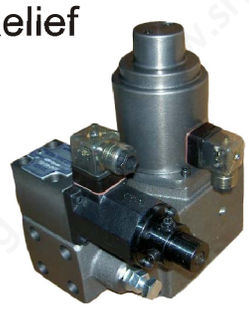
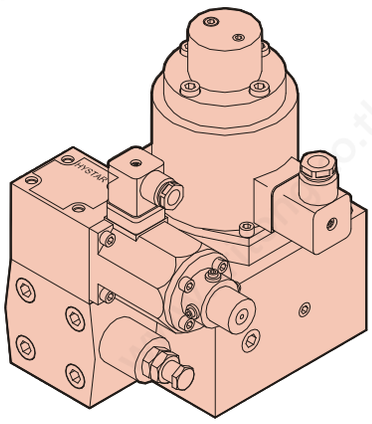
Proportional Electro-Hydraulic Relief And Flow Control Valves (40Ω -10Ω Series)

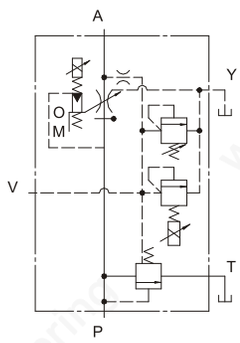




■ ORDERING CODE:

EFBG - 03 - 125 - C - 20 - ∗

- EFBG: PROPORTIONAL ELECTRO-HYDRAULIC RELIEF AND FLOW CONTROL VALVE G TYPE
- 03: VALVE SIZE
- 125: MAX. FLOW PASSED
- C: C:137bar(1950PSI) H:206bar(2930PSI)
- 20: DESIGN NO. 20 :WITH DIN 912 BOLTS 2090:WITH UNC(NORTH AMERICAN) BOLTS
- ∗: DATE OF MANUFACTURED



Graphic Symbols

■ RATINGS

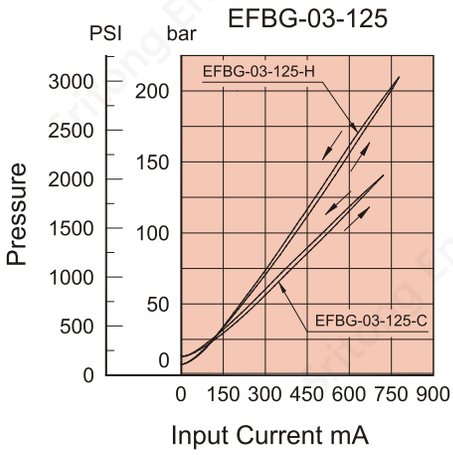
Description \ Model Number			EFBG-03-125	EFBG-06-250	EFBG-10-500
Max. Operating Pres.		bar(PSI)	206(2987)	206(2987)	206(2987)
Max. Flow		lpm(USgpm)	125(33)	250(66)	500(132)
Metred Flow Adjustment Range		lpm(USgpm)	1-125 (.26-33)	2-250 (.52-66)	5-500 (1.32-132)
Flow Controls	Rated Current	mA	750		
	Coil Resistance	Ω	40		
	Valve Internal Resistance (A→B)	bar(PSI)	5(72.5)		
	Hysteresis	%	< 7		
	Repeatability	%	< 1		
Pressure Controls	Pres. Adj. Range	bar(PSI)	C: 8~140(116~2030) H:10~206(145~3000)		
	Rated Current	mA	C:700 H:750		
	Coil Resistance	Ω	10		
	Hysteresis	%	< 3		
	Repeatability	%	< 1		
Weight		kg(lbs.)	18(39.6)	33(72.7)	58(127.8)

NOTE:

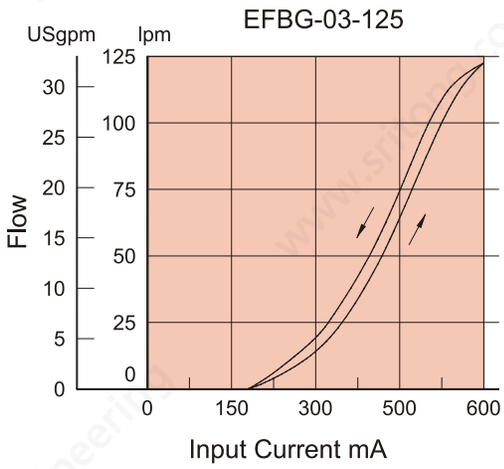
1. Pipe the return direct back to tank on its own below the oil level for minimum back pressure.
2. The specification chart above relates to performance achievable using the HYSTAR standard electronic controller type HNC-4075 ,HNC-1085 and a pump flow of 125 lpm.(EFBG-03);250 lpm. (EFBG-06);500 lpm.(EFBG-10); at oil temperature 45℃ /113℉ and viscosity 45 cSt.

(40Ω-10Ω Series)

