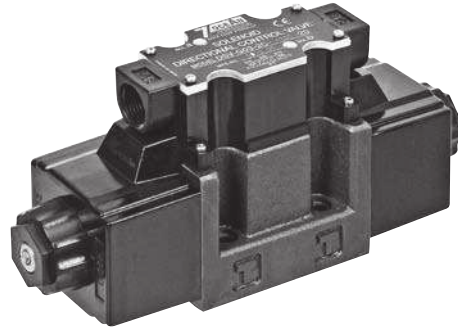


SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DSV / DSD-G03 SIZE 10

A
DSV / DSD-G03 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



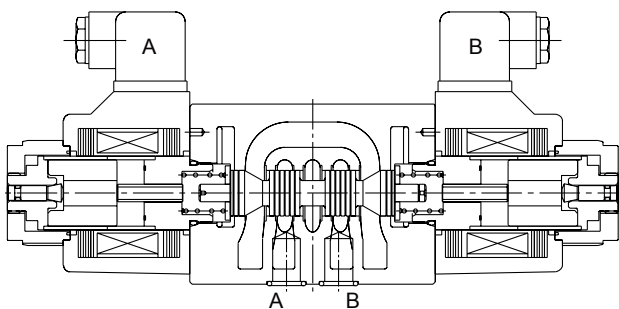
Model: DSV-G03-* *-A220-20

SPECIFICATION :

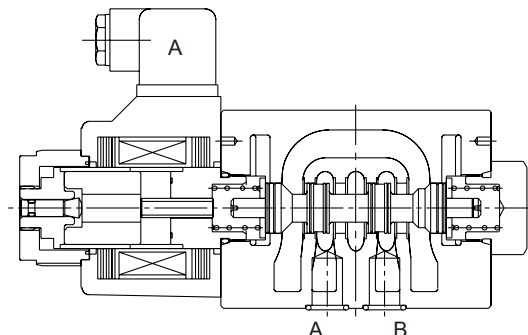
Maximum Flow Rate		160 L/Min (42 GPM)
Maximum Operating Pressure		250 Bar (3571 PSI)
Maximum Permissible Back Pressure		160 Bar (2285 PSI)
Ambient Temperature Range		-15°C ~ +50°C
Hydraulic Fluid Temperature		-15°C ~ +70°C
Viscosity Range		15~400 mm ² /s
Hydraulic Oil		ISO VG32, 46, 68
Fluid Cleanliness		25 μm
Degree of Protection		IEC 144 Class IP 65
Maximum Change over Frequency		180 Times/Min (AC/DC)
		120 Times/Min (RF)
Mounting Pattern		ISO 4401-AC-05-4-A
Approx. Weight (Kg)	Single solenoid	4.4 kg(DC/RF) / 3.6 kg(AC)
	Double solenoid	6.1 kg(DC/RF) / 4.6 kg(AC)
Valve Fixing Screws	Metric	M6 x 35L (4pcs)
	Inch	1/4"~20UNCx1-3/8"L (4pcs)
Tightening Torque		12~15 Nm

CROSS SECTION DIAGRAM:

■ DSD-G03-2C-A*-31



■ DSD-G03-2A-A*-31



SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DSV / DSD-G03 SIZE 10

ORDERING CODE :

