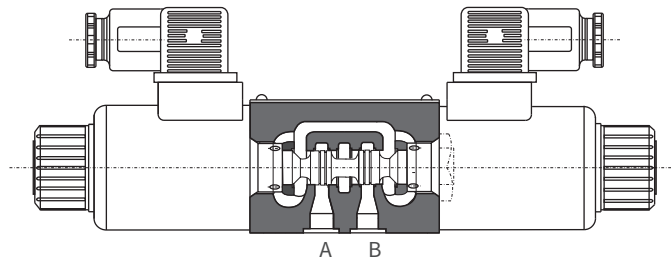


## Solenoid directional valves DEO

Size 06 Spool Type

### DEO-0C11 The mounting interface conforms to ISO/CETOP O3 dimensions

Two-position or three-position direct-acting solenoid spool valves;  
Wet-type solenoid valve design featuring low noise, long service life, high pressure resistance and fast switching speed;  
Optimized valve core design for low pressure loss;  
Five-chamber valve body design resistant to high pressure and high back pressure;  
Verified by 10 million cycles of durability testing to ensure product quality stability.



Size	06	Max pressure	350 bar
Max flow	60L/min		

### Model Code

DEO-0 - B3 1/2 /A -J -LE /A /V /L -D -24DC -S1

0 = Standard Plug  
Version1 = Junction Box Version

Valve configuration, see configuration and spools

B\* = single solenoid  
B1 = single solenoid, center plus external position, spring centered  
B3 = single solenoid, 2 external positions, spring offset  
B7 = single solenoid, center plus external position, spring offset  
C\* = double solenoid  
C1 = double solenoid, 3 positions, spring centered  
C5 = double solenoid, 2 external positions, with detent

Spool type, see configuration and spools

#### Options:

A: Solenoid mounted on port B end (for single solenoid only).  
Standard (no option): Solenoid mounted on port A end, standard type.

\*For 110AC/220AC, use AC full-wave rectified coil.

Inductive proximity switch:  
Not provided = Without displacement sensor  
S1 = With displacement sensor

12DC=DC12V 110AC=AC110V  
24DC=DC24V 220AC=AC220V

No marking = Standard coil + plug  
D = Deutsch connector + plug

L = Lever mounted on left side  
Standard (no option) = Standard type  
(typically lever on right side or as per default design)

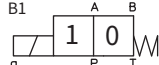

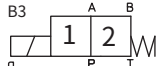

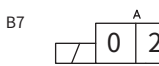

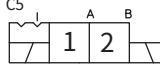

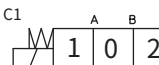
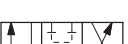
V = Lever perpendicular to mounting surface in neutral position  
Standard (no option) = Standard type, lever inclined in neutral position  
R = Lever mounted in reverse orientation

A = Lever mounted on port B end  
Standard (no option) = Standard type, lever mounted on port A end

LE = With emergency manual override (standard lever)  
LES = With emergency manual override (short lever)

J = With spool speed control, refer to the "Product Dimensions" section for details.

### Configurations and Spools

Configurations	Spools	Configurations	Spools
 B1	 1 0 2	 B3	 1 0 2
 B7	 4	 C5	 0/2
 C1	 12		

### Performance Data

Overview	DEO	DEO***-J
Max. pressure at P,A,B	Mpa	32
Max. pressure at T	Mpa	16.25
Max. flow rate	L/min	60 l/min
Max. switching frequency	HZ	3 Hz
Duty cycle	%ED	100% ED
Fluid viscosity	cSt	10-500 mm <sup>2</sup> /s
Fluid temperature	°C	0°C-75°C
Ambient temperature	°C	-25°C-60°C
DC single solenoid weight	KG	1.65 Kg
DC double solenoid weight	KG	2 Kg
AC single solenoid weight		1.25 Kg
AC double solenoid weight		1.55 Kg
Max. contamination class	NAS 1638, Class 10 Recommend using filter with 23 > 75	

### Performance Data

Test conditions are: solenoid operating temperature 40°C, input voltage less than 10% of the rated value, fluid temperature 40°

C, fluid viscosity 46 mm<sup>2</sup>/s (at 40°C). The values shown in the chart are for both channels conducting simultaneously (e.g., from

P to A and from B to T at the same time) with T = 0.2 MPa.

