

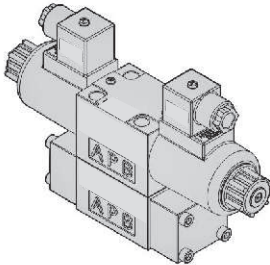


Bell
HYDROMATICS

Solenoid Valves

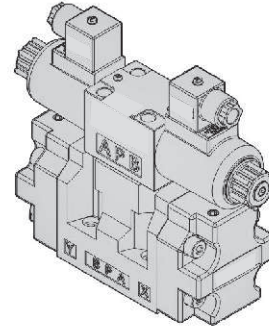
SOLENOID CONTROLLED PILOT OPERATED DIRECTIONAL VALVES DSHG TYPE

DSHG-N-01



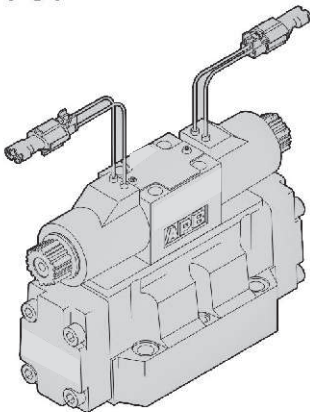
Max. Pressure : 210bar (3000PSI)
Max. Flow : 40lpm (10.6USgpm)

DSHG-N-03



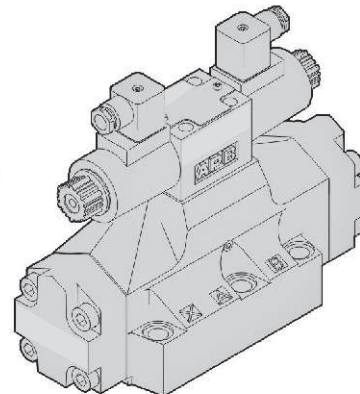
Max. Pressure : 250bar (3600PSI)
Max. Flow : 160lpm (42.3USgpm)

DSHG-Y-04



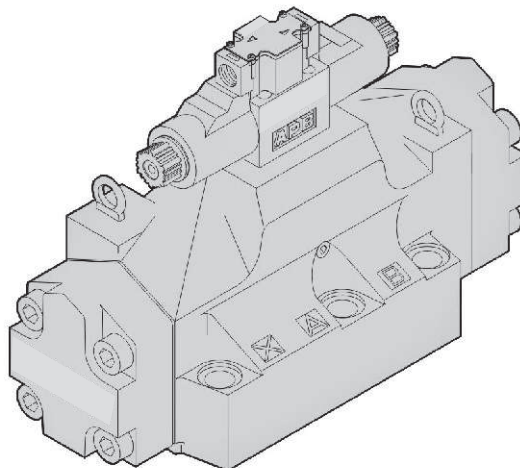
Max. Pressure : 250bar (3600PSI)
Max. Flow : 300lpm (79.3USgpm)

DSHG-N-06



Max. Pressure : 250bar (3600PSI)
Max. Flow : 500lpm (132USgpm)

DSHG-10



Max. Pressure : 250bar (3600PSI)

Max. Flow : 1100lpm (291USgpm)

B2



Bell
HYDROMATICS

Solenoid Valves

MODEL NO SPECIFICATIONS (Solenoid Controlled Pilot Operated Directional Valves)

Spool Type & Graphic Symbols		Rated Flow Capacity -Maximum Flow Capacity							
SYMBOLS	MODEL NO	DSHG-01	DSHG-03	DSHG-04	DSHG-06	DSHG-10			
	DSHG-2B2-**-	~40 lpm (~10.6USgpm)	60~160 lpm (15.9~42.3USgpm)	135~300 lpm (35.7~79.3USgpm)	310~500 lpm (82~132USgpm)	570~1100 lpm (150~291USgpm)			
	DSHG-2B3-**-								
	DSHG-2B4-**-								
	DSHG-2N2-**-								
	DSHG-2N3-**-								
	DSHG-3C2-**-								
	DSHG-3C3-**-								
	DSHG-3C4-**-								
	DSHG-3C40-**-								
	DSHG-3C7-**-								
	DSHG-3C9-**-								
	DSHG-3C10-**-								
	DSHG-3C11-**-								
	DSHG-3C12-**-								
	DSHG-3C5-**-	~40 lpm (~10.6USgpm)	60~160 lpm (15.9~42.3USgpm)	245~280 lpm (64.8~74.5USgpm)	230~450 lpm (60.8~120USgpm)	570~950 lpm (150~250USgpm)			
	DSHG-3C6-**-								
	DSHG-3C60-**-								
Max. Operating Pressure (bar)		315 (4500 PSI)							
Min. Required Pilot Pressure (bar)		8 (114 PSI)				10 (143 PSI)			
Max. Pilot Pressure (bar)		250 (3600 PSI)							
Permissible Back Pressure (T) (bar) Ext. Drain		210 (3000 PSI)							
Permissible Back Pressure (T) (bar) Int. Drain		160 (2300 PSI)							
Weight (Kgs)	Double Solenoid	3.5	7.2	8.9	12.8	45.4			
	Single Solenoid	2.9	6.6	8.3	12.2	44.8			
Switching Frequency (times/min)		120	120	120	120	110			
Hydraulic Fluids		Use Hydraulic Fluids Equivalent to ISO VG32 or VG46							
Operating Temperature Range Recommended (°C)		-15 ~ +70 (+5 ~ +160°F)							
Operating Viscosity (cSt)		15 ~ 400 (80 ~ 1800SSU)							
Filtration		25 Microns Absolute or Finer							

