

## DSS Series / SOLENOID CONTROLLED PILOT OPERATED DIRECTIONAL VALVE

760 ℓ /min {200.8 gpm} • 32MPa {4571 psi}

### Features

1. SS-G01 is selected for the pilot valve; therefore, the valve is designed extremely light weight.
2. The internal modification of pilot and drain can be easily done merely by Mounting and dismounting one plug.

### Specifications

Model	Pipe size (valve size)	Max. operating pressure kgf/cm <sup>2</sup> {psi}	Rated capacity ℓ /min {gpm}	Max. flow ℓ /min {gpm}	Pilot pressure kgf/cm <sup>2</sup> {psi}	Tank port back pressure kgf/cm <sup>2</sup> {psi}		Mass kg {lbs}
						Internal drain type	External drain type	
DSS-G06-A3*-**-**21	3/4	320 {4571}	300 {79.3}	600 {158.3}	8 or above {114}	160 {2286}	210 {3000}	14.5 {6.6}
C *-**-**21					12 or above {171}			15.0 {6.8}
D *-**-**21					8 or above {114}			16.5 {9.5}
E3*-**-**21								15.0 {6.8}
DSS-G10-A3*-**-**13	1-1/4	210 {3000}	380 {100.4}	760 {200.8}	5 or above {71}	160 {2286}	210 {3000}	42.2 {93}
C *-**-**13				570 < 760 > {150.6} < 200.8 >	71			42.7 {94}
D *-**-**13				760 {200.8}	10 or above {143}			48.0 {106}
E3*-**-**13					5 or above {71}			42.7 {94}

Note ) The max. flow of each valve differs depending on the pressure. For details, refer to page 16. Spring arrangement "D\*" means pressure center type. It is used when the spools firm return to center position is required at high pressure and high flow circuit.

Symbol	Spool type	Model
	Open crossover	DSS-***-A3Z-(L)-**-*21/13
	Closed crossover	DSS-***-A3X-(L)-**-*21/13
	Open crossover with taper	DSS-***-A3Y-(L)-**-*21/13
	Open crossover	DSS-***-E3Z-(L)-**-*21/13
	Closed crossover	DSS-***-E3X-(L)-**-*21/13
	Open crossover with taper	DSS-***-E3Y-(L)-**-*21/13
	All ports open center	DSS-***-C4-(L)-**-*21/13
		DSS-***-D4-**-**21/13
	All ports blocked center	DSS-***-C5-(L)-**-*21/13
		DSS-***-D5-**-**21/13
	Pressure port blocked center	DSS-***-C6-(L)-**-*21/13
		DSS-***-D6-**-**21/13

Symbol	Spool type	Model
	Closed crossover	DSS-***-C7X-(L)-**-*21/13
	Open crossover with taper	DSS-***-C7Y-(L)-**-*21/13
	Closed crossover	DSS-***-D7X-**-**21/13
	Open crossover with taper	DSS-***-D7Y-**-**21/13
	B port blocked center	DSS-***-C8-(L)-**-*21/13
		DSS-***-D8-(L)-**-*21/13
	All ports open center with taper	DSS-***-C4S-(L)-**-*21/13
		DSS-***-D4S-(L)-**-*21/13
	P and B ports blocked center	DSS-***-C1-(L)-**-*21/13
		DSS-***-D1-**-**21/13
	B and T ports blocked center	DSS-***-C2-(L)-**-*21/13
		DSS-***-D2-**-**21/13
	P port blocked center with taper	DSS-***-C6S-(L)-**-*21/13
		DSS-***-D6S-**-**21/13

