

**40 Ω-10 Ω Series**

**Proportional Electro-Hydraulic Relief and Flow Control Valves**

This relief and flow control valve is an energy-saving valve that supplies the minimum pressure and flow necessary for actuator drive.

Since this valve controls the pump pressure by following the load pressure while keeping the differential pressure minimized, it serves as a low power-consumption energy-saving, metre-in, controlled flow control valve.

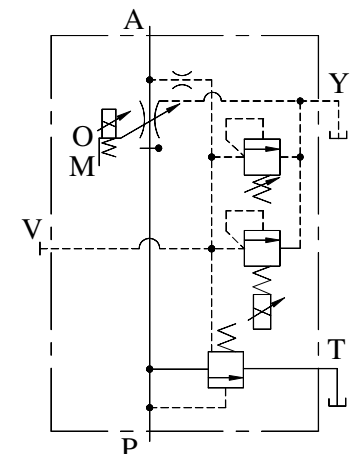
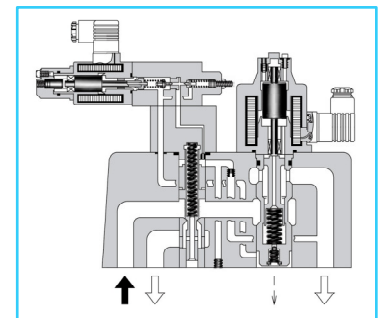
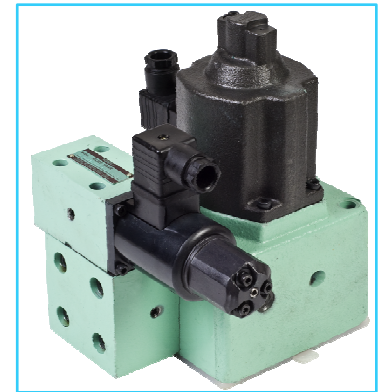
Further, since a temperature compensation function is incorporated, this valve provides consistent flow control irrespective of the fluid temperature.

**Specification**

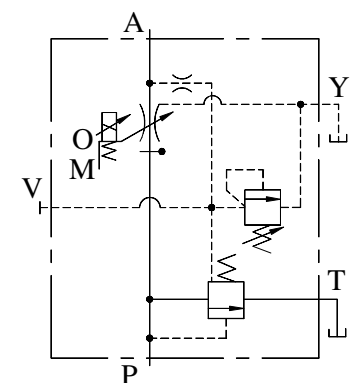
Description		Model No.	EFBG-03-125	EFBG-06-250
Max. Operating Pressure	Kgf/cm <sup>2</sup>		250	250
Max. Flow	L/min		125	250
Metred Flow Adjustment Range L/min			1-125	2.5-250
Flow Controls	Rated Current mA		680	580
	Coil Resistance Ω		45	43.5
	Differential Pressure Kgf/cm <sup>2</sup>		6	7
	Hysteresis		7% or Less	7% or Less
	Repeatability		1% or Less	1% or Less
Pressure Controls	Pres. Adj. Range Kgf/cm <sup>2</sup>		<b>C:</b> 14-140 <b>H:</b> 14-210	<b>C:</b> 15-140 <b>H:</b> 14-210
	Rated Current mA		<b>C:</b> 710 <b>H:</b> 770	<b>C:</b> 690 <b>H:</b> 730
	Coil Resistance Ω		10	10
	Hysteresis		3% or Less	3% or Less
	Repeatability		1% or Less	1% or Less
Approx. Mass Kg.			Refer to Dim. Drawing.	

\*1: The rating for pressure controls is applied to models with proportional pilot relief valve. (Ex. EFBG-03-125-C-※-15)

\*2: Pressure Adjustment range of the valves without proportional pilot relief valves is from a minimum adjustable pressure to 250 Kgf/cm<sup>2</sup>.



