

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.

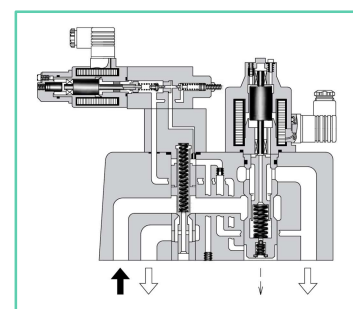
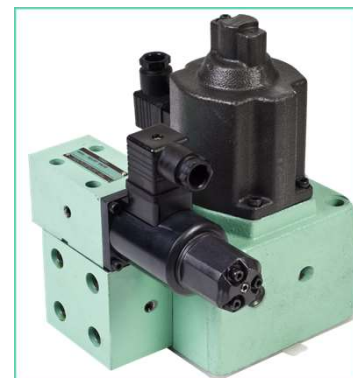
Further, since a temperature compensation function is incorporated, this valve provides consistent flow control irrespective of the fluid temperature.

Specification

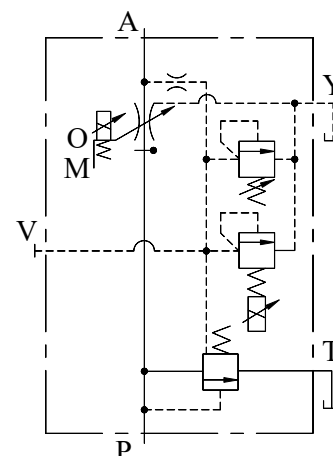
Description		Model No.	EFBG-03-125	EFBG-06-250	EFBG-10-500
Max. Operating Pressure		Kgf/cm ²	250		
Max. Flow		L/min	125	250	500
Metered Flow Adjustment Range		L/min	1-125	2.5-250	5-500
Flow Controls	Rated Current	mA	600	580	700
	Coil Resistance	Ω	45		
	Differential Pressure	Kgf/cm ²	6	7	9
	Hysteresis		7% or Less		
	Repeatability		1% or Less		
Pressure Controls ^{*1}	Pres. Adj. Range ^{*2}	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-※-15)

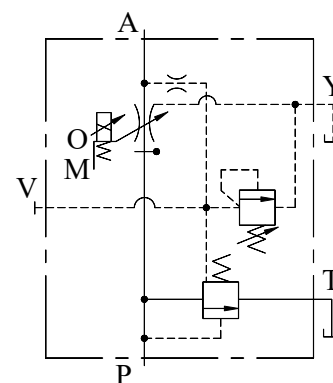
^{*2} Pressure Adjustment range of the valves without proportional pilot relief valves is from a minimum adjustable pressure to 250 Kgf/cm².



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	-15
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	15
			06	250 : 250		17
			10	500 : 500	None: Without Proportional Pilot Relief Valve	

** Before ordering the Special seals, consult YUKEN representative

Mounting Bolts

Model Number	Socket Head Cap Screw	Qty.	Bolt Kit
EFBG-03	M10 x 100 Lg.	4	BKEFBG-03-15
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
EFBG-03-※-※-15	AME-D-※-40	---
EFBG-06-※-※-17	AME-DF-S-※-22	
EFBG-10-※-※-17	AME-T-S-※-22	
EFBG-03-※-※-C/H-15	PW100-※-H11	
EFBG-06-※-※-C/H-17		
EFBG-10-※-※-C/H-17		

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.

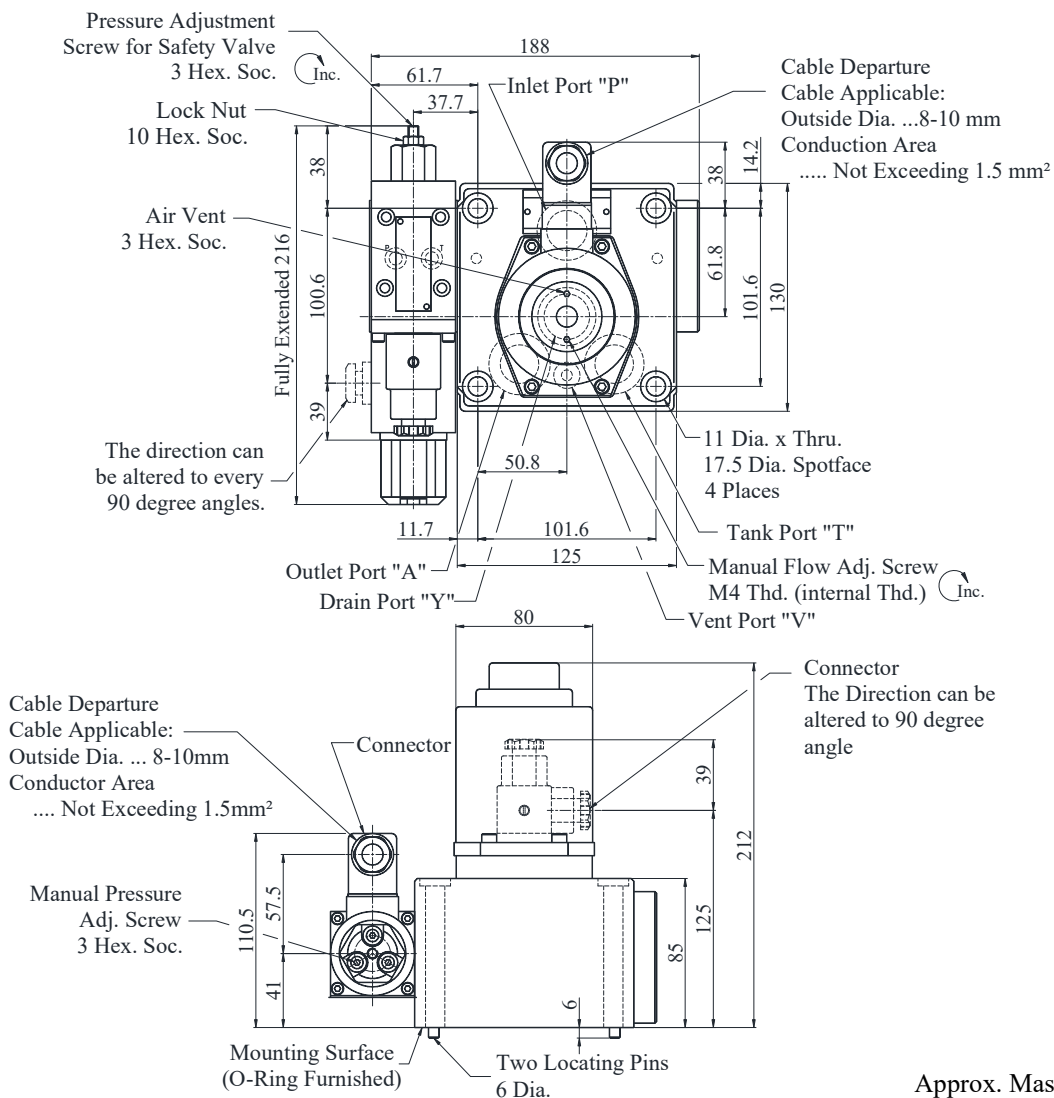
E Series

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

Model with Proportional Pilot Relief Valve

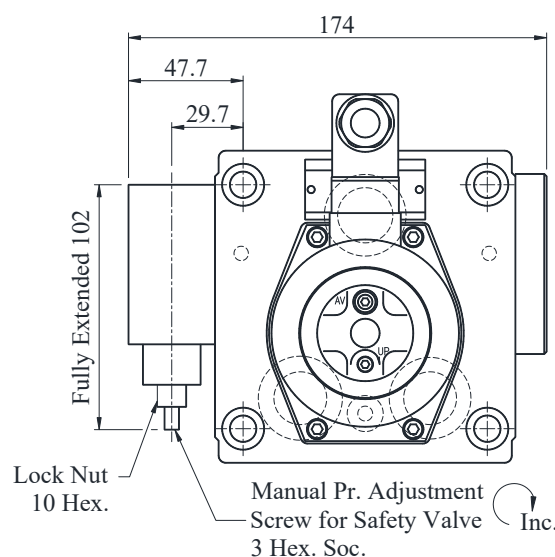
DIMENSIONS IN
MILLIMETRES

EFBG-03-125-C-15 H



Model without Proportional Pilot Relief Valve

EFBG-03-125-15



For other dimensions, please refer to the models above.

Approx. Mass.....14 Kg.

