

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.

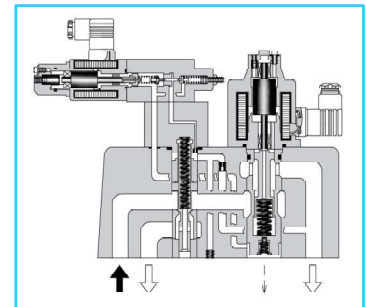
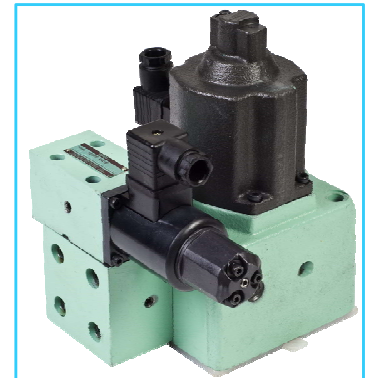
Further, since a temperature compensation function is incorporated, this valve provides consistent flow control irrespective of the fluid temperature.

Specification

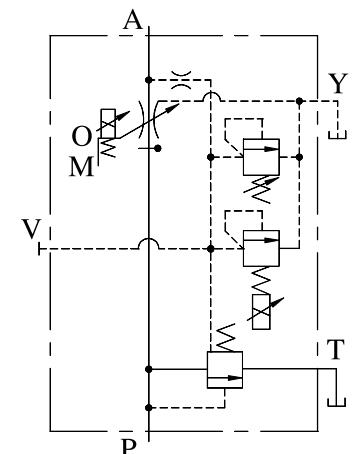
Description		Model No.	EFBG-03-125	EFBG-06-250	EFBG-10-500
Max. Operating Pressure		Kgf/cm ²	250		
Max. Flow		L/min	125	250	500
Metered Flow Adjustment Range		L/min	1-125	2.5-250	5-500
Flow Controls	Rated Current	mA	600	580	700
	Coil Resistance	Ω	45		
	Differential Pressure	Kgf/cm ²	6	7	9
	Hysteresis		7% or Less		
	Repeatability		1% or Less		
Pressure Controls	Pres. Adj. Range	Kgf/cm ²	C: 14-140 H: 14-210	C: 15-140 H: 14-210	C: 16-140 H: 16-206
	Rated Current	mA	C: 750 H: 750	C: 690 H: 730	C: 690 H: 690
	Coil Resistance	Ω	10		
	Hysteresis		3% or Less		
	Repeatability		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-※-17)

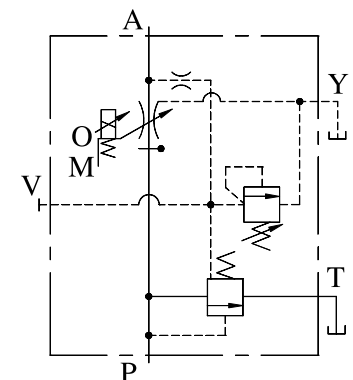
*2 Pressure Adjustment range of the valves without proportional pilot relief valves is from a minimum adjustable pressure to 250 Kgf/cm².



Graphic Symbols



With Proportional Pilot Relief Valve



Without Proportional Pilot Relief Valve

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

Model Number Designation

F-	EFB	G	-03	-125	-C	-17
Special Seals	Series Number	Type of Mounting	Valve Size	Max. Metered Flow L/min.	Proportional Pilot Relief Valve Pressure Adjustment Range	Design Number
F: Special Seals for Phosphate Ester Type Fluid (Omit if not required)	EFB: Proportional Electro Hydraulic Relief and Flow Control Valve	G: Sub-Plate Mounting	03	125 : 125	C, H: See Specifications None: Without Proportional Pilot Relief Valve	17
			06	250 : 250		
			10	500 : 500		

Attachment

● **Mounting Bolts**

Model Number	Socket Head Cap Screw	Qty.	Bolt Kit
EFBG-03	M10 x 100 Lg.	4	BKEFBG-03-17
EFBG-06	M16 x 130 Lg.	4	BKEFBG-06-17
EFBG-10	M20 x 130 Lg.	4	BKEFBG-10-17

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
03 EFBG-06 -※-※-17 10	AME-D-S-※-40 AME-DF-S-※-22 AME-T-S-※-22	---
03 EFBG-06 -※-※- C -17 10 H	AME-D2-H1-※-12	

Sub-Plate

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
EFBG-10	EFBGM-10Y-1080	1-1/2, 2 Flange Mounting	37