With Proportional Pilot Relief Valve



Without Proportional Pilot Relief Valve

**Model Number Designation**

<b>EFB</b>	<b>G</b>	<b>-03</b>	<b>-125</b>	<b>-C</b>	<b>-15</b>
Series Number	Type of Mounting	Valve Size	Max. Metred Flow L/min.	Proportional Pilot Relief Valve Pressure Adjustment Range	Design Number
<b>EFB:</b> Proportional Electro Hydraulic Relief and Flow Control Valve	<b>G:</b> Sub-Plate Mounting	<b>03</b>	<b>125 : 125</b>	<b>C,H:</b> See Specifications <b>None:</b> Without Proportional Pilot Relief Valve	<b>15</b>
		<b>06</b>	<b>250 : 250</b>		<b>15</b>

**Attachment**

**Mounting Bolts**

Valve Model Number	Socket Head Cap Screw	Qty.	Bolt Kit Ordering Code
EFBG-03	M10 x 100 Lg.	4	BKBG-03-15
EFBG-06	M16 x 130 Lg.	4	BKBG-06-15

**Applicable Power Amplifiers**

For stable Performance, it is recommended that YUKEN’s applicable power amplifiers be used.

Model Numbers	Power Amplifier Model Numbers	
	For Flow Control	For Pres. Control
EFBG- <sup>03</sup> / <sub>06</sub> - <del>※</del> - <del>※</del> -15	AME-D-S- <del>※</del> -40	---
	AME-DF-S- <del>※</del> -22	
	AME-T-S- <del>※</del> -22	
	PW100- <del>※</del> -H11	
EFBG- <sup>03</sup> / <sub>06</sub> - <del>※</del> - <del>※</del> - <sup>C</sup> / <sub>H</sub> -15	PW100- <del>※</del> -H11,	
	AME-D2-H1- <del>※</del> -12	

**Sub-Plate**

Valve Model Number	Sub-Plate Model Number	Piping Size	Mass Kg.
EFBG-03	EFBGM-03Y-1080	3/4 BSP.F	6
	EFBGM-03Z-1080	1 BSP.F	
EFBG-06	EFBGM-06X-1080	1 BSP.F	12.5
	EFBGM-06Y-1080	1-1/4 BSP.F	16