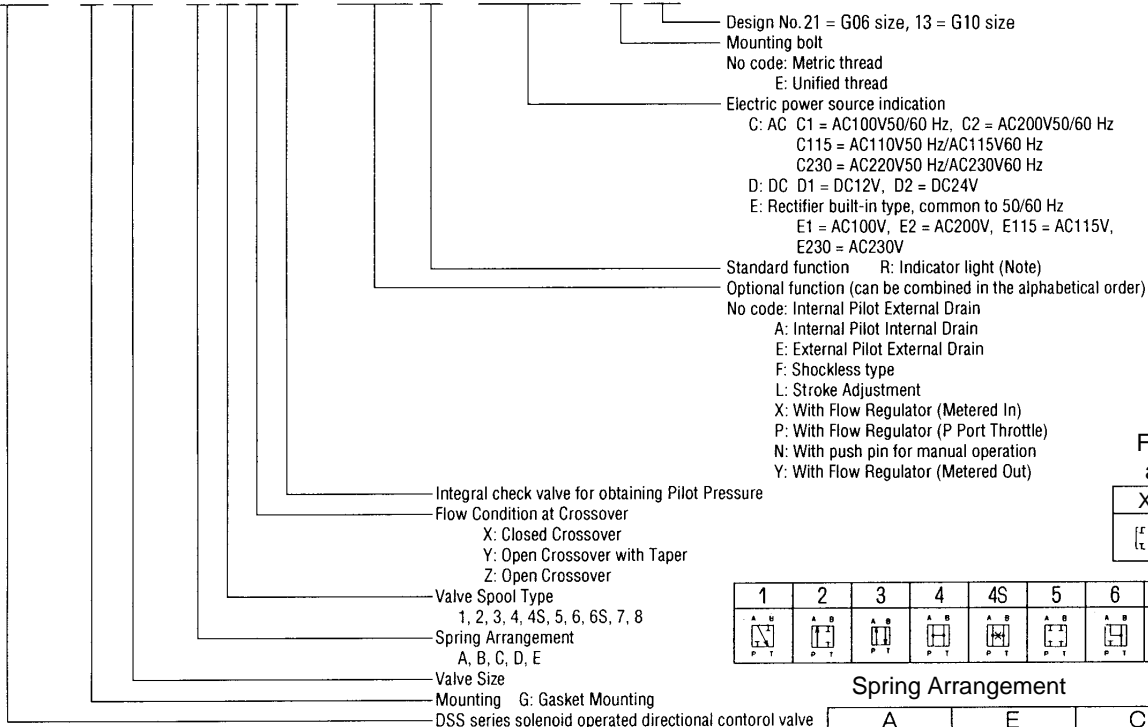
## DSS Series

### Notes

- The pilot pressure refers to the differential pressure across the pilot port and tank port or across the pilot port and drain port.
- Internal pilot and external drain is standard.
- In standard, DSS-G ※C7※-※※-※ 21/13 of the P and T port connection type is of the C7Y open crossover with taper.
- To specify adjustment of the spool stroke, enter "L" in the auxiliary symbol column of the model code. However, in the pressure center type, the spool stroke cannot be adjusted.
- When the detent type (E3※) is used, we recommend that the continuous electric power supply in order that the changeover position may be firmly maintained.
- For controlling a large flow the pressure center type is recommended.
- External pilot configuration should be used for open center type or P-T center type valves.
- The specifications of the solenoid and connector are the same as those of the SS-G01.

### Model Code

DSA  
DSS - G 06 - C 7 Y C - ※※※R - C 2 3 0 - E 2 1



(Note) DSA is not Standard

### Flow condition at Crossover

X	Y	Z

1	2	3	4	4S	5	6	6S	7	8

### Spring Arrangement

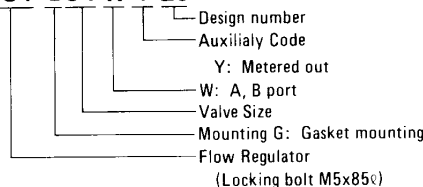
A	E	C	D
Spring Offset	Detent	Spring Center	Pressure Center

### Option

The shockless type F.  
 The fixed throttle mounted on the pilot line of the DSS-G06-※※※-F-※※-21 valve offers smooth pressure changeover when the valve is opened and closed, and thereby reducing hydraulic shock and pipe vibration without the use of a flow regulator.