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

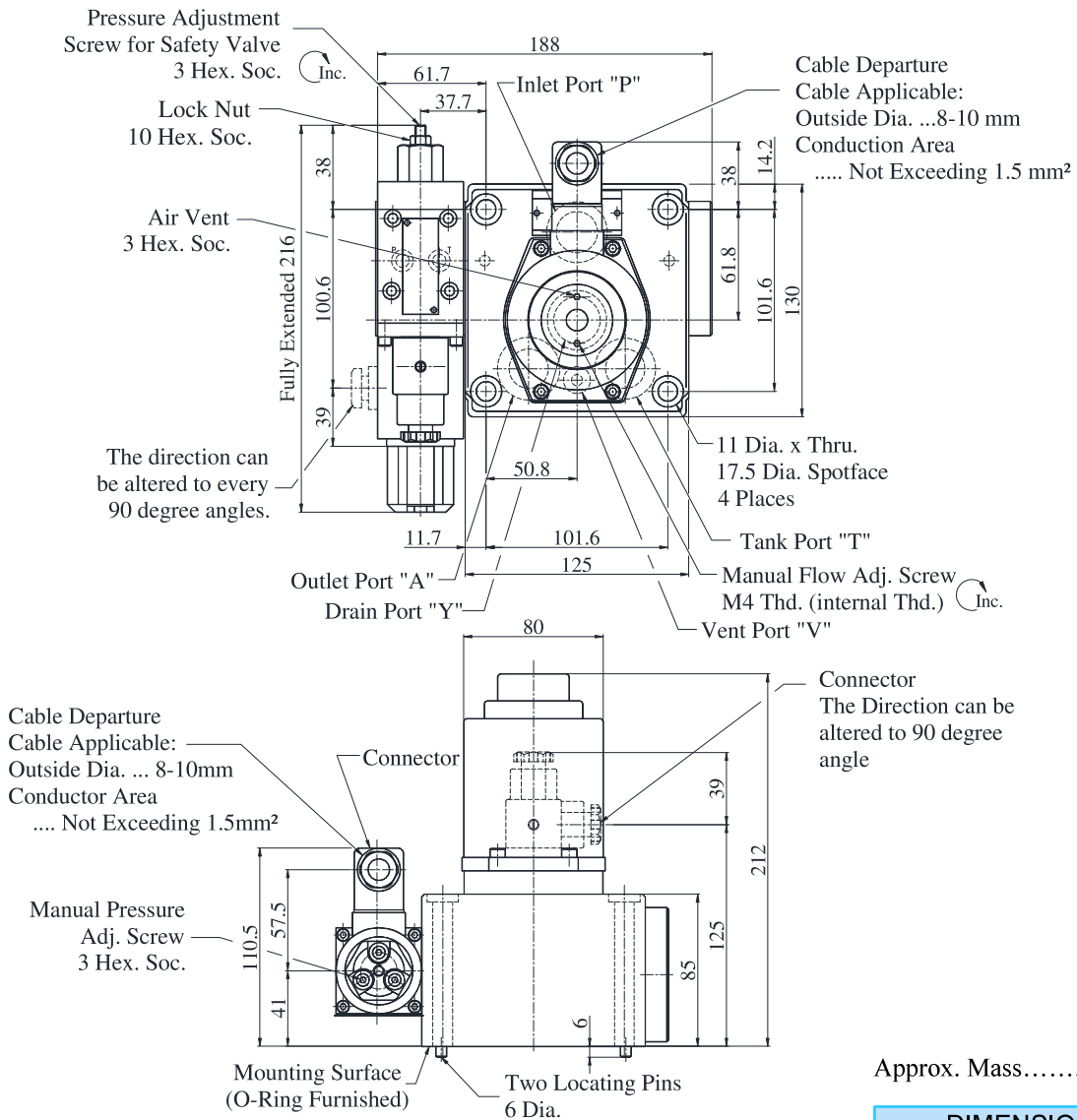
- **Drain Back Pressure**
Check that the drain back pressure does not exceed 2 Kg/cm²
- **When Relief Valve Passing Flow Rate is Low in Pressure Control State**
To avoid preselected pressure instability, use a passing flow rate of 10L/min. or higher for nominal sizes 03 and 06 or 15 L/min. Further, check that the tank-line back pressure does not exceed 5 Kg/cm²
- **Safety Valve Pressure Setting**
The safety valve is preset to a pressure that is 2 Kg/cm² 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.