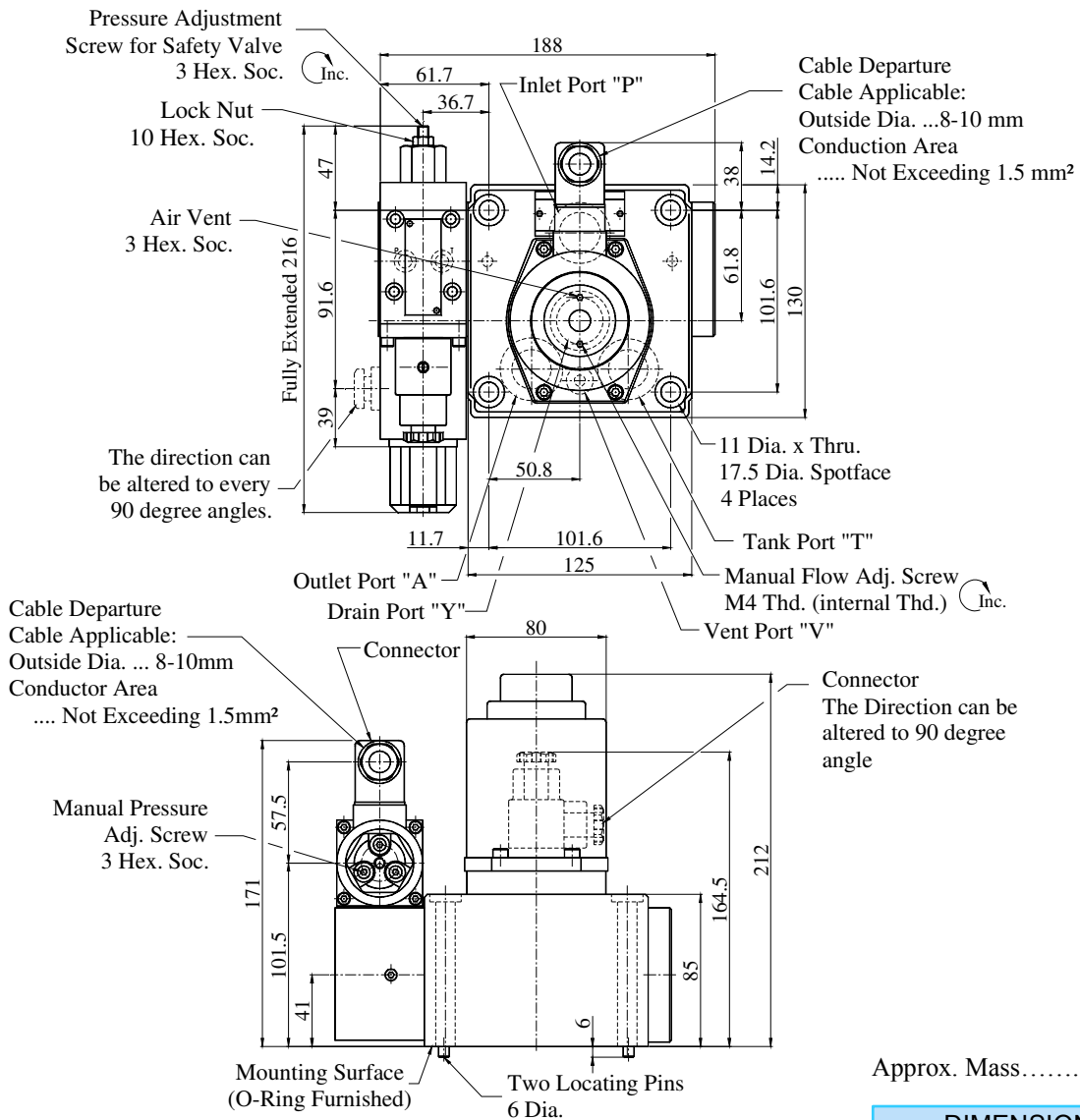
Sub-Plates are available. Specify sub-plate model from the table above. When sub-plates are not used, the mounting surface should have a good machined finish.

**Instructions**

- Drain Back Pressure**  
Check that the drain back pressure does not exceed 2 Kg/cm<sup>2</sup>
- When Relief Valve Passing Flow Rate is Low in Pressure Control State**  
To avoid preselected pressure instability, use a passing flow rate of 10L/min. or higher for nominal sizes 03 and 06. Further, check that the tank-line back pressure does not exceed 5 Kg/cm<sup>2</sup>
- Safety Valve Pressure Setting**  
The safety valve is preset to a pressure that is 2 Kg/cm<sup>2</sup> higher than the maximum adjustment pressure. Therefore, adjust this pressure setting as needed to suit the pressure used.  
To lower the pressure setting, turn the safety valve pressure adjustment screw anti-clockwise. After adjustment, be sure to tighten the lock nut.

■ Model with Proportional Pilot Relief Valve

- EFBG-03-125-<sup>C</sup>-15  
H

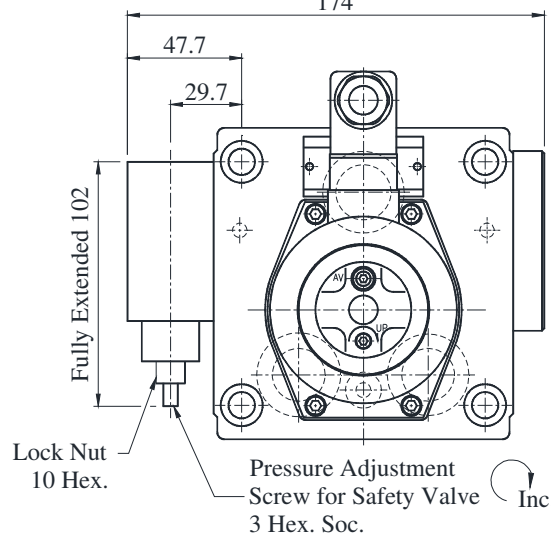


Approx. Mass.....16 Kg.

