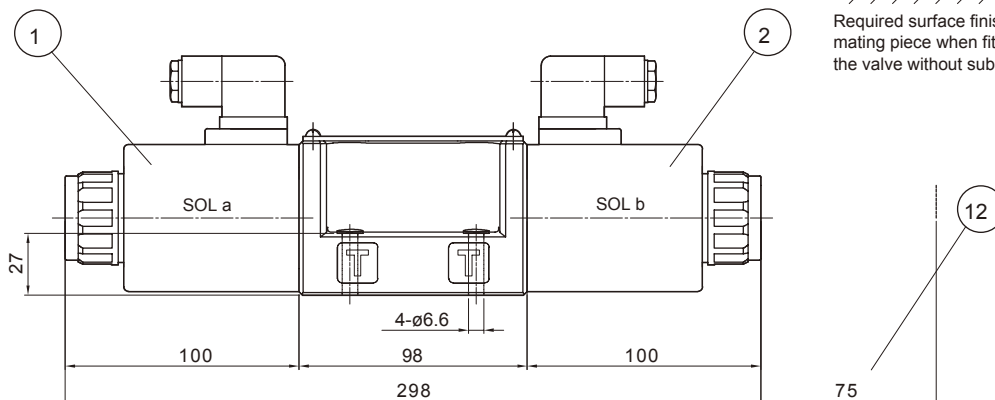
10: Hex nut (for single solenoid)

11: Space required to remove plug

12: Coil removable length

■ DG05- *C-DC*-DN-82

*N

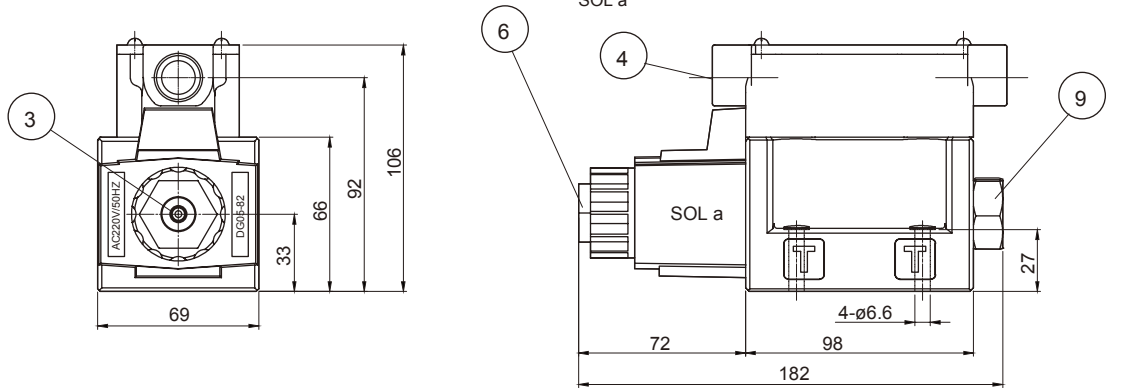


SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

DIMENSIONS:

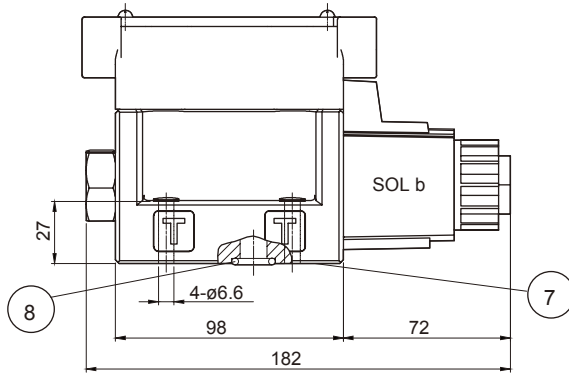
AC solenoid (WB Type)