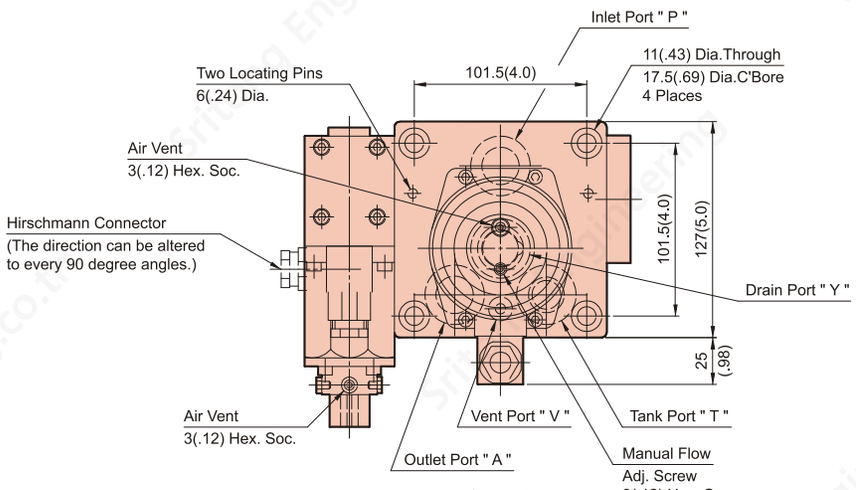
Input Current vs. Pressure

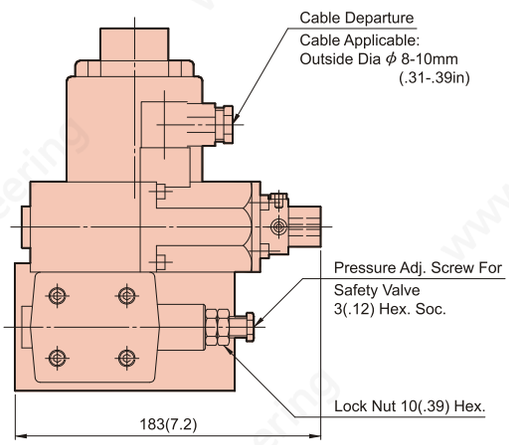


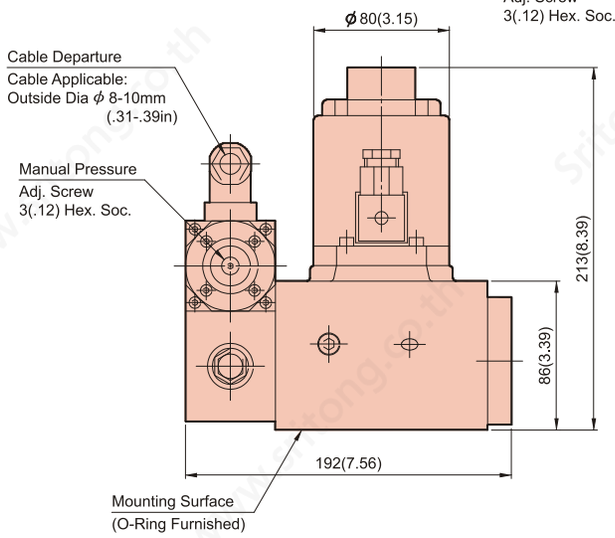
Input Current vs. Flow



EFBG-03-125-＊-20





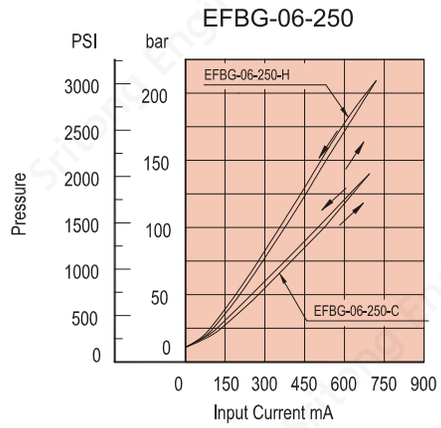


Name	Description	Tightening Torque	Code
Attachment Soc.Hd.Cap Screw:	M10X100LgX4pcs	58-72 Nm	20
Attachment Soc.Hd.Cap Screw:	No.3/8-16UNCX4"LgX4pcs	504-625 in.lbs	2090

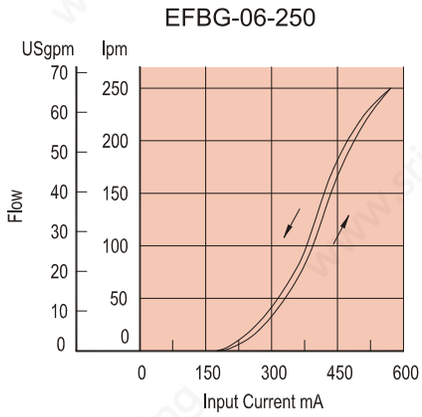
E

(40Ω-10Ω Series)

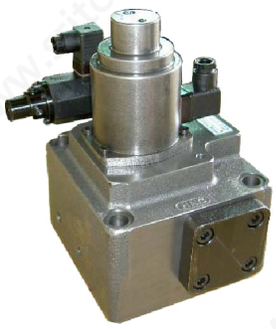
Input Current vs. Pressure

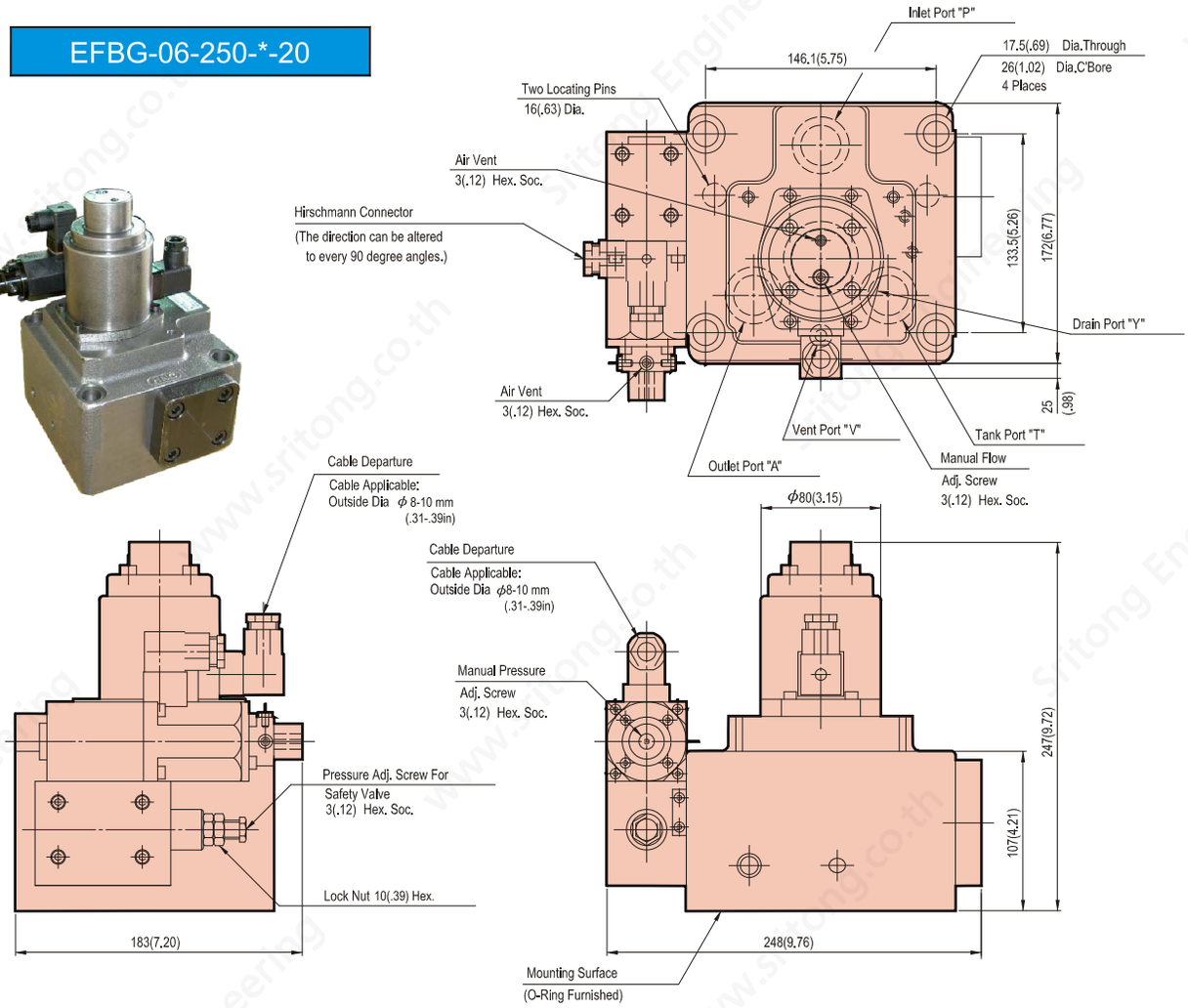


Input Current vs. Flow



EFBG-06-250-*-20





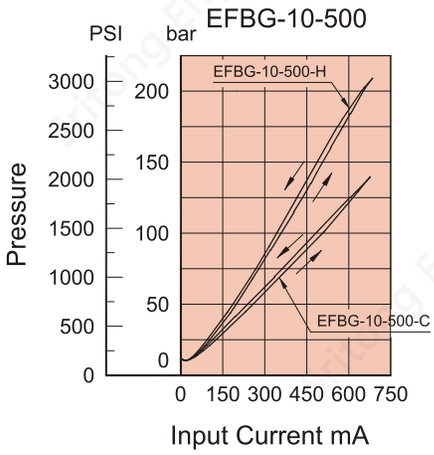
Name	Description	Tightening Torque	Code
Attachment Soc.Hd.Cap Screw:	M16X130Lg X4pcs	286-354 Nm	20
Attachment Soc.Hd.Cap Screw:	No.5/8-11UNCX5LgX4pcs	2482-3073 in.lbs	2090