DSV - G 03 - 2 C - A110 - 20 - **
 1 2 3 4 5 6 7 8

1 DIRECTIONAL CONTROL VALVE

DSV: Wiring housing with G1/2 thread and indicator light
 DSD: DIN 43650 Coils

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 DESIGN NUMBER

10: Old Design Number
 20: New Design Number
 31: Connector with indicator light

8 OPTIONAL INQUIRY

LS: Surge Killer

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DSV / DSD-G03 SIZE 10

A
DSV / DSD-G03 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)	DSV-G03-0C 	DSV-G03-0B 	DSV-G03-0BL
1 (F)	DSV-G03-1C 	DSV-G03-1B 	DSV-G03-1BL
2 (E)	DSV-G03-2C 	DSV-G03-2B 	DSV-G03-2BL
	/		DSV-G03-2F
3 (L)	DSV-G03-3C 	DSV-G03-3B 	DSV-G03-3BL
5	DSV-G03-5C 	DSV-G03-5B 	DSV-G03-5BL
6 (J)	DSV-G03-6C 	DSV-G03-6B 	DSV-G03-6BL
7 (M)	DSV-G03-7C 	DSV-G03-7B 	DSV-G03-7BL
8 (G)	DSV-G03-8C 	DSV-G03-8B 	DSV-G03-8BL
11 (P)	DSV-G03-11C 	DSV-G03-11B 	DSV-G03-11BL
31 (U)	DSV-G03-31C 	DSV-G03-31B 	DSV-G03-31BL
33 (W)	DSV-G03-33C 	DSV-G03-33B 	DSV-G03-33BL

* () : Rexroth Model

SOLENOID OPERATED

DIRECTIONAL CONTROL VALVE DSV / DSD-G03 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)	 DSV-G03-2N	DSV-G03-0A 	DSV-G03-0AL
2 (E)		DSV-G03-2A 	DSV-G03-2AL
6 (J)		DSV-G03-6A 	DSV-G03-6AL
7 (M)		DSV-G03-7A 	DSV-G03-7AL
22 (A)		DSV-G03-22A 	DSV-G03-22AL

*() : Rexroth Model

FEATURES OF ELECTRO-MAGNETIC COIL :

Solenoid Classification	Power Source	Voltage (V)	Frequency (Hz)	Holding Current (A)	Inrush Current (A)	Holding Power (W)	Permissible Voltage (V)	Insulation Grade	Coil Insulation Class	Insulation Resistance (MΩ)
AC	A110	AC100V	50	1.28	5	45.4	90~110	B	H (180°C)	>50
			60	1.09	4.24	26.2	90~110			
	A120	AC110V	60	1.07	4.66	38.6	100~120			
			50	1.08	4.70	46.6	100~120			
	A220	AC200V	50	0.68	2.66	47.4	190~210			
			60	0.55	2.34	31.9	190~210			
		AC220V	60	0.40	2.35	45	210~230			
			50	0.41	2.35	59.3	210~230			
A240	AC240V	50	0.41	2.35	59.3	210~230				
		60	0.44	2.38	65.9	230~250				
DC	DC12	DC12V	-	2.58	-	29.2	10.8~13.2	B	H (180°C)	>50
	DC24	DC24V	-	1.48	-	35.1	21.6~26.4			
RF	R110	AC110V, 60HZ DC99V		0.42	-	41	90~110	B	H (180°C)	>50
	R220	AC220V, 60HZ DC198V		0.21	-	41	190~220			

SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DSV / DSD-G03 SIZE 10

PERFORMANCE FIGURES & CURVES:

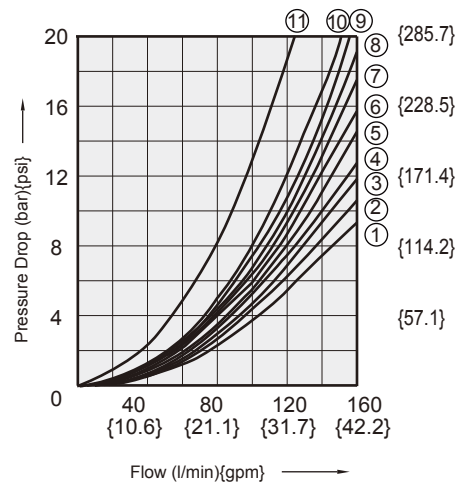
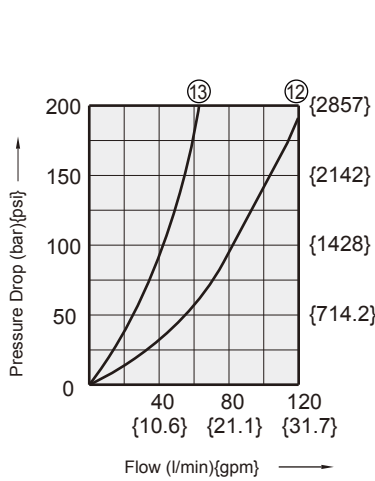
Pressure Drop Curve Reference Chart

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



WIRING:

<p>■ DSV-G03-*C-*-20</p>	<p>■ DSD-G03-*-*-31</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

