



### SED Series (Wiring System: DIN Connector Type) Lower Power Solenoid Valve

40ℓ/min  
16MPa

### Features

#### ① Low current, low power

The SED series magnetic switching valve's solenoid has significantly lower power consumption.

#### ② Directly drivable by a programmable controller

Low-current operation means not only allows direct drive by a programmable controller (PC) output circuit, it also enables the use of a compact and simple control circuit.

#### ③ Little coil temperature rise

Low power operation means there is little heat generated from the coil, which minimizes the effects of heat on mechanisms. Even with the AC solenoid, there is little chance of coil burnout.

#### ④ Easy coil replacement

A DIN connector type coil enables one-touch coil replacement.

#### ⑤ Global compliance (G01 size)

Meets overseas safety standards TÜV (CE marking). Can be used safely around the world.

### Specifications

Operation Symbol	JIS Symbol	SED-G01-**-*(G)R-**-40	
		Maximum Flow Rate ℓ/min	Maximum Working Pressure MPa(kgf/cm <sup>2</sup> )
A2X		30	16 {163}
A3X			
H3X		40	
E3X			
C4		30	
C5			
C6			

Note) The maximum flow rate of each valve depends on the pressure. For details, see page E-36.

#### ● Handling

① In order to realize the full benefits of the solenoid valve, configure piping so oil is constantly supplied to the T(DR) port.

② Ensure that surge pressure in excess of the maximum allowable back pressure can be accidentally at the T port.

③ Note that the maximum flow rate is limited when used as a four-way valve, or by blocking ports for use as a two-way valve or oneway valve.

④ Always keep the operating fluid clean. Allowable contamination is class NAS12 or less.

⑤ When using petroleum type operating fluid, use JIS K 2213 Class 1 or Class 2, or equivalent.

⑥ Use the SA series solenoid valve if using flame resistant operating fluid.

⑦ Be sure to note the allowable pressure range of the coil being used.

⑧ Maintaining a switching position under high pressure for a long period can cause abnormal operation due to hydraulic lockup. Contact your agent when you need to maintain a switching position for a long period.

⑨ When using a detent type (E3X), provide constant energization when secure maintenance of the switching position is required.

⑩ Note that manual pin operating pressure changes in accordance with tank line back pressure.

⑪ If you select the DC solenoid (D2 power model), reverse surge voltage occurs because there is no diode mounted in the DIN connector.

Therefore, install solenoid valves to protect against current back surge on both ends of the coil in the output circuit of the programmable controller (PC) if directly operating the solenoid valves. (Recommended diode: Hitachi V07J or equivalent)