DIMENSIONS MILLIMETERS(INCHES)

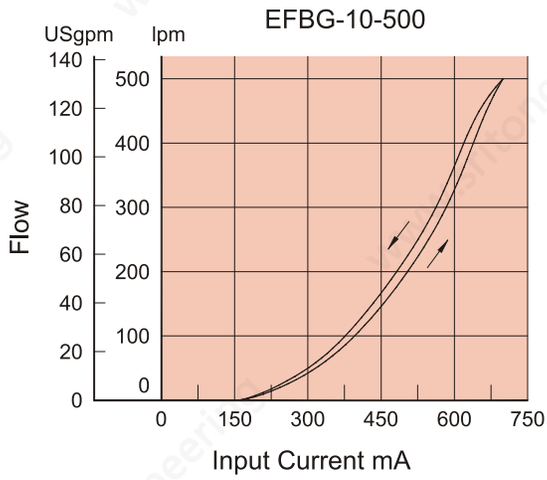
E

(40Ω-10Ω Series)

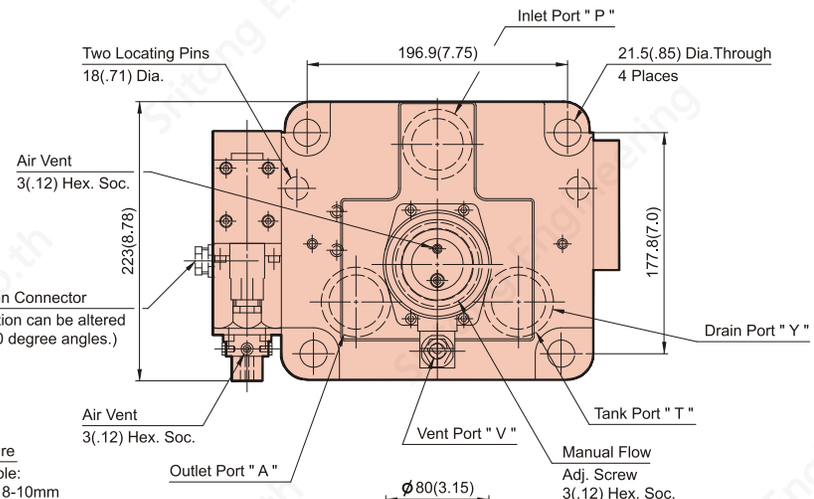
Input Current vs. Pressure

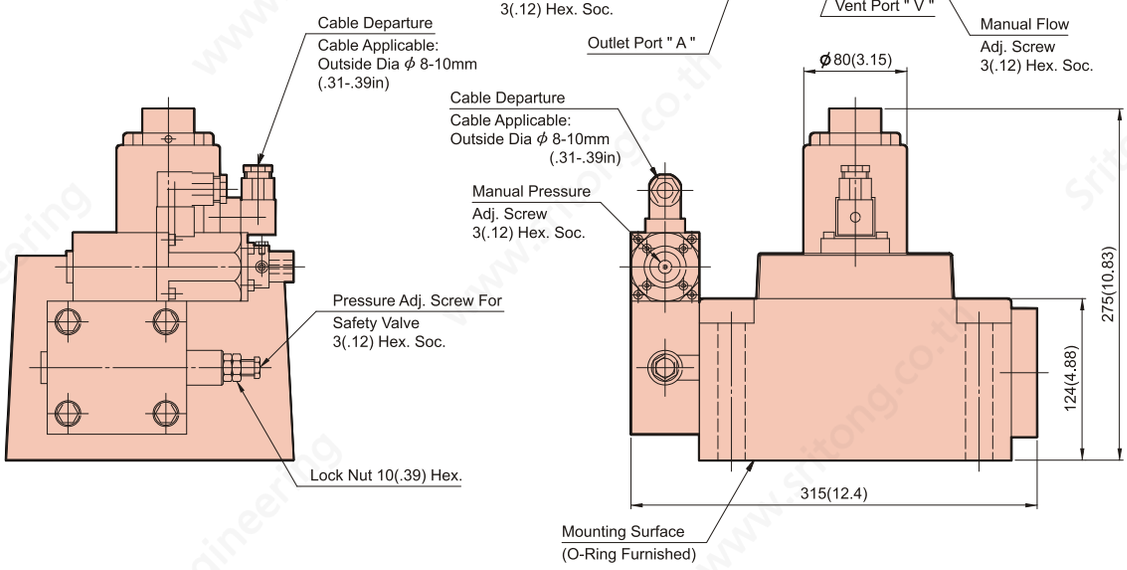


Input Current vs. Flow



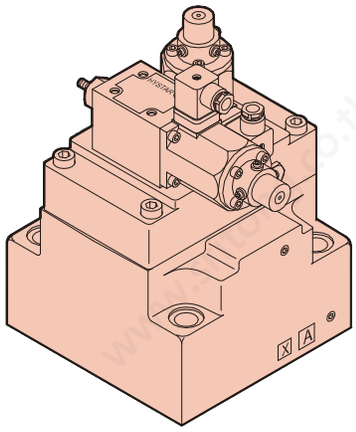
EFBG-10-500-＊-20





Name	Description	Tightening Torque	Code
Attachment Soc.Hd.Cap Screw:	M20X130LgX4pcs	473-585 Nm	20
Attachment Soc.Hd.Cap Screw:	No.3/4-10UNCX5"LgX4pcs	4106-5078 in.lbs	2090

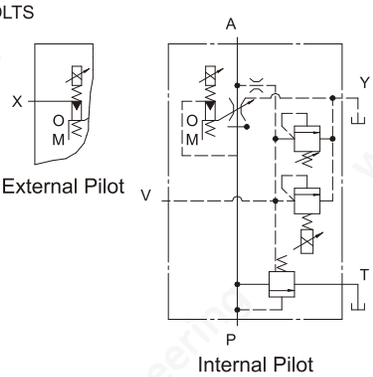
Proportional Electro-Hydraulic Relief And Flow Control Valves (10Ω-10Ω Series)



