

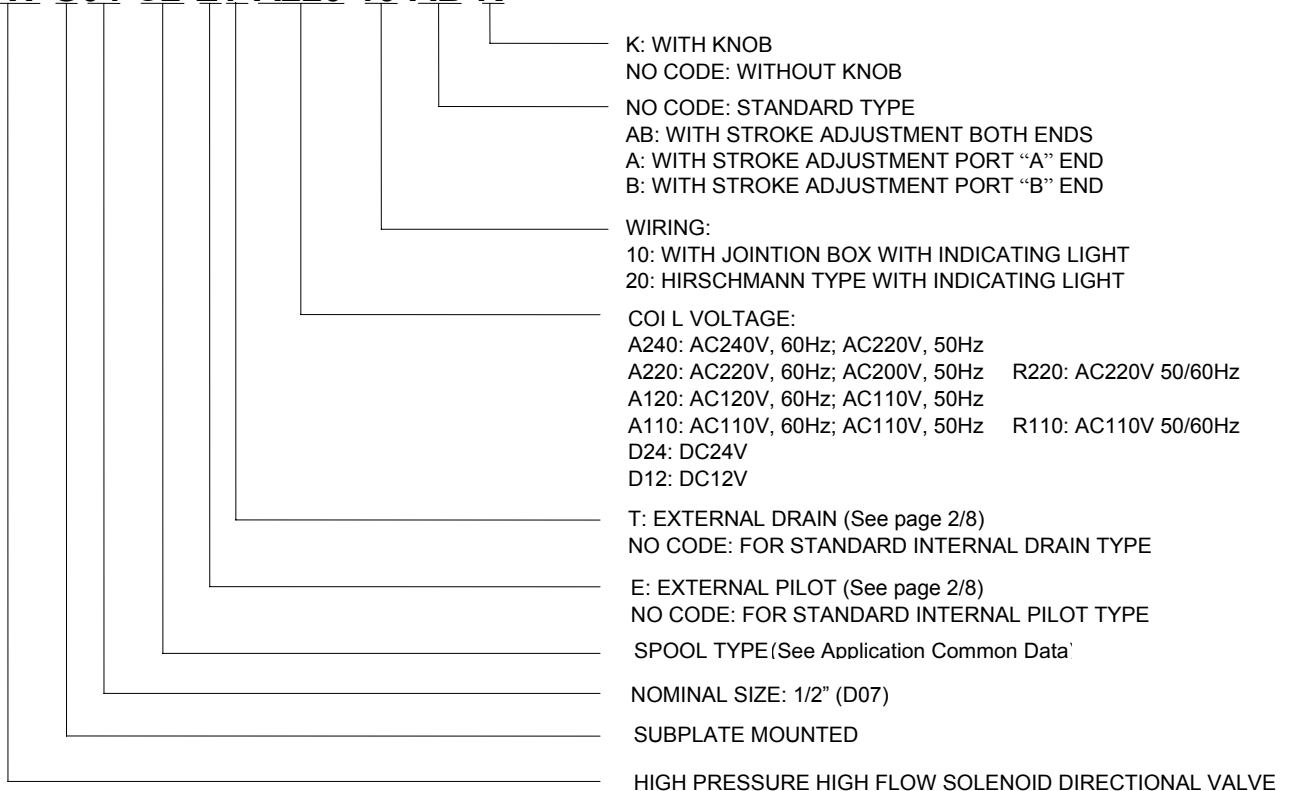


FEATURES

- Armature operates in system oil. Impact is decreased and cushioning added, making noise lowered & solenoid life Prolonged.
- Wet armature solenoid eliminates push pin seal, reducing seal wear or leakage for longer valve life.
- Molded coil gives maximum insulating properties. They are protected by a special resin and impervious to moisture and dirt for ease of maintenance.
- Plug-in solenoid, easy to change coil.
- Change of pilot and drain can be easily accomplished by plugging or unplugging.
- Spool is designed to avoid creating jet flow or turbulence under high pressure and flow.

