



# A

## DIRECTIONAL CONTROLS



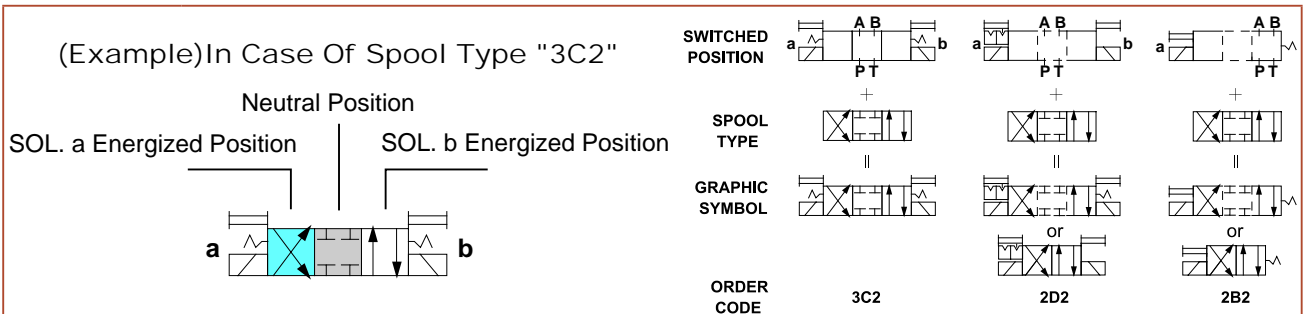


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# DIRECTIONAL CONTROLS

## SOLENOID OPERATED DIRECTIONAL CONTROL VALVES

### [ GRAPHICAL SYMBOLS ]



- 1) Example: Three switched position, spring centred(3C) with spool type "2", ordering code "3C2".
- 2) Example: Two switched position, no spring with detent(2D) with spool type "2", ordering code "2D2".
- 3) Example: Two switched position, spring offset(2B) with spool type "2" (reverse assembled), ordering code "2B2(L)".
- 4) The dotted line of graphical symbol(2B, 2D, 2N) represent the momentary switched position.

Three Switched Position	Graphical Symbol	Two Switched Position	Graphical Symbol	Two Switched Position	Graphical Symbol	Two Switched Position	Graphical Symbol
Spring Centred Model No: "3C"+ Spool Type		No Spring Model No: "2N"+ Spool Type		Spring Offset Model No: "2B"+ Spool Type		No Spring-With Detent Model No: "2D"+ Spool Type	

Spool Type	Graphical Symbol	Physical Relationship (Neutral Position)	Spool SWG-02	Spool SWG-03	Remark
"2"					
"3"					
"4"					
"40"					
"5"					
"60"					In the momentary switched position, ABPT are all opened.
"7"					
"8"					
"85"					
"9"					
"10"					
"11"					
"12"					

A



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### 【 GRAPHICAL SYMBOLS 】

A

Model No. Explanation  
型號說明

Standard Mtg. of Solenoid  
MODEL CODE "2B2"

Reverse Mtg. of Solenoid  
MODEL CODE "2B2L"

- 1) Example: Two switched position, spring offset(2B) with spool type "2B" , ordering code "2B2B".
- 2) Example: Two switched position, spring offset(2B) with spool type "2B" and reverse assembled, ordering code "2B2BL".
- 3) Valves Only Using Neutral Position and Side Position (Two Position Valve, No Intermediate or Momentary Switched Position)

Two Switched Position Spring Offset Model No: "2B"+ Spool Type	Graphical Symbol		3D Pictures	Three Switched Position Spring Offset Model No: "2B"+ Spool Type	Graphical Symbol		3D Pictures
	Standard Assembled	Reverse Assembled Model No: Spool Type + "L"			Standard Assembled	Reverse Assembled Model No: Spool Type + "L"	

Spool Type	Graphical Symbols		3D Pictures		Spool Type	Graphical Symbols		3D Pictures	
			SWG-02	SWG-03				SWG-02	SWG-03
2A					2B				
3A					3B				
4A					4B				
40A					40B				
5A					5B				
60A					60B				
7A					7B				
8A					8B				
9A					9B				
10A					10B				
11A					11B				
12A					12B				

As The Same As Spool Type "2"~"12".



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## SOLENOID OPERATED DIRECTIONAL CONTROL VALVES

### 【 MODEL DESIGNATION 】

SWG	-	(H)	-	02	-	2B	2	(L)	-	A25	-	(N)	-	(90)
I		II		III		IV	V	VI		VII		VIII		IX

※ The item with "("" may be omitted.

A

I ) Series No.