DSV / DSD-G03 SIZE 10

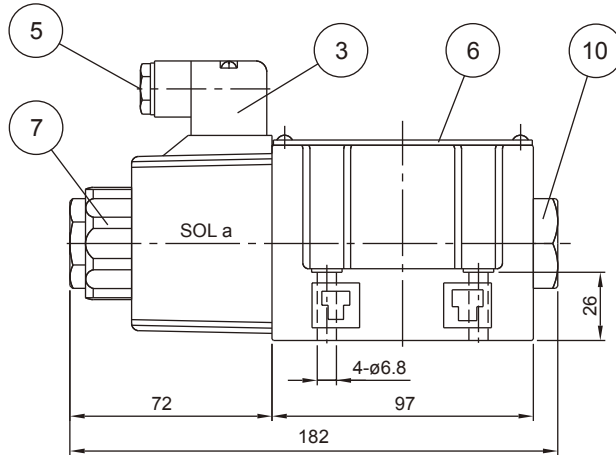
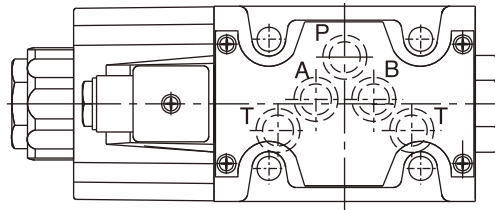
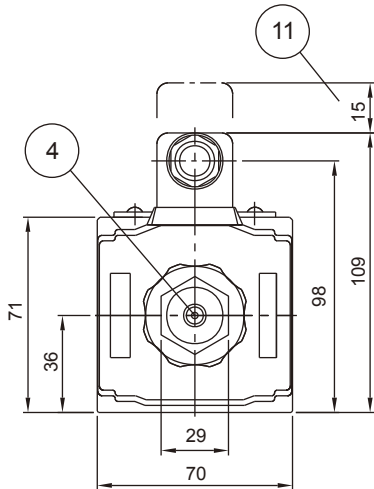
DIMENSIONS:

AC solenoid (DSD Type)

■ DSD-G03- *A-A*-31

*B

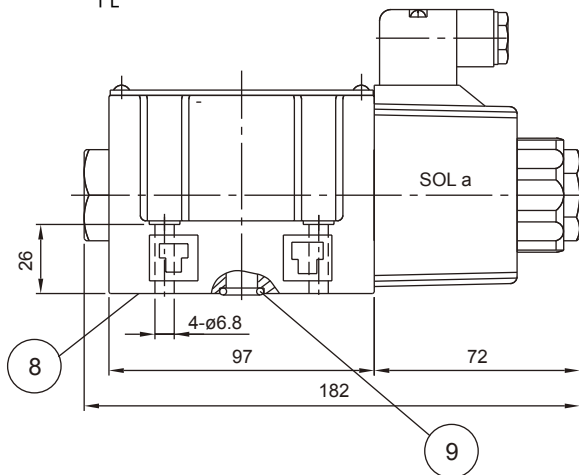
*F



■ DSD-G03- *AL-A*-31

*BL

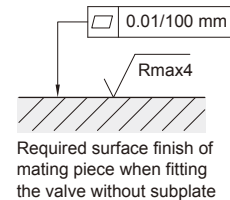
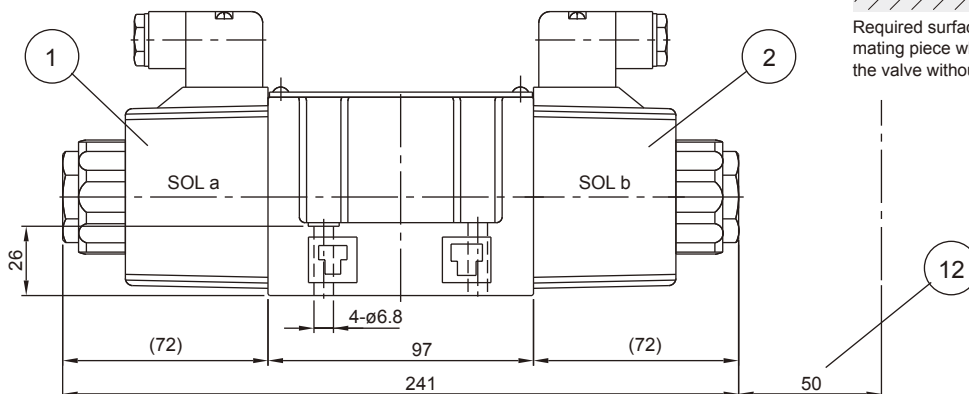
*FL