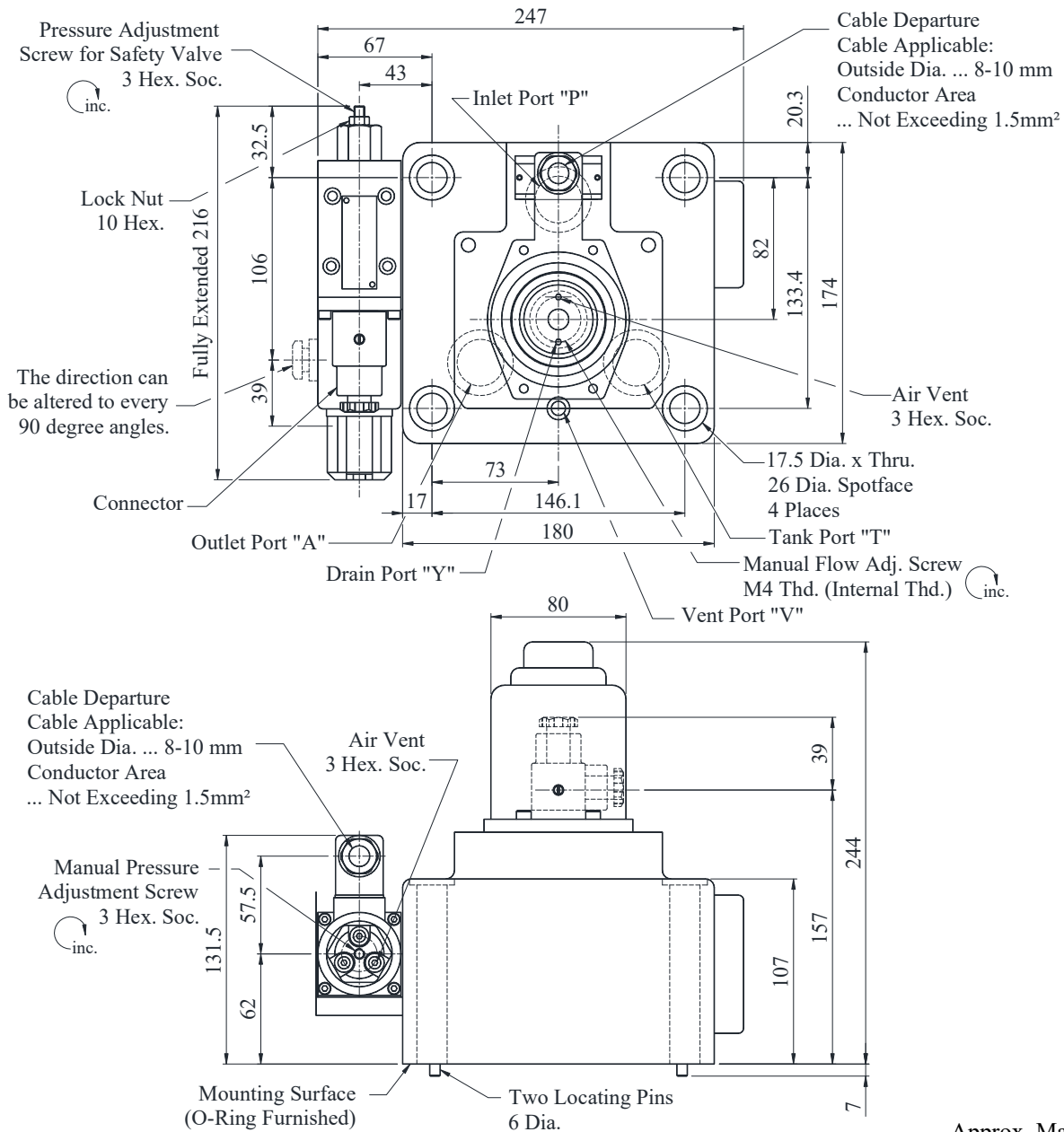
E Series

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

Model with Proportional Pilot Relief Valve

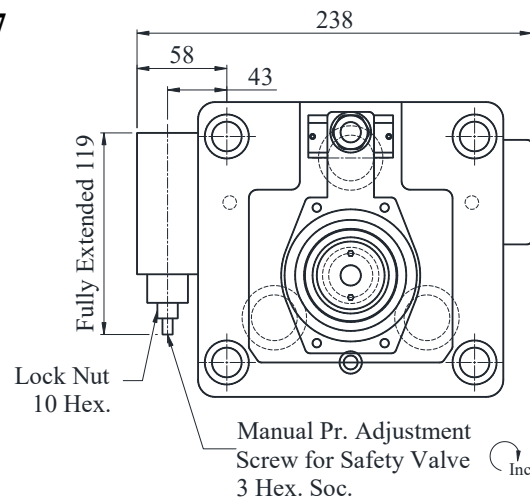
● EFBG-06-250-^C-17
H

DIMENSIONS IN
MILLIMETRES



Model without Proportional Pilot Relief Valve

● EFBG-06-250-17



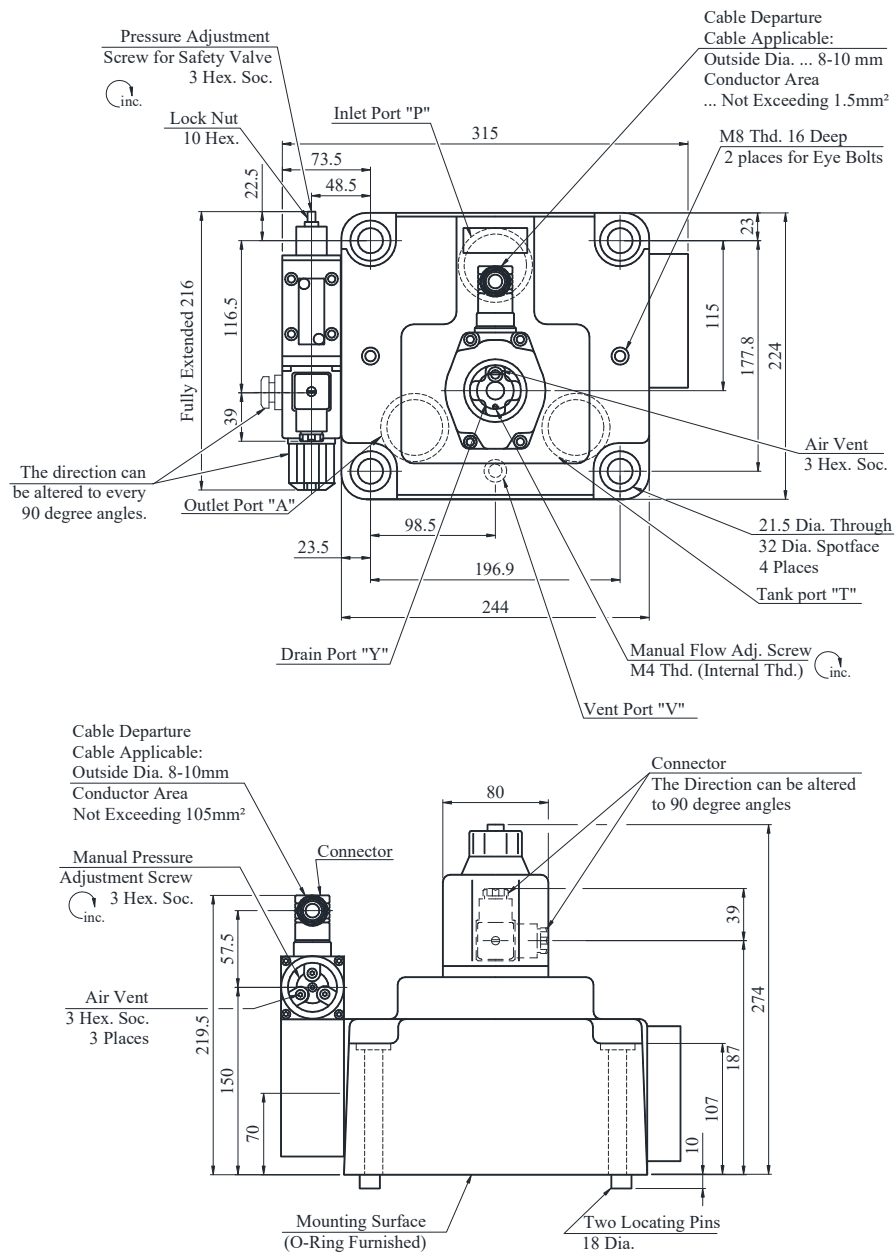
E Series

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

Model with Proportional pilot Relief Valve

EFBG-10-500-17

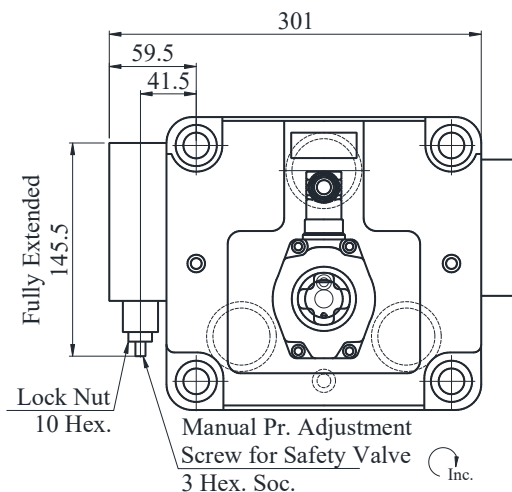
DIMENSIONS IN
MILLIMETRES



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.