B2



Bell
HYDROMATICS

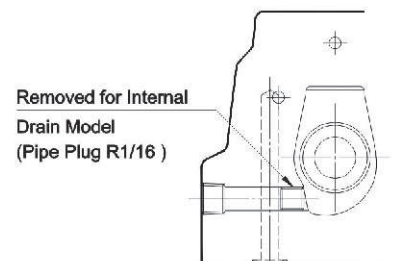
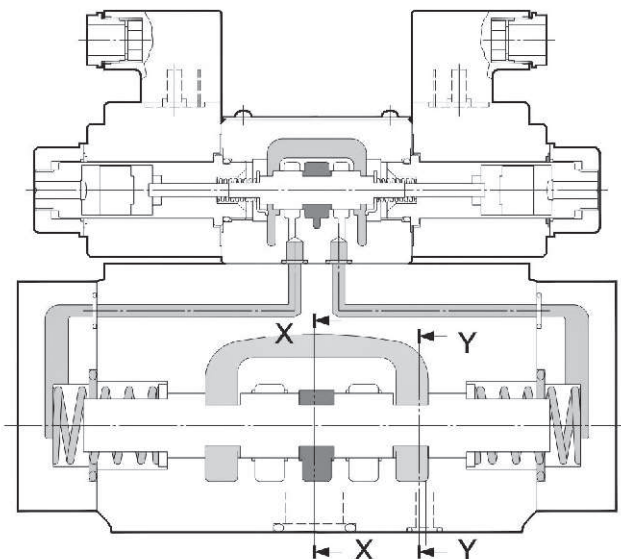
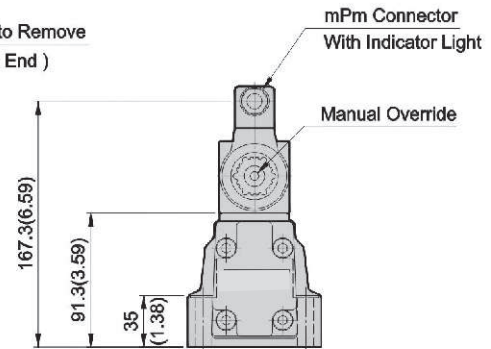
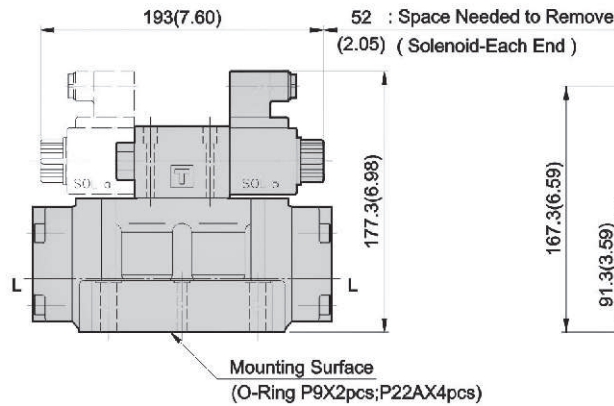
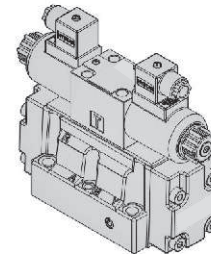
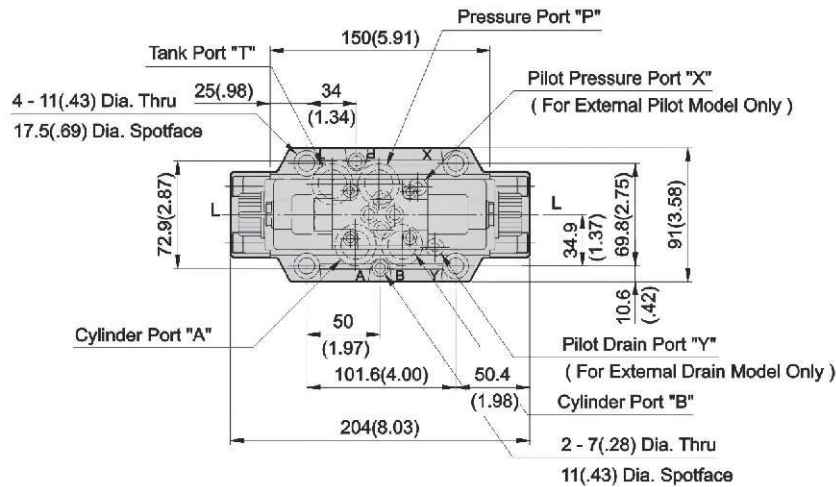
Solenoid Valves