- 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 $\varnothing 8 \sim 10$ 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

■ DSD-G03- *C-A*-31

*N



SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DSV / DSD-G03 SIZE 10

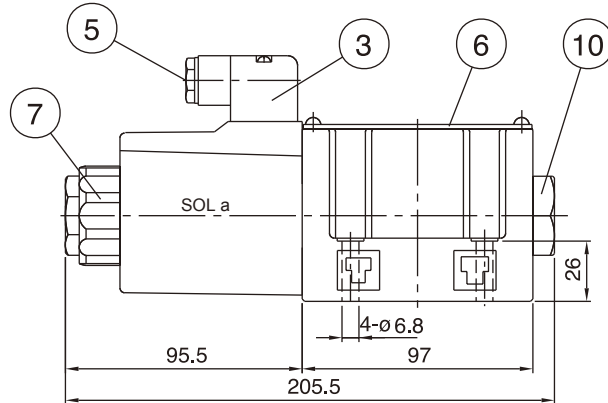
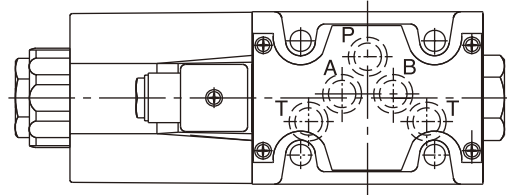
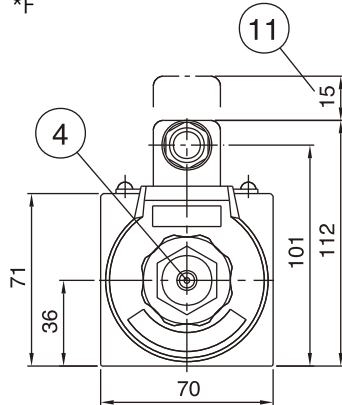
DIMENSIONS:

DC solenoid (DSD Type)

■ DSD-G03- *A-DC*-31

*B

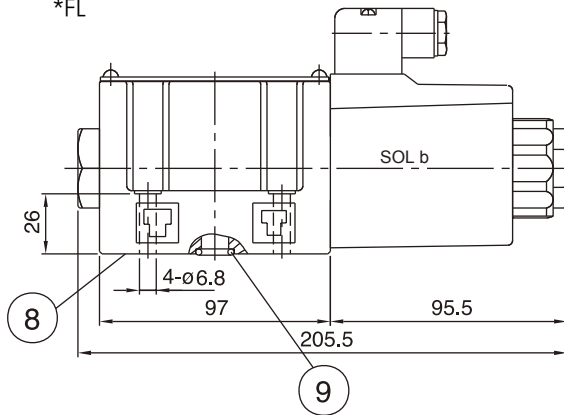
*F



■ DSD-G03- *AL-DC*-31

*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 $\varnothing 8 \sim 10$ 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)

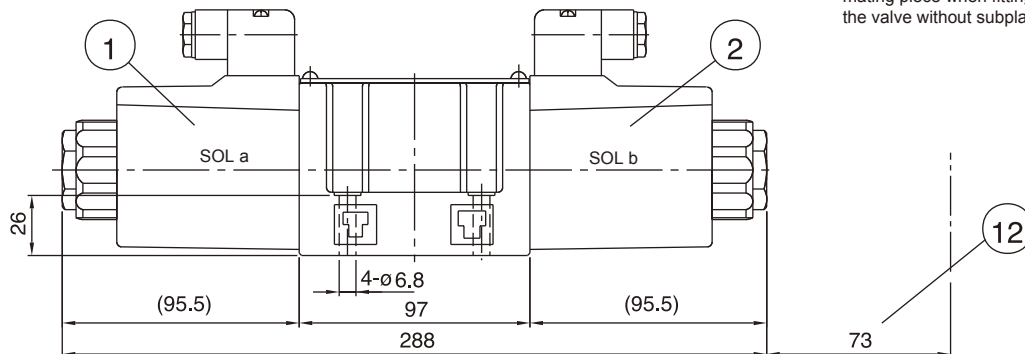
10: Hex nut (for single solenoid)