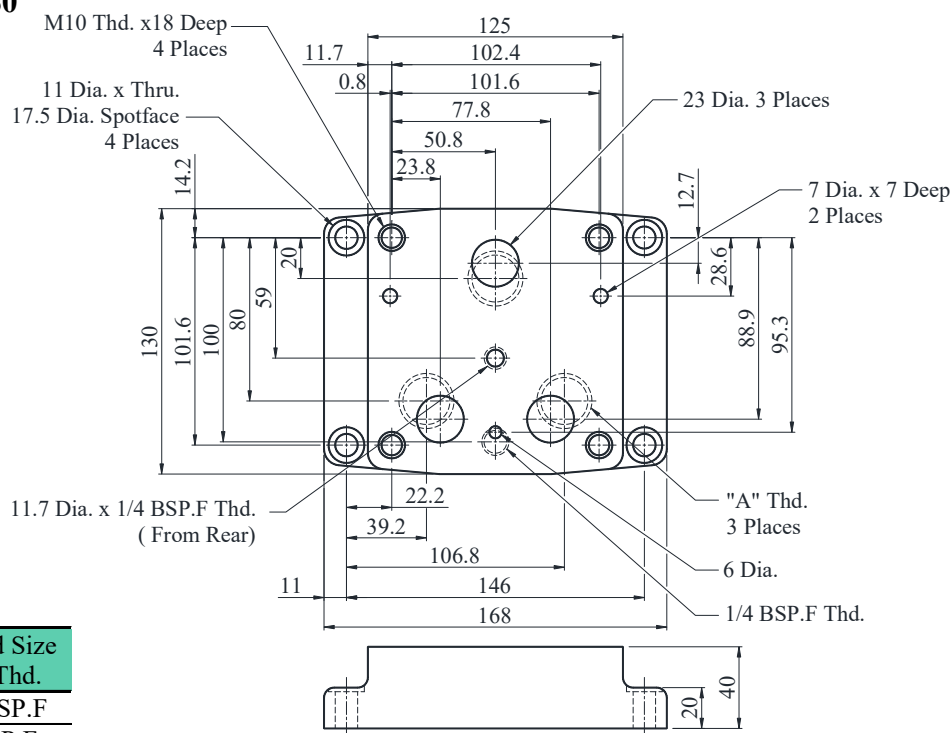
E Series

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

Sub-plate

DIMENSIONS IN
MILLIMETRES

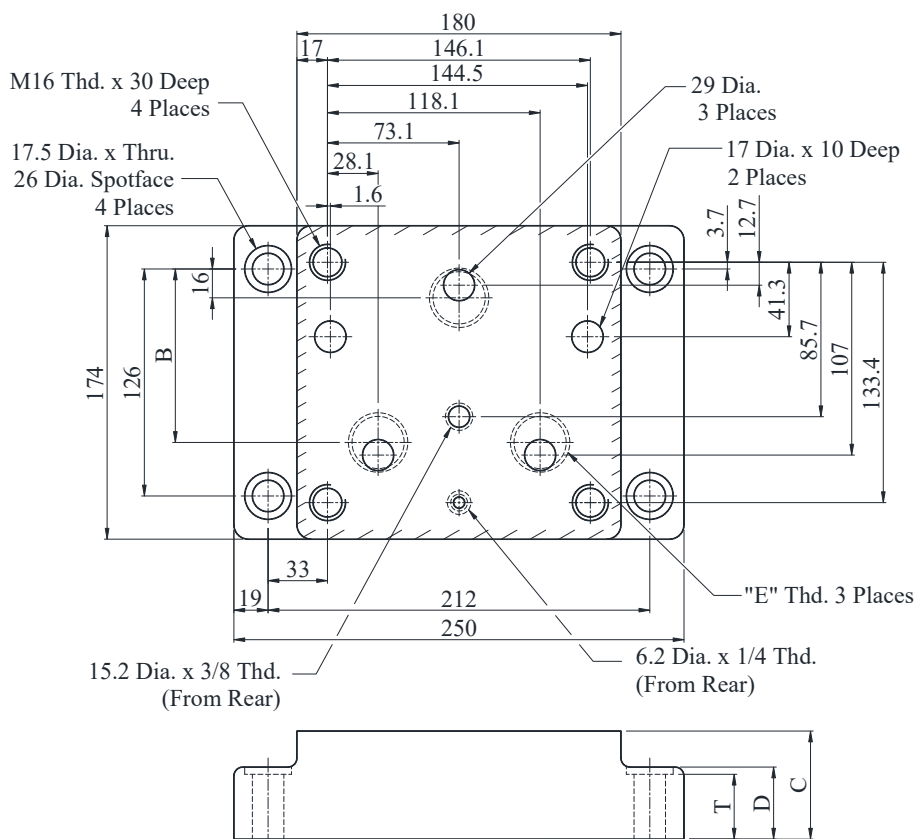
● EFBGM-03Y-1080
03Z



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



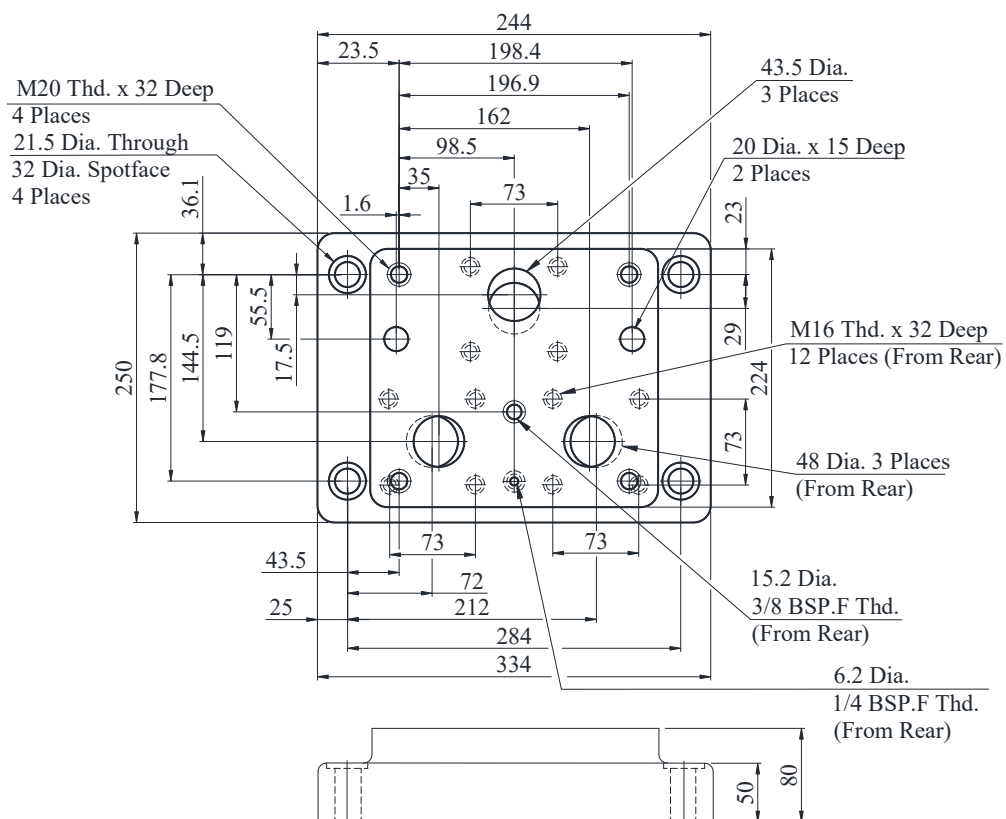
E Series

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

Sub-plate

DIMENSIONS IN
MILLIMETRES

● EFBGM-10Y-1080



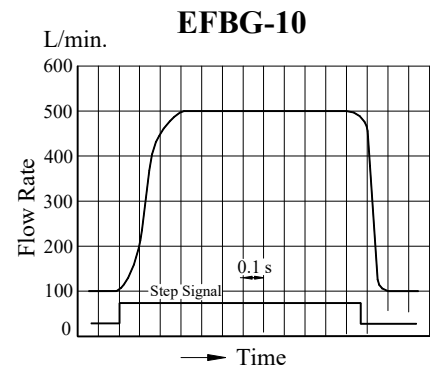
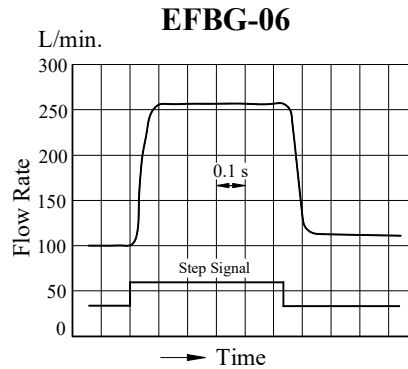
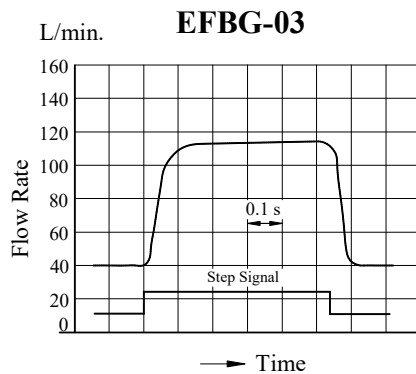
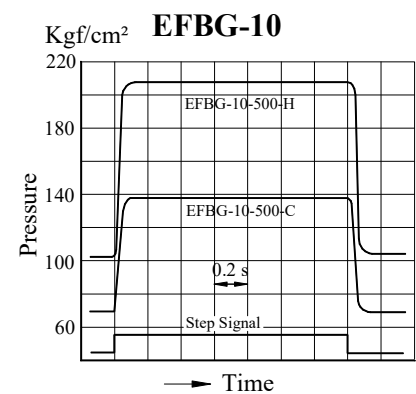
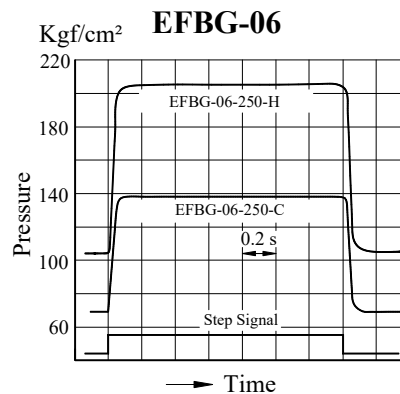
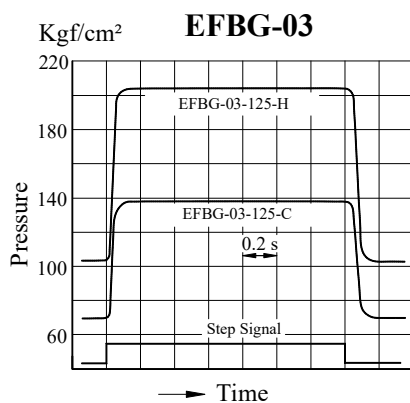
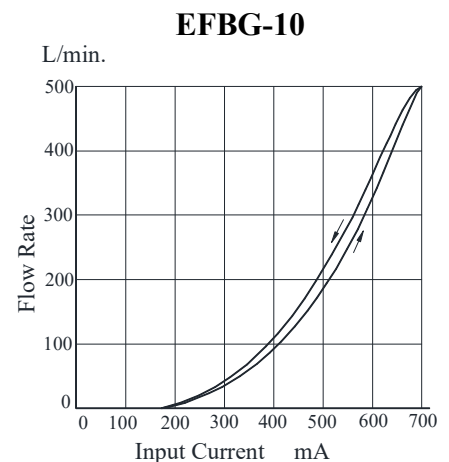
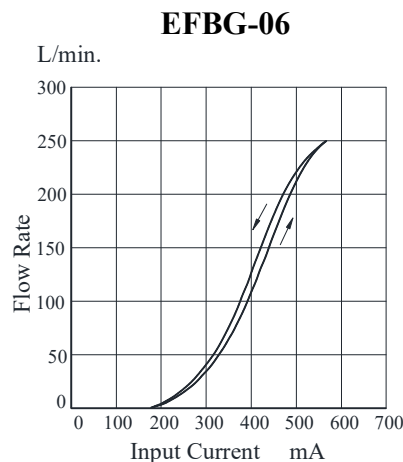
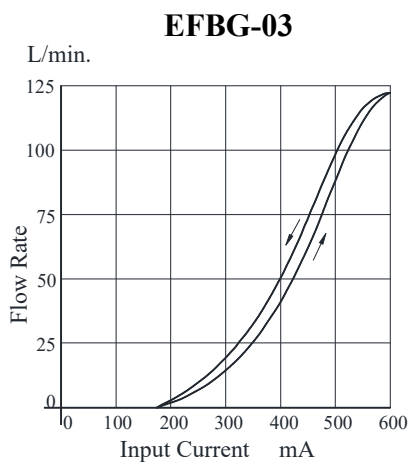
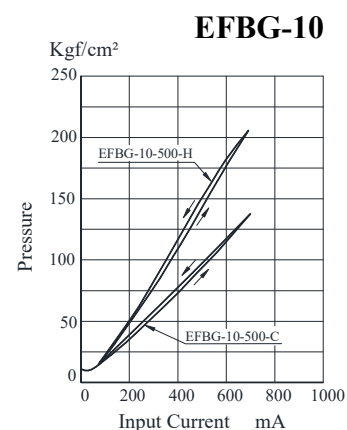
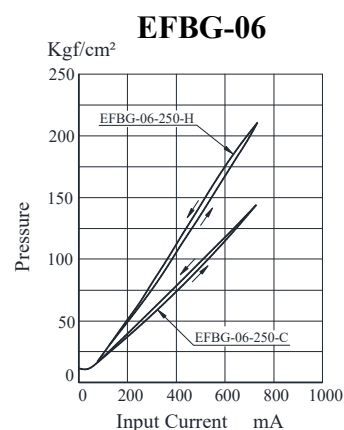
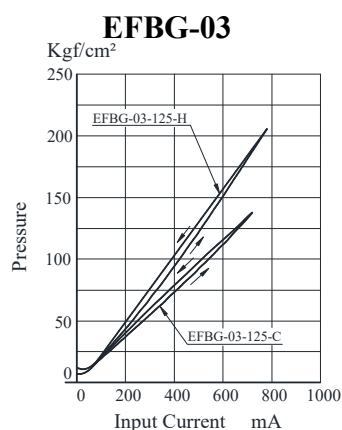
E Series

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

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

Spare Parts List

List of Seals

Sl. No.	Name of parts	Part Numbers	Qty.		
			EFBG-03	EFBG-06	EFBG-10
1	O-Ring	SO-NB-P6	1	1	1
2	O-Ring	SO-NB-G30	1	-	-
3	O-Ring	SO-NB-P32	2	3	-
4	O-Ring	SO-NB-P28	3	-	-
5	O-Ring	SO-NB-P14	1	1	1
6	O-Ring	SO-NB-P11	1	1	1
7	O-Ring	SO-NB-P9	1	1	-
8	O-Ring	SO-NB-A013	1	1	1
9	O-Ring	SO-NB-P44	-	1	-
10	O-Ring	SO-NB-P42	-	1	-
11	O-Ring	SO-NB-P34	-	1	-
12	O-Ring	SO-NA-P10	-	1	-
13	O-Ring	SO-NB-G60	-	-	1
14	O-Ring	SO-NB-G55	-	-	2
15	O-Ring	SO-NB-P50	-	-	1
16	O-Ring	SO-NB-P48	-	-	3
17	O-Ring	SO-NA-P10	-	-	1
18	O-Ring	PO-NB-P11	-	-	1
19	Solenoid Ass'y	E321-45-20	-	-	1

List of Seals

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

Model numbers	Seal Kit Numbers
EFBG-03-15	KS-EFBG-03-15
EFBG-06-17	KS-EFBG-06-17
EFBG-10-17	KS-EFBG-10-17

Solenoid Assy.