DIMENSIONS IN MILLIMETRES

■ Model without Proportional Pilot Relief Valve

- EFBG-03-125-15



For other dimensions, please refer to the models above.

Approx. Mass.....14 Kg.

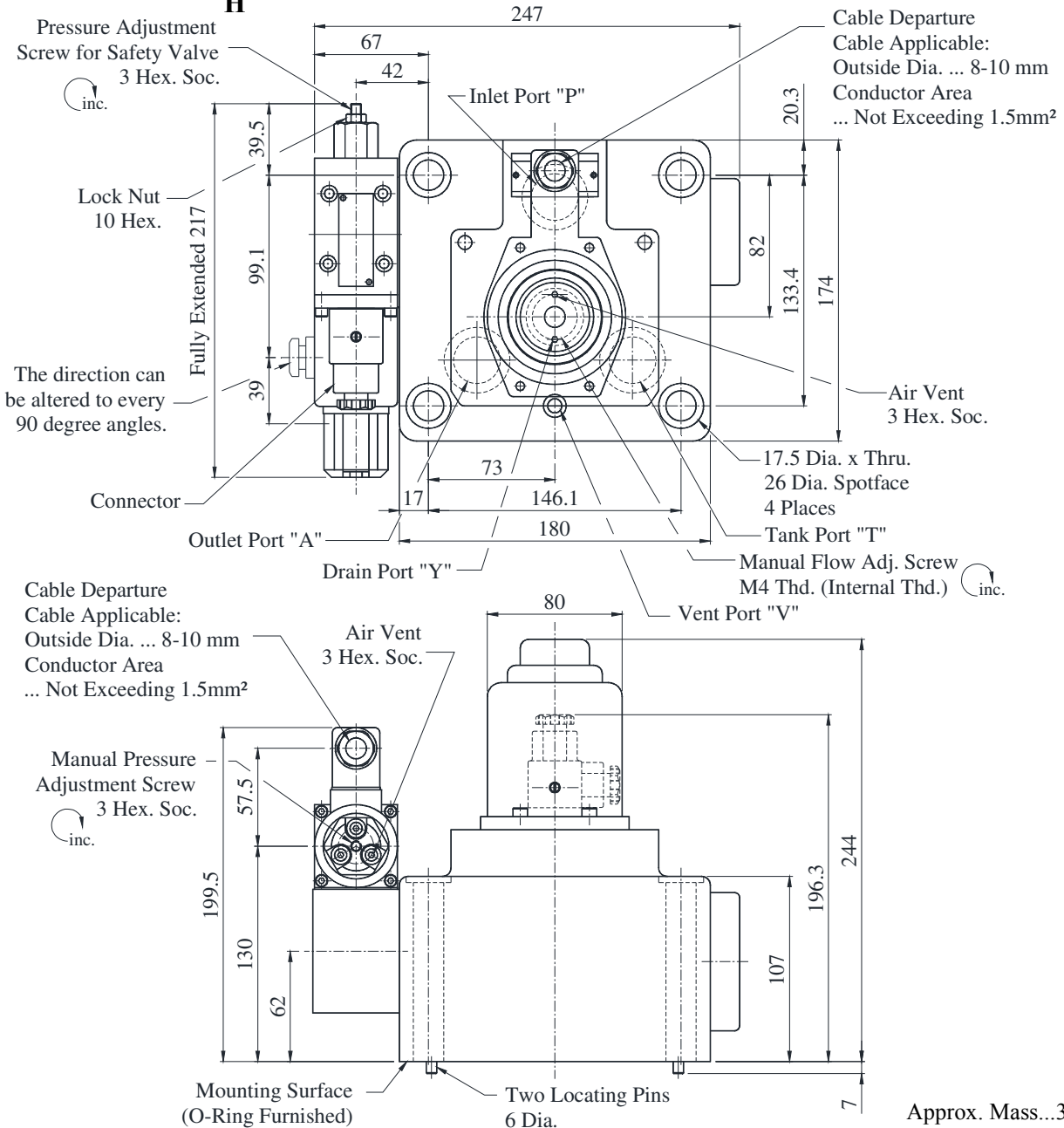
E Series  
40Ω-10Ω Series Proportional Electro-Hydraulic  
Relief and Flow Control Valves