#### ● Solenoid Assembly Specifications

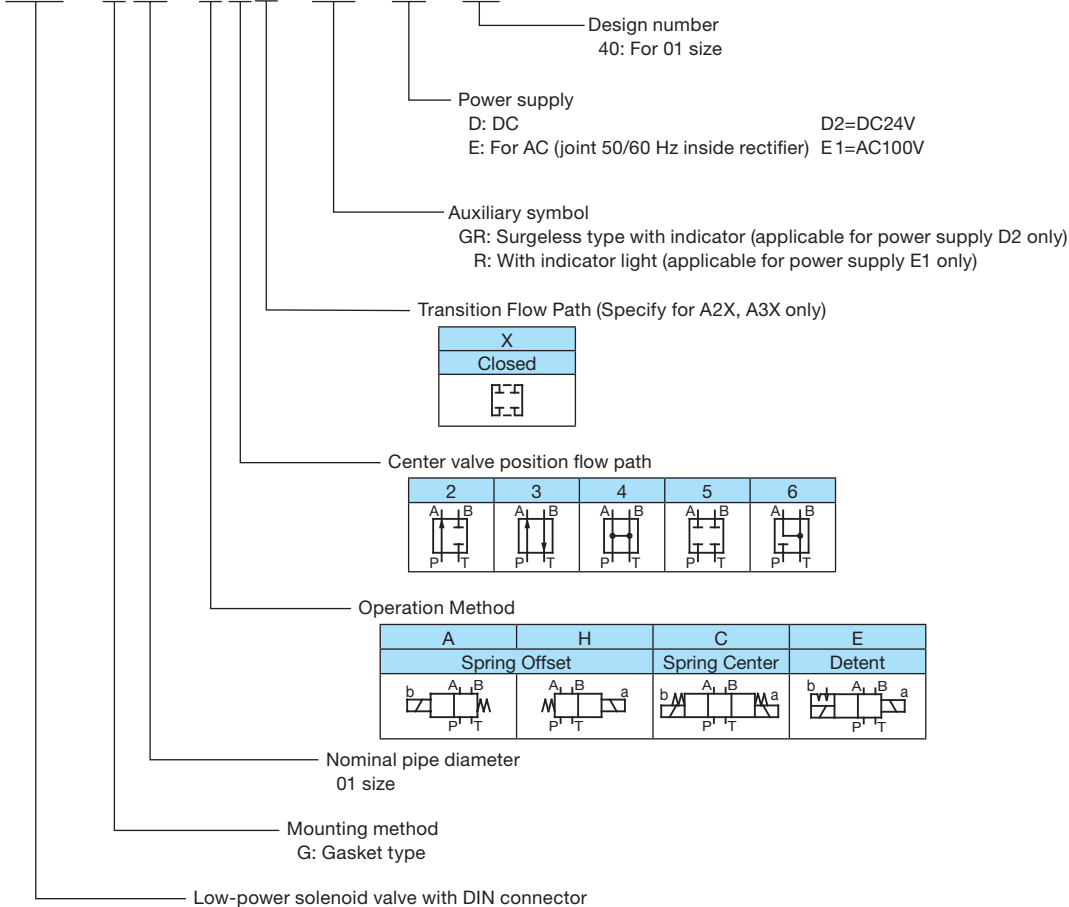
Solenoid Type	Power Supply Type	Voltage (V)	Frequency (Hz)	For SED-G01			
				Solenoid Coil Type	Holding Current (A)	Holding Power (W)	Allowable Voltage Range (V)
Built-in rectifier type AC	E1	AC100	50	EED64-E1D	0.08	7.0	80 to 120
			60				
DC	D2	DC24	-	EED64-D2D	0.2	4.8	21.6 to 26.4

Solenoid Type		SED-G01		
		DC Solenoid	Internal DC solenoid for rectifier	
		D2	E1	
Maximum Working Pressure	P, A, B Ports	16MPa{163kgf/cm <sup>2</sup> }		
Maximum Allowable Backpressure	T port	16MPa{163kgf/cm <sup>2</sup> }		
Changeover Frequency (per minute)		120		
Standard	Indicator light Surgeless	GR	R	
Weight (kg)	Double Solenoid	2.2		
	Single Solenoid	1.7		
Operating Environment	Dust Resistance/Water Resistance Rank	JIS C0920 IP65 (Dust-tight, Waterjet-proof)		
	Ambient Temperature	-20 to 50°C		
	Operating Fluid	Temperature Range	-20 to 70°C	
		Kinematic Viscosity Range	15 to 300mm <sup>2</sup> /s	
	Filtration	25 μm or less		
Bundled Accessories	Mounting bolt	Refer to page D-93 for bolt lengths for usage of M5 x 45 4-module valves.		
	Tightening Torque	5 to 7N·m {51 to 71kgf·cm}		

Note) For mounting bolts, use bolts of 12.9 strength classification or equivalent.