DIMENSIONS

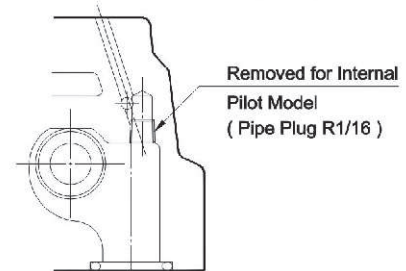
MILLIMETERS(INCHES)

04(1/2")(S)DSHG-***-N-04

MOUNTING SURFACE: DSHG-04-CETOP7
ISO 07-NFPAD07



Section Y-Y



Section X-X

Attachment Name	Description	Tightening Torque	Code
Soc. Hd. Cap Screw	M6X45LgX2pcs	12-15 Nm	30
	M10X45LgX4pcs	58-72 Nm	
Soc. Hd. Cap Screw	1/4-20UNCX1-3/4"LgX2pcs	104-130 in.lbs	3090
	3/8-16UNCX1-3/4"Lg X4pcs	504-625 in.lbs	

B2

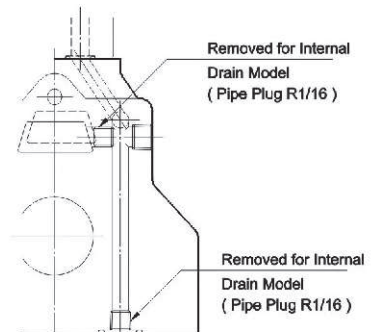
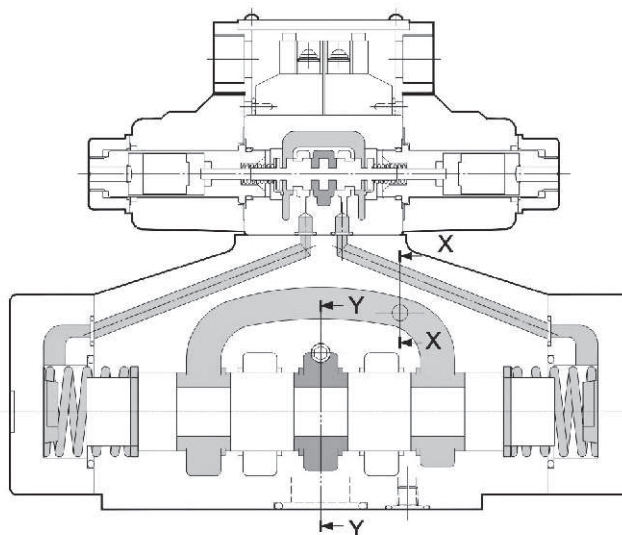
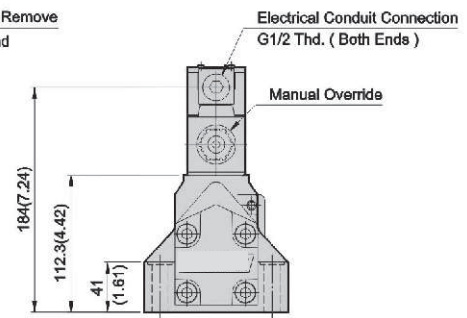
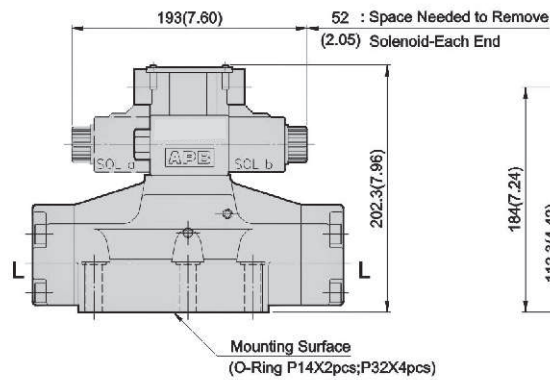
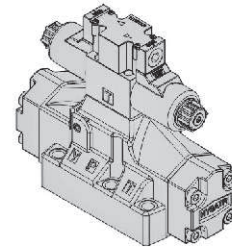
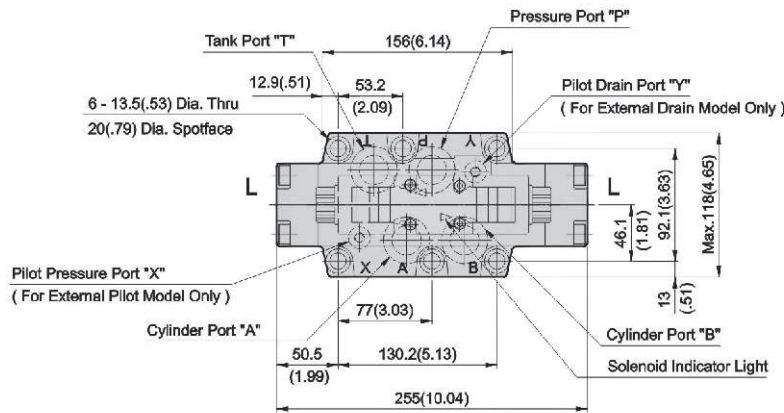
Solenoid Valves