### Flow Regulator Model Code

OCY-G01-W-Y-20

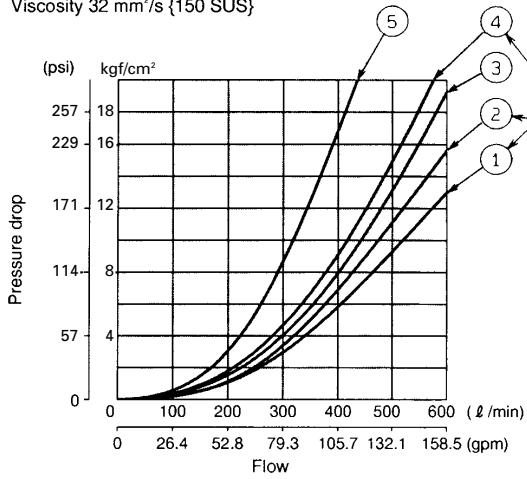


## DSS Series

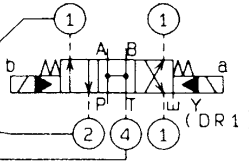
### Performance Curve

#### Pressure drop characteristics

Viscosity 32 mm<sup>2</sup>/s {150 SUS}



Note) How to refer the curve

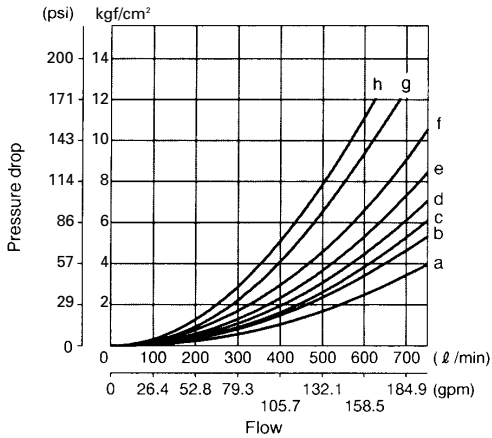


- P → A → ① Curve
- B → T → ② Curve
- Neutral position
- P → T → ④ Curve

#### DSA-G06 DSS-G06

Valve spool type	P→A	P→B	A→T	B→T	P→T
A3X, B3X, E3X	b	b	a	c	—
A3Z, B3Z, E3Z	d	d	a	d	—
A3Y, B3Y, E3Y	d	d	a	d	—
C4, D4	b	b	a	c	b
C5, D5	d	d	a	d	—
C6, D6	d	d	a	c	—
C7X, C7Y, D7X, D7Y	e	e	g	f	e
C8, D8	b	d	a	d	c
C4S, D4S	d	d	a	d	—
C1, D1	d	d	a	d	—
C2, D2	b	d	a	d	—
C6S, D6S	d	d	a	d	—

Viscosity of hydraulic fluid 32 mm<sup>2</sup>/s (150 SUS)



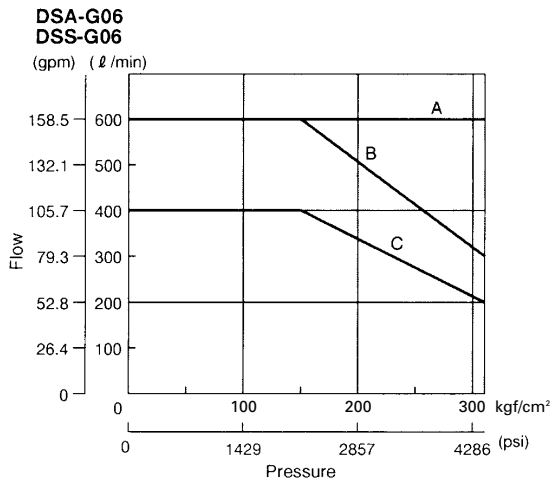
#### DSA-G10 DSS-G10

Valve spool type	P→A	P→B	A→T	B→T	P→T
A3Z, B3Z, E3Z	b	b	a	b	—
A3X, B3X, E3X	c	c	d	e	—
A3Y, B3Y, E3Y	c	c	d	e	—
C4, D4	b	b	a	b	c
C5, D5	c	c	d	e	—
C6, D6	c	c	a	b	—
C7X, C7Y, D7X, D7Y	f	f	h	h	g
C8, D8	b	d	h	e	e
C4S, D4S	c	c	a	e	—
C1, D1	c	c	d	e	—
C2, D2	b	d	a	e	—
C6S, D6S	c	c	d	e	—