- DG05- *A-A*-WB-82
- *B
- *F



- DG05- *AL-A*-WB-82

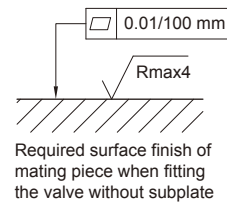
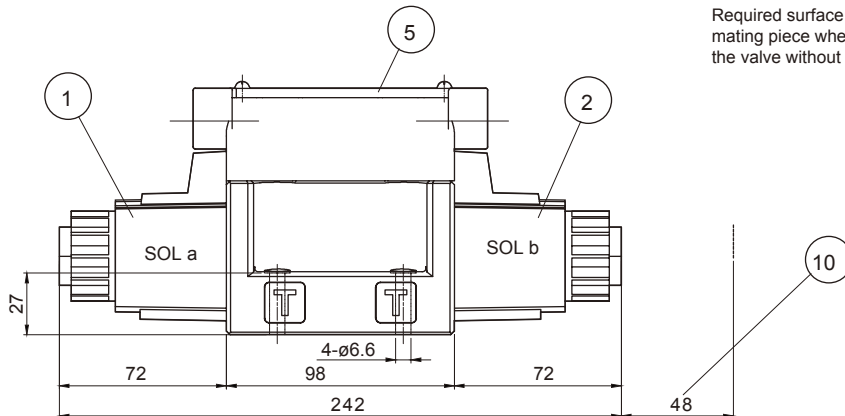
- *BL
- *FL



- 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 10.5 Nm
- 7: Connections to DIN 24340 (NG10, ISO 4401-AC-05-4-A); valve fixing screws M6x35; tightening torques 12~15 Nm
- 8: O-ring AS568-014 (Hs 90)
- 9: Hex nut (for single solenoid)
- 10: Coil removable length

- DG05- *C-A*-WB-82

- *N



SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

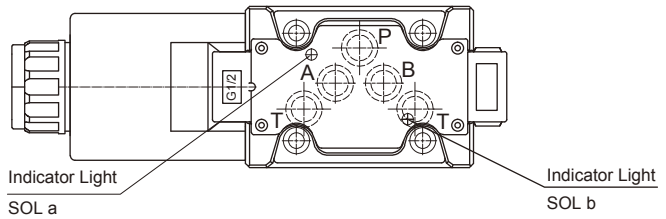
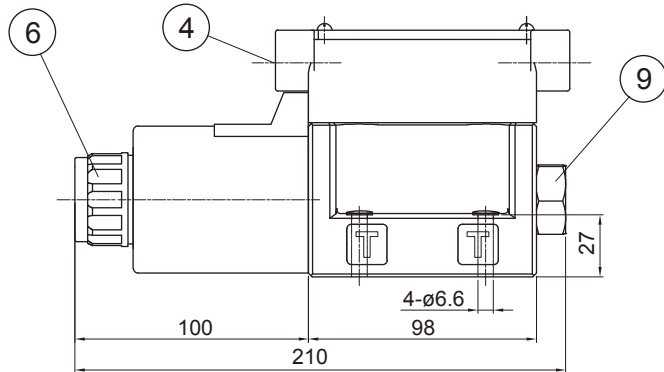
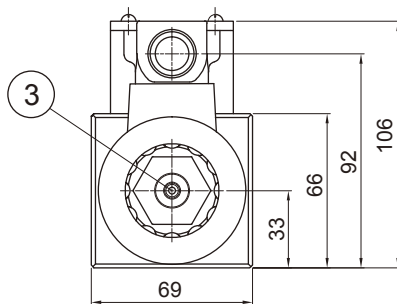
DIMENSIONS:

DC solenoid (WB Type)