### Explanation of model No.

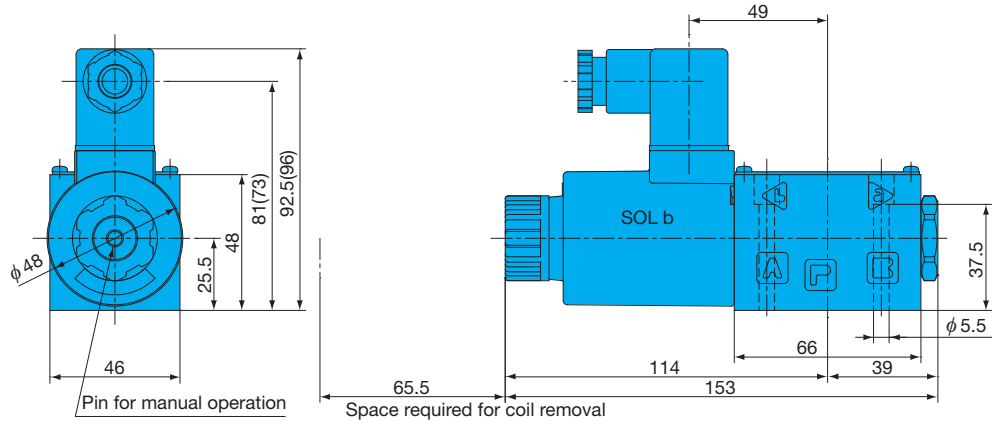
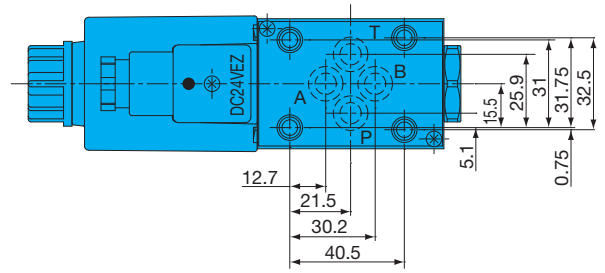
**SED - G 01 - A 3 X - GR - D2 - 40**



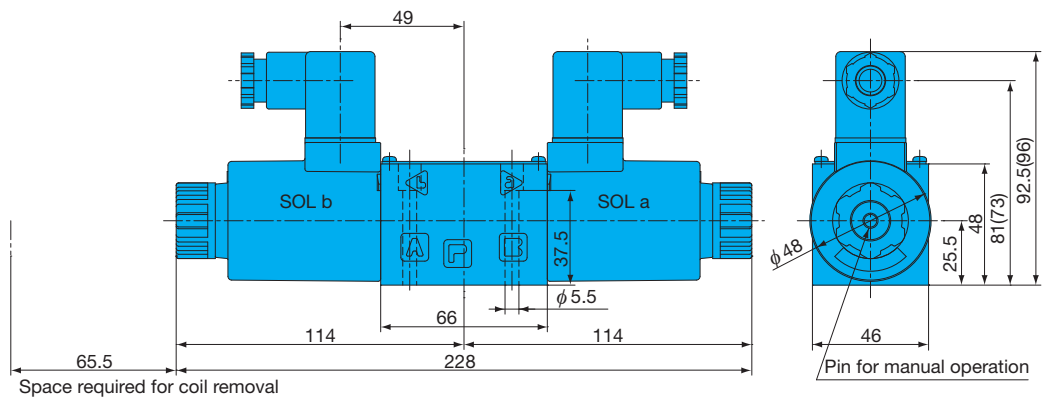
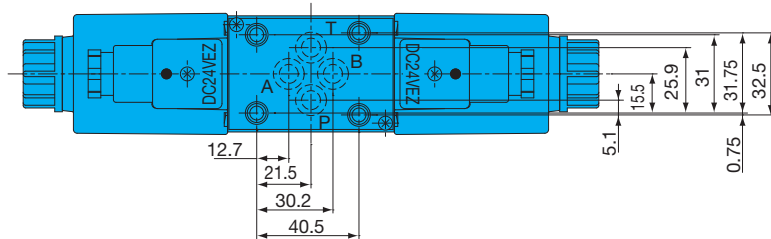
# Installation Dimension Drawings

SED-G01-A\*\*\*-(G)R\*\*-40  
 SED-G01-H\*\*\*-(G)R\*\*-40

Note) For SED-G01-H3X-(G)R\*\*-40, the solenoid is on the opposite side as that shown in the diagram (SOL.a).