■ ORDERING CODE:

EFBG - 03 - 125 - C - 50 - *

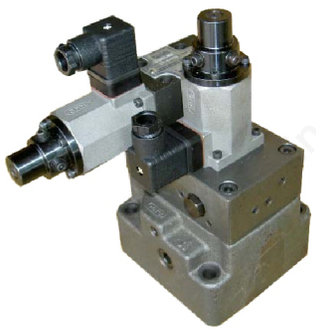
- EFBG: PROPORTIONAL ELECTRO-HYDRAULIC RELIEF AND FLOW CONTROL VALVE G TYPE
- 03: VALVE SIZE
- 125: MAX. FLOW PASSED
- C: C:137bar(1950PSI) H:206bar(2930PSI)
- 50: DESIGN NO. 50 :WITH DIN 912 BOLTS 5090:WITH UNC(NORTH AMERICAN) BOLTS
- *: DATE OF MANUFACTURED



Graphic Symbols

■ RATINGS

Description \ Model Number			EFBG-03-125	EFBG-06-250	EFBG-10-500
Max. Operating Pres.		bar(PSI)	250(3600)	250(3600)	250(3600)
Max. Flow		lpm(USgpm)	125(33)	250(66)	500(132)
Metred Flow Adjustment Range		lpm(USgpm)	1-125 (.26-33)	2-250 (.52-66)	5-500 (1.32-132)
Flow Controls	Rated Current	mA	800		
	Coil Resistance	Ω	10		
	Valve Internal Resistance (A→B)	bar(PSI)	5(72.5)		
	Hysteresis	%	< 7		
	Repeatability	%	< 1		
Pressure Controls	Pres. Adj. Range	bar(PSI)	C: 8~140(116~2030) H:10~250(145~3600)		
	Rated Current	mA	C:820 H:880		
	Coil Resistance	Ω	10		
	Hysteresis	%	< 3		
	Repeatability	%	< 1		
Weight		kg(lbs.)	16(35.3)	23(50.7)	64(141.1)



NOTE:

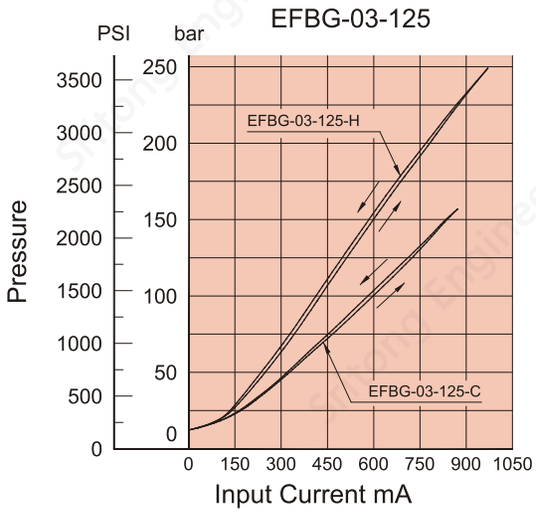
1. Pipe the return direct back to tank on its own below the oil level for minimum back pressure.
2. The specification chart above relates to performance achievable using the HYSTAR standard electronic controller type HNC-1085 and a pump flow of 125 lpm.(EFBG-03);250 lpm.(EFBG-06); 500 lpm.(EFBG-10); at oil temperature 45℃ /113℉ and viscosity 45 cSt.

DIMENSIONS MILLIMETERS(INCHES)

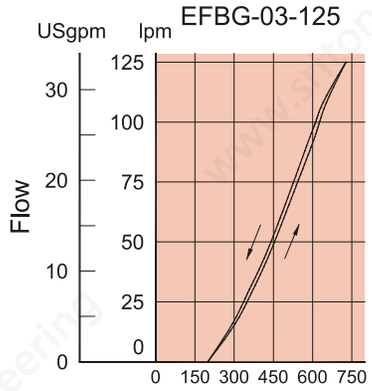
E

(10Ω-10Ω Series)