E Series

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

Model with Proportional Pilot Relief Valve

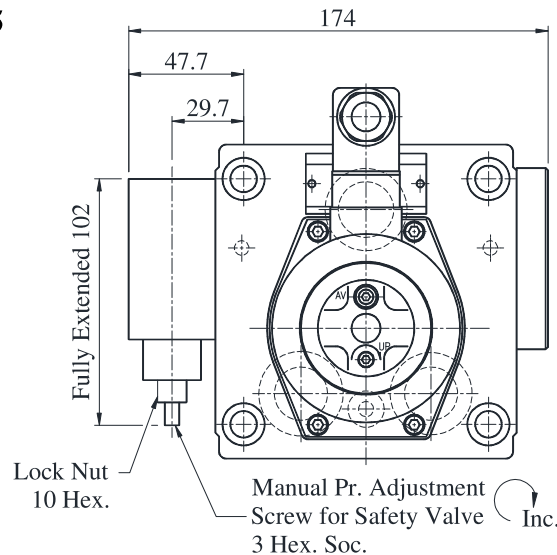
● **EFBG-03-125-C-17**
H



DIMENSIONS IN MILLIMETRES

Model without Proportional Pilot Relief Valve

● **EFBG-03-125-15**



Approx. Mass.....14 Kg.

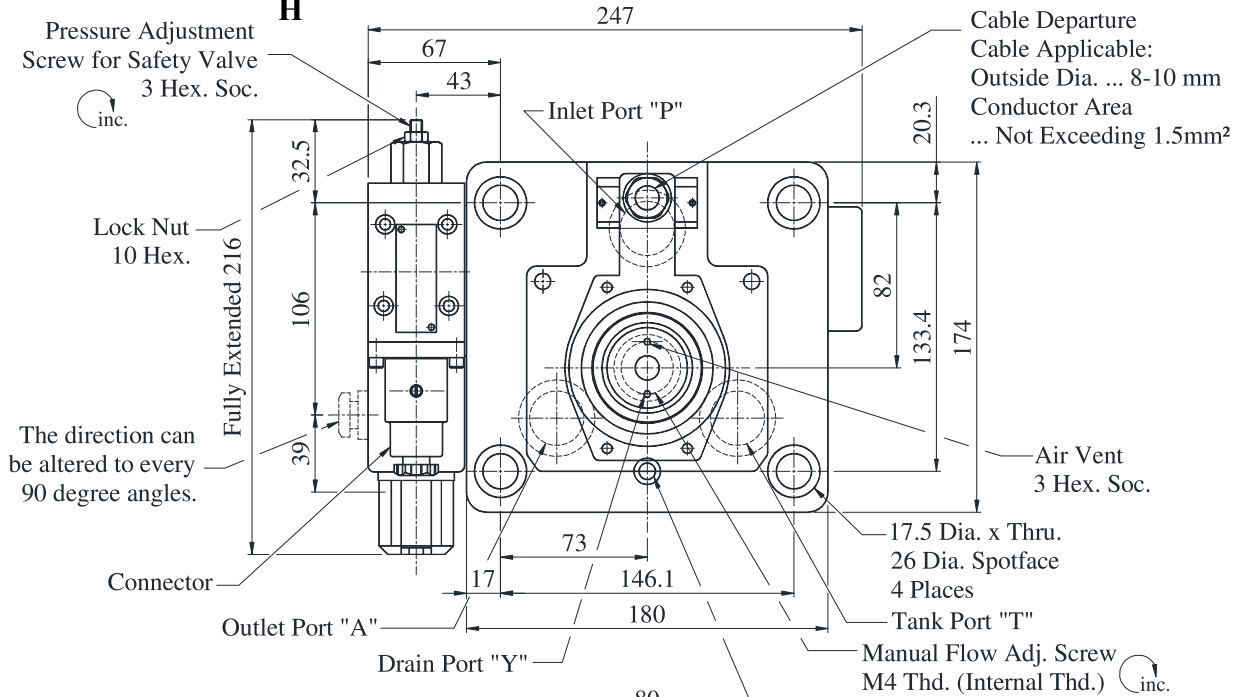
For other dimensions, please refer to the models above.