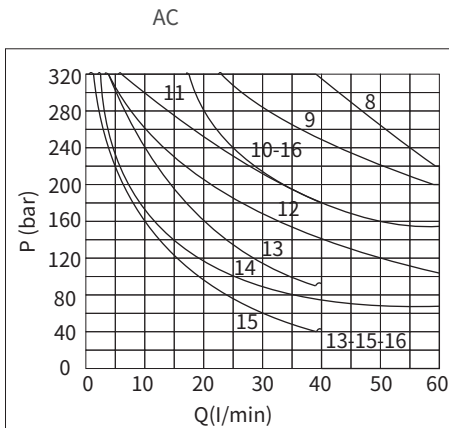
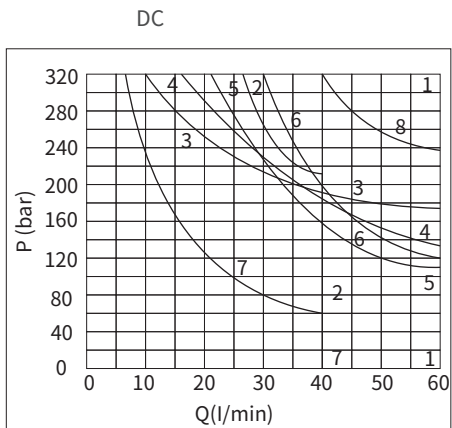
When a 4/2-way or 4/3-way valve operates with fluid flowing in only one direction, the operating limits may change or even

become negative.

The data shown is influenced by the following factors: hydraulic circuit, operating medium, pressure, flow rate, and temperature.

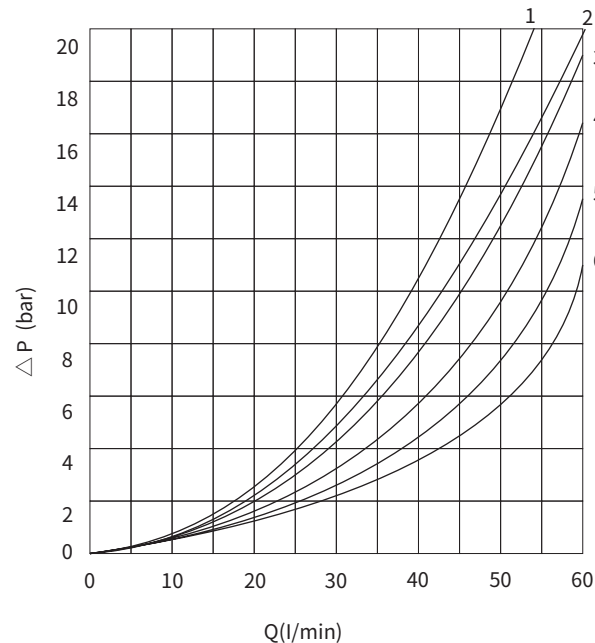
DC: Power spully 30 - 50 ms  
Power off 10 - 30 ms.

AC: Power spully 8 - 30 ms.  
Power off 15 - 55 ms.