■ DG05- *A-DC*-WB-82

*B

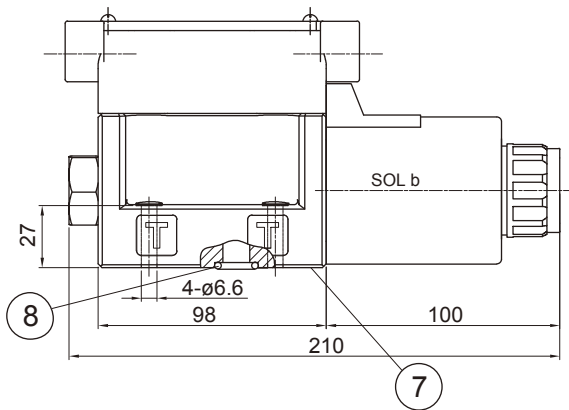
*F



■ DG05- *AL-DC*-WB-82

*BL

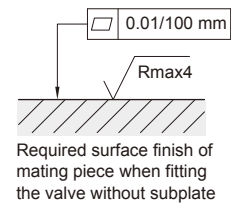
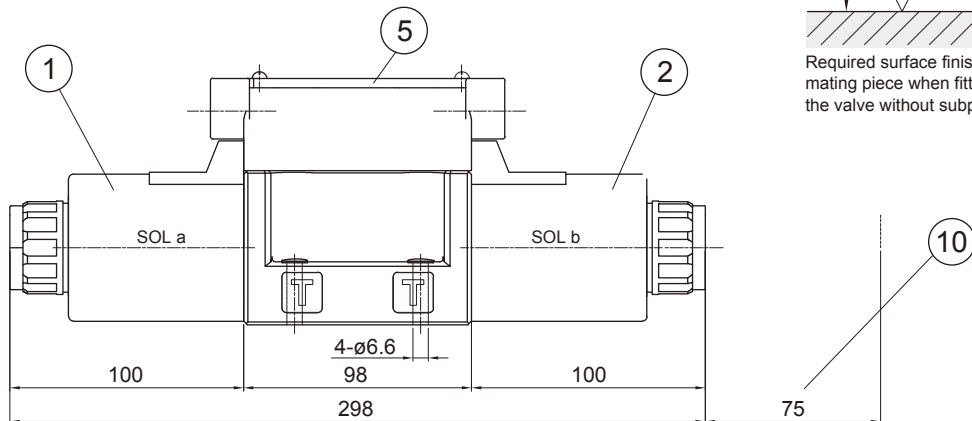
*FL



- 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 10.5 Nm
- 7: Connections to DIN 24340 (NG10, ISO 4401-AC-05-4-A); valve fixing screws M6x35; tightening torques 12~15 Nm
- 8: O-ring AS568-014 (Hs 90)
- 9: Hex nut (for single solenoid)w
- 10: Coil removable length

■ DG05- *C-DC*-WB-82

*N

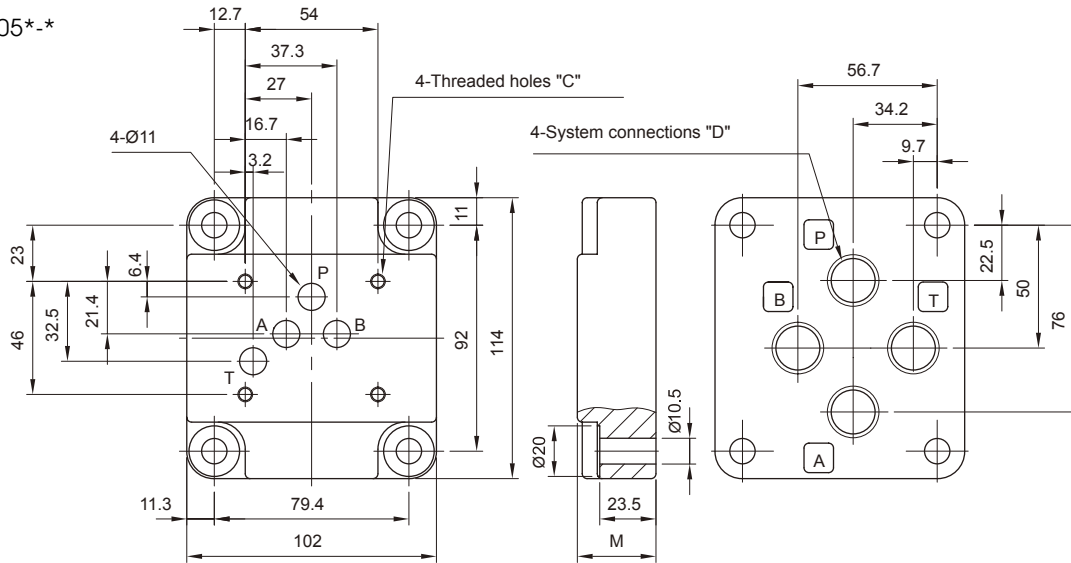


SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DG05 SIZE 10

SUBPLATE DIMENSIONS:

Bottom Connection

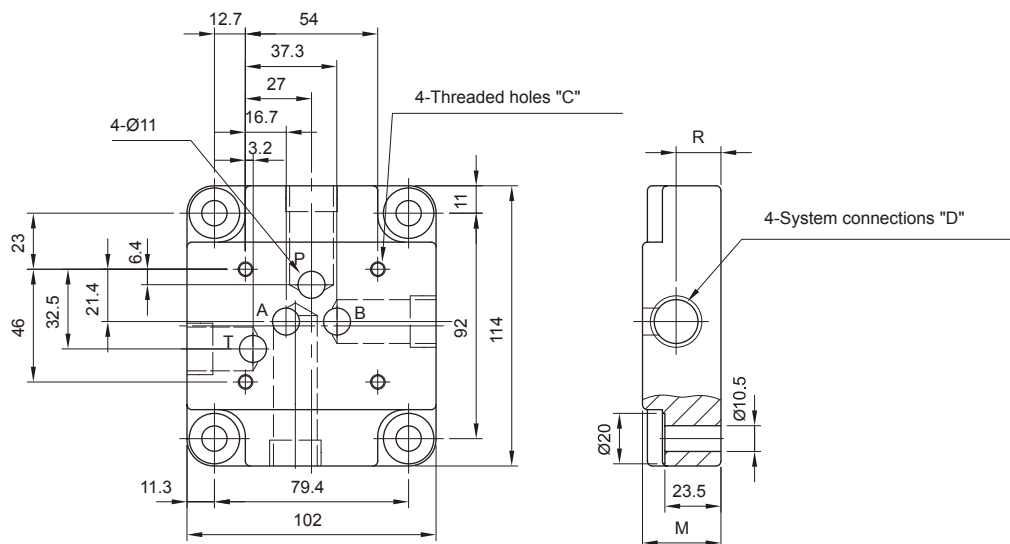
■ DGSP-05*-*



Model	C	D	M	Weight	Model	C	D	M	Weight
DGSP-05-8		1/2" Rc	32	2.1 kgs	DGSP-05N-8	1/4"~20UNC-2B	1/2" NPT	32	2.1 kgs
DGSP-05-12	M6x14 Deep (min)	3/4" Rc	38	2.4 kgs	DGSP-05N-12	Thd. x 1/2" Deep	3/4" NPT	38	2.4 kgs
DGSP-05G-8	Full Thread Depth	1/2" BSP	32	2.1 kgs	DGSP-05S-8	Full	1/2" SAE	32	2.1 kgs
DGSP-05G-12		3/4" BSP	38	2.4 kgs	DGSP-05S-12	Thread Depth	3/4" SAE	38	2.4 kgs