11: Space required to remove plug

12: Coil removable length

■ DSD-G03- *C-DC*-31

*N



0.01/100 mm

Rmax4

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

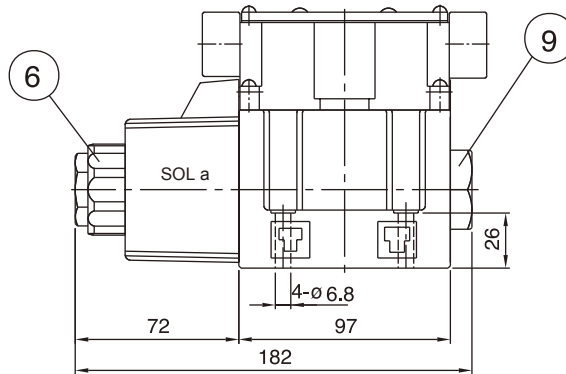
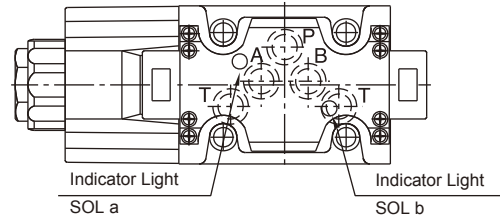
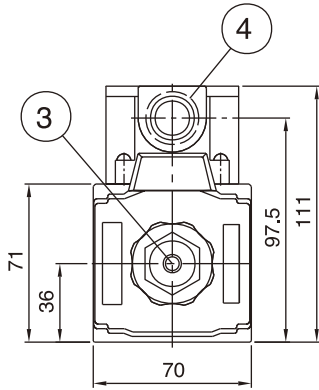
SOLENOID OPERATED DIRECTIONAL CONTROL VALVE

DSV / DSD-G03 SIZE 10

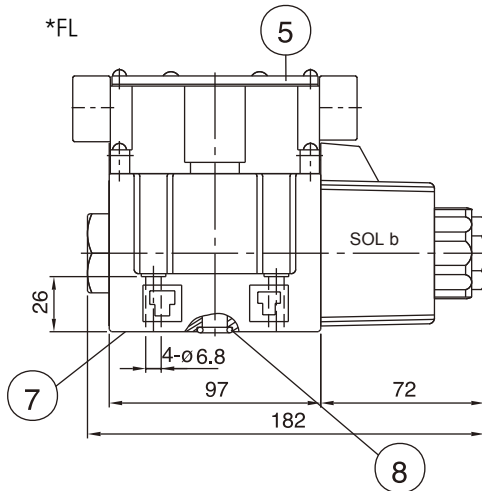
DIMENSIONS:

AC solenoid (DSV Type)

- DSV-G03- *A-A*-20
- *B
- *F

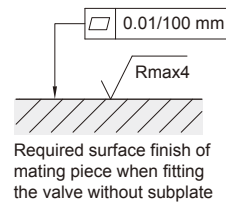
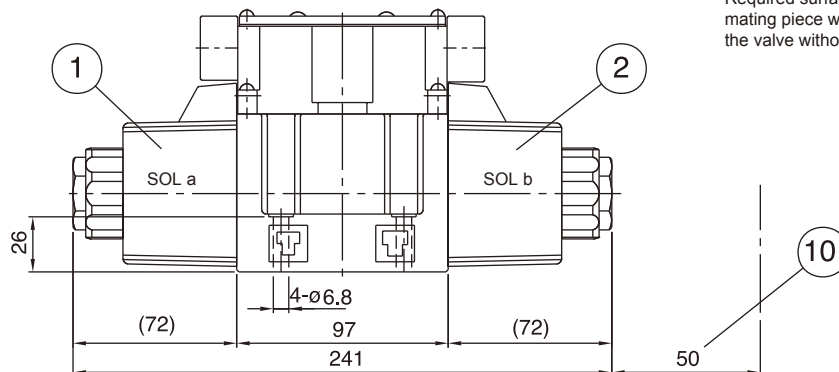