H  
40Ω-10Ω Series Proportional Electro-Hydraulic Relief and Flow Control Valves

**Model with Proportional pilot Relief Valve**

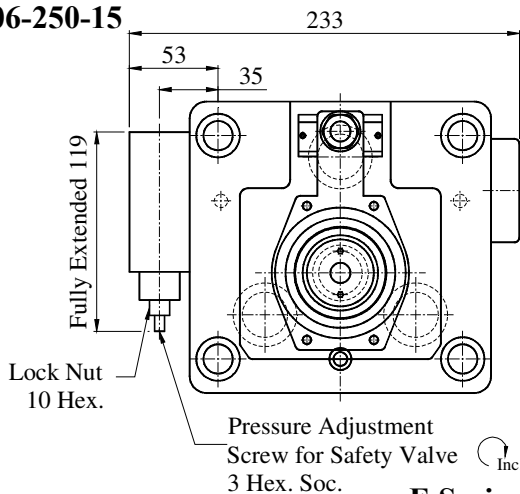
● **EFBG-06-250-C<sub>H</sub>-15**

**DIMENSIONS IN MILLIMETRES**



**Model without Proportional pilot Relief Valve**

● **EFBG-06-250-15**



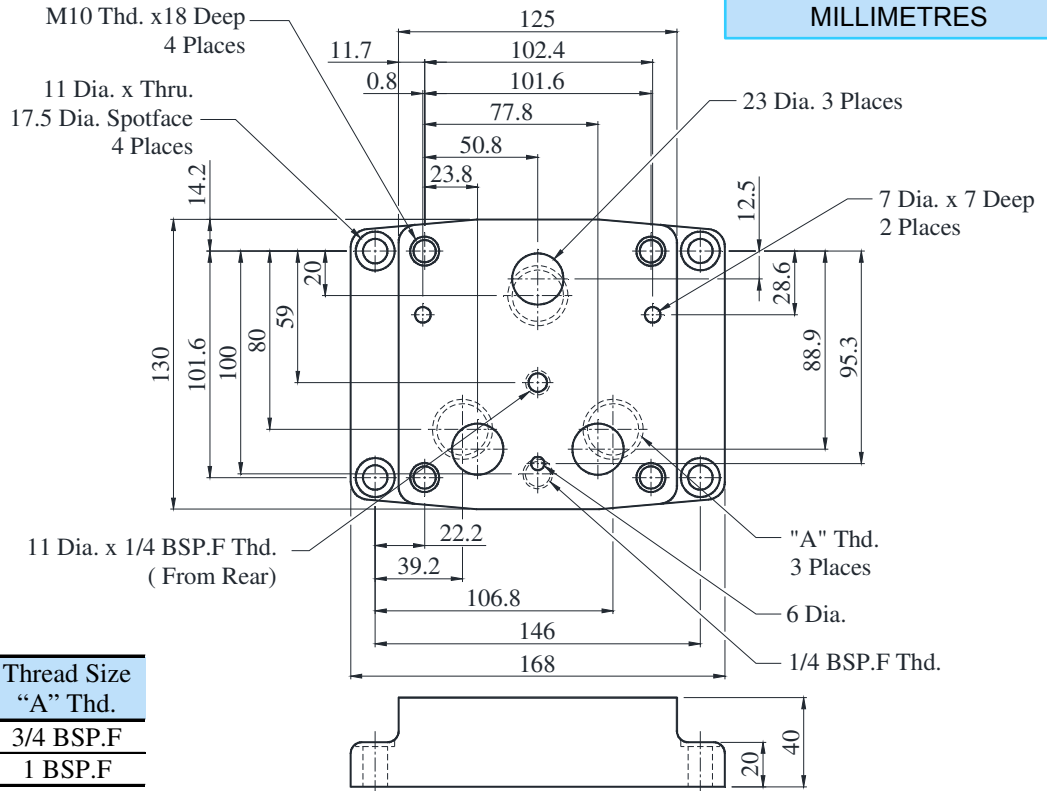
Approx. Mass.....28 Kg.