SED-G01-C\*\*-(G)R\*\*-40  
 SED-G01-E3X-(G)R\*\*-40

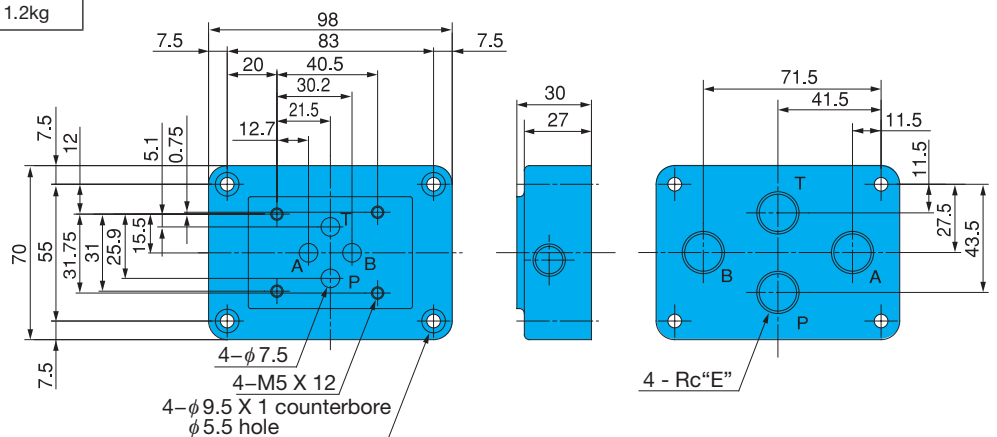


Note) Gasket surface dimensions and sub plate are the same as those for SS-G01. See page E-5 for more information.

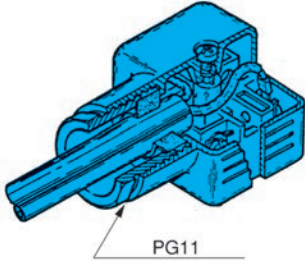
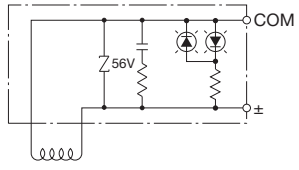
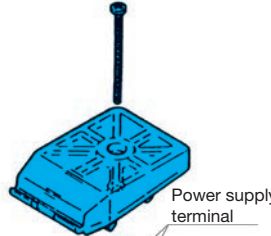
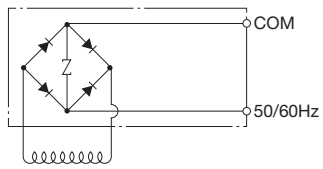
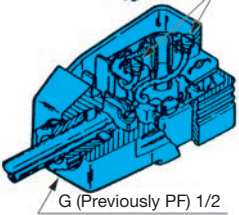
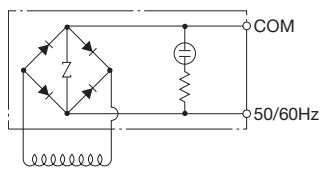
For sub plate SED-G01

Model No.	E	Weight
MSA-01X-10	1/4	1.2kg
MSA-01Y-10	3/8	1.2kg

Gasket Surface Dimensions  
 ISO 4401-03-02-0-05  
 (JIS B 8355 D-03-02-0-05)



●Connectors

Model No.	Wiring	Electrical Circuit Diagram
SED-G01-***-GR-D2-40 (EA41-EGRD2)	 <p>PG11</p> <p>Connect the power supply to terminals No.1 and No. 2. The ⊕ terminal is ground. Use this terminal as required.</p>	
SED-G01-***-E1-40 (EA42-1B)	 <p>Power supply terminal</p> <p>Connect the power supply to the terminals on the board.</p> <p>When ground connection is required, remove the board and use the ⊕ terminal. In this case, do not connect the power supply to the No. 1 and No. 2 terminals.</p>	
SED-G01-***-R-E1-40 (EA42-R*-1B)	 <p>G (Previously PF) 1/2</p> <p>Connect the power supply to the terminals on the board.</p> <p>When ground connection is required, remove the board and use the ⊕ terminal. In this case, do not connect the power supply to the No. 1 and No. 2 terminals.</p>	

Symbols in parentheses indicate connector configuration.