- DSV-G03- *AL-A*-20
- *BL
- *FL



- 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

- DSV-G03- *C-A*-20
- *N



SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DSV / DSD-G03 SIZE 10

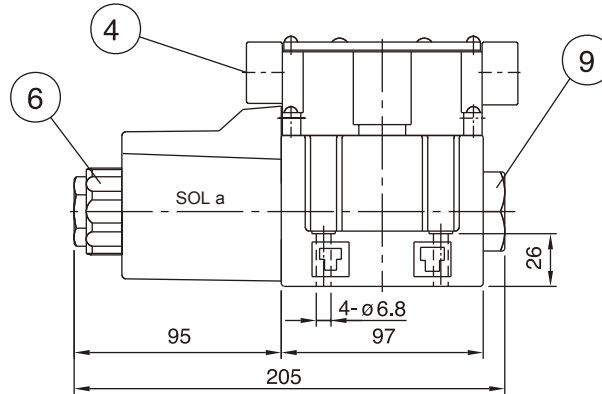
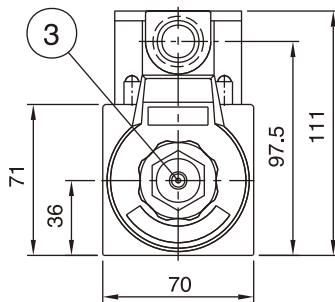
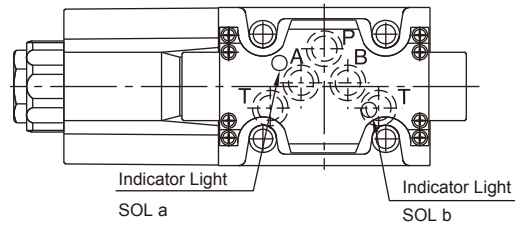
DIMENSIONS:

DC solenoid (DSV Type)

■ DSV-G03- *A-DC*-20

*B

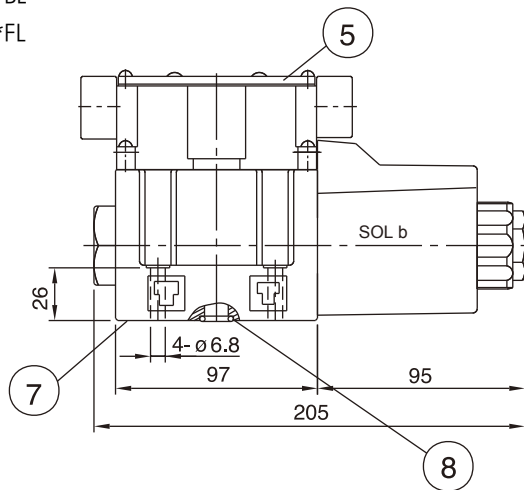
*F



■ DSV-G03- *AL-DC*-20

*BL

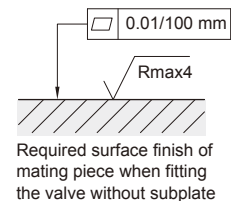
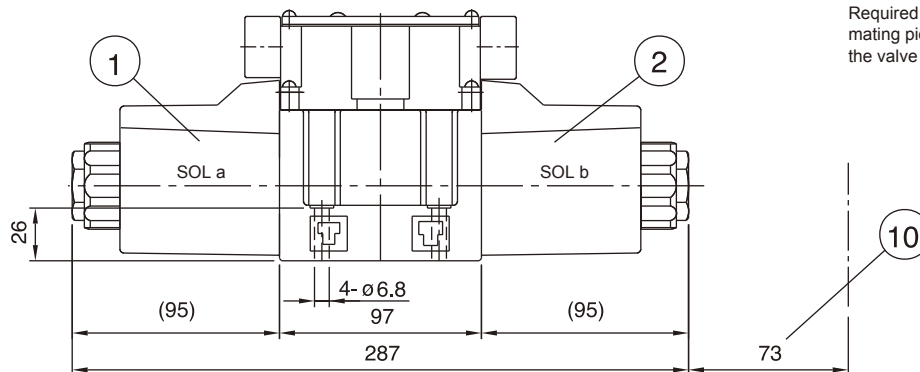
*FL