For other dimensions, please refer to the models above.

**E Series**  
**40Ω-10Ω Series Proportional Electro-Hydraulic Relief and Flow Control Valves**

● EFBGM-03Y-1080  
03Z

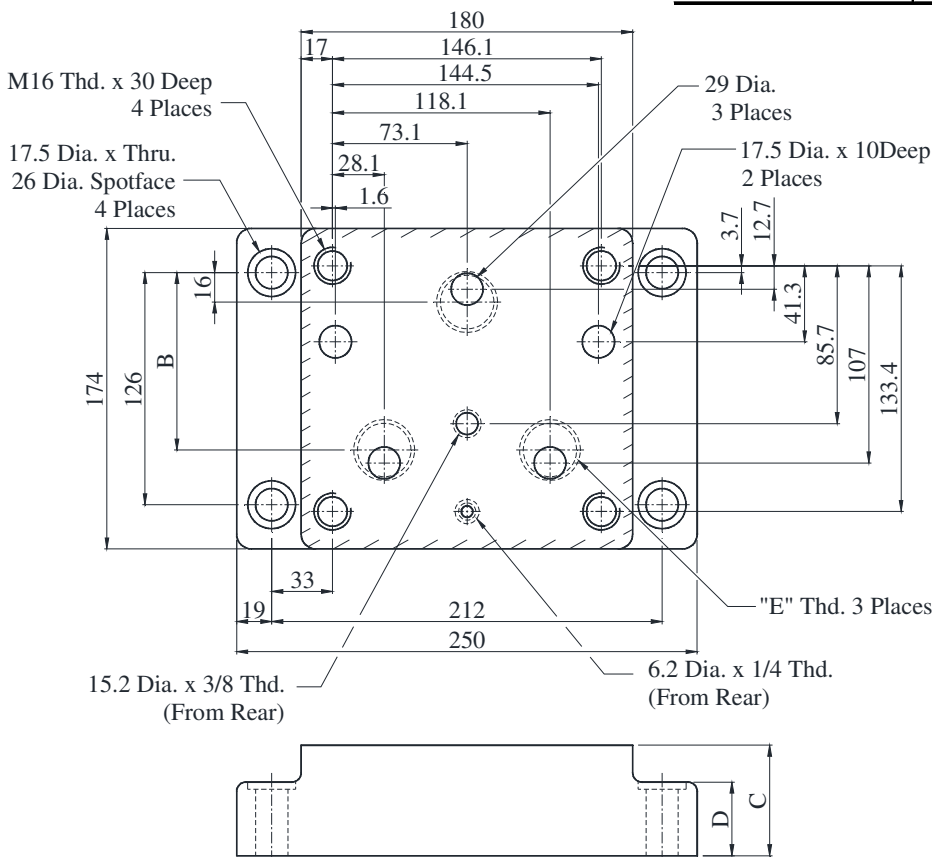
DIMENSIONS IN MILLIMETRES



Sub-Plate Model No.	Thread Size "A" Thd.
EFBGM-03Y-1080	3/4 BSP.F
EFBGM-03Z-1080	1 BSP.F