HOW TO ORDER

SW-G04-C2-ET-A220-10-AB-K



SOLENOID CONTROLLED PILOT OPERATED DIRECTIONAL VALVE

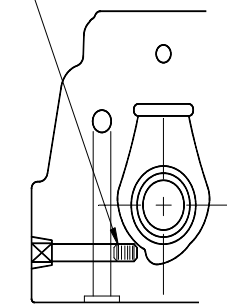
SW-G04 SERIES

SPECIFICATIONS

Maximum operating pressure	315 kgf/cm ² (4500 PSI)
Maximum tank line back pressure	210 kgf/cm ² (3000 PSI) externally drained
	140 kgf/cm ² (2000 PSI) internally drained
Pilot pressure	Min. 8 kgf/cm ² (113 PSI)
	Max. 250 kgf/cm ² (3550 PSI)
Maximum flow	300 LPM (80 GPM)
Weight	SW-G04-C,D SERIES 8.2 kgs (18 lbs)
	SW-G04-B, SERIES 7.9 kgs (17.5 lbs)

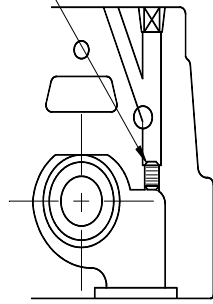
OPTION ET

WITHOUT PLUG
WHEN VALVE IS
INTERNALLY DRAINED.

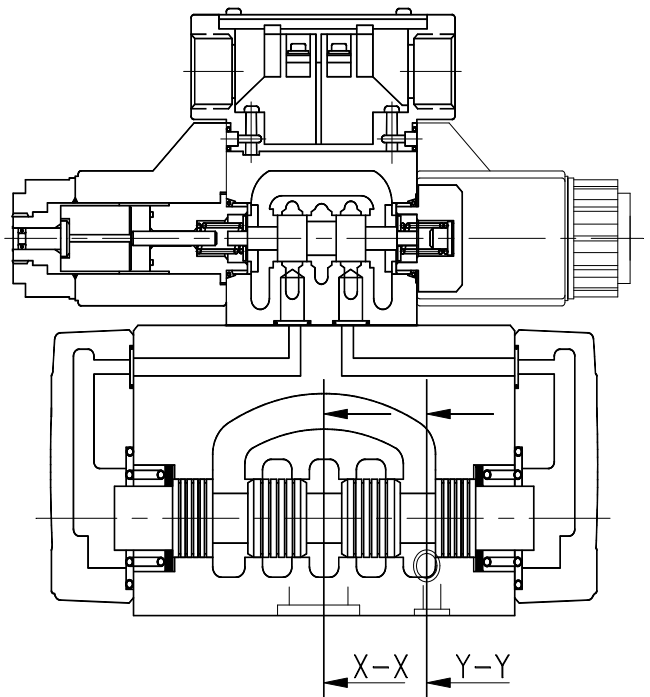


SECTION X-X

WITHOUT PLUG
WHEN VALVE IS
INTERNALLY PILOTED.



SECTION Y-Y





SOLENOID RATINGS

ELECTRIC SOURCE	COIL TYPE	VOLTAGE (V)			CURRENT & POWER AT RATED VOLTAGE		
		SOURCE RATED	Hz	RANGE	IN-RUSH CURRENT (A)	HOLDING CURRENT (A)	WATTAGE
A.C.	A110	AC100V	50	90-110	1.6	0.46	
		AC100V	60	90-110	1.4	0.36	
		AC110V		99-121	1.5	0.39	
	A120	AC110V	50	99-121	1.3	0.38	
		AC120V	60	108-132	1.2	0.27	
	A220	AC200V	50	180-220	0.80	0.23	
		AC220V	60	198-242	0.75	0.19	
	A240	AC220V	50	198-242	0.67	0.19	
AC240V		60	216-264	0.59	0.13		
D.C.	D12	DC12V		10.8-13.2	2.2	2.2	26
	D24	DC24V		21.6-26.4	1.1	1.1	