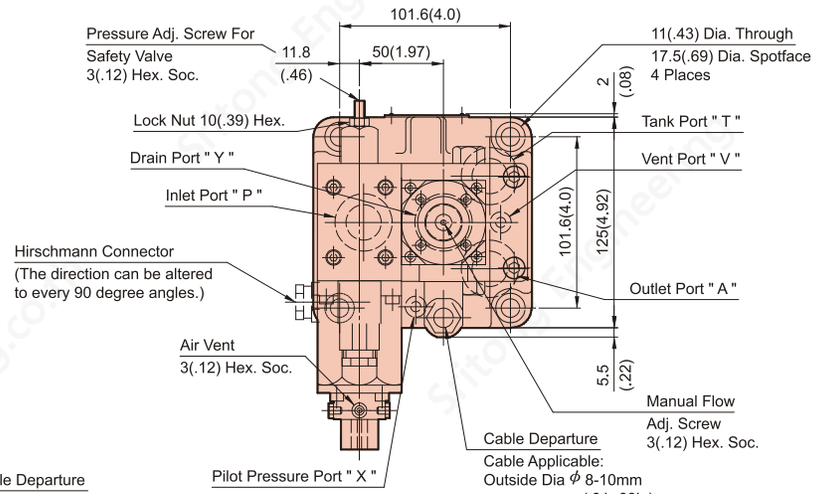
Input Current vs. Pressure

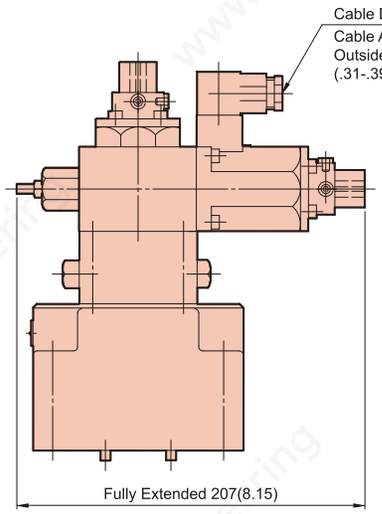


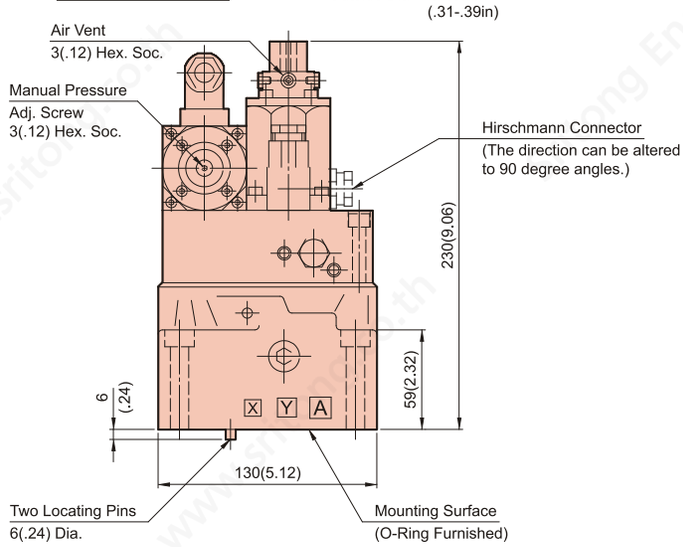
Input Current vs. Flow



EFBG-03-125-＊-50





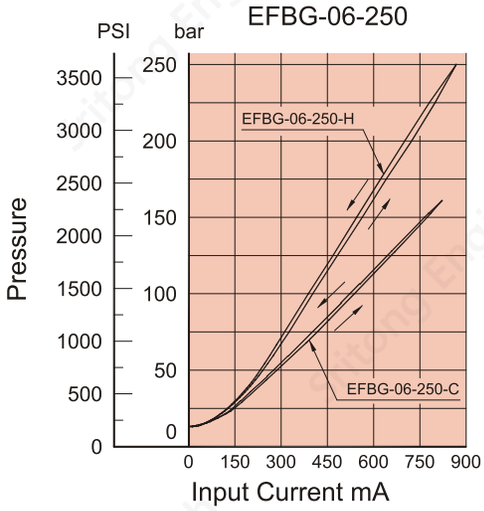


Name	Description	Tightening Torque	Code
Attachment Soc.Hd.Cap Screw:	M10X100LgX4pcs	58-72 Nm	50
Attachment Soc.Hd.Cap Screw:	No.3/8-16UNCX4"LgX4pcs	504-625 in.lbs	5090

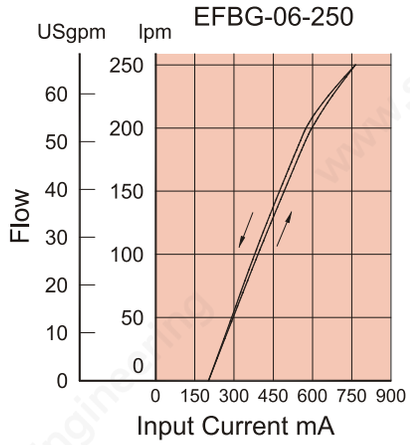
DIMENSIONS MILLIMETERS(INCHES)

(10Ω-10Ω Series)

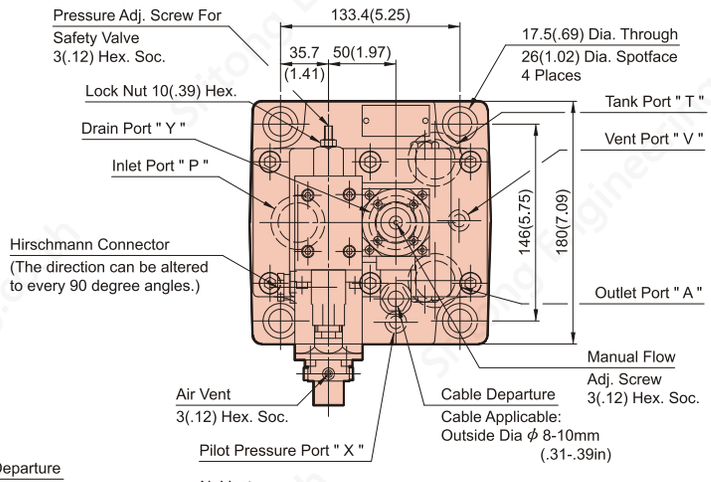
Input Current vs. Pressure

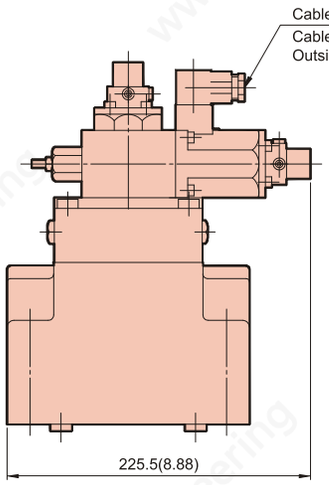


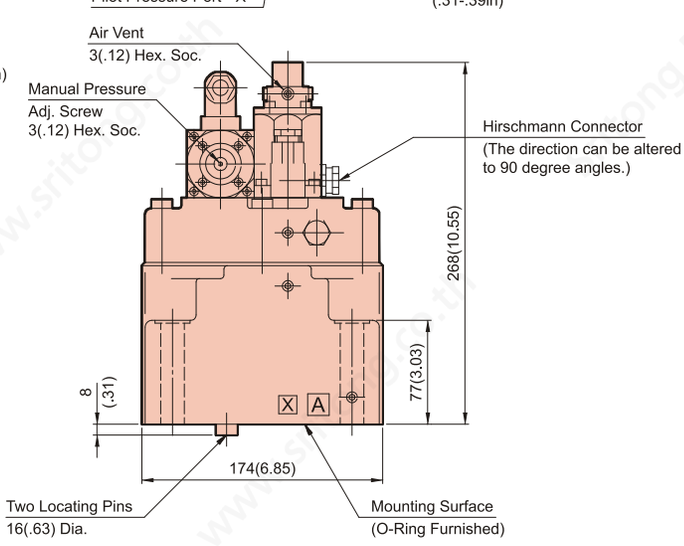
Input Current vs. Flow



EFBG-06-250-＊-50





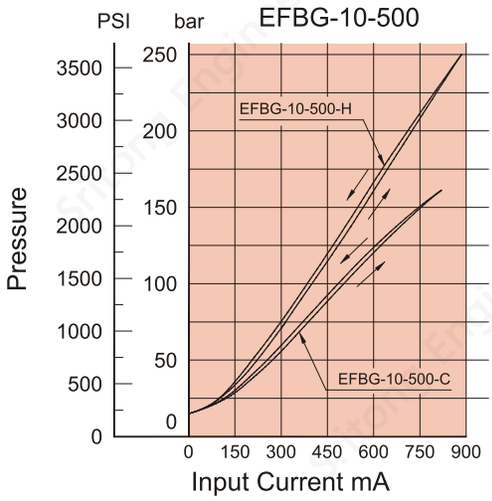


Name	Description	Tightening Torque	Code
Attachment Soc.Hd.Cap Screw:	M16X130LgX4pcs	286-354 Nm	50
Attachment Soc.Hd.Cap Screw:	No.5/8-11UNCX5"LgX4pcs	2482-3073 in.lbs	5090

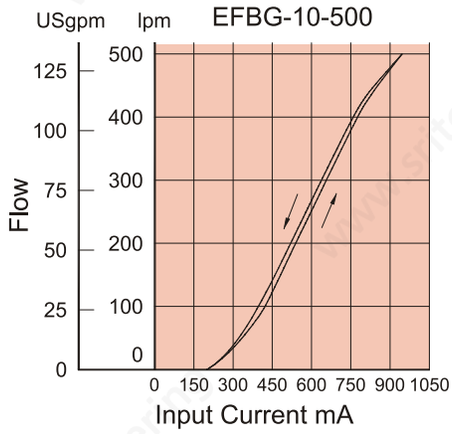
DIMENSIONS MILLIMETERS(INCHES)