Spool type	Curve Identifier	
	DC	AC
C 11	1	8
C 10	1	9
C 13	8	12
C 14	6	14
C 18	3	10
C 16	5	12
C 19	4	11
C 15	2	16
B30/2	7	15
B31/2	1	13

Pressure Drop - Flow Curve



Spool type	Flow				
	P→A	P→B	A→T	B→T	P→T
C 11	5	5	5	5	5
C 10	6	6	6	6	
C 13	5	5	6	6	4
C 14	1	1	2	2	
C 15	5	5	5	5	5
C 16	5	5	6	5	
C 17	5	5	5	6	6
C 107	6	4	6		
C 12	6	6			5
C 109			5	5	
C 110	5	5	5	5	

Spool type	Flow				
	P→A	P→B	A→T	B→T	P→T
C 111	4			6	2
C 122		4	6		
C 112		5	6	6	2
C 113		5	6	6	
C 114	2	1	1	1	2
C 128	1	2	1	1	
B30/2	4	4	6	6	4
B31/2	5	5	4	4	
B32/2	1	3			4
C 52/2	5	5			
C 51/2	4	4	4	4	

The figure shows the pressure drop curve when the spool is operating normally. Test conditions: fluid viscosity is 46 mm²/s (at 40°C), fluid temperature is 40°C. For flow rate values exceeding the range of the chart, calculate using the following formula:

Δp1=Δp\*(Q1/Q) 2

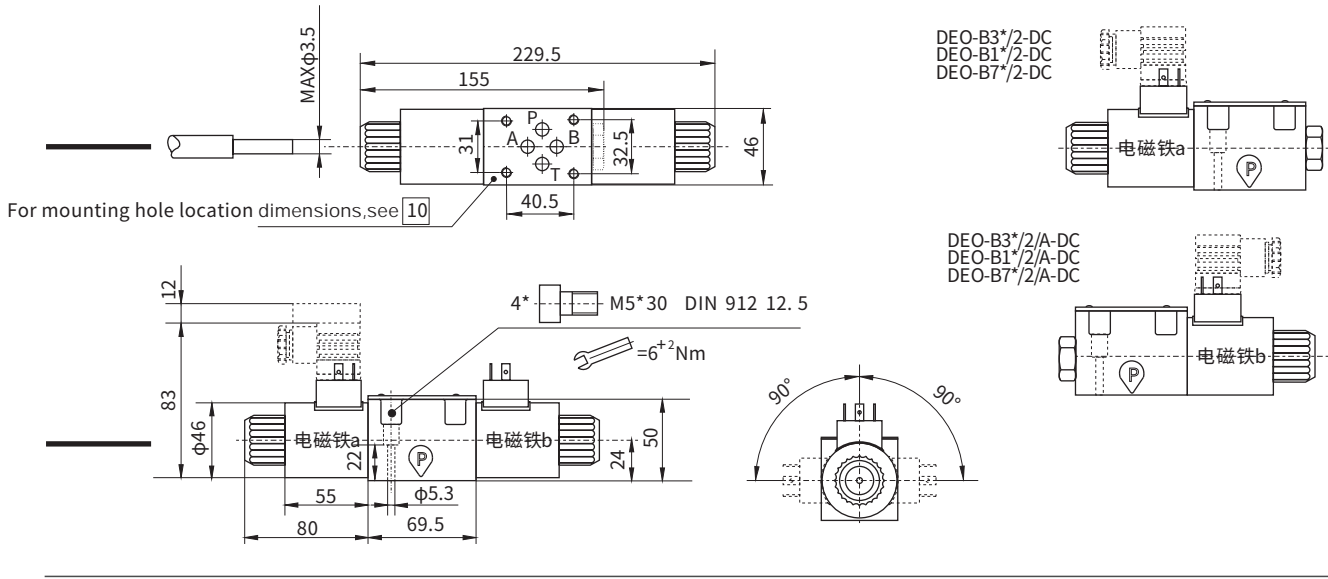
Δp and Q are obtained from the chart, and Δp1 is the pressure drop corresponding to the actual flow rate Q1.