TECHNICAL DATA:

- Solenoid can be used within – 10% to + 10% of the rated voltage of the coil.
- Withstand voltage 1500 v/sec.
- Insulation resistance over 100MΩ.
- A momentary signal of approx 0.1 second is required for shifting action.
- Pilot pressure of internally drained valves must always exceed tank port pressure by a minimum of 8.0 kgf/cm² (113 PSI)
Valve must be externally drained if there is a possibility of tank line persuader surges overcoming this differential.
- Open center spools C3, C5, C6, C60 must be externally piloted.

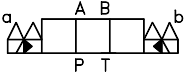
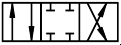




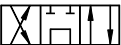
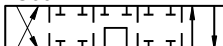

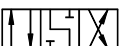
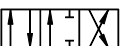
ACCESSORIES:

- Mounting bolt kits are supplied with valve socket head cap screws
M6 x 45 L 2 pieces (1/4" – 20 UNC – 2B x 1 3/4"L) for tightening torque 120-150 kgf-cm.(104-130 lbs-in).
M10 x 50 L 4 pieces (3/8" – 16 UNC-2B x 2"L) for tightening torque 580-720 kgf-cm.(502-624 lbs-in).
- O-ring P22A 90° 4 pieces, P9 90° 2 pieces.

SOLENOID CONTROLLED PILOT OPERATED DIRECTIONAL VALVE

SW-G04 SERIES

LIST OF SPOOL FUNCTION

THE MAXIMUM FLOW RATE LPM (GPM) UNDER DIFFERENT PRESSURE kgf/cm ² (PSI)						
SPOOL TYPE NORMAL POSITION	SPRING CENTERED					
						
	50kgf/cm ² (735 PSI)	100 kgf/cm ² (1470 PSI)	150 kgf/cm ² (2200 PSI)	210 kgf/cm ² (3000 PSI)	250 kgf/cm ² (3675 PSI)	315 kgf/cm ² (4500 PSI)
C2 	300(80.0)	300(80.0)	300(80.0)	260(69.3)	200(53.3)	140(37.3)
	300(80.0)	300(80.0)	260(69.3)	155(41.3)	120(32.0)	110(29.3)
C3 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
C4 	300(80.0)	300(80.0)	300(80.0)	260(69.3)	245(65.3)	160(42.7)
	300(80.0)	300(80.0)	260(69.3)	185(49.3)	140(37.3)	110(29.3)
C40 	300(80.0)	300(80.0)	300(80.0)	260(69.3)	200(53.3)	145(38.7)
	300(80.0)	300(80.0)	260(69.3)	155(41.3)	120(32.0)	110(29.3)
C5 	260(69.3)	255(68.0)	250(66.6)	245(65.3)	240(64.0)	240(64.0)
C6 	300(80.0)	300(80.0)	265(80.0)	255(68.0)	245(65.3)	235(62.7)
C60 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
C7 	300(80.0)	300(80.0)	300(80.0)	290(80.0)	280(74.7)	255(68.0)
C8 	300(80.0)	300(80.0)	285(76.0)	230(61.3)	170(45.3)	135(36.0)
	300(80.0)	300(80.0)	255(68.0)	165(44.0)	120(32.0)	110(29.3)
C9 	300(80.0)	300(80.0)	270(72.0)	200(53.3)	160(42.7)	140(37.3)

NOTE: The upper-side number in table describes the maximum flow for standard type.
The lower-side number in table describes the maximum flow for shock-less type.