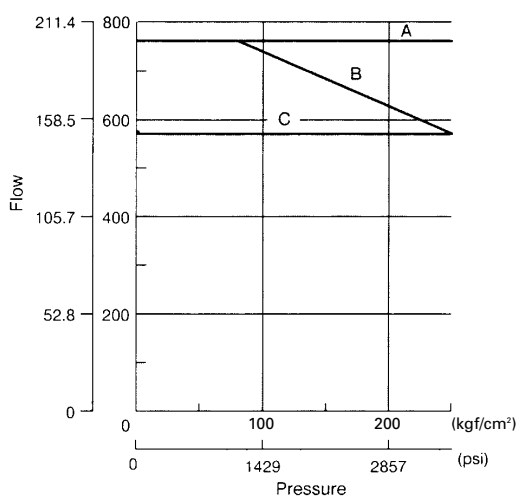
Viscosity of hydraulic fluid 32 mm<sup>2</sup>/s (150 SUS)

#### Pressure-Flow Characteristics

Spool type	Permissible value
A3※, E3※, D※	A
C5, C6, C4, C4S, C1, C2, C6S	B
C7※, C8	C



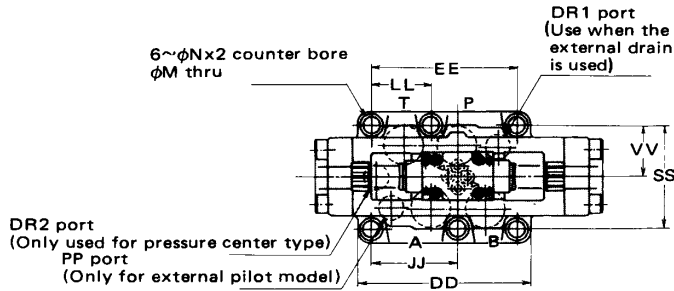
#### DSA-G10 DSS-G10



## DSS Series

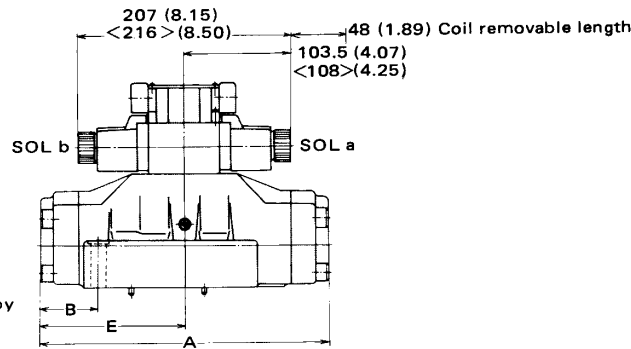
### Installation Dimensions

mm (inch)

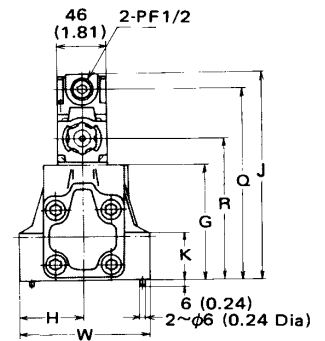


Model	Mounting bolt	Clamp torque
DSS-G06-***-21	M12 x 60 6pcs	6.1 ~ 7.1 kgf-m (529 ~ 615 lbs·inch)
DSS-G06-***-E21	UNC½ x 2½ 6pcs	
DSS-G10-***-13	M20 x 75 6pcs	40 ~ 45 kgf-m (3472 ~ 3906 lbs·inch)
DSS-G10-***-E13	UNC¾ x 3 6pcs	