E

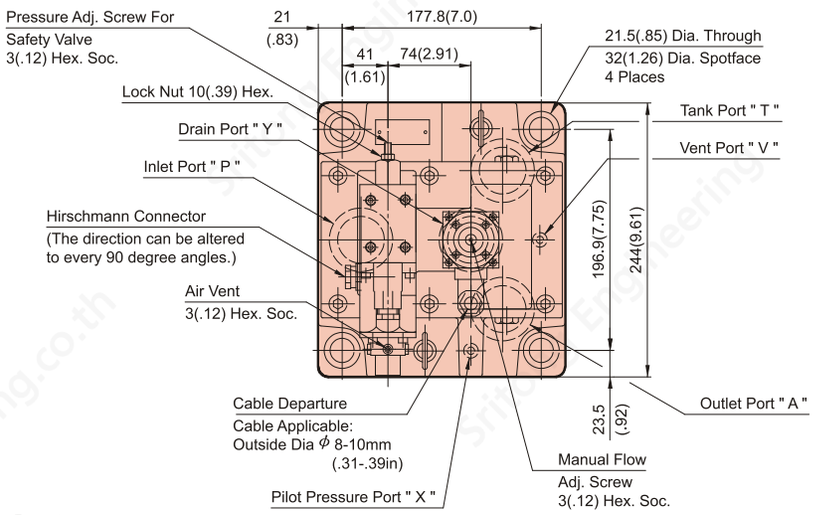
Input Current vs. Pressure

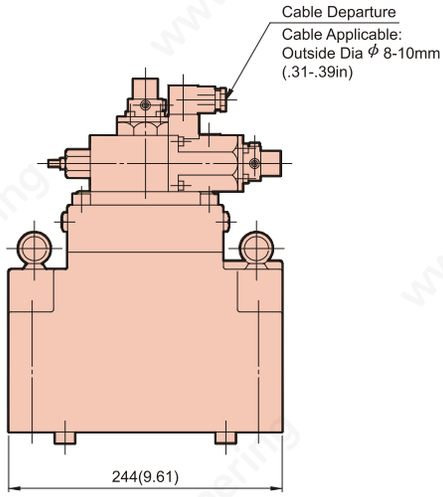


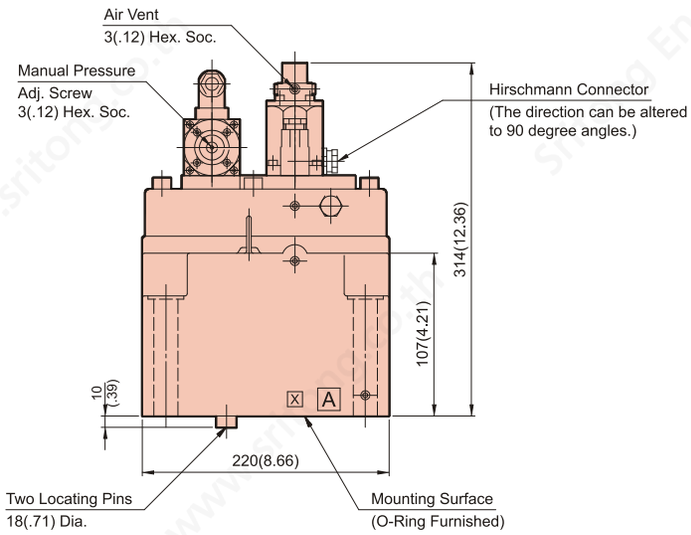
Input Current vs. Flow



EFBG-10-500-＊-50



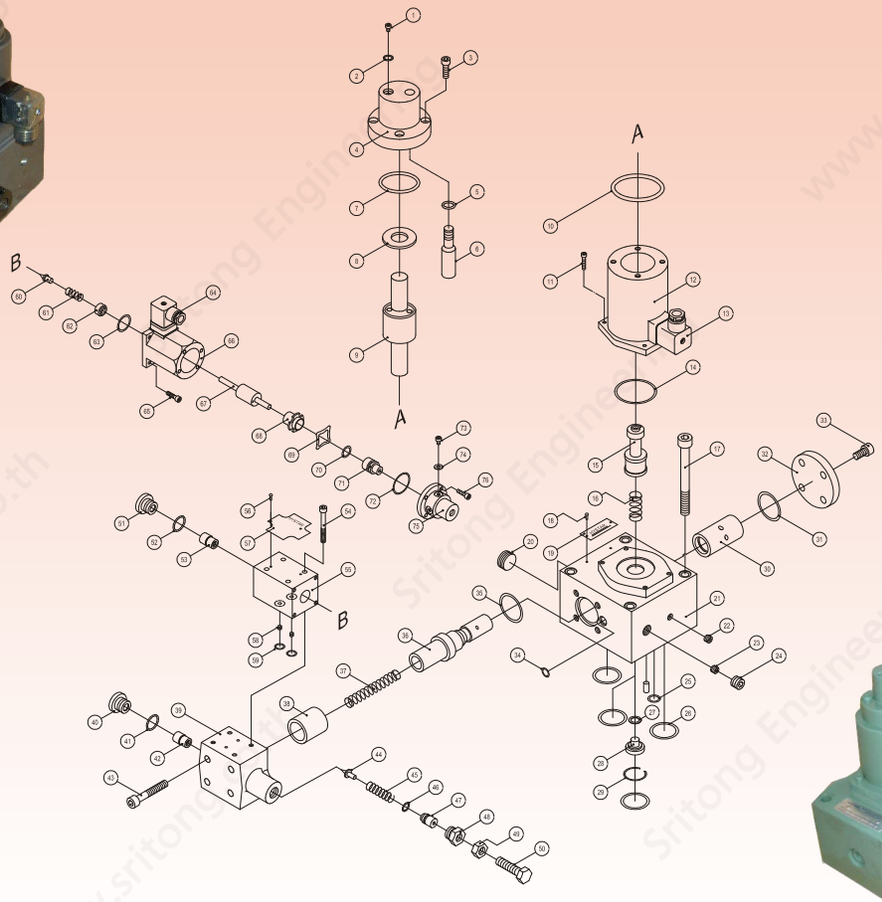




Name	Description	Tightening Torque	Code
Attachment Soc.Hd.Cap Screw:	M20X130LgX4pcs	473-585 Nm	50
Attachment Soc.Hd.Cap Screw:	No.3/4-10UNCX5"LgX4pcs	4106-5078 in.lbs	5090

ASSEMBLY
EFBG-03-125-H-20

(40Ω -10Ω Series)