Valve Model Numbers	Proportional Valve Model No.	Solenoid Assy. Model No.	Safety Valve Model No.
EFBG-03-125-C/H-15	---	E318-Y06M2-05-61	SB1094-2002
EFBG-06-250-C/H-17	---		
EFBG-03-125-15	---	E321-45-20	
EFBG-06-250-17	---		
EFBG-10-500-17	---	---	
EFBG-10-500-C-17	EDG-01V-C-1-P18T17-5103	---	---
EFBG-10-500-H-17	EDG-01V-H-11-PNT13-51003	---	---

Note: The connector assembly GDM-211-B-11 is not included in the solenoid assembly.

10Ω - 10Ω Series

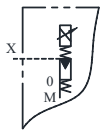
Proportional Electro-Hydraulic Flow Control and Relief Valves

This flow control and relief 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 without respect to the fluid temperature.

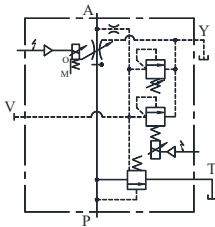
Graphic Symbols

- With Proportional Pilot Relief Valve

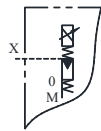
External Pilot



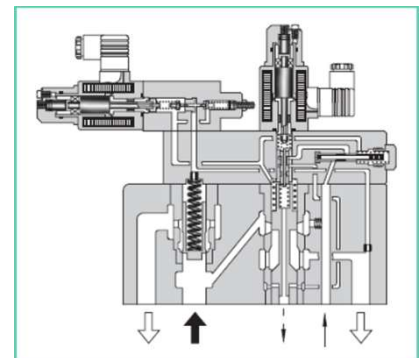
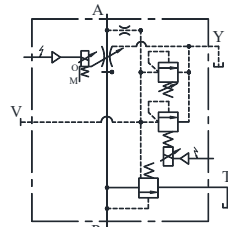
Internal Pilot



External Pilot



Internal Pilot



Specification

Model Number		EFBG-03-125	EFBG-06-250	EFBG-10-500	
Description					
Max. Operating Pres. Kgf/cm ²		250			
Max. Flow L/min.		125	250	500	
Metred Flow Adj. Range L/min.		1~125	2.5~250	5~500	
Min. Pilot Pressure Kgf/cm ²		15			
Pilot Flow L/min.	At Normal	1			
	At Transition	3	4	6	
Flow Controls	Rated Current mA	800	750	900	
	Coil Resistance Ω	10			
	Differential Pressure Kgf/cm ²	7		9	
	Hysteresis	Less than 3%			
	Repeatability	Less than 1%			
Pressure Controls ¹	Pressure Adj. Range: C	14~160 Kgf/cm ²			
	Adj. Range Adj. Range: H	14~250 Kgf/cm ²			
	Rated Current		C : 890 mA H : 930 mA	C : 820 mA H : 880 mA	C : 800 mA H : 900 mA
	Coil Resistance Ω	10			
	Hysteresis		Less than 3%		
	Repeatability		Less than 1%		
	Approx. Mass Kg.		Refer to Page 561 to 563		

*1. The specifications for pressure controls are applied to models with proportional pilot relief valve.
(Ex. EFBG-03-125-C-※61)

*2. The minimum pressure adjustment range of the models without proportional pilot relief valves is 250Kgf/cm²

Model Number Designation

F-	EFB	-G	-03	-125	-C	-E	-61
Special Seals**	Series Number	Type of Mounting	Valve Size	Max. Metered Flow L/min.	Pilot Relief valve Pr. Adj. Range Kg/cm ²	Pilot Connection of Flow Control	Design Number
F: Special Seals for Phosphate Ester Type Fluid (Omit if not required)	EFB: Proportional Electro-Hydraulic Flow Control and Relief Valve	G: Sub-Plate Mounting	03	125: 125	None: Without Proportional Pilot Relief Valve	None: Internal Pilot	61
			06	250: 250			
			10	500: 500	C, H : See Specifications	E : External Pilot	51

** Before ordering the Special seals, consult YUKEN representative

Applicable Power Amplifier

For stable performance, it is recommended that YUKEN's applicable power amplifiers be used.

Sl. No.	Model Number	Power Amplifier Model Numbers	
		For Flow Controls	For Pressure Controls
1	EFBG-03-125-(-E)-61 EFBG-06-250-(-E)-61 EFBG-10-500(-E)-61	AME-D-10-※-20 AMN-D-10 (For DC Power Supply)	----
2	EFBG-03-125-C/H-(-E)-61 EFBG-06-250-C/H-(-E)-61 EFBG-10-500-C/H-(-E)-61	AME-D2-1010-11	

Sub-Plate

Sl. No.	Model Number	Sub-Plate Model Numbers	Thread size	Mass Kg.
1	EFBG-03	EFBGM-03Y-1080	3/4 BSP.F	6
		EFBGM-03Z-1080	1 BSP.F	
2	EFBG-06	EFBGM-06X-1080	1 BSP.F	12.5
		EFBGM-06Y-1080	1 1/4 BSP.F	16
3	EFBG-10	EFBGM-10Y-1080	1 1/2, 2 BSP.F	37

Mounting Bolts

Model Number	Socket head cap Screw	Qty	Bolt Kit Model Number
EFBG-03	M10 x 65 Lg.	4	BKEFBG-03-17
EFBG-06	M16 x 100 Lg.		BKEFBG-06-17
EFBG-10	M20 x 130 Lg.		BKEFBG-10-17

- Sub-plates are available. Specify sub-plate model number from the table above. When sub-plates are not used, the mounting surface should have a good machined finish.
- When ordering the EFBGM-10Y, see type F3 pipe flange kits on page 746 and order an appropriate pipe flange kit also.

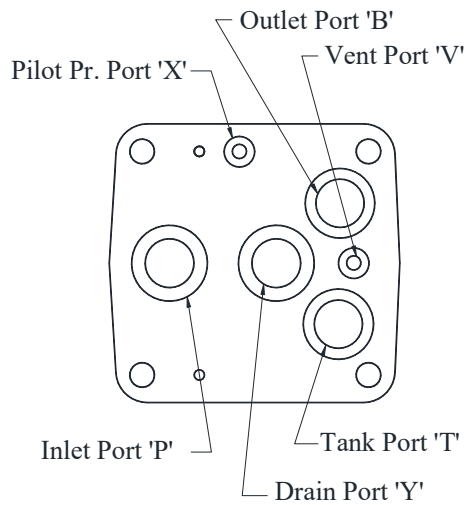
Instructions

- 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 15 L/min or higher.
Further, check that the tank-line back pressure dose not exceed 5 Kg/cm².
- Safety Valve Pressure Setting.**
The pressure of the safety valve is preset at the value equal to the upper limit of the pressure adjustment range plus 20 Kg/cm². Please adjust the pressure of the valve so preset to meet the pressure to be used actually.
To lower the pressure setting, turn the safety valve pressure adjustment screw anti-clockwise. After adjustment, be sure to tighten the lock nut.

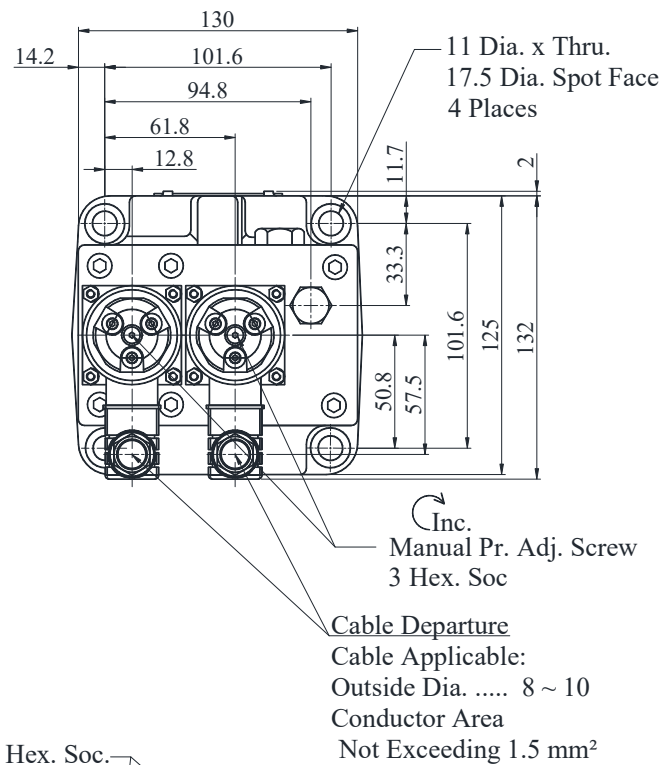
Models with Proportional Pilot Relief valve

- EFBG-03-125 - $\frac{C}{H}$ (-E)-61

DIMENSIONS IN
MILLIMETRES

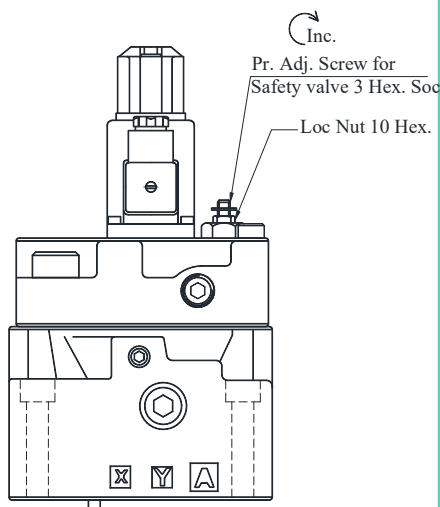
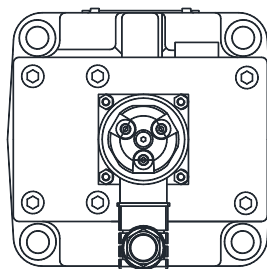


View Arrow Z



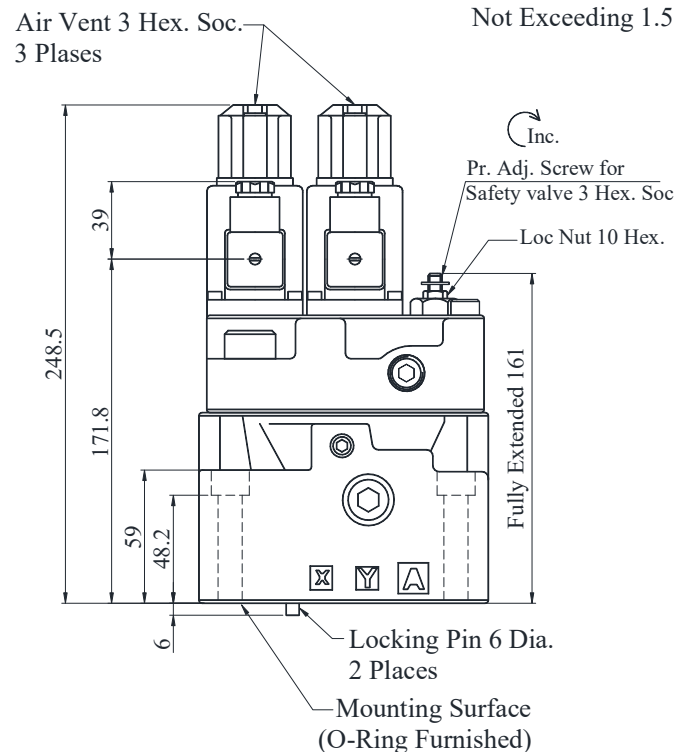
Models without Proportional Pilot Relief Valve

- EFBG-03-125 - (-E)-61



For other dimensions, refer right sight drawing

Mass13.3 Kg.