LIST OF SPOOL FUNCTION

THE MAXIMUM FLOW RATE LPM (GPM) UNDER DIFFERENT PRESSURE kgf/cm ² (PSI)						
SPOOL TYPE NORMAL POSITION	NO SPRING					
	50kgf/cm ² (735 PSI)	100 kgf/cm ² (1470 PSI)	150 kgf/cm ² (2200 PSI)	210 kgf/cm ² (3000 PSI)	250 kgf/cm ² (3675 PSI)	315 kgf/cm ² (4500 PSI)
N2 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
N3 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
N4 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
N40 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)

THE MAXIMUM FLOW RATE LPM (GPM) UNDER DIFFERENT PRESSURE kgf/cm ² (PSI)						
SPOOL TYPE NORMAL POSITION	SPRING OFFSET					
	50kgf/cm ² (735 PSI)	100 kgf/cm ² (1470 PSI)	150 kgf/cm ² (2200 PSI)	210 kgf/cm ² (3000 PSI)	250 kgf/cm ² (3675 PSI)	315 kgf/cm ² (4500 PSI)
B2 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
B3 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
B4 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)
B40 	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)	300(80.0)

SOLENOID CONTROLLED PILOT OPERATED DIRECTIONAL VALVE

SW-G04 SERIES

PRESSURE DROP AND PERFORMANCE CURVES

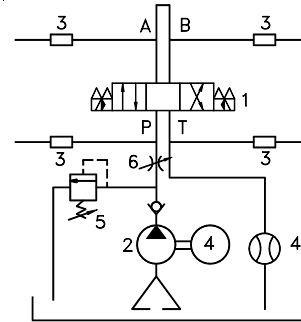
TEST SYSTEMS

1. Testing Valve
2. Pump
3. Pressure sensor
4. Flow sensor
5. Relief valve
6. Throttle valve

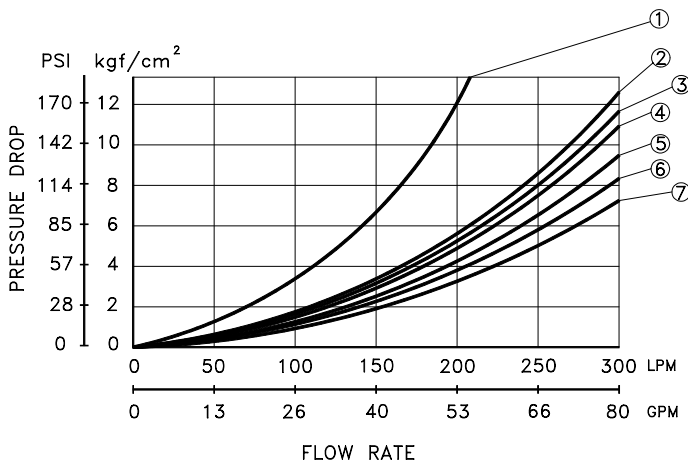
TEST CONDITIONS

Pressure: 70 kgf/cm² (1000 PSI)
 Flow Rate: 300 LPM(80 GPM)
 Viscosity: 35 cSt

TEST CIRCUIT



PERFORMANCE CURVES



SPOOL TYPE	Pressure Drop Curve Number				
	P→A	B→T	P→B	A→T	P→T
C2	5	4	5	6	-
C3	5	3	5	5	7
C4	5	3	5	5	-
C40	5	4	5	6	-
C5	7	4	5	5	5
C6	5	3	5	6	1
C60	7	5	7	7	2
C7	5	4	5	6	-
C8	5	4	5	5	-
C9	6	4	5	6	-

CONTRAST CHART BETWEEN FACTORS AND VISCOSITIES

VISCOSITY	cSt	15	20	30	40	50	60	70	80	90	100
	SSU	77	98	141	186	232	278	324	371	417	464
FACTOR(G')		0.81	0.87	0.96	1.03	1.09	1.14	1.19	1.23	1.27	1.30

The pressure drop ($\Delta P'$) can be obtained from the formula
 $\Delta P' = \Delta P(G'/0.85)$ for other specific gravity (G').