Side Connection

■ DGSP-05*-*E



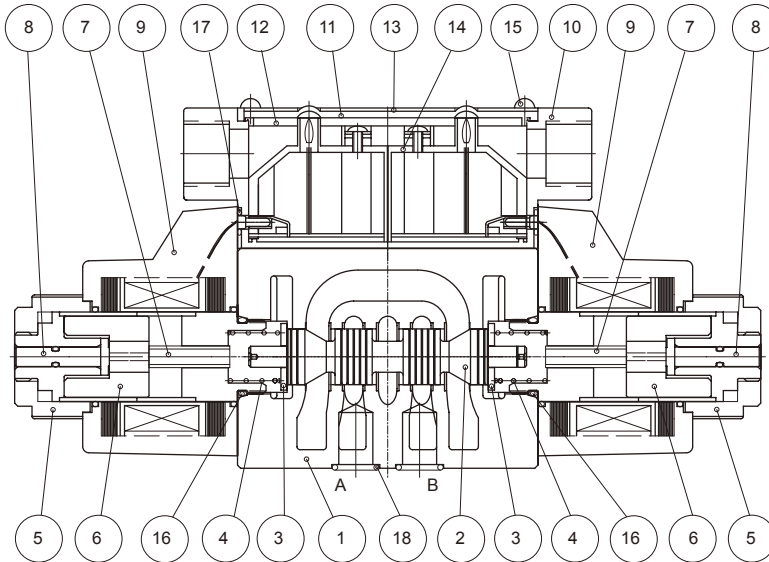
Model	C	D	M	R	Weight	Model	C	D	M	R	Weight
DGSP-05-8E		1/2" Rc	32	16	2.1 kgs	DGSP-05N-8E	1/4"~20UNC-2B	1/2" NPT	32	16	2.1 kgs
DGSP-05-12E	M6x14 Deep (min)	3/4" Rc	38	18	2.4 kgs	DGSP-05N-12E	Thd. x 1/2" Deep	3/4" NPT	38	18	2.4 kgs
DGSP-05G-8E	Full Thread Depth	1/2" BSP	32	16	2.1 kgs	DGSP-05S-8E	Full	1/2" SAE	32	16	2.1 kgs
DGSP-05G-12E		3/4" BSP	38	18	2.4 kgs	DGSP-05S-12E	Thread Depth	3/4" SAE	38	18	2.4 kgs

CROSS SECTION DIAGRAM WITH SPEC

A
DG05 SIZE 10

CROSS SECTION DRAWING:

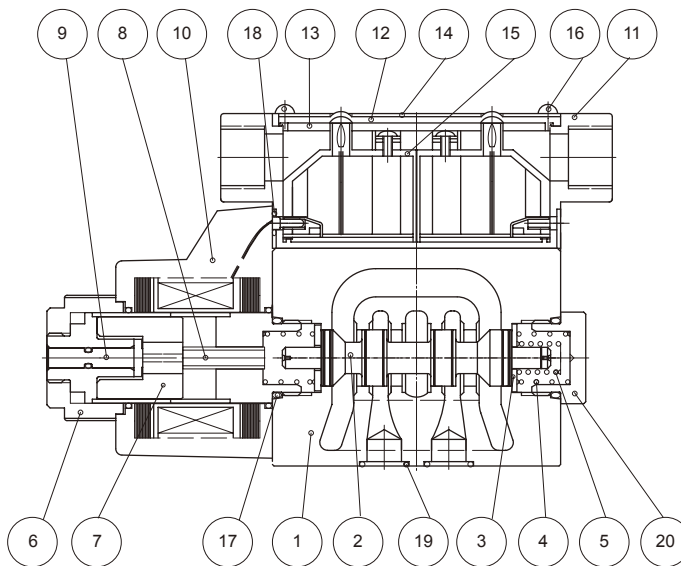
■ DG05-*C-AC/DC



NO.	parts name
1	body
2	spool
3	retainer
4	spring
5	nut
6	plunger
7	push pin
8	pin
9	coil
10	box
11	plate
12	packing
13	name plate
14	terminal
15	tap screw
16	O-ring
17	O-ring
18	O-ring

NO.	PARTS NAME	PARTS NO.	Q'TY
16	O-ring	P22 N90	2
17	O-ring	P4 N70	4
18	O-ring	AS568-014 N90	5

■ DG05-*A-AC/DC



NO.	parts name
1	body
2	spool
3	retainer
4	spring
5	spring
6	nut
7	plunger
8	push pin
9	pin
10	coil
11	box
12	plate
13	packing
14	name plate
15	terminal
16	tap screw
17	O-ring
18	O-ring
19	O-ring
20	plug

NO.	PARTS NAME	PARTS NO.	Q'TY
17	O-ring	P22 N90	2
18	O-ring	P4 N70	2
19	O-ring	AS568-014 N90	5



A series of horizontal dashed lines for writing, spanning the width of the page.