II ) Omit: 31.5 MPa  
315 kg/cm<sup>2</sup>(Bar)  
4570 psi



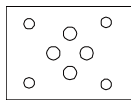
H: 35 MPa  
350 kg/cm<sup>2</sup>(Bar)  
5070 psi



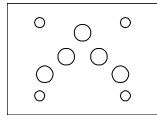
S: Shockless Type

III ) Valve Size

02: 1/4"  
ISO4401-03-02-0-94  
NFPA-D03  
CETOP 3  
DIN 24340 NG6

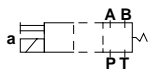


03: 3/8"  
ISO 4401-AC-05-4-A  
NFPA-D05(FORMERLY D02)  
CETOP 5  
DIN 24340 NG10

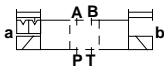


IV) 2B: Two Switched Position With Intermediate Or Momentary Switched Position

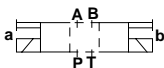
2B: Spring Offset



2D: With Detent

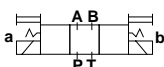


2N: No Spring



3C: Three Switched Position

3C: Spring Centred



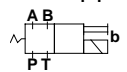
V) Spool Type  
(Referring to Graphical Symbols)

VI) Assembled Direction

Omit: Standard Assembled

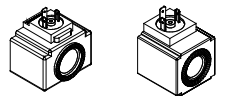
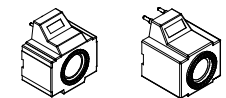


L: Reverse Assembled

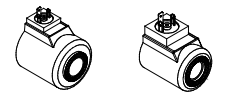
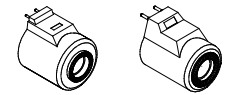


VII) Voltage

A15: AC 110V/50HZ  
A16: AC 110V/60HZ  
A24: AC 240V/50HZ  
A25: AC 220V/50HZ  
A26: AC 220V/60HZ  
A38: AC 380V/50HZ

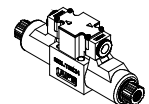


D1: DC 12V  
D2: DC 24V  
R1: RF 110V/50HZ  
(Rectified)  
R2: RF 220V/50HZ  
(Rectified)

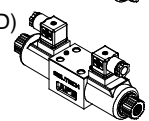


VIII) Connector Type

Omit: Terminal Box



N: Plug-In Connector (With LED)  
DIN 43650  
ISO 4400



N1: Plug-In Connector (Without LED)

L: Lead Wire  
SWP Connector  
DT04-2P Connector

IX) Design No.

Omit: DIN 912 Bolts  
90: UNC Bolts(North America)



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# DIRECTIONAL CONTROLS

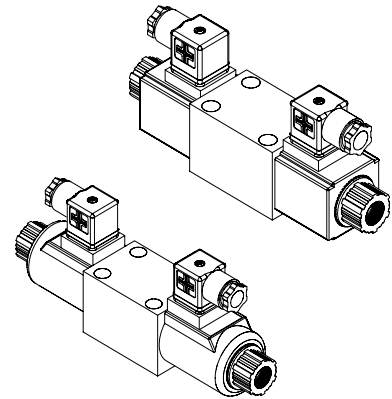
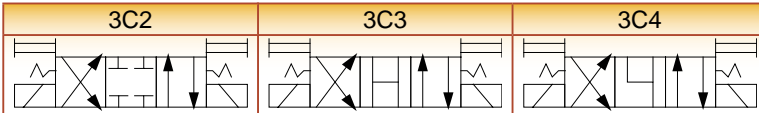
SOLENOID OPERATED DIRECTIONAL CONTROL VALVES [72MPa]

## 【SWG-VH】

### ※SPECIFICATION

MODEL	MAX. OPER. PRES. (Kgf/cm <sup>2</sup> )/(MPa)	ALLOWABLE BACK PRES. (Kgf/cm <sup>2</sup> )/(MPa)	RATED FLOW (ℓ/min)	WEIGHT (Kg)
SWG-VH-AC	720(72)	70(7)	8	2.1
SWG-VH-DC	720(72)	70(7)	8	2.4

### ※GRAPHIC SYMBOL

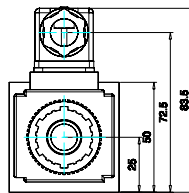
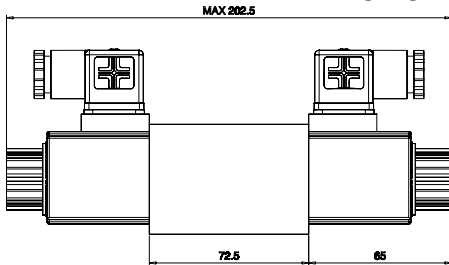