DIMENSIONS

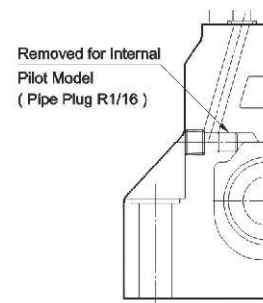
MILLIMETERS(INCHES)

06(3/4") (S) DSHG-***-06

MOUNTING SURFACE: DSHG-06-CETOP8
ISO 08-NFPAD08



Section X-X



Section Y-Y

Attachment Name	Description	Tightening Torque	Code
Soc. Hd. Cap Screw	M12X55LgX6pcs	100-123 Nm	30
Soc. Hd. Cap Screw	1/2-13UNCX2-1/8"Lg X6pcs	868-1068 In.lbs	3090

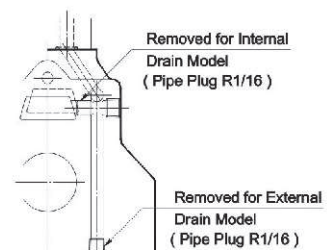
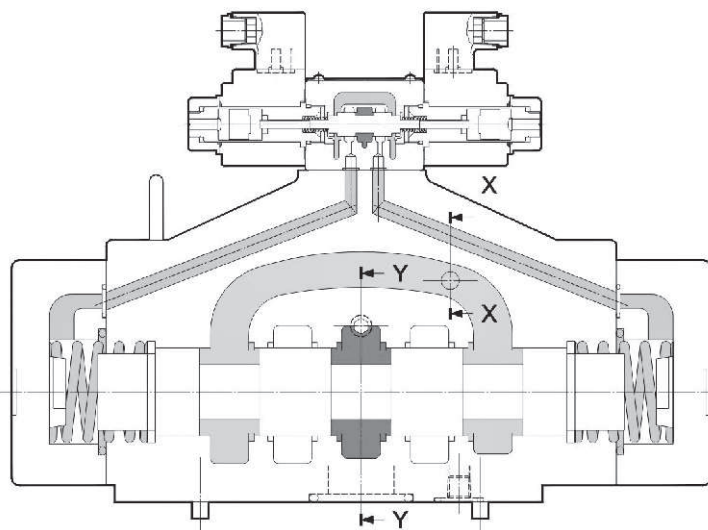
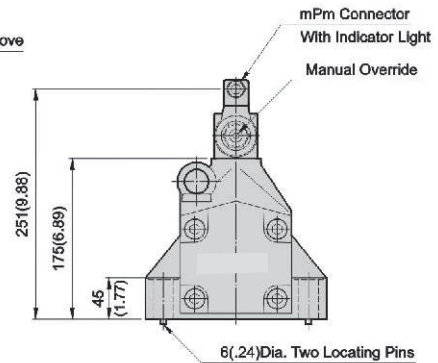
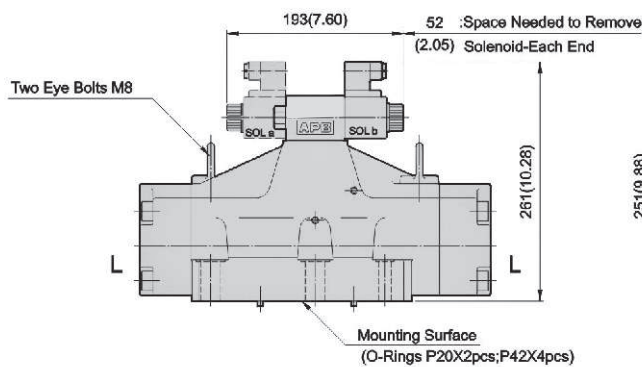
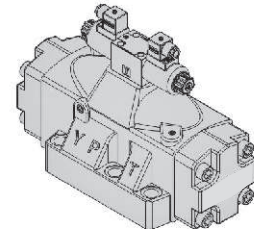
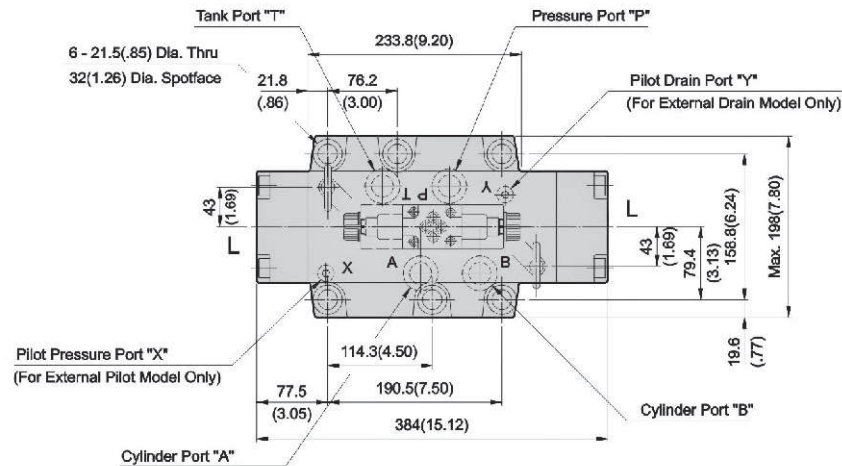
Solenoid Valves