Note) 1. Asterisks in the connector configuration and power supply symbols are fillers for the voltage symbol (1 or 2).

2. The connector cord diameter is  $\phi$  8 to  $\phi$  10. Anything outside this range causes water tightness to be lost.

3. The orientation of the connectors can be changed in 90° increments by changing the terminal block.

4. The cover cannot be removed unless the installation screws are removed.

5. Use M3 for round type and Y type solderless terminals.

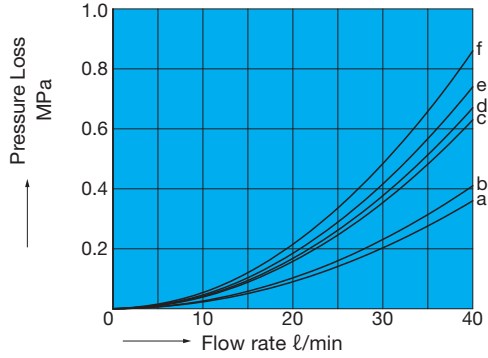
6. Tighten the M3 screws that secure connectors and terminals to a torque of 0.3 to 0.5N·m (3.1 to 5.1kgf·cm).



# Performance Curves

Differential Hydraulic Fluid Kinematic Viscosity 32mm<sup>2</sup>/s

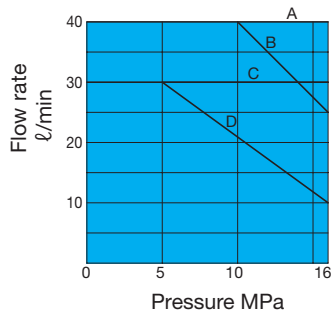
Pressure Loss Characteristics



Pump Type	Flow Path	P→A	P→B	A→T	B→T	P→T
SED-G01	A2X	d	f	-	-	-
	A3X	f	f	e	e	-
	H3X	f	f	e	e	-
	E3X	c	c	e	e	-
	C4	b	b	b	b	d
	C5	e	e	d	d	-
	C6	f	f	a	a	-

Pressure - Flow Volume Allowable Value

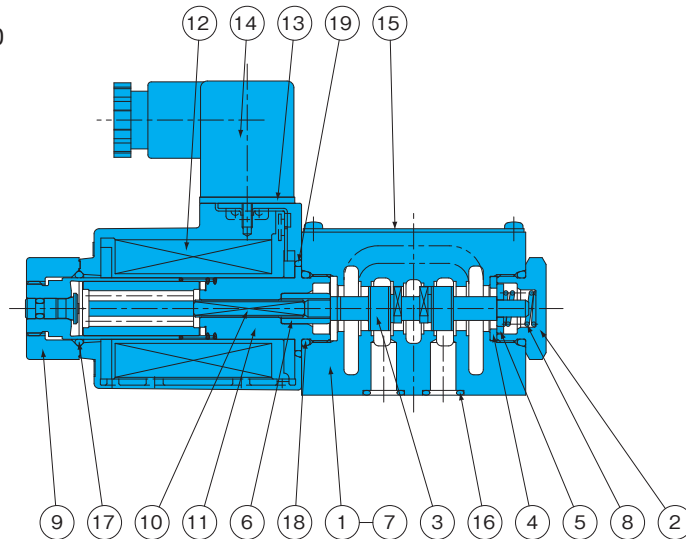
Pump Type	SED-G01		
Operation Example			
Operation Symbol			
A2X	-	D	D
A3X	A	D	D
H3X	A	D	D
E3X	A	C	C
C4	C	C	C
C5	A	D	D
C6	B	D	D



Note) 1. The maximum flow rate is the value when a rated 90%V is applied following solenoid temperature rise and saturation.  
 2. The maximum flow rate is the allowable value of each port.