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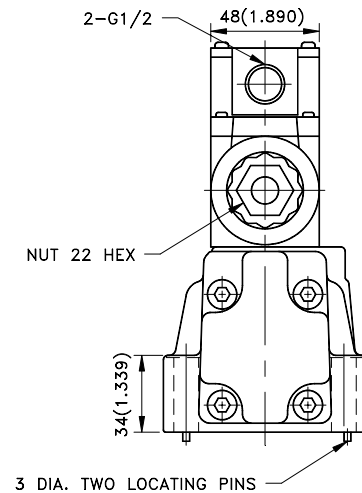
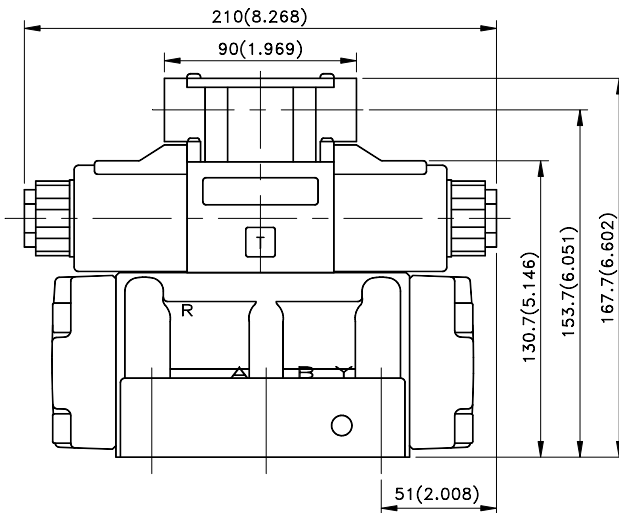
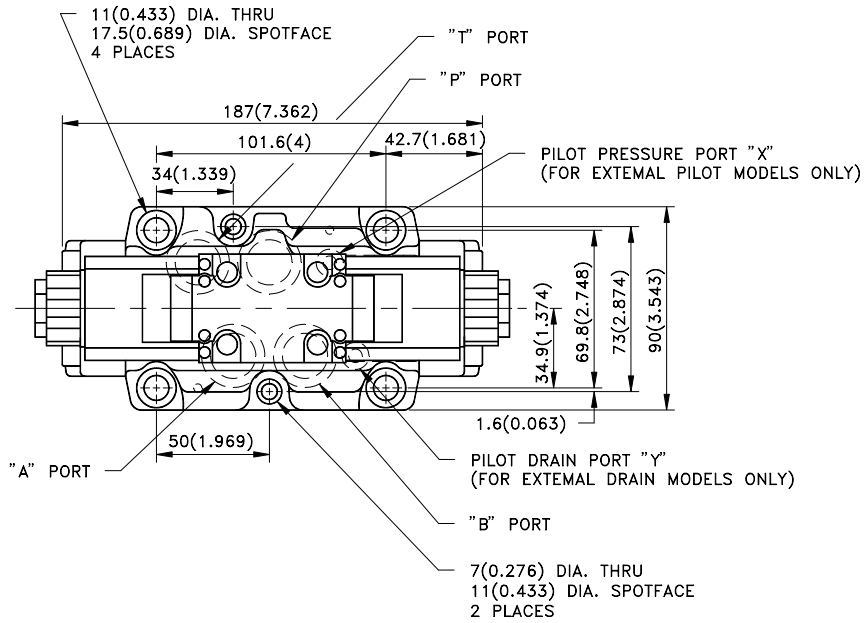
SW-G04 SERIES

INSTALLATION DIMENSIONS

Mounting Surface: ISO 4401-AD -07 - 4 -A

UNIT: mm(inch)

SW-G04- *** - ** - **** - 10



SOLENOID CONTROLLED PILOT OPERATED DIRECTIONAL VALVE

SW-G04 SERIES

INSTALLATION DIMENSIONS

Mounting Surface: ISO 4401-AD -07 - 4 -A

UNIT: mm(inch)

SW-G04 - *** - ** - ***** - 10 - AB - K