DIMENSIONS

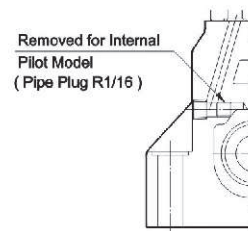
MILLIMETERS(INCHES)

10(1-1/4")X(S)DSHG-***-10

MOUNTING SURFACE: DSHG-10-CETOP10
ISO 10-NFPAD10



Section X-X



Section Y-Y

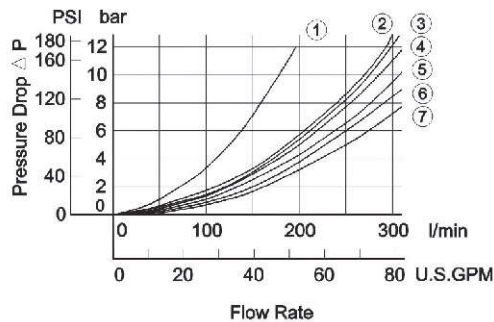
Attachment Name	Description	Tightening Torque	Code
Soc. Hd. Cap Screw	M20X75LgX6pcs	473-585 Nm	30
Soc. Hd. Cap Screw	3/4-10UNCX3"Lg X8pcs	4106-5078 in.lbs	3090

**Bell**
HYDROMATICS

Solenoid Valves

PRESSURE DROP

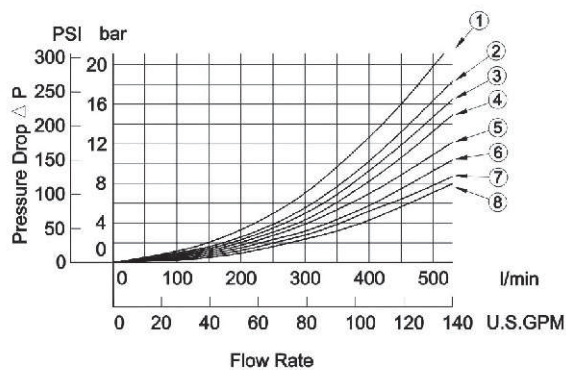
DSHG-04
DSHG-04-S



Series	Spool Type	Pressure Drop Curve Number				
		P→A	B→T	P→B	A→T	P→T
DSHG-04 DSHG-04-S	3C2	5 (2)	4 (2)	5 (2)	6 (4)	—
	3C3	5	3	5	5	7
	3C4	5 (2)	3 (3)	5 (2)	5 (5)	—
	3C40	5 (2)	4 (4)	5 (2)	6 (6)	—
	3C5	7	4	5	5	5
	3C6	5 (6)	3 (4)	5 (6)	6 (7)	1 (2)
	3C60	7	5	7	7	2
	3C7	5	4	5	6	—
	3C9	5	4	5	6	—
	3C10	5 (2)	2 (2)	5 (2)	6 (4)	—
	3C11	6	4	5	6	—
	3C12	5 (2)	4 (2)	5 (2)	5 (5)	—

Graphs based on fluid viscosity of 35 cSt (162 SSU).
Notes : () curve No. is for shock-less type.

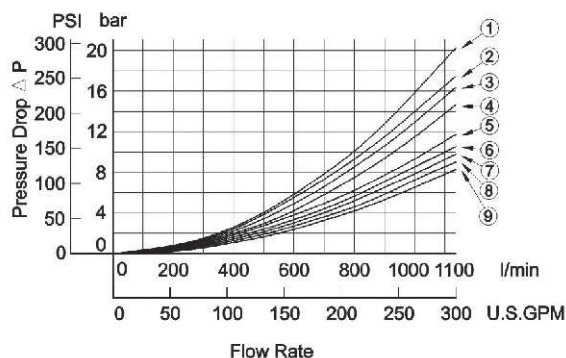
DSHG-06
DSHG-06-S



Series	Spool Type	Pressure Drop Curve Number				
		P→A	B→T	P→B	A→T	P→T
DSHG-06 DSHG-06-S	3C2	8 (6)	5 (1)	8 (6)	7 (2)	—
	3C3	6	4	6	7	6
	3C4	8 (6)	5 (2)	8 (6)	7 (2)	—
	3C40	8	5	8	7	—
	3C5	8	4	5	7	2
	3C6	5	1	5	4	3
	3C60	6 (6)	5 (2)	6 (6)	7 (3)	3 (1)
	3C7	6	4	6	7	—
	3C9	6	5	6	7	—
	3C10	8	5	8	7	—
	3C11	8	4	5	7	—
	3C12	8	5	8	7	—

Graphs based on fluid viscosity of 35 cSt (162 SSU).
Notes : () curve No. is for shock-less type.