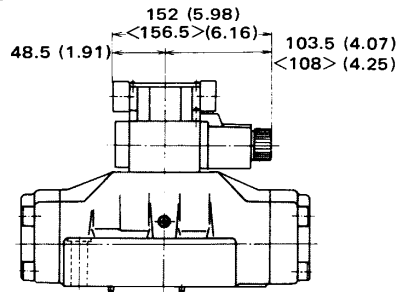
**DSS-G10-E3\*-R-\*\*\*-13**  
C\*-  
(No Spring detent type)  
(Spring center type)



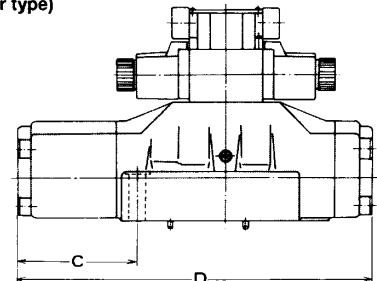
Note) Dimension indicated by < > apply to DC solenoid valve.



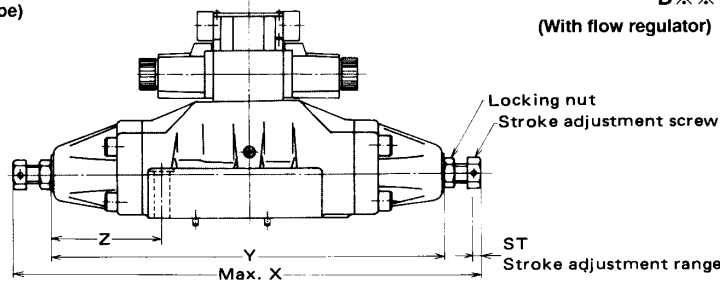
**DSS-G10-A3\*-R-\*\*\*-13**  
(Spring offset type)



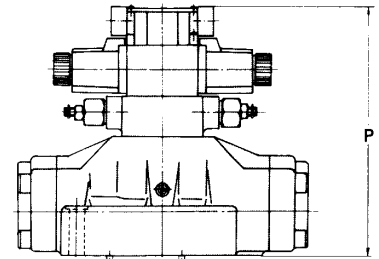
**DSS-G\*\*\*-D\*-R-\*\*\*-13**  
(Pressure center type)