● EFBGM-06X-1080  
06Y

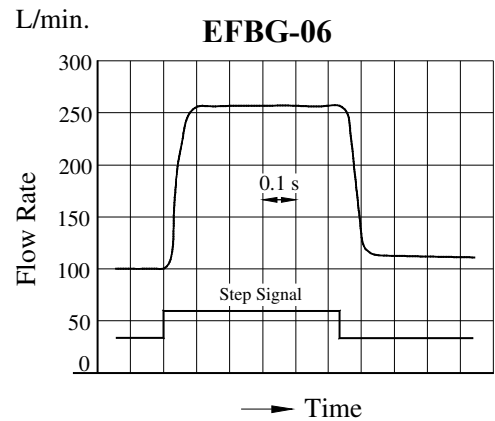
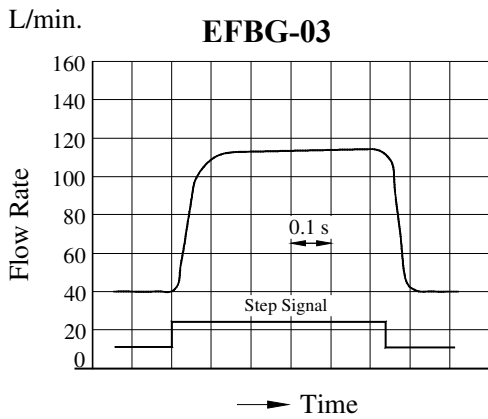
Sub-Plate Model No.	Dimension mm			Thread Size "E" Thd.
	B	C	D	
EFBGM-06X-1080	107	45	35	1 BSP.F
EFBGM-06Y-1080	95	60	40	1-1/4 BSP.F



E Series  
40Ω-10Ω Series Proportional Electro-Hydraulic  
Relief and Flow Control Valves

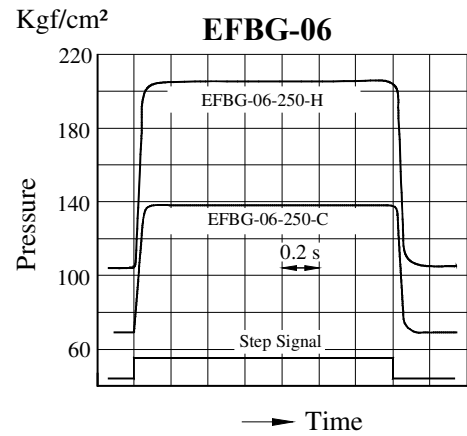
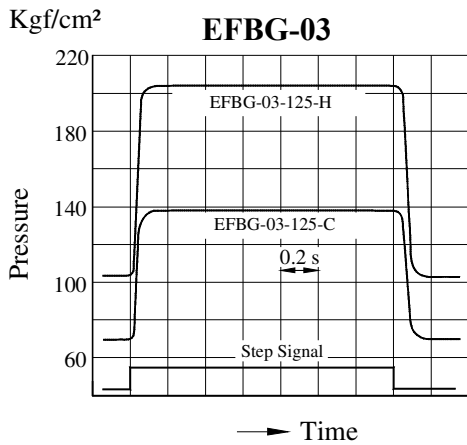
**Step Response (Flow Controls)**