DSHG-10
DSHG-10-S



Series	Spool Type	Pressure Drop Curve Number				
		P→A	B→T	P→B	A→T	P→T
DSHG-10 DSHG-10-S	3C2	9 (8)	6 (3)	9 (8)	8 (4)	—
	3C3	7	6	7	7	5
	3C4	9 (8)	6 (5)	9 (8)	6 (6)	—
	3C40	9	6	9	8	—
	3C5	9	6	8	6	1
	3C6	5	3	5	4	2
	3C60	8 (8)	5 (4)	8 (8)	5 (4)	3 (2)
	3C7	7	6	7	7	—
	3C9	7	6	7	8	—
	3C10	9	5	9	8	—
	3C11	9	6	8	7	—
	3C12	9	7	9	6	—

Graphs based on fluid viscosity of 35 cSt (162 SSU).
Notes : () curve No. is for shock-less type.

FLOW LIMITATIONS :

Pressure drop is influenced by forces acting within the valve. The graphs shown assume simultaneous equal flow rates P to A or B, and from A or B to T.

Care should be taken in applications where high flow rates are used in conjunction with high pressure, i.e., greater than 250 bar (3600 PSI).

Also when single flow paths, or substantially different simultaneous flow rates are required between P to A or B, and A or B to T.

B2



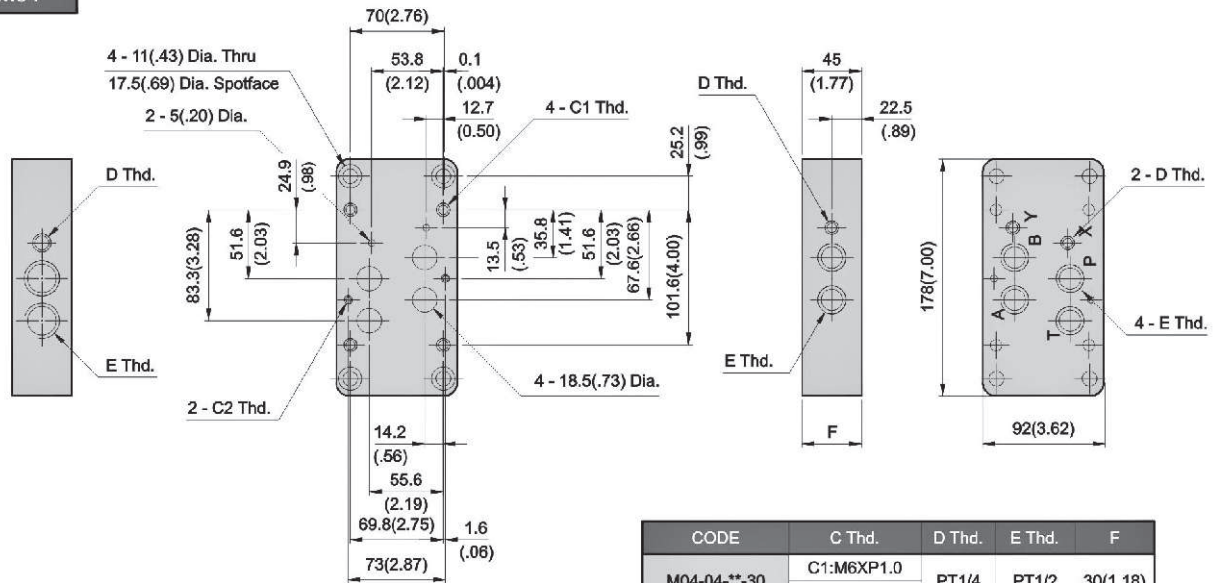
Bell
HYDROMATICS

Solenoid Valves

SUBPLATE

DIMENSIONS : MILLIMETERS(INCHES)