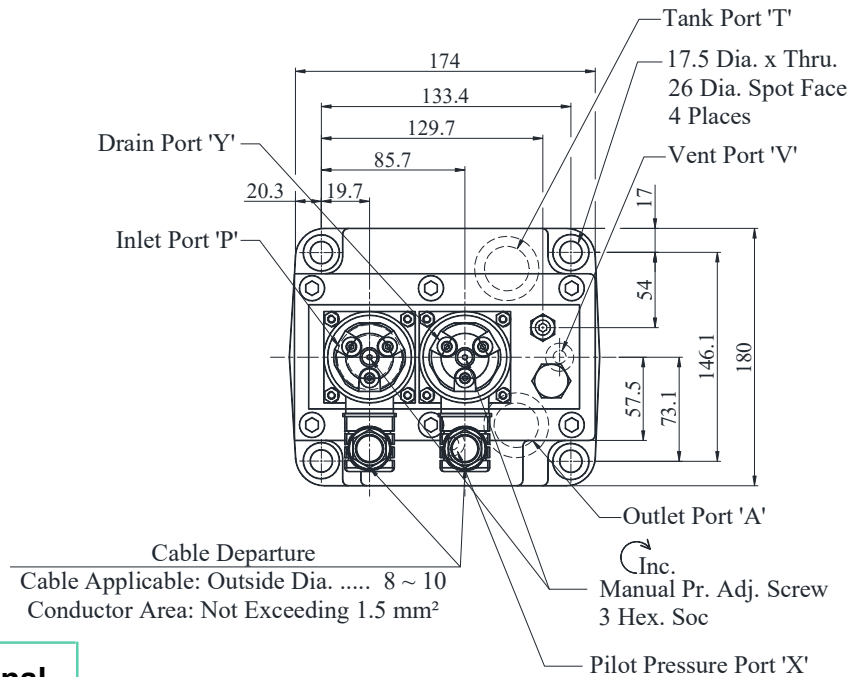


Approx. Mass14 Kg.

Models with Proportional Pilot Relief valve

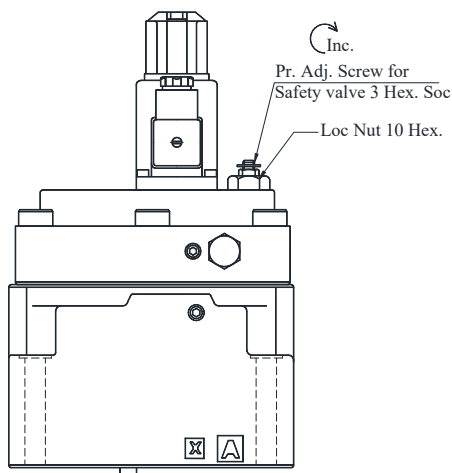
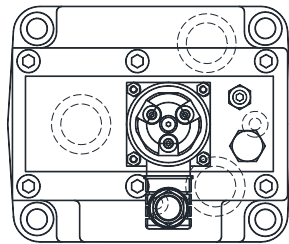
- EFBG-06-250- $\frac{C}{H}$ (-E)-61

DIMENSIONS IN
MILLIMETRES



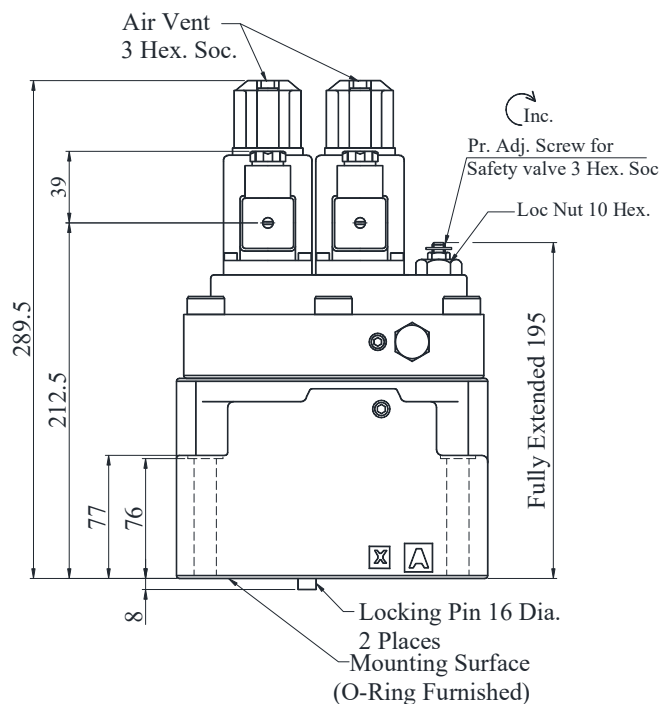
Models without Proportional
Pilot Relief valve

- EFBG-06-250(-E)-61



For other dimensions, refer to the
models with Proportional Pilot Relief
valve.

Mass21.3 Kg.

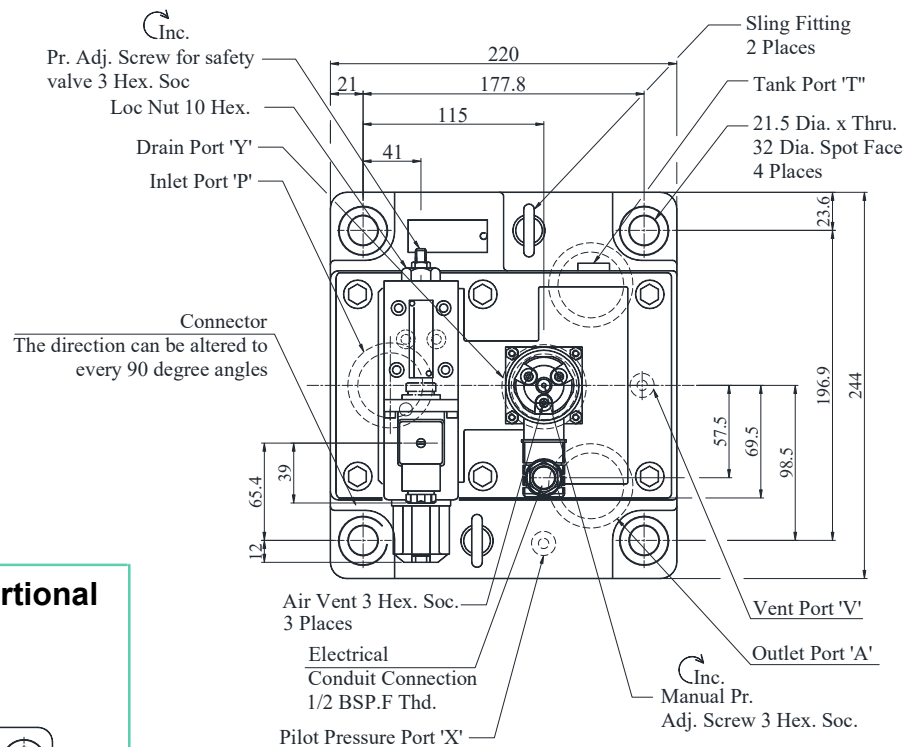


Mass22 Kg.

Models with Proportional Pilot Relief valve

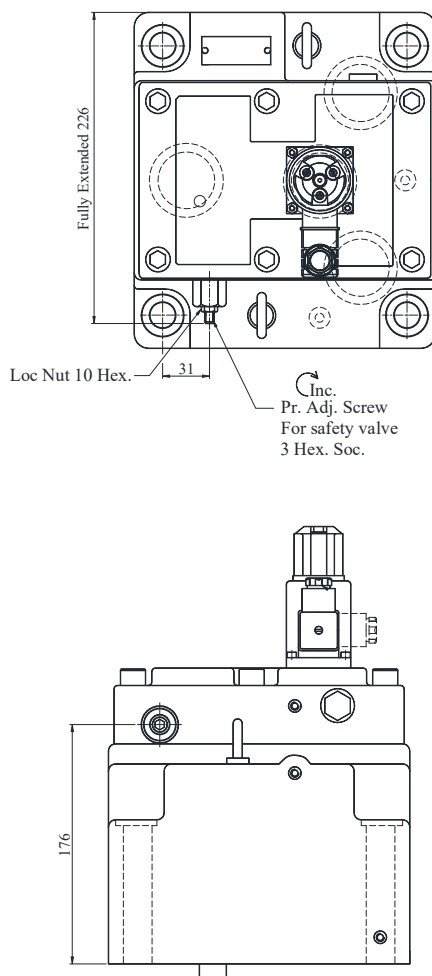
- EFBG-10-500- $\frac{C}{H}$ (-E)-51

DIMENSIONS IN
MILLIMETRES



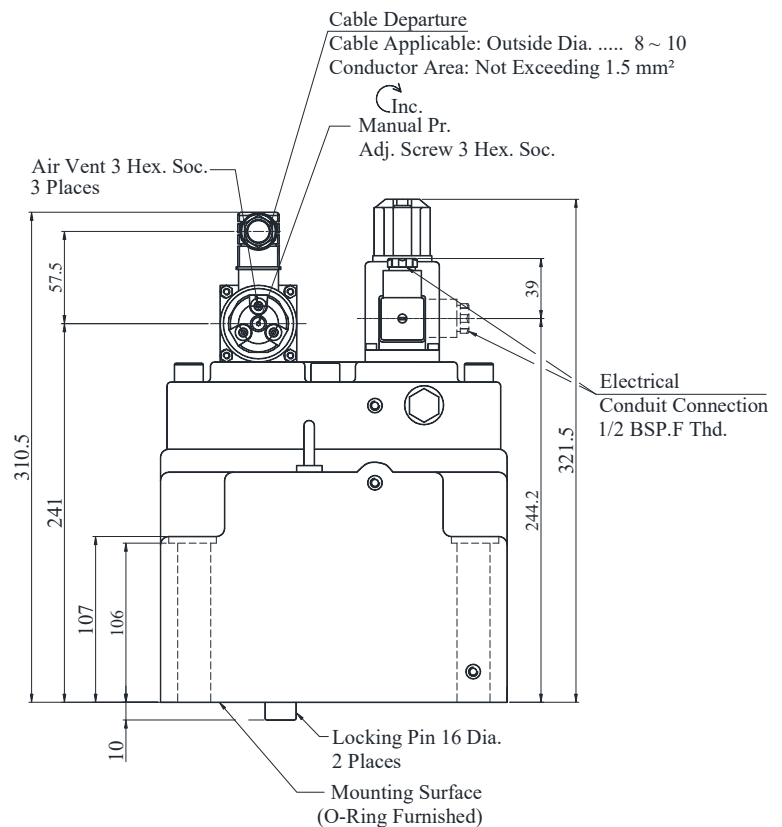
Models without Proportional Pilot Relief valve

- EFBG-10-500(-E)-51



For other dimensions, refer to the models with Proportional Pilot Relief valve.