- 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

■ DSV-G03- *C-DC*-20

*N

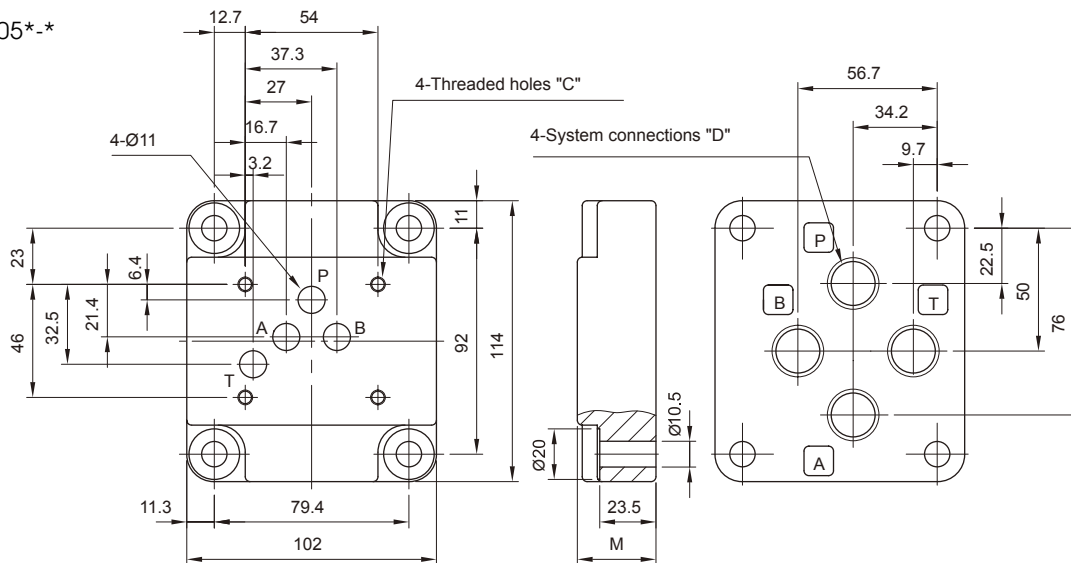


SOLENOID OPERATED DIRECTIONAL CONTROL VALVE DSV / DSD-G03 SIZE 10

SUBPLATE DIMENSIONS:

Bottom Connection

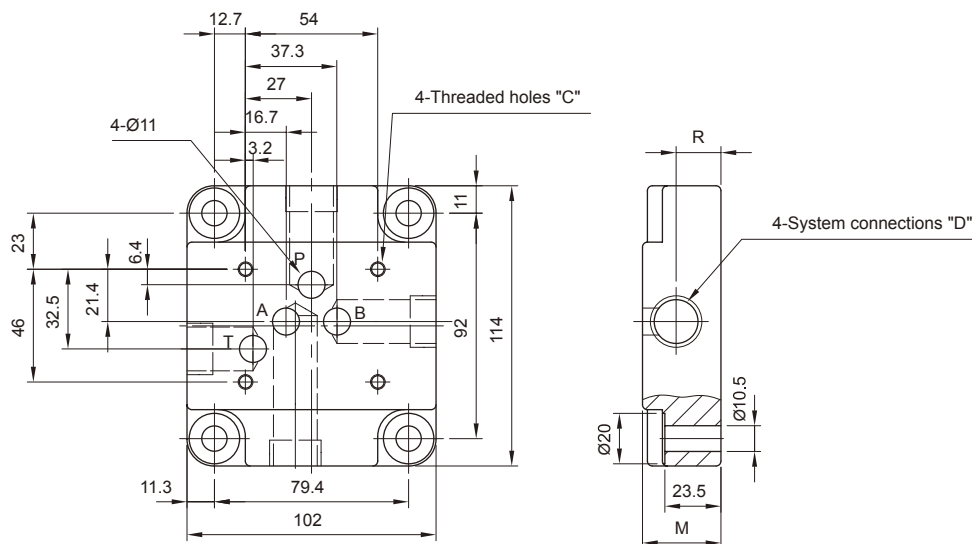
■ DGSP-05*-*



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