NO.	PART NAME	NO.	PART NAME	NO.	PART NAME	NO.	PART NAME
1	Bolt(M4X8L)	21	Body	41	O-Ring(18X2)	61	Spring(Dia.1.85X20L)
2	Gasket(4X10)	22	Plug(PT1/16)	42	Seat	62	Spring Base
3	Bolt(M6X20L)	23	Plug(M6X10L)	43	Bolt(M8X50L)	63	O-Ring(P-18)
4	Housing	24	Plug(PT1/4)	44	Pin	64	DIN Connector
5	O-Ring(P-4)	25	O-Ring(AS-110)	45	Spring(Dia.2.3X33L)	65	Bolt(M4X16L)
6	Manual Adj. Flow Screw	26	O-Ring(P-29)	46	O-Ring(P-9)	66	Coil(EDG-01)
7	O-Ring(AS-029)	27	Washer(14.8X0.2)	47	Spring Base	67	Core
8	Washer	28	Spring Base	48	Nut M10	68	Remove Ferrum Heart
9	Core	29	Spring Ring(1.6X24)	49	Nut(M10)	69	Wave Washer
10	O-Ring(AS-029)	30	Tube	50	Pressure Adj. Screw(M10X40L)	70	O-Ring(P-11)
11	Bolt(M5X16L)	31	O-Ring(P-31)	51	Plug(PS3/8)	71	Manual Pressure Adj. Screw
12	Coil(EFBG-03)	32	Cover Plate	52	O-Ring(18X2)	72	O-Ring(AS-021)
13	DIN Connector	33	Bolt(M8X12L)	53	Seat	73	Bolt(M4X8L)
14	O-Ring(G-45)	34	O-Ring(P-9)	54	Bolt(M5X50L)	74	Gasket(4X10)
15	Flow Spool	35	O-Ring(P-31)	55	Body	75	Back Cover
16	Spring(Dia.2X34L)	36	Piston	56	Revit	76	Bolt(M4X12L)
17	Bolt(M10X100L)	37	Spring(Dia.2.3X91L)	57	Nameplate		
18	Revit	38	Tube	58	Fixing Screw(M8X10L)		
19	Nameplate	39	Set Body	59	O-Ring(P-9)		
20	Plug(PT1/2)	40	Plug(PS3/8)	60	Pin		

E

EFBG-03 Operating Data

Position For Installation:

To install the valve correctly mount with "bleed" up-wards in order to eliminate air and reduce the risk of air entrapment.

Elimination Of Air(Air Vent)

Set the pilot control pressure to 29.4bar(420PSI) and open the bleed screw to eliminate the air.Lock the bleed screw when all air bubbles have been eliminated.The above will ensure a stable adjustable pressure control and a smooth adjustable speed control.

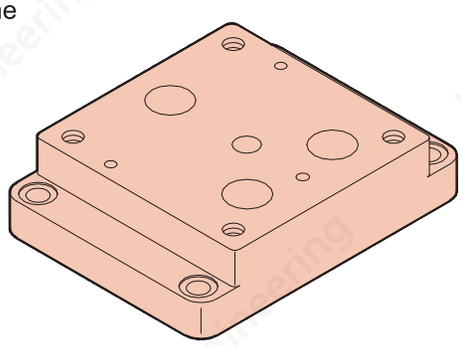
Manual Over-Ride

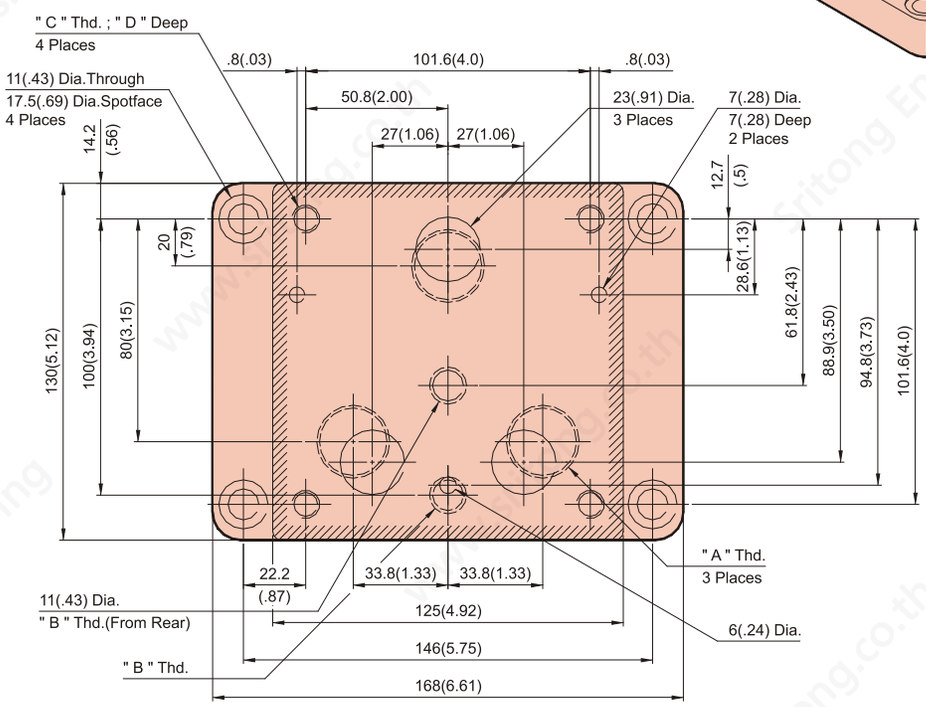
It is possible to set the both control pressure control and flow control manually for commissioning and trouble shooting purposes.

Drain

Pipe the return back to tank below the oil level.It is essential that the back pressure is kept to a minimum and does not exceed 2 bar(29PSI).

SUB-PLATE
EFBGM-03-＊＊





Sub-Plate Model No.	Piping Size		" C " Thd.	D mm(in.)
	" A " Thd.	" B " Thd.		
EFBGM-03-10	Rc3/4	Rc1/4	M10XP1.5	18(.71)
EFBGM-03-10	Rc1			
EFBGM-03-11	3/4BSP.F	1/4BSP.F		
EFBGM-03-11	1BSP.F			
EFBGM-03-12	3/4NPT	1/4NPT	3/8-16UNC	21(.83)
EFBGM-03-12	1NPT			

DIMENSIONS MILLIMETERS(INCHES)

EFBG-06 Operating Data

Place For Installation:

The place of bleeder can be adjusted freely and put the direction upside avilably to eliminate the air in pipe passage and valve.

Drain

Lay the tank line under the oil level of tank.And the back pressure as lower as possible,does not exceed 2 bar(29PSI).

Hand-adjusting(Pressure,Flow) Screw(bar)

When electric control is disorder and need to supply pressure occassionally,then just to turn the handadjusting pressure screw (bar) in clockwise direction.Restore it to the origin at usual time.