Mass62 Kg.

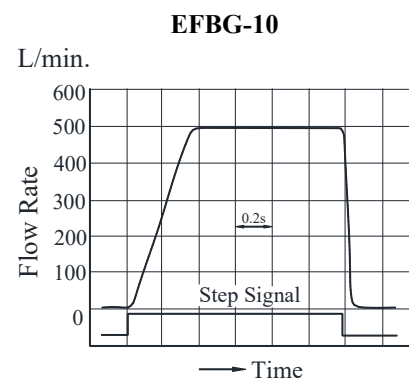
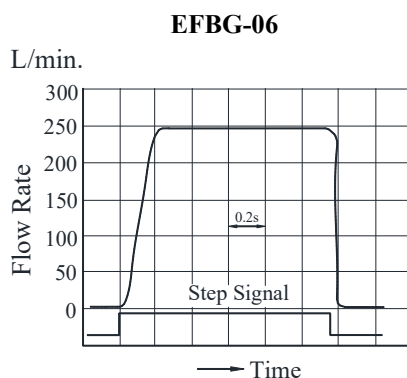
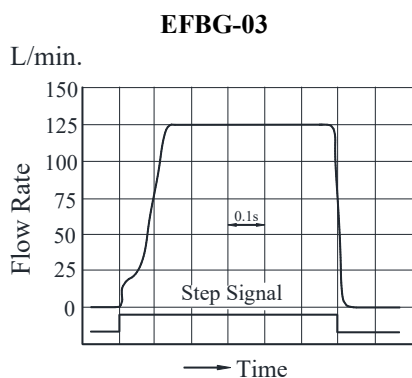


Mass64 Kg.

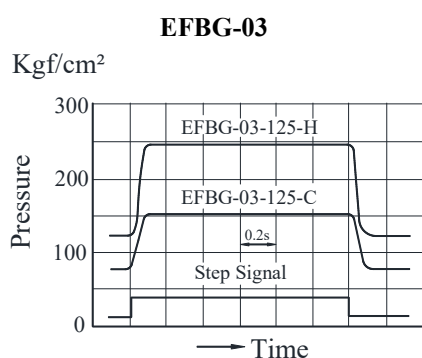
Step Response

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

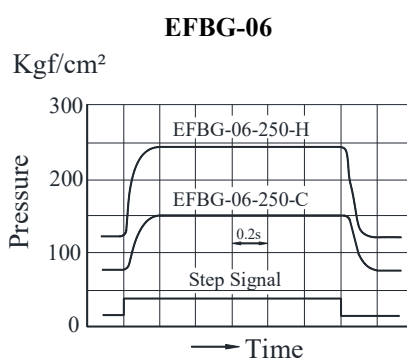
Viscosity :30 cSt



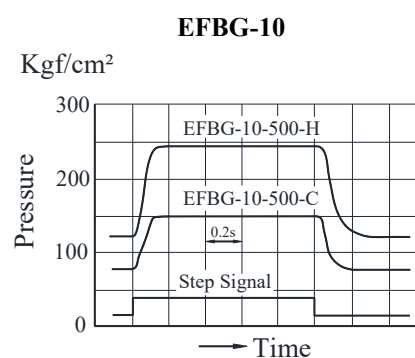
Pressure Controls



Flow Rate : 125 L/min.
Trapped Oil Volume : <1L



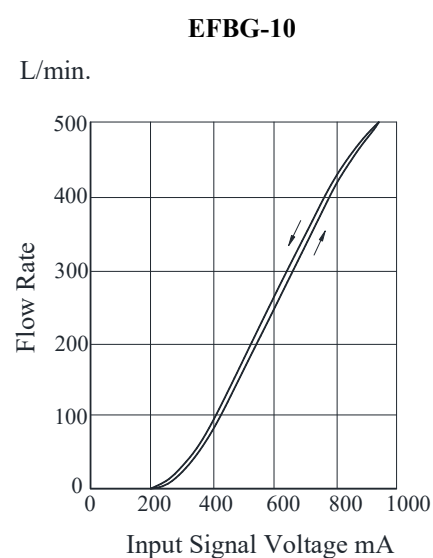
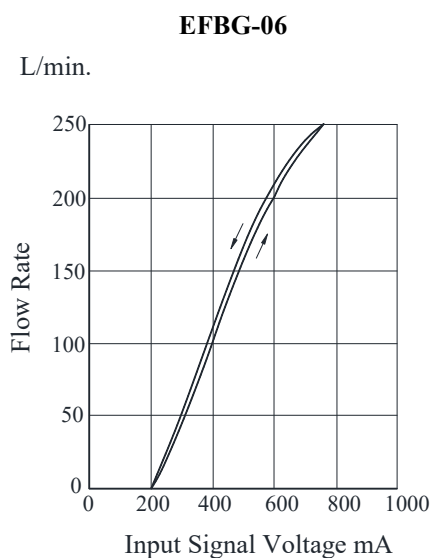
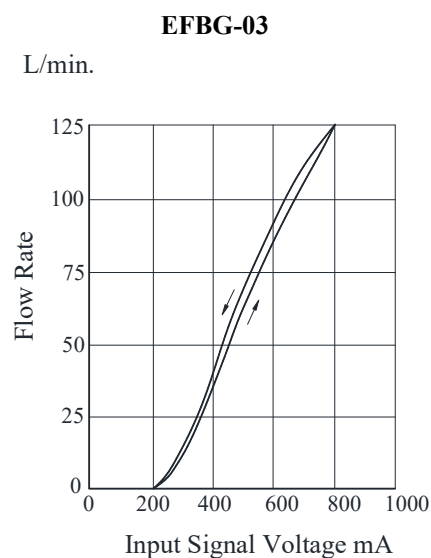
Flow Rate : 250 L/min.
Trapped Oil Volume : <1L



Flow Rate : 500 L/min.
Trapped Oil Volume : <1L

Input Current Vs. Flow

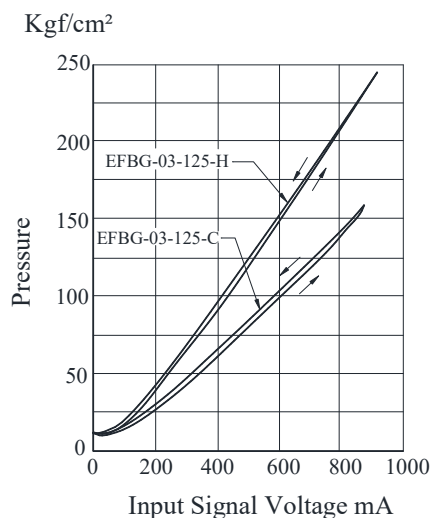
Viscosity :30 cSt



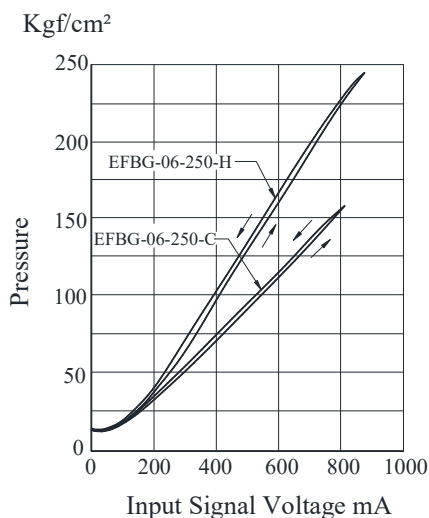
Input Current Vs. Pressure

Viscosity: 30 cSt

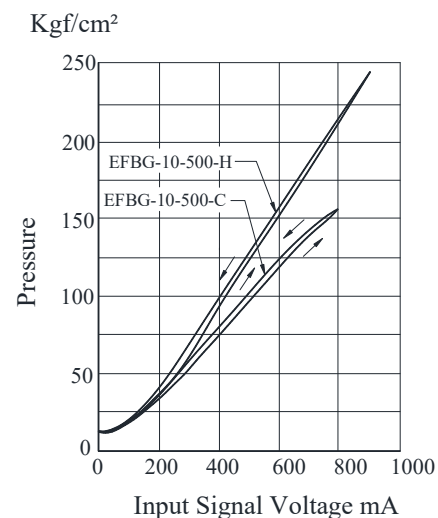
EFBG-03



EFBG-06



EFBG-10



Spare Parts List

- EF※ G-03-125-※-※-61
- EF※ G-06-250-※-※-61

List of Seals

Sl. No.	Name of Parts	Part No.	Qty.	
			EFBG-03	EFBG-06
1	O-Ring	SO-NA-A016	1	--
2	O-Ring	SO-NA-P6	1	1
3	O-Ring	SO-NB-P28	6	1
4	O-Ring	SO-NB-P32	1	3
5	O-Ring	SO-NB-G30	1	--
6	O-Ring	SO-NB-P15	1	1
7	O-Ring	SO-NB-P11	2	6
8	O-Ring	SO-NB-P9	5	--
9	O-Ring	SO-NB-A016	1	1
10	O-Ring	SO-NA-P26	--	1
11	O-Ring	SO-NB-P44	--	1
12	O-Ring	SO-NB-P42	--	1
13	O-Ring	SO-NB-P36	--	1
14	O-Ring	SO-NB-P30	--	1

Solenoid Assy.

Valve Model Numbers	Solenoid Assy.	Qty
EFBG-03-125-C/H-(E)-61	E318-Y06M1-04-61	1
EFBG-06-250-C/H-(E)-61		
EFBG-03-125-(E)-61	E318-Y06M1-28-61	
EFBG-06-250-(E)-61		

Note: The connector assembly GDM-211-B-11 is not included in the solenoid assembly.