Solenoid Performance

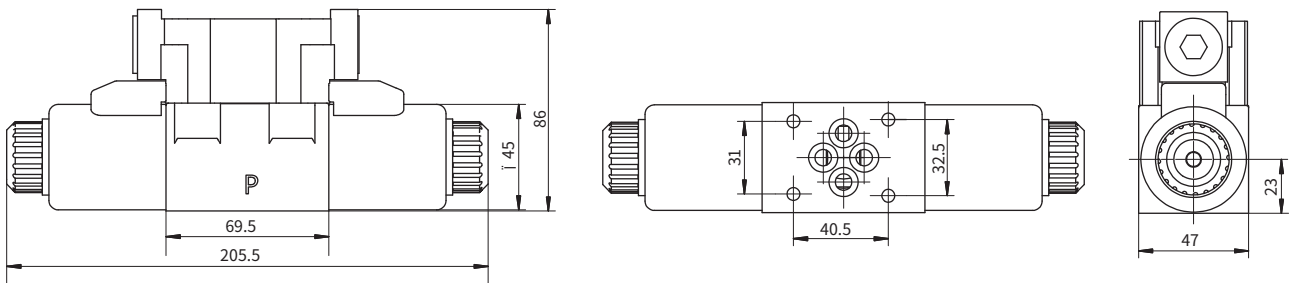
Electromagnet	Voltage code	Rated Voltage (V)	Frequency (H)	Starting Current (A)	Holding Current (A)	Power Consumption (W)	Allowable Variation Range (%)
AC	A110	AC110V	50	2.76	0.66	35	+10, -15
			60	2.4	0.48	25	+10, -15
	A220	AC120V	60	2.68	0.56	30	+10, -15
		AC220V	50	1.38	0.33	34.1	+10, -15
	A240	AC230V	60	1.19	0.24	25	+10, -15
		AC240V	6	1.03	0.2	24.3	+10, -15
DC	DC12	AC12V	—	—	2.4	29	+10, -10
	DC24	AC24V	—	—	1.16	28	+10, -10
RF	R110	AC110V, 50/60Hz ↓ DC99V		—	0.33	30	+10, -10
	R220	AC220V, 50/60Hz ↓ DC198V		—	0.16	60	+10, -10

Product Dimensions

DC Solenoid Coil



DEO-1 Outline Drawing



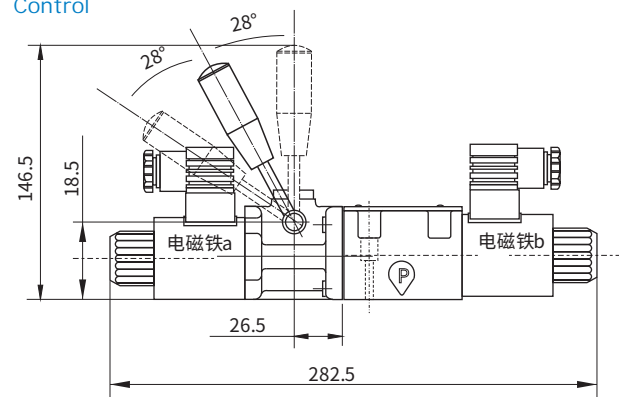
## Product Dimensions

DEO\*-LE Port T Maximum Working Pressure:\*\*Dynamic: 16 MPaStatic: 21 MPa

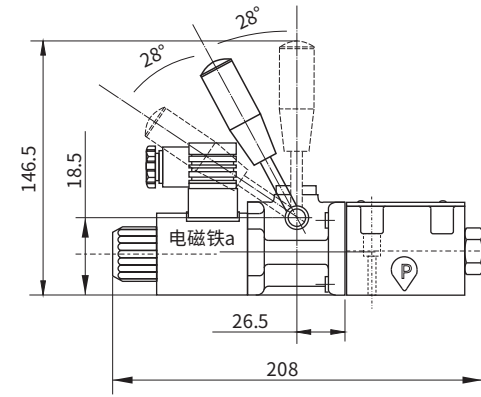
The solenoid valve with an emergency manual override offers enhanced safety and flexibility in application. Its flexibility is reflected in the placement of the manual override between the valve body and the spool. Different models of SUNWAY solenoid valves are fully interchangeable. As a safety device applied to the electromagnet, this manual override complies with industrial standards and plays a vital role in the event of a power failure.

This control is used in agricultural and automotive industries. The manual function enables periodic maintenance of vehicle components, keeping them in a highly safe operating condition.

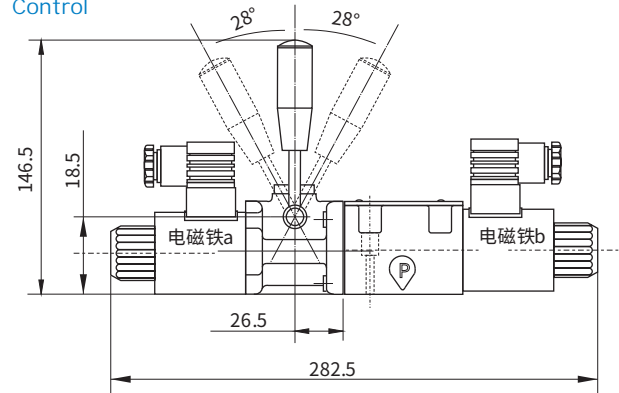
### DEO\*\*\*-LE Double Solenoid Control



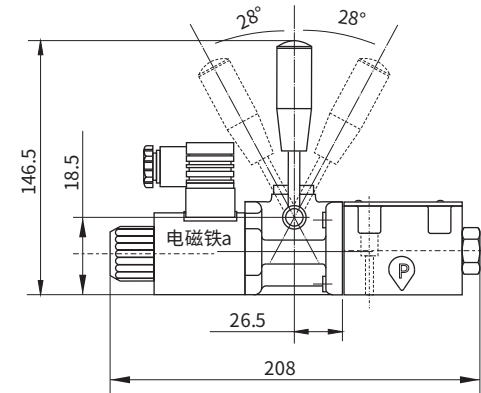
### Single Solenoid Control



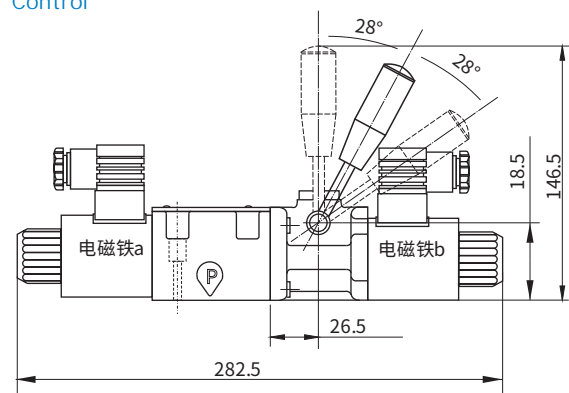
### DEO\*\*\*-LE/V Double Solenoid Control



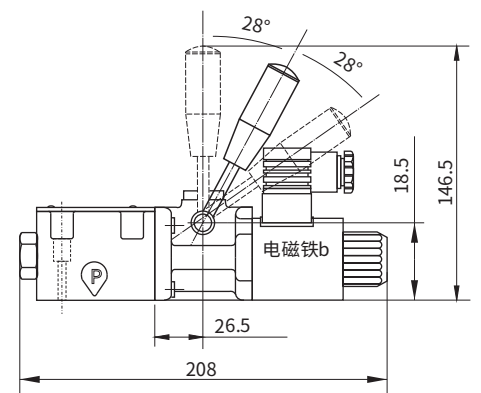
### Single Solenoid Control



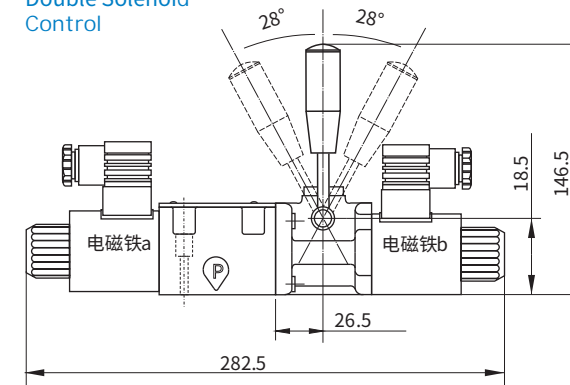
### DEO\*\*\*-LE/A Double Solenoid Control



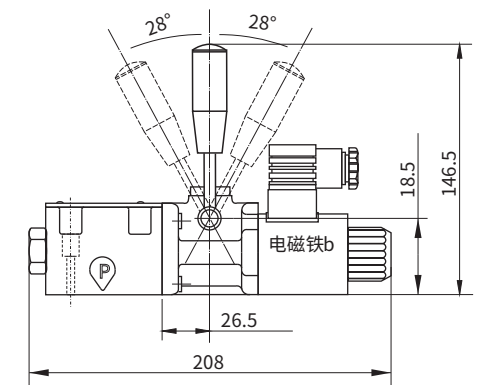
### Single Solenoid Control



### DEO\*\*\*-LE/A/V Double Solenoid Control



### Single Solenoid Control



## Product Dimensions DEO\*\*\*-J

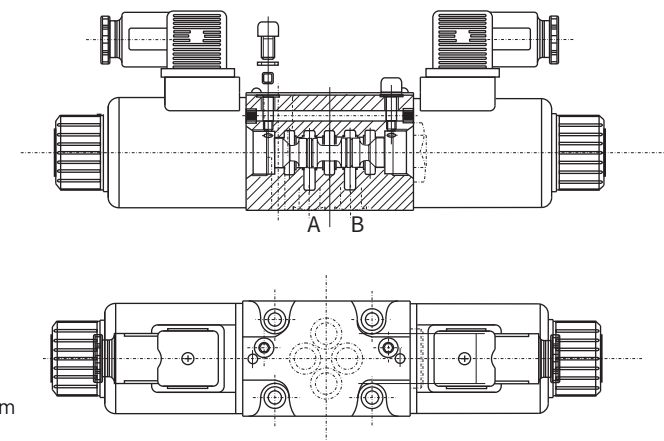
This type of switching valve features a lower spool speed than traditional solenoid valves, which helps prevent system shock during operation. The use of calibrated orifices reduces the flow passages for oil transfer from one solenoid to the other.

This valve type is designed for DC power supply only, and its operating limits are reduced. It is recommended to conduct your own tests during application.

To customize the DEO\*\*\*-J valve, please determine the cavity code.

Holes used:Standard holes		
Φ(mm)	M4×4	Code
0.3	M89.10.0028	J3
0.4	M89.10.0029	J4
0.5	M89.10.0006	J5
0.6	M89.10.0030	J6

### DEO-0C11-J

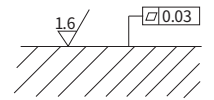


Fixed Screw UNI 5931 M5 x30

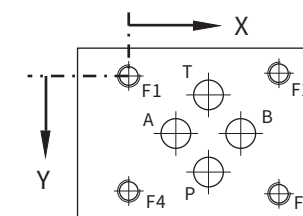
Material: Grade 12.9

Tightening Torque: 5 Nm / 0.5 kgf·m

Mating Surface Specifications



## Mounting Hole Locations (Per ISO 4401 Standard)



Non-Standard(Standard diameter: 7.5 mm)  
Thread Depth  
Ferrous metals: min. 8.5 mm  
Non-ferrous metals: 10 mm

Tolerances  
Oil passage holes: ±0.2 mm in both X and Y axes  
Mounting holes: ±0.1 mm in both X and Y axes  
Surface roughness: Rmax 4 μm  
Surface flatness: 0.01 mm per 100 mm length

	P	A	T	B	F1	F2	F3	F4
X	21.5	12.7	21.5	30.2	0	40.5	40.5	0
Y	25.9	15.5	5.1	15.5	0	-0.75	31.75	31
Φ	8 <sup>1)</sup>	8 <sup>1)</sup>	8 <sup>1)</sup>	8 <sup>1)</sup>	M5 <sup>2)</sup>	M5 <sup>2)</sup>	M5 <sup>2)</sup>	M5 <sup>2)</sup>