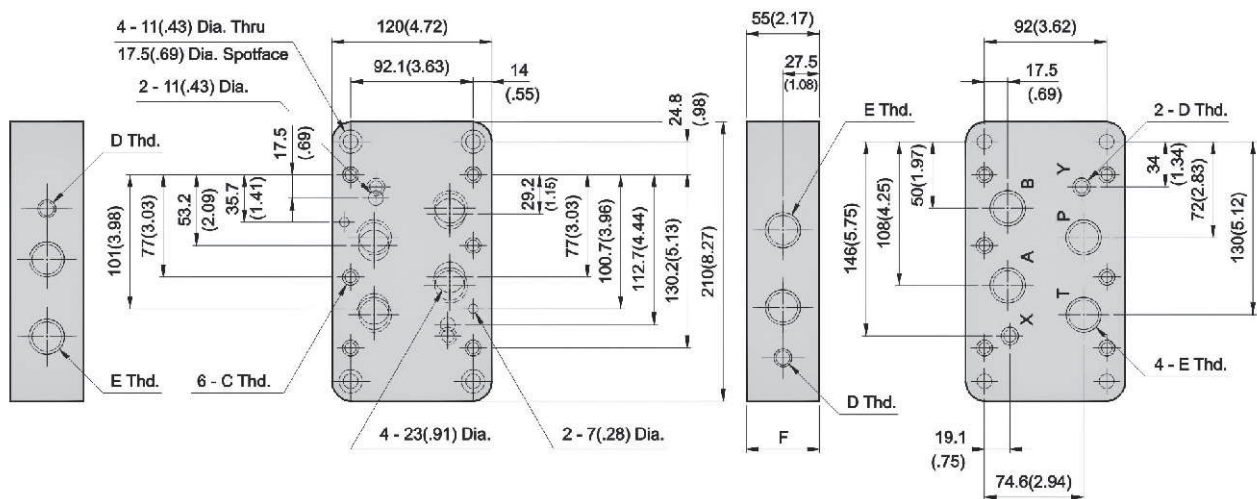
M04-**-



CODE	C Thd.	D Thd.	E Thd.	F
M04-04-**-30	C1:M6XP1.0 C2:M10XP1.25	PT1/4	PT1/2	30(1.18)
M04-04-**-3090	C1:1/4-20UNC C2:3/8-16UNC	NPT1/4	NPT1/2	30(1.18)
M04-06-**-30	C1:M6XP1.0 C2:M10XP1.25	PT3/8	PT3/4	—
M04-06-**-3090	C1:1/4-20UNC C2:3/8-16UNC	NPT3/8	NPT3/4	—

"F" is for port position "4B" type only.

M06-**-



CODE	C Thd.	D Thd.	E Thd.	F
M06-06-**-30	M12XP1.5	PT3/4	PT3/4	30(1.18)
M06-06-**-3090	1/2-13UNC	NPT3/4	NPT3/4	30(1.18)
M06-08-**-30	M12XP1.5	PT1"	PT1"	30(1.18)
M06-08-**-3090	1/2-13UNC	NPT1"	NPT1"	30(1.18)

"F" is for port position "4B" type only.

B2



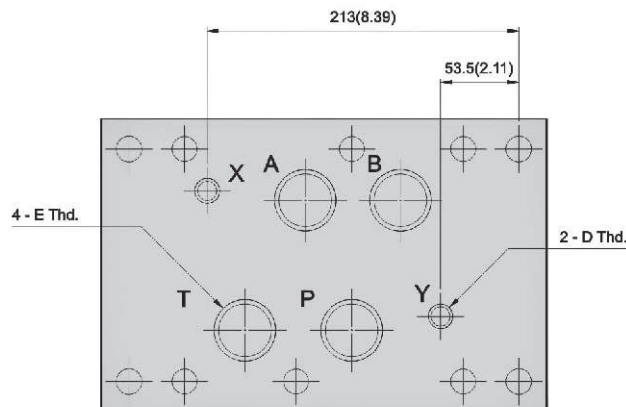
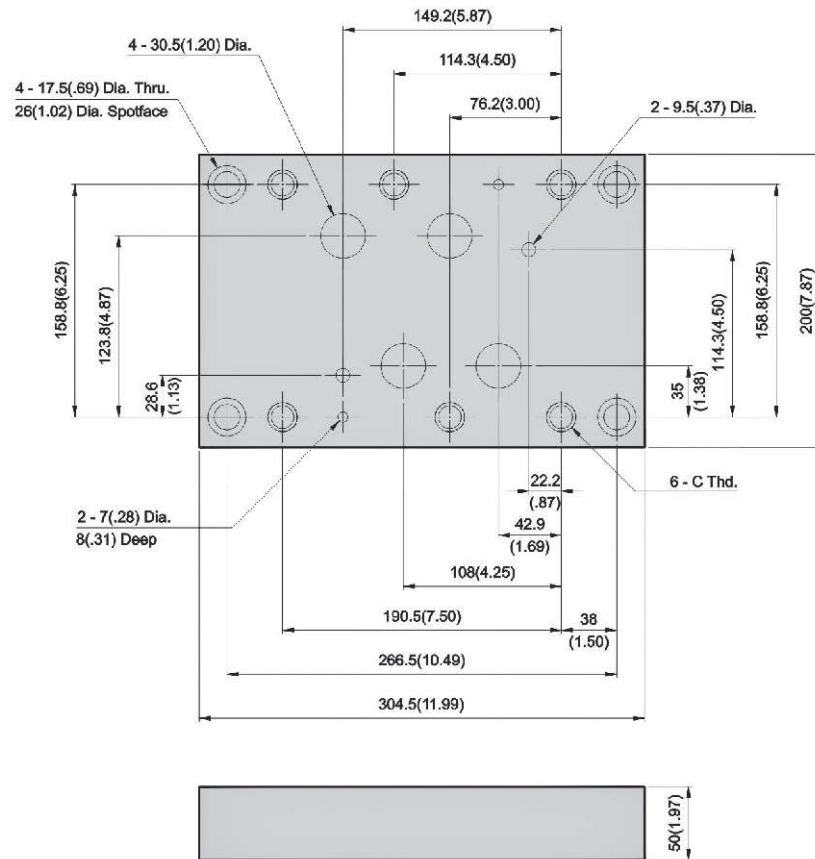
Bell
HYDROMATICS

Solenoid Valves

SUBPLATE

DIMENSIONS : MILLIMETERS(INCHES)