### ※MODEL NUMBER DESIGNATION

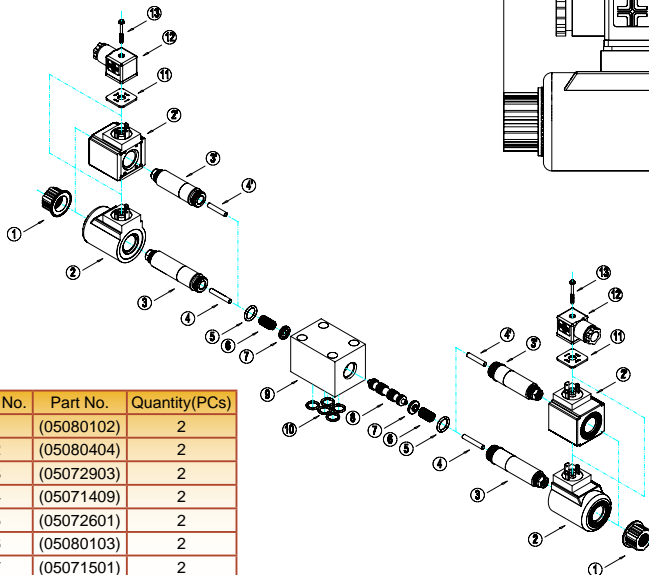
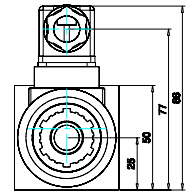
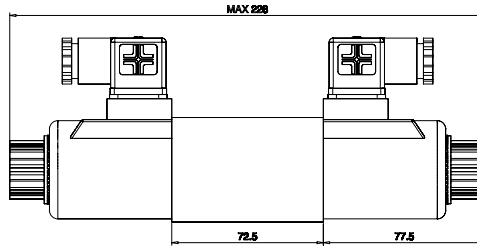
SWG	VH	3C2	D2	(N)	(90)
SERIES NO.	HIGH PRES. 72 MPa	SPOOL TYPE REFER TO "SWG" SERIES SPOOL TYPE	VOLTAGE A15: AC 110V/50HZ A16: AC 110V/60HZ A24: AC 240V/50HZ A25: AC 220V/50HZ A26: AC 220V/60HZ A38: AC 380V/50HZ D1: DC 12V D2: DC 24V	CONNECTOR TYPE OMIT: TERMINAL BOX N: PLUG-IN CONNECTOR DIN 43650 ISO 4400	DESIGN NO. OMIT: DIN 912 BOLTS 90: UNC BOLTS (NORTH AMERICA)

### ※DIMENSIONS

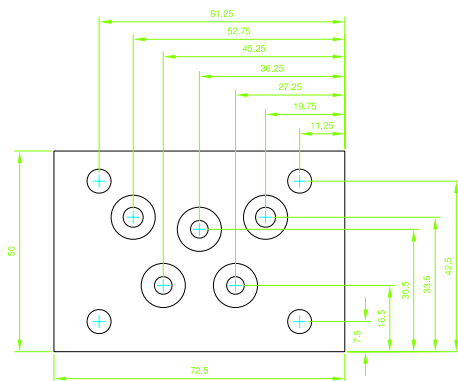
SWG-VH-AC-※



SWG-VH-DC-※



Item No.	Part No.	Quantity(PCs)	Item No.	Part No.	Quantity(PCs)
1	(05080102)	2	14	(05100501)	2
2	(05080404)	2	2'	(05081107)	2
3	(05072903)	2	3'	(05072901)	2
4	(05071409)	2	4'	(06011701)	2
5	(05072601)	2	13'	(05080402)	2
6	(05080103)	2			
7	(05071501)	2			
8	(05010701)	1			



UNIT: M.M.

A

### 【SWG-02】

"ISO4401-03-02-0-94、NFPA-D03、CETOP 3、DIN 24340 NG6"



#### ■ WITHIN CE MARKING REQUIREMENT

The apparatus meets the requirements of the following standards and hence fulfills the requirements of EMC Directive 89/336/EEC as amended by Directives 92/31/EEC and 93/68/EEC within CE marking requirement.

EN61000-6-3 : 2001+A11 : 2004 : CISPR 22 : 1997+A1:2000+A2 : 2002 Class B,  
 IEC61000-3-2 : 2000, modified  
 EN61000-3-3 :1994+A1:2001  
 EN61000-6-1 : 2001 : IEC61000-4-2 :1995+A1:1998+A2: 2000  
 IEC61000-4-3 : 2002, IEC61000-4-4 :2004  
 IEC61000-4-5 : 1995+A1:2000 IEC61000-4-6 :1996+A1:2000  
 IEC61000-4-8 : 1993+A1:2000 IEC61000-4-11:1994+A1:2000.