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

Model with Proportional Pilot Relief Valve

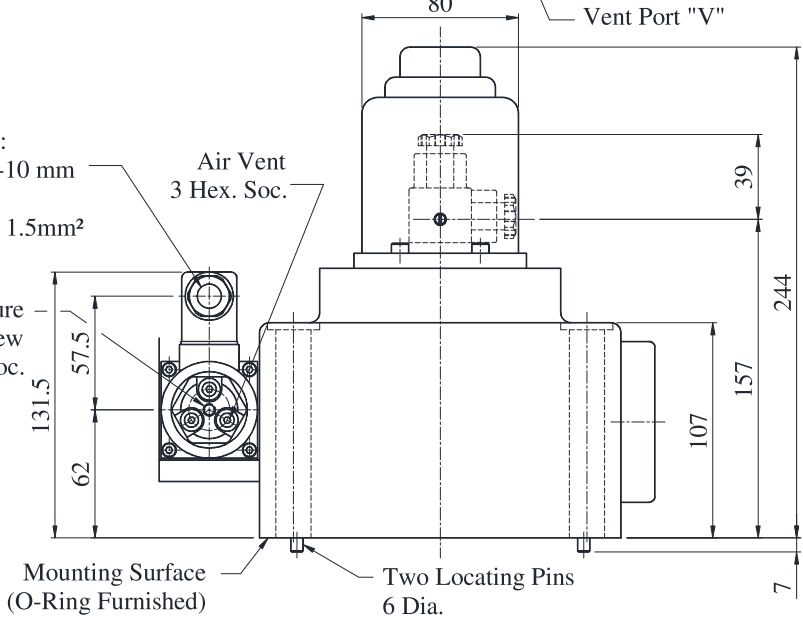
● **EFBG-06-250-C-17**
H

DIMENSIONS IN MILLIMETRES



Cable Departure
Cable Applicable:
Outside Dia. ... 8-10 mm
Conductor Area
... Not Exceeding 1.5mm²

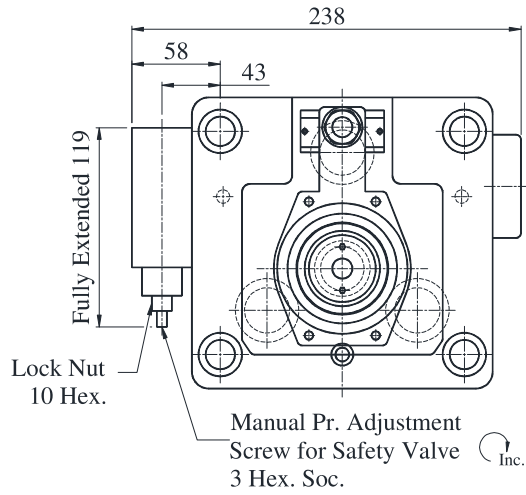
Manual Pressure
Adjustment Screw
3 Hex. Soc.
inc.



Approx. Mass...30 Kg.

Model without Proportional Pilot Relief Valve

● **EFBG-06-250-17**



Approx. Mass.....28 Kg.
For other dimensions,
please refer to the models above.

E Series

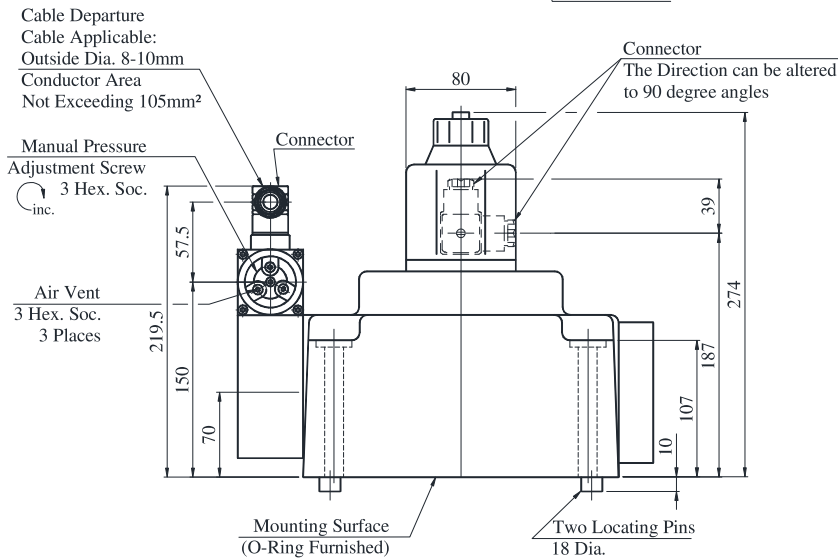
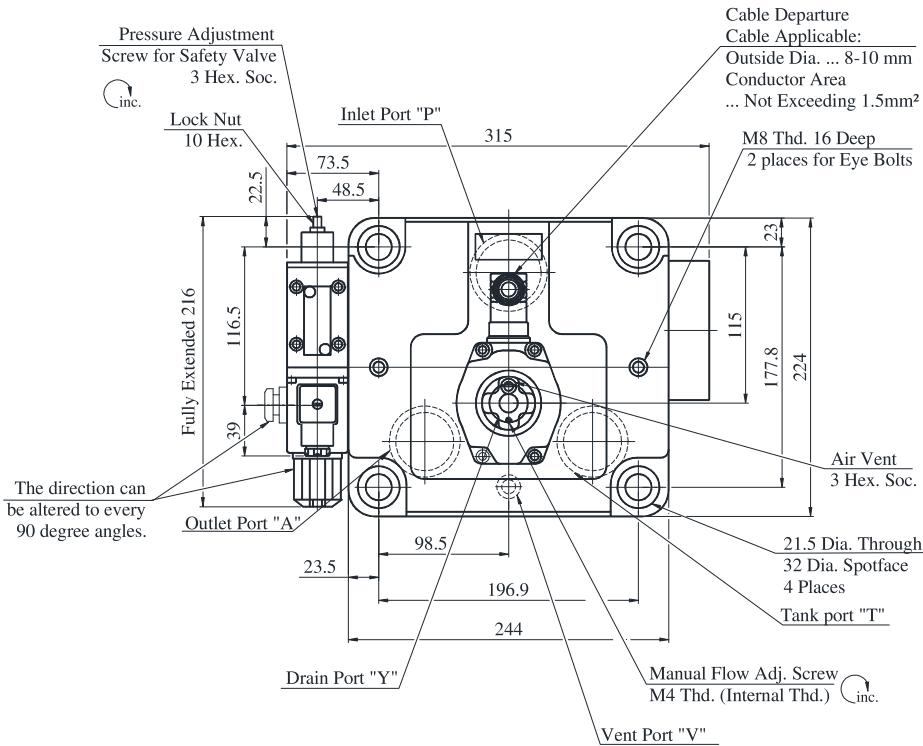
**40Ω-10Ω Series Proportional Electro-Hydraulic
Relief and Flow Control Valves**