M10-**-



CODE	C Thd.	D Thd.	E Thd.
M10-10-**-30	M20XP2.5	PT1/4	PT1-1/4
M10-10-**-3090	3/4-10UNC	NPT1/4	NPT1-1/4

B2

Solenoid Valves

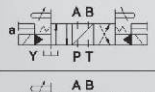
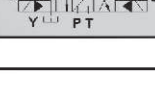
DIMENSIONS

MILLIMETERS(INCHES)

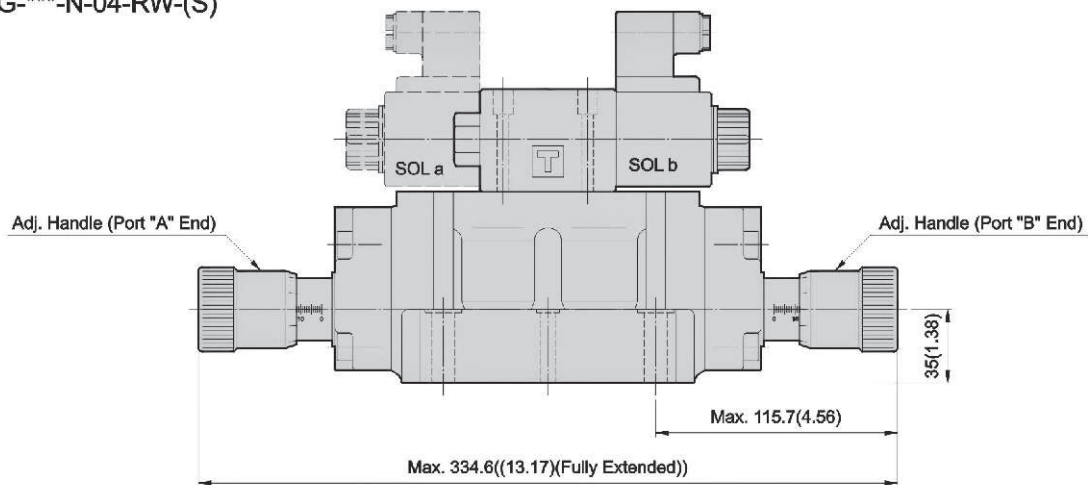
OPTIONAL

MODELS WITH STROKE LIMITER(RW/RA/RB)

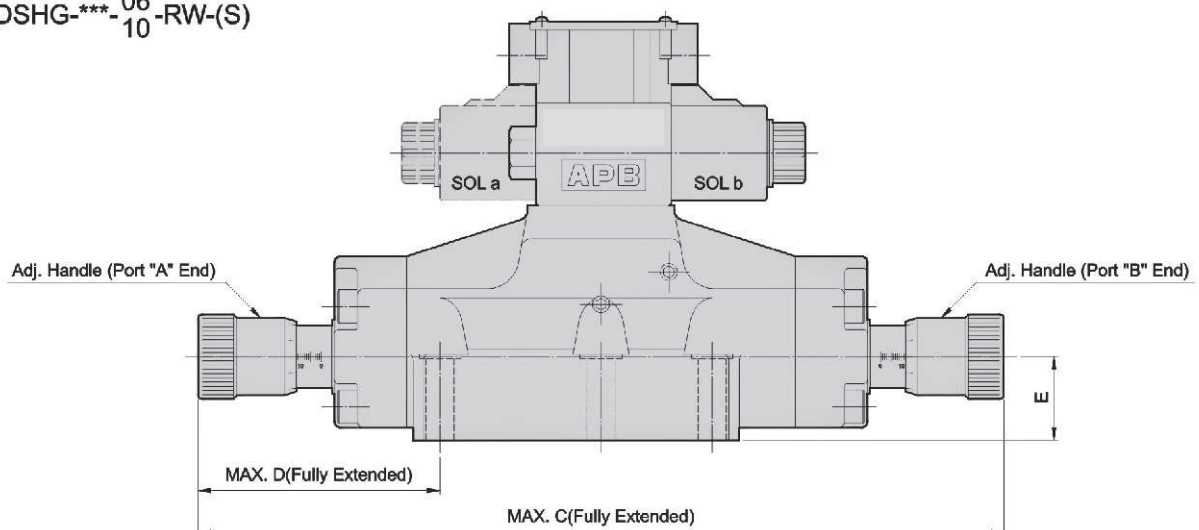
When the stroke adjustment is screwed in, the main spool stroke becomes shorter and flow rate becomes lower.

GRAPHIC SYMBOLS		CODE
	With Stroke Adjustment, "A+B" Stroke.	"RW"
	With Stroke Adjustment, Port "A" Stroke.	"RA"
	With Stroke Adjustment, Port "B" Stroke.	"RB"

DSHG-***-N-04-RW-(S)



DSHG-***-⁰⁶/₁₀-RW-(S)



Model Numbers	C	D	E
DSHG-***-06-RW-(S)	376(14.80)	111(4.37)	40(1.57)
DSHG-***-10-RW-(S)	558(21.97)	164.5(6.48)	65(2.56)