**A3\*  
DSS-G10-E3\*-LR-\*\*\*-13**  
C\*-  
(Stroke adjustment type)



**A3\*  
DSS-G\*\*\*-E3\*-RY-\*\*\*-13**  
C\*-  
D\*-  
(With flow regulator)

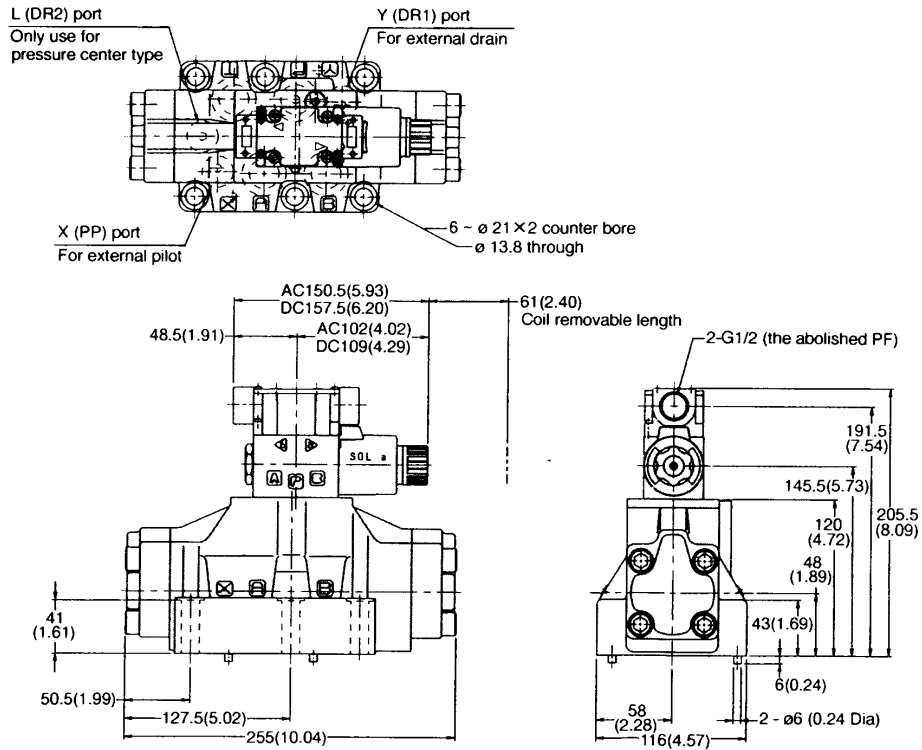


Model	A	B	C	D	E	F	G	H	J	K	M	N	P
DSS-G10-***-(L)R-***-13	390 (15.35)	80.7 (3.18)	146.7 (5.78)	456 (17.95)	195 (7.68)	261 (10.28)	165 (6.50)	97.5 (3.84)	250.5 (9.86)	45 (1.77)	22 (0.87)	32 (1.26)	290.5 (11.14)

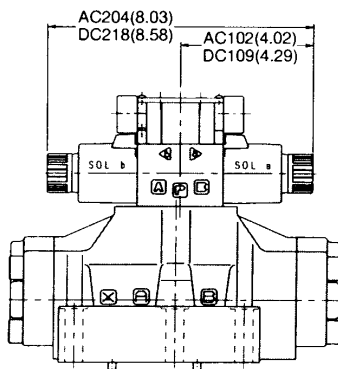
Q	R	V	W	X	Y	Z	DD	EE	JJ	LL	SS	VV	ST
236.5 (9.31)	190.5 (7.50)	260 (10.24)	195 (7.68)	618 (24.33)	520 (20.47)	145.7 (5.74)	226.5 (8.92)	190.5 (7.50)	114.3 (4.50)	76.2 (3.00)	158.8 (6.25)	79.4 (3.13)	16 (0.63)

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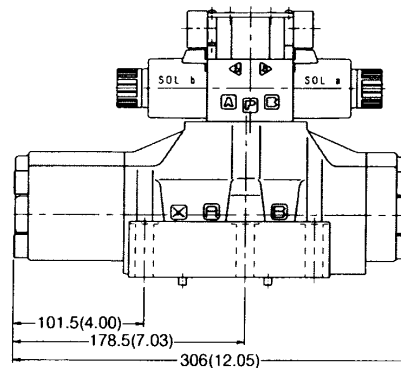
**DSS-G06-A\*\*\*-R\*\*\*-21**  
(Spring offset type)



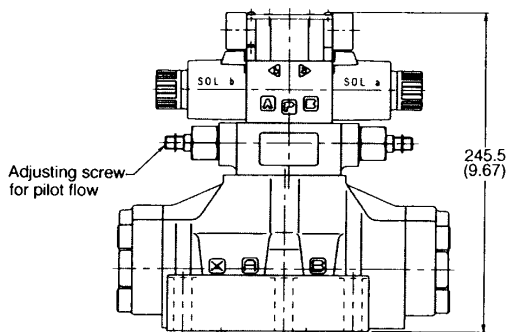
**DSS-G06-E\*\*\*-R\*\*\*-21**  
(No Spring detent type)  
Spring center type



**DSS-G06-D\*\*\*-R\*\*\*-21**  
(Pressure center type)



**DSS-G06-A\*\*\*-R\*\*\*-RY\*\*\*-21**  
(With flow regulator)



**DSS-G06-E\*\*\*-LR\*\*\*-21**  
(Stroke adjustment type)