Proportional Electro-Hydraulic Relief Valve

Model with Proportional pilot Relief Valve

● **EFBG-10-500-17**

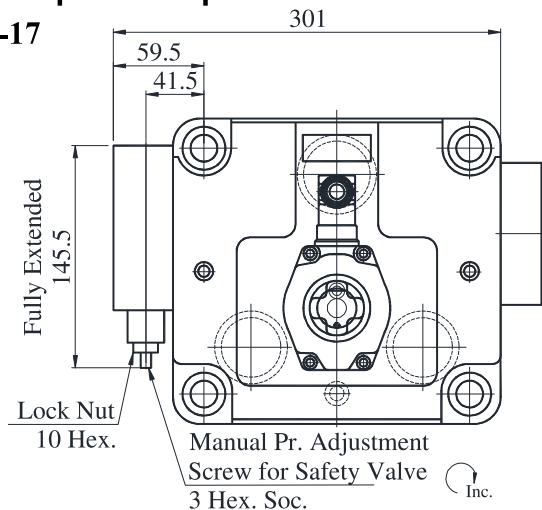
DIMENSIONS IN MILLIMETRES



Approx. Mass...60 Kg.

Model without Proportional pilot Relief Valve

● **EFBG-10-500-17**



For other dimensions,
Please refer to the models above.
Approx. Mass.....58 Kg.