These values were measured on independent valves. They vary by circuit

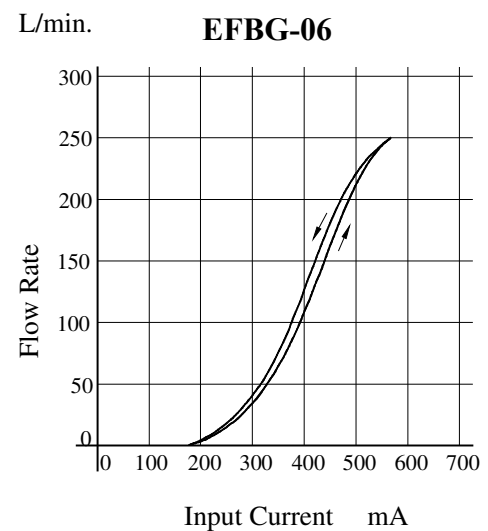
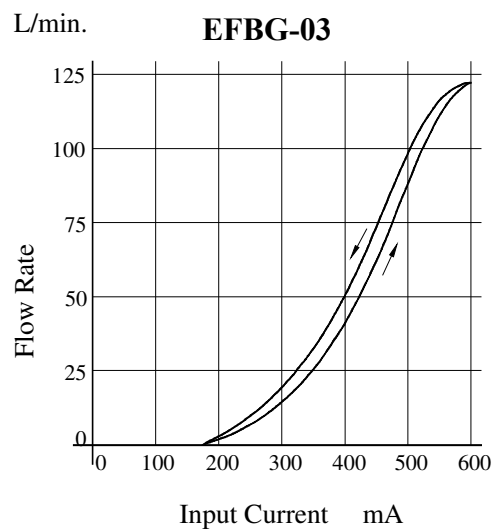


**Step Response (Pressure Controls)**

These values were measured on independent valves. They vary by circuit

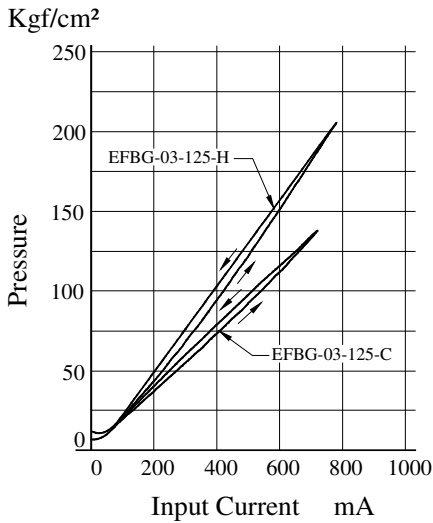


**Input Current vs. Flow**

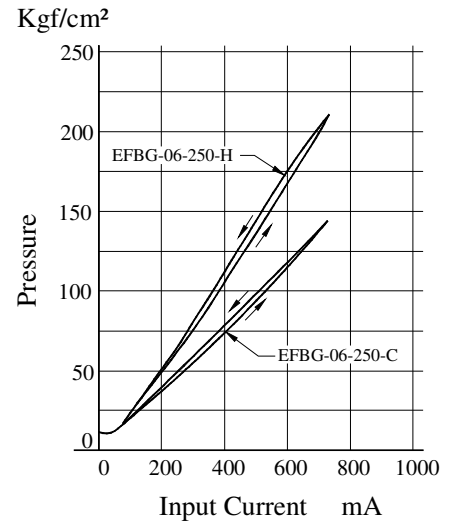


**Input Current vs. Pressure**

**EFBG-03**



**EFBG-06**



**Spare Parts List**

● **List of Seals**

Sl. No.	Name of parts	Part Numbers	Qty.	
			EFBG-03	EFBG-06
1	O-Ring	SO-NB-P18	1	1
2	O-Ring	SO-NA-P10A	1	1
3	O-Ring	SO-NB-P9	5	2
4	O-Ring	SO-NB-P11	2	3
5	O-Ring	SO-NB-P15	1	1
6	O-Ring	SO-NA-P26	-	1
7	O-Ring	SO-NB-P28	6	1
8	O-Ring	SO-NB-P30	-	1
9	O-Ring	SO-NB-G30	1	1
10	O-Ring	SO-NB-P32	1	1
11	O-Ring	SO-NB-P36	-	1
12	O-Ring	SO-NB-P42	-	1
13	O-Ring	SO-NB-P44	-	1

Note: When Ordering the seals, please specify the seal kit numbers from the table below.

● **List of Seals**

Model numbers	Seal Kit Numbers
EFBG-03-15	KS-EFBG-03-15
EFBG-06-15	KS-EFBG-06-15