List of Seal Kits

Model Numbers	Seal Kit Numbers
EFBG-03-125-61	KS-EFBG-03-61
EFBG-03-125-C/H-61	KS-EFBG-03-C-61
EFBG-06-250-61	KS-EFBG-06-61
EFBG-06-250-C/H-61	KS-EFBG-06-C-61

Notes :

When ordering the seals, please specify the seal kit number from the table above.

Spare Parts List

● EF※ G-10-500-※-※-51

● List of Seals

Sl. No.	Name of Parts	Part No.	Qty.	
			Model With Pilot Relief Valve	Models Without Pilot Relief Valve
1	O-Ring	SO-NA-P34	1	1
2	O-Ring	SO-NB-G60	1	1
3	O-Ring	SO-NB-G55	3	3
4	O-Ring	SO-NB-P50	1	1
5	O-Ring	SO-NB-P48	5	5
6	O-Ring	SO-NB-P42	1	1
7	O-Ring	SO-NB-P36	1	1
8	O-Ring	SO-NB-P11	8	8
9	O-Ring	SO-NB-P14	--	1
10	O-Ring	SO-NB-A013	--	1
11	O-Ring	SO-NA-P6	--	1

● List of Seal Kits

Model Numbers	Seal Kit Numbers
EFBG-10-500-51	KS-EFBG-10-51
EFBG-10-500-C/H-51	KS-EFBG-10-C-51

Notes :

When ordering the seals, please specify the seal kit number from the table above. In addition to the above O-Rings, seals for pilot valve and solenoid ass'y are included in the seal kit.

● Pilot Valve, Solenoid Ass'y and Safety Valve

Model Numbers	Pilot Valve Model Numbers	Solenoid Ass'y Model Number	Safety Valve Model Number	Qty.
EFBG-10-500-C(-E)-51	EDG-01V-C-1-PNT12-5103	E318-Y06M1-28-61	---	1
EFBG-10-500-H(-E)-51	EDG-01V-H-1-PNT12-5103		---	
EFBG-10-500-(-E)-51			SB0194-2002	

Note:

The connector assembly GDM-211-B-11 is not included in the solenoid assembly.

High Flow Series Proportional Electro-Hydraulic Relief and Flow Control Valves

This flow control and relief valve is an energy-saving valve that supplies the minimum pressure and flow necessary for actuator drive. For the High Flow Series, double maximum flow rate [03 size: 125→250 L/min, 06 size: 250→500 L/min, 10 size: 500→1000 L/min] enables a smaller valve size than conventional products; compact-sized devices can be provided.

Specification

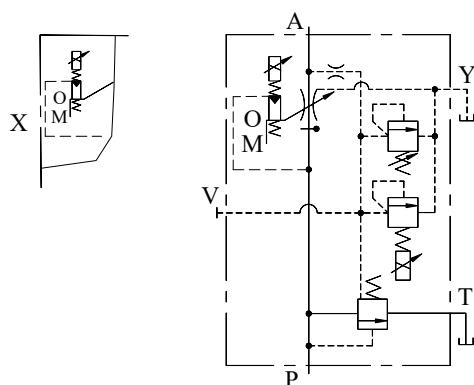
Model No.		EFBG-03-250	EFBG-06-500	EFBG-10-1000
Description				
Max. Operating Pressure Kgf/cm ²		250		
Max. Flow L/min		250	500	1000
Metered Flow Adjustment Range L/min		2.5-250	5-500	10-1000
Min. Pilot Pressure Kgf/cm ²		15	15	15
Pilot Flow L/min	At Normal	1	1	4.5
	At Transition	4	6	10
Flow Controls	Rated Current mA	830	780	830
	Coil Resistance Ω	10		
	Differential Pressure Kgf/cm ²	8	9	12
	Hysteresis	3% or Less		
	Repeatability	1% or Less		
Pressure Controls *1	Pres. Adj. Range *2 Kgf/cm ²	C: 16-157 H: 18-245	C: 15-157 H: 15-245	C: 11-157 H: 11-245
	Rated Current mA	C: 850 H: 870	C: 800 H: 900	C: 900 H: 950
	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-※-15)

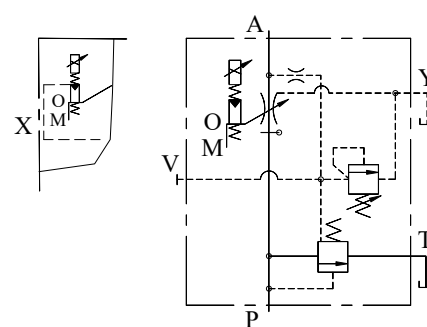
*2. Pressure Adjustment range of the valves without proportional pilot relief valves is from a minimum adjustable pressure to 250 Kgf/cm².

Graphic Symbols

With Proportional Pilot Relief Valve
External Pilot Internal Pilot

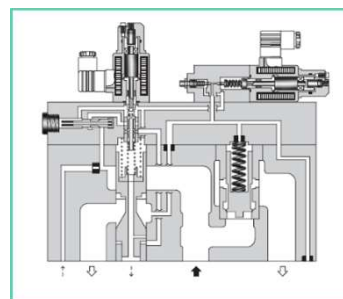
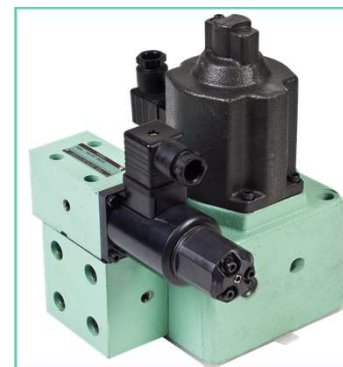


Without Proportional Pilot Relief Valve
External Pilot Internal Pilot



E Series

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



Model Number Designation

F-	EFB	G	-03	-250	-C	-E	-51
Special Seals**	Series Number	Type of Mounting	Valve Size	Max. Metered Flow L/min.	Proportional Pilot Relief Valve Pr. Adjustment Range	Pilot Connection	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	250 : 250	C,H: See Specifications None: Without Proportional Pilot Relief Valve	None: Internal Pilot E : External Pilot	51
			06	500 : 500			
			10	1000 : 1000			

** Before ordering the Special seals, consult YUKEN representative

Attachment

Mounting Bolts

Valve Model Number	Socket Head Cap Screw	Qty.	Bolt Kit Ordering Code
EFBG-03	M12 x 120 Lg.	4	BKBG-03-51
EFBG-06	M16 x 120 Lg.	4	BKBG-06-51
EFBG-10	M20 x 150 Lg.	4	BKBG-10-51

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-※-(-E)-51 10	AME-D-10-* -20 AMN-D-10(For DC power supply)	---
03 EFBG-06-※- ^C _H -51 10	AME-D2-1010-11	

Instructions

Drain Back Pressure

Check that the drain back pressure does not exceed 2 Kgf/cm²

When Relief Valve Passing Flow Rate is Low in Pressure Control State

To avoid preselected pressure instability, use a passing flow rate of 15L/min. or higher. Further, check that the tank-line back pressure does not exceed 5 Kgf/cm²

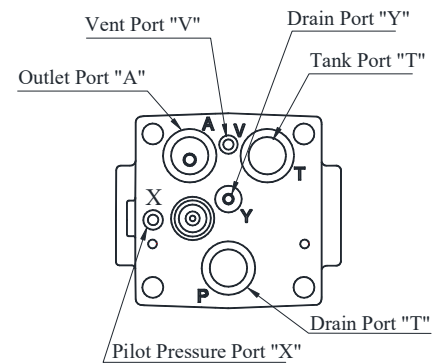
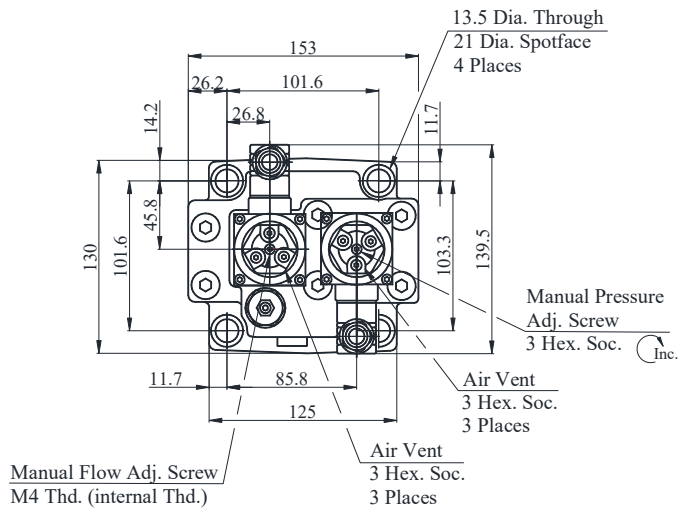
Safety Valve Pressure Setting

The safety valve is preset to a pressure that is 2 Kgf/cm² higher than the maximum adjustment pressure. Therefore, adjust this pressure setting as needed to suit the pressure used.

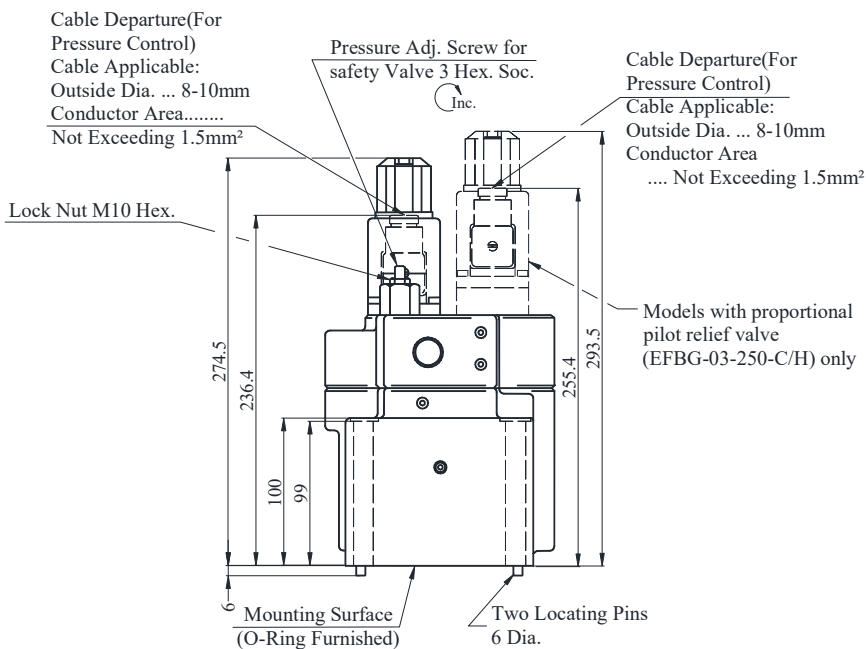
To lower the pressure setting, turn the safety valve pressure adjustment screw anti-clockwise. After adjustment, be sure to tighten the lock nut.