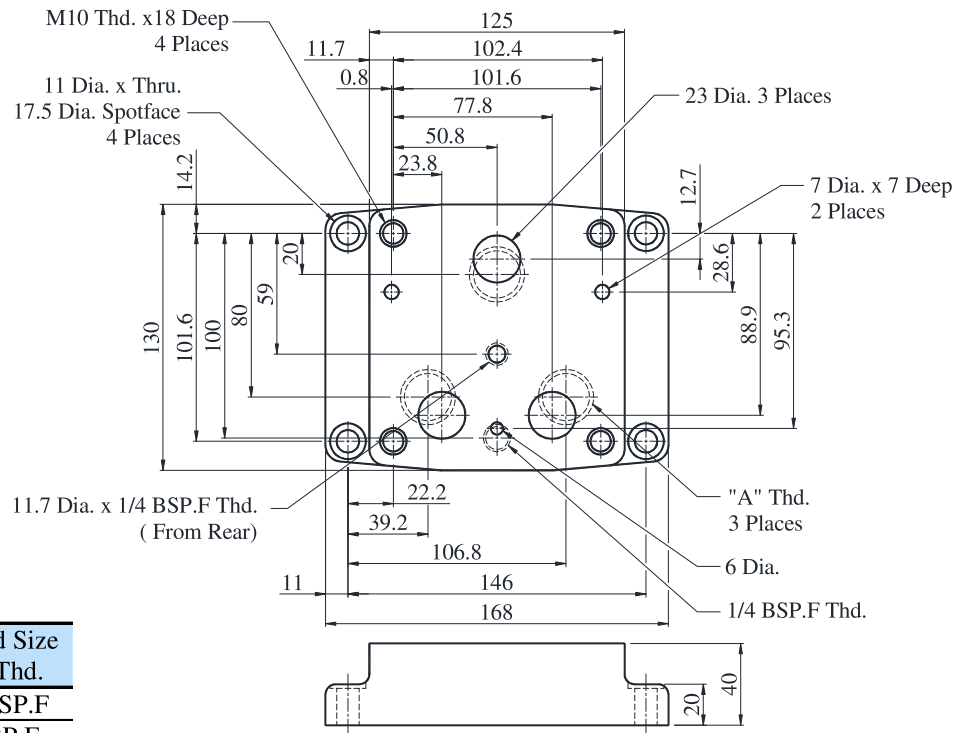
E Series

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

Sub-plate

DIMENSIONS IN MILLIMETRES

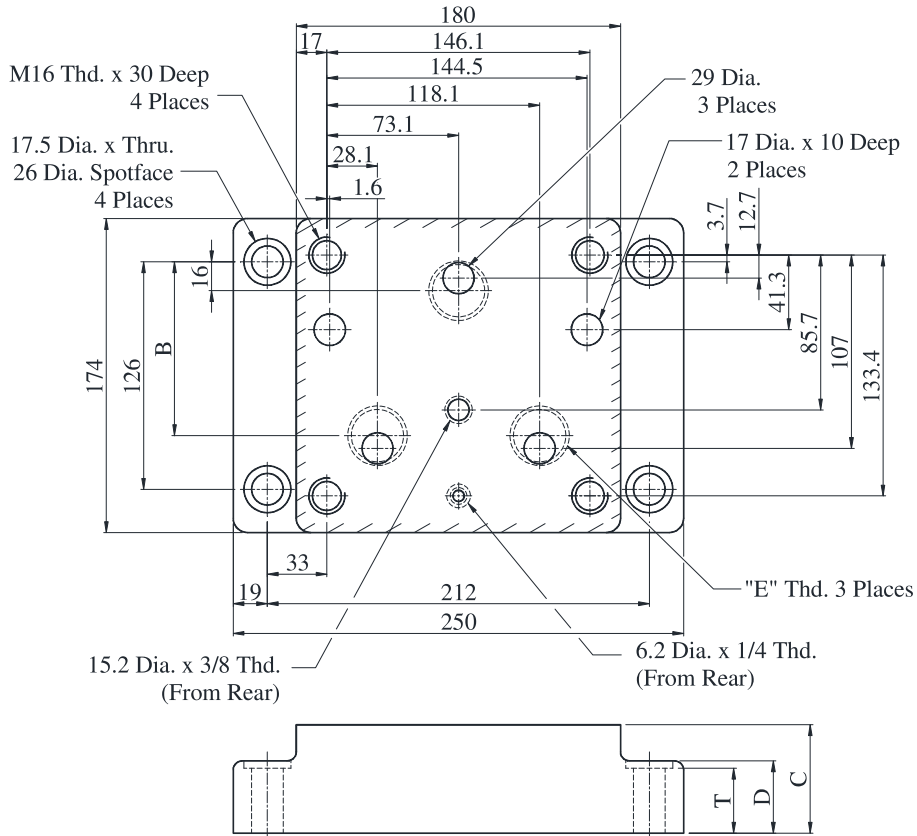
- EFBGM-03Y-1080
- 03Z



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.	T
	B	C	D		
EFBGM-06X-1080	103.3	45	35	1 BSP.F	34
EFBGM-06Y-1080	95	60	40	1-1/4 BSP.F	39