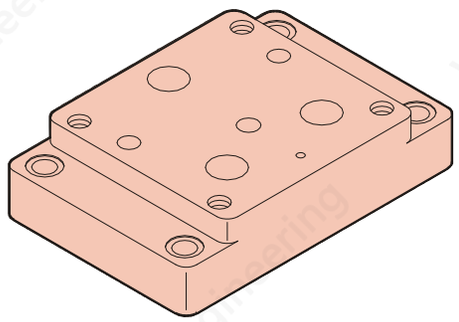
Elimination Of Air(Air Vent)

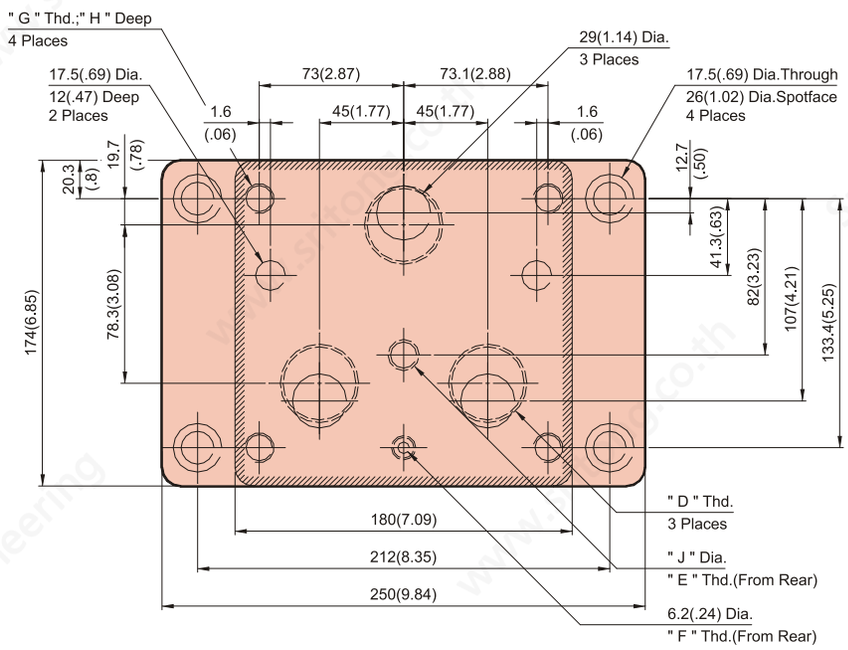
In order to stabilize the pressure and make speed shift acutely. It is very important to emilinate completely the air in pipe passage and valve(refer to EDG-01).

Highest Safety Pressure Set

Refer to EBG-06.

SUB-PLATE
EFBGM-06＊-＊＊

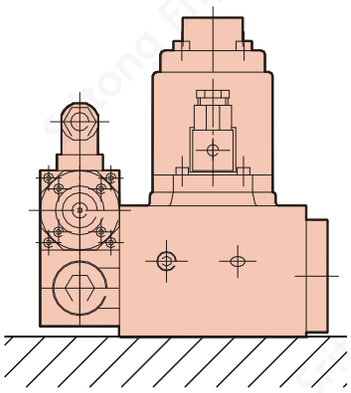




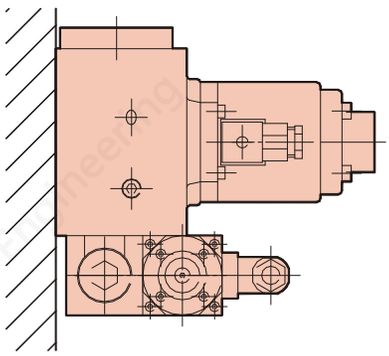
Sub-Plate Model No.	Piping Size " D " Thd.	" E " Thd.	" F " Thd.	" G " Thd.	mm(in.) H	J
EFBGM-06X-10	Rc1	Rc3/8	Rc1/4	M16XP2	30 (1.18)	14 (.55)
EFBGM-06Y-10	Rc1-1/4					
EFBGM-06X-11	1BSP.F	3/8BSP.F	1/4BSP.F	M16XP2	30 (1.18)	15.2 (.60)
EFBGM-06Y-11	1-1/4BSP.F					
EFBGM-06X-12	1NPT	3/8NPT	1/4NPT	5/8-11UNC	30 (1.18)	14 (.55)
EFBGM-06Y-12	1-1/4NPT					

E

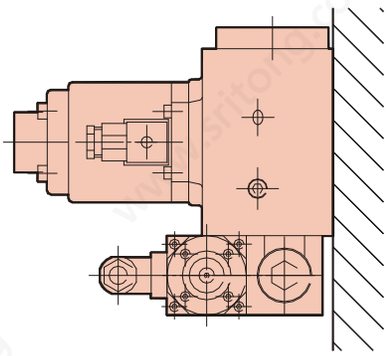
Proportional Valve Mounting Form



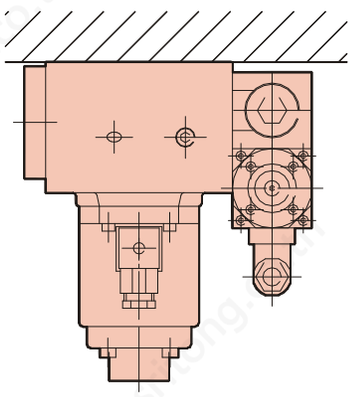
(O) Correct



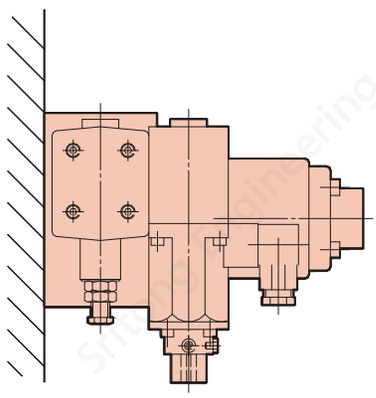
(O) Correct



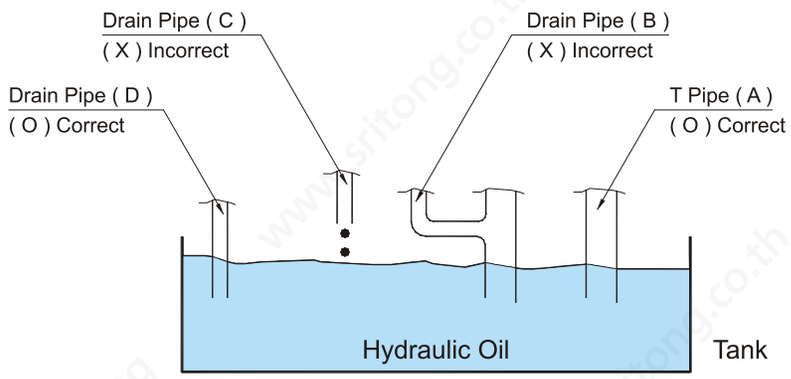
(O) Correct



(X) Incorrect



(X) Incorrect



CAUTIONS FOR DRAIN PIPING:

1.Drain connector(T pipe/Return line) must be piped directly to tank(as A).
2.Lay the drain piping independently(as D) not joined with other return lines(as B).
3.Lay the oil return piping under the oil level of the tank(as D) and as far as possible from the suction piping.
4.Drain pipe(as C) is incorrect.