Model with Proportional Pilot Relief Valve

• EFBG-03-250-C-51 H

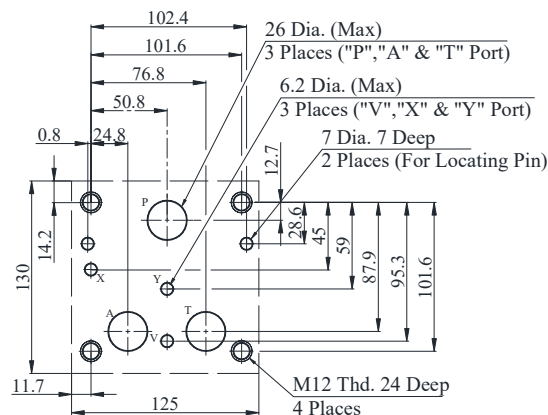


View Arrow Z



↑ Z

**DIMENSIONS IN
MILLIMETRES**



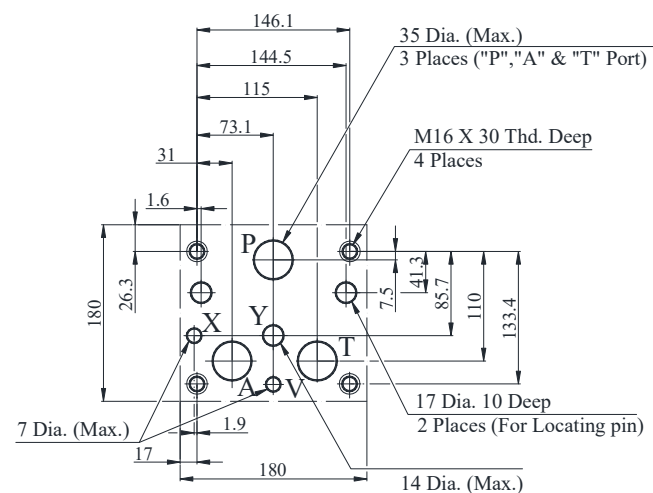
Dimension of valve mounting surface

Prepare a mounting surface as shown to the right also finish it finely.

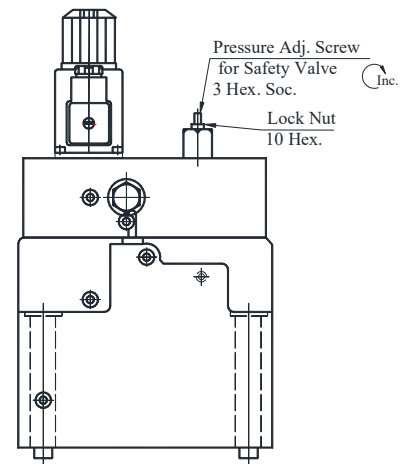
E Series

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

● **EFBG-06-500- $\frac{C}{H}$ -51**



● **EFBG-06-500(-E)-51**



- For other dimensions, please refer to the models with Proportional Pilot Relief Valve

Approx. Mass...33 Kg.

DIMENSIONS IN
MILLIMETRES

Dimension of valve mounting surface

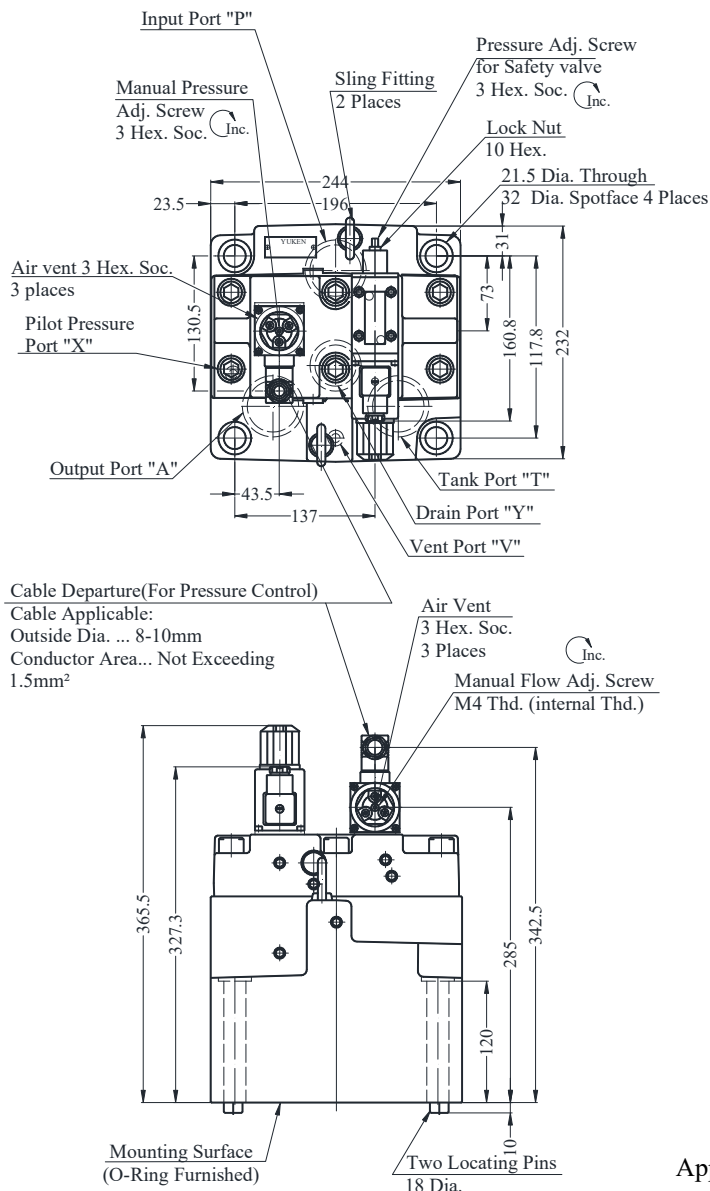
Prepare a mounting surface as shown to the right
Also finish it finely.

E Series

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

Model with Proportional pilot Relief Valve

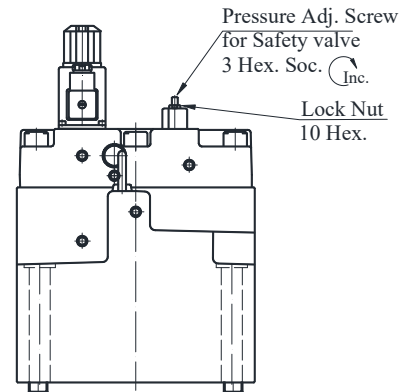
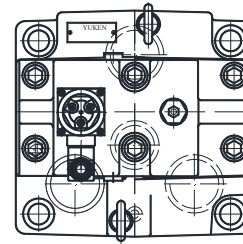
EFBG-10-1000-C(-E)-51 H



Approx. Mass.... 76 Kg

Models without Proportional Pilot Relief Valve

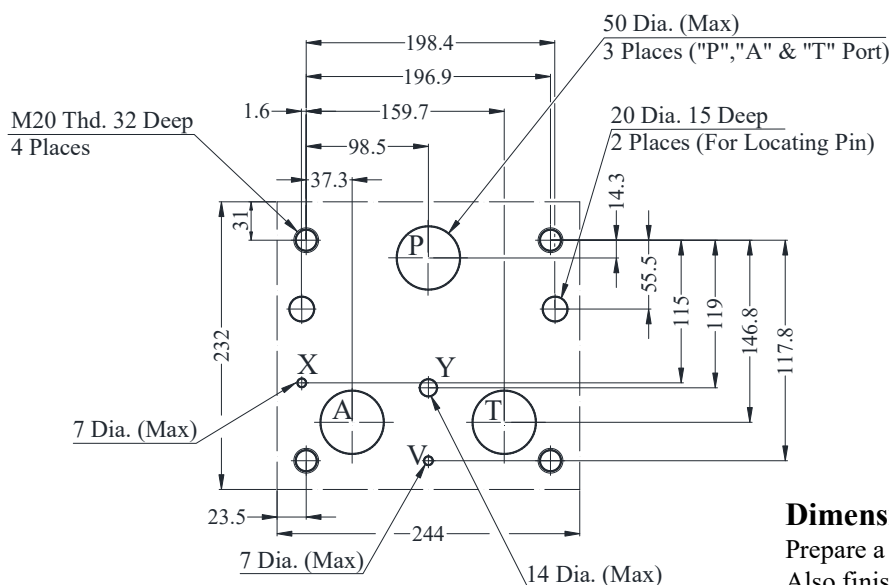
EFBG-10-1000(-E)-51



- For other dimensions, please refer to the models with Proportional Pilot Relief Valve

Approx. Mass.... 74 Kg

DIMENSIONS IN MILLIMETRES



Dimension of valve mounting surface
Prepare a mounting surface as shown to the right
Also finish it finely.

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

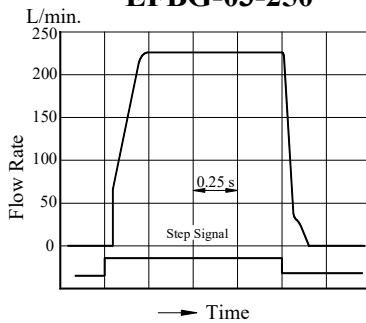
Step Response (Flow Controls)

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

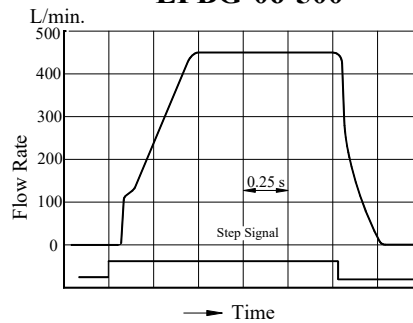
Viscosity: 30mm²/s

Flow Controls

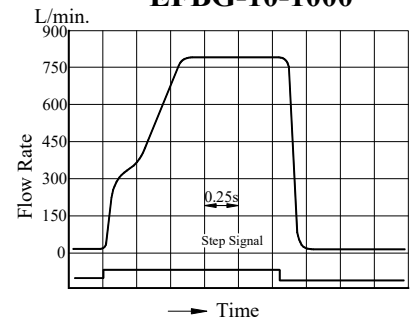
EFBG-03-250



EFBG-06-500

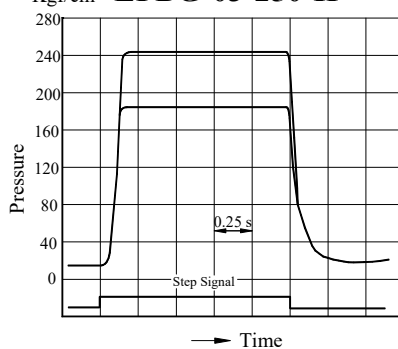


EFBG-10-1000

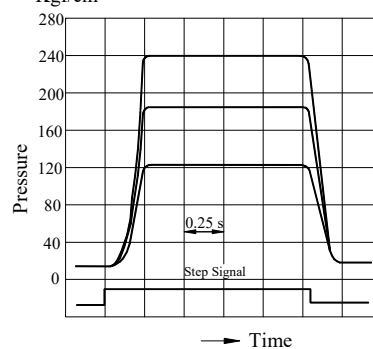


Pressure Controls