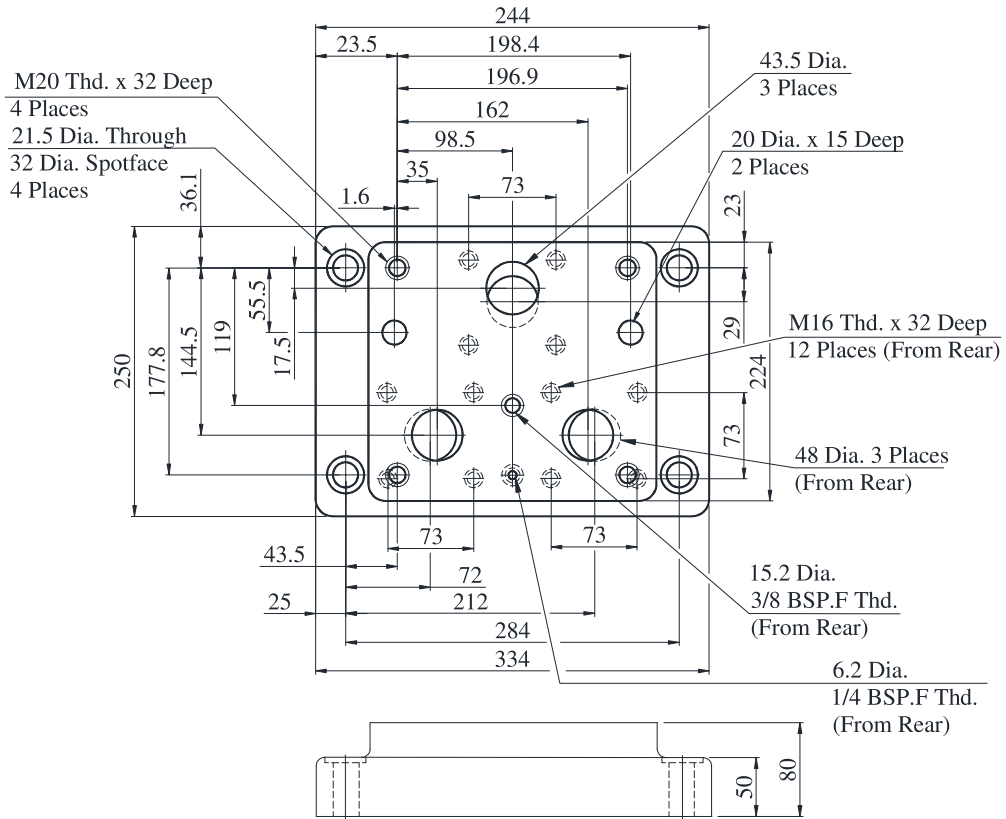


E Series
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Sub-plate

DIMENSIONS IN MILLIMETRES

EFBGM-10Y-1080

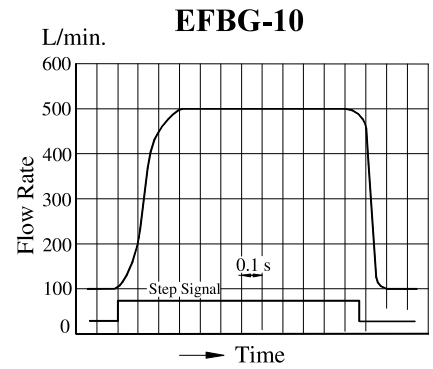
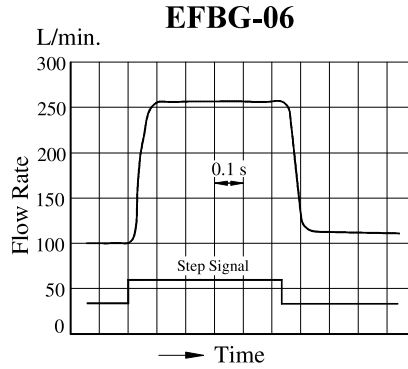
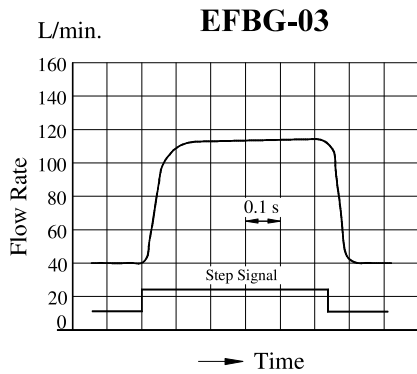


Viscosity : 30 cSt

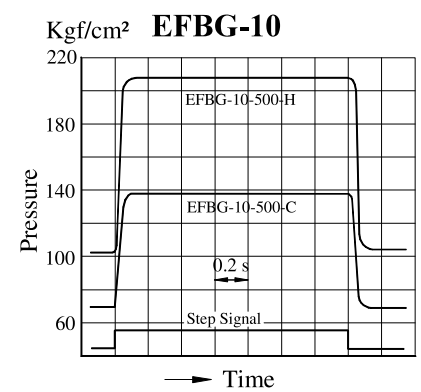
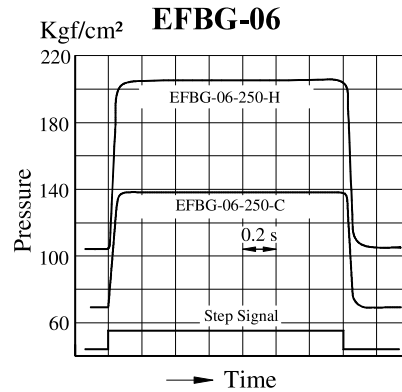
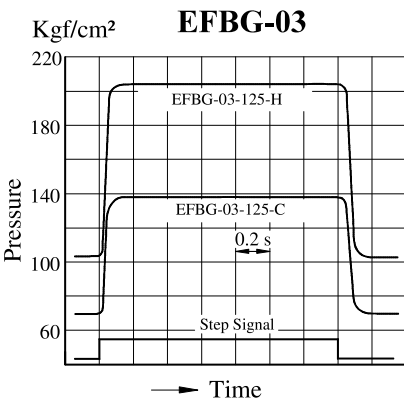
Step Response

These characteristics have been obtained by measuring on each valve. Therefore, they may vary according to a hydraulic circuit to be used.

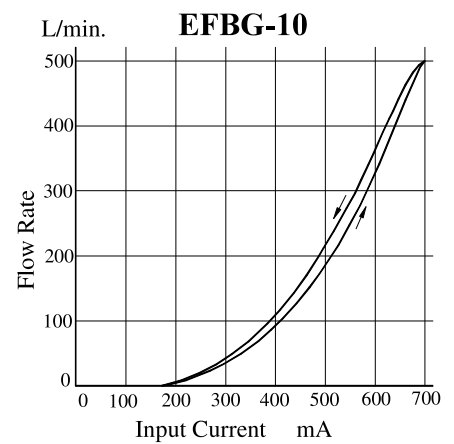
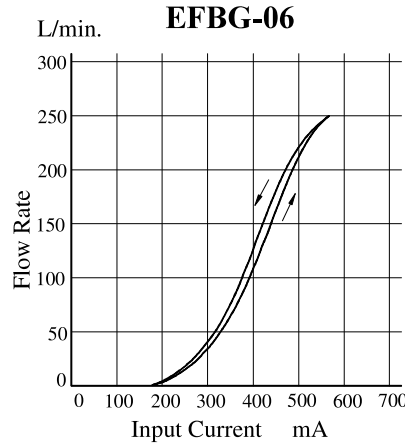
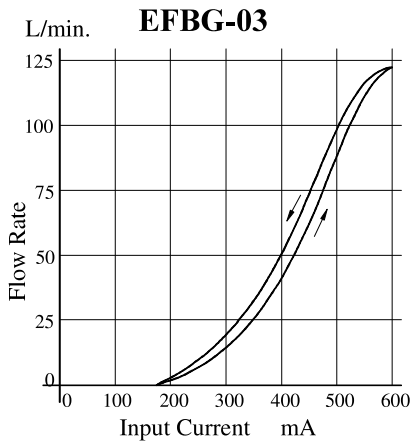
Flow Controls



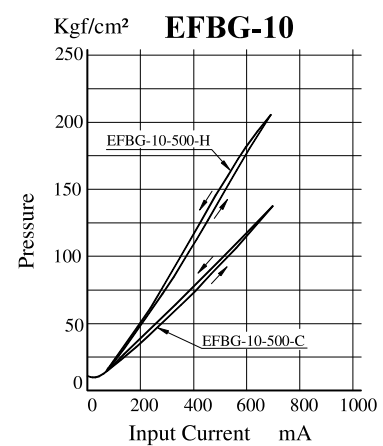
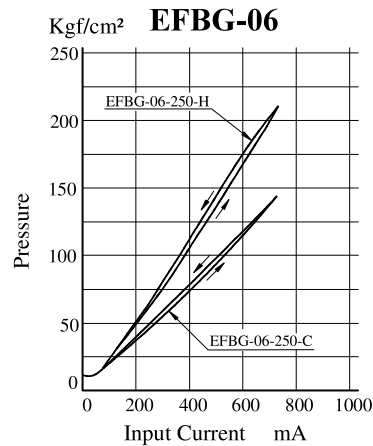
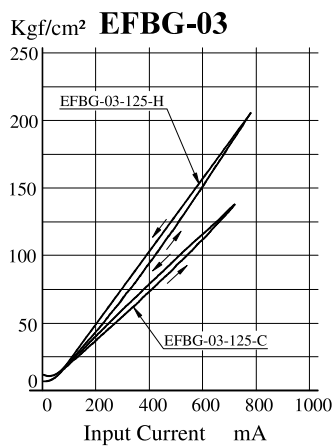
Pressure Controls



Input Current vs. Flow



Input Current vs. Pressure



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