## Cross-sectional Drawings

SED-G01-A3X-(G)R-\*\*-40



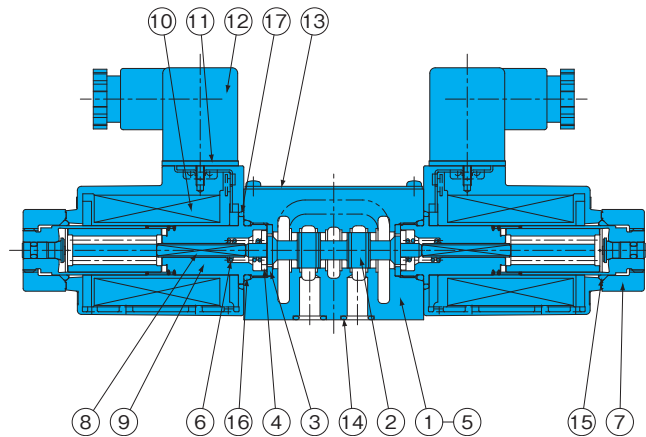
Part No.	Part Name
1	Body
2	Plug
3	Spool
4	Retainer A
5	Retainer B
6	Spring pin
7	Spacer
8	Spring A
9	Nut
10	Rod
11	Solenoid guide
12	Solenoid coil
13	Packing
14	Terminal box kit
15	Nameplate
16	O-ring
17	O-ring
18	O-ring
19	O-ring
20	O-ring

### List of Sealing Parts

Part No.	Part Name	SED-G01		
		Part Number	Q'ty	
			Single Solenoid	Double Solenoid
17	O-ring	AS568-012(NBR-90)	4	4
18	O-ring	NBR-70-1 P18	1	2
19	O-ring	NBR-90 P18	2	2
20	O-ring	S-25(NBR-70-1)	1	2

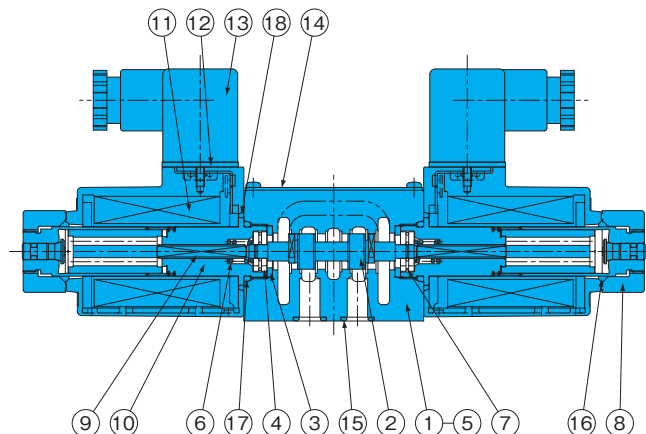
Note) The materials and hardness of the O-ring conforms with JIS B2401.

SED-G01-C\*-(G)R-\*\*-40



Part No.	Part Name
1	Body
2	Spool
3	Retainer A
4	Retainer B
5	Spacer
6	Spring C
7	Nut
8	Rod
9	Solenoid guide
10	Solenoid coil
11	Packing
12	Terminal box kit
13	Nameplate
14	O-ring
15	O-ring
16	O-ring
17	O-ring

SED-G03-A3X-GR-\*\*-J)30



Part No.	Part Name
1	Body
2	Spool
3	Retainer A
4	Retainer B
5	Spacer
6	Spring C
7	Detent spring
8	Nut
9	Rod
10	Solenoid guide
11	Solenoid coil
12	Packing
13	Terminal box kit
14	Nameplate
15	O-ring
16	O-ring
17	O-ring
18	O-ring