#### ■ STABLE OPERATION

With a strong magnet and spring force, the valves are tough against contamination and thus ensure a stable operation. Under standard operation, the durability to 10 million spool shifts.(Average)

#### ■ HIGH QUALITY & COMPETITIVE PRICE

All products are 100% tested by professional testing machinery. The material of tube is imported from Japan, and all parts are processed by professional specific automatic machinery. But the price is less 30% than leading brands.

#### ■ EASY MAINTENANCE

Plug-in solenoid, all spools and bodies are interchangeable, the head of tube is design to hexnut to simplifying maintenance and reduce damage when assembl.

#### ■ HIGH PERFORMANCE 【SWGH SERIES】

High pressure(up to 35MPa), high flow rating, provides low pressure drop, with maximum performance. If need more details please consult our distributors.

#### ■ CUSTOMIZATION

According to the requirement of customer to customize the product, and 100% satisfy their need.





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# DIRECTIONAL CONTROLS

## SOLENOID OPERATED DIRECTIONAL CONTROL VALVES

### ※MOUNTING BOLTS :

Descriptions	Soc.Hd.Cap Screw(4 pcs.)	Tightening Torque
Taiwan Design Standard	02 : M5 × 45 Lg 02	0.5 - 0.7Kgf m(43 - 60 in. lbs)
European Design Standard		
N.America Design Standard	No.10 - 24 UNC × 1 - 3/4 Lg.	

★Four socket head cap screws in the table below are included

### ※SPECIFICATION :

Max. Pressure (kgf/cm <sup>2</sup> )	Rated Flow (l/min.)	Max. T-Line Back Pressure (kg/cm <sup>2</sup> )	Max.Frequency of Operation (cycle/min.)	Filtration (Micron.)	Ambient Temperature Range(°C)	Weight (kgs)
315 (31.5 Mpa) (4570 psi)	65 (17.1gpm)	160 (16 MPa) (2320 psi)	240	25 β <sub>25</sub> ≥ 75	-5 ~ 60	3C、2D、2N AC:2 DC:2.3 2B AC:1.7 DC:1.8

★Spool type "5", "6", "60" Max. Pressure : 250 kgf/cm<sup>2</sup>(25MPa, 3630psi)

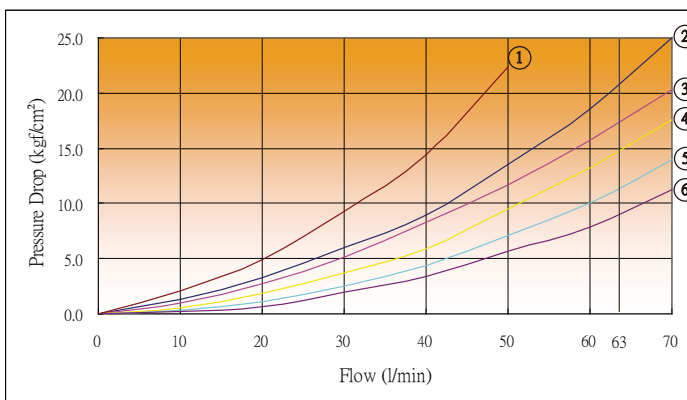
### ※SOLENOID RATING :

Power	Voltage (V)	Frequency (HZ)	Current At Rated Voltage		
			In-Rush Current(A)	Holding Current(A)	Power (W)
AC	A110	50	1.6	0.46	
		60	1.4	0.32	
			1.5	0.39	
	A120	50	1.3	0.38	
		60	1.2	0.27	
	A220	50	0.80	0.23	
			60	0.70	
	A240	60	0.75	0.19	
			50	0.67	
	DC	D12			
D24				1.1	

★Solenoid Isulation Class: Class H

### ※PERFORMANCE CURVES :

Test fluid viscosity:35 cst(175ssu)  
Test temperature: 50°C(122°F)



Spool Type	P→A	B→T	P→B	A→T	P→T
3C2	5	5	5	5	-
3C3	6	6	6	6	4
3C4	5	6	5	6	-
3C40	5	5	5	5	-
3C5	1	1	1	1	4
3C6	1	1	1	1	4
3C60	1	1	1	1	4
3C7	6	5	6	5	-
3C8	5	5	5	6	-
3C9	6	5	6	5	-
3C10	5	6	5	5	-
3C11	6	5	5	5	-
3C12	5	5	5	6	-
2D2	5	2	5	2	-
2D3	6	3	5	3	-
2B2	2	2	5	5	-
2B3	3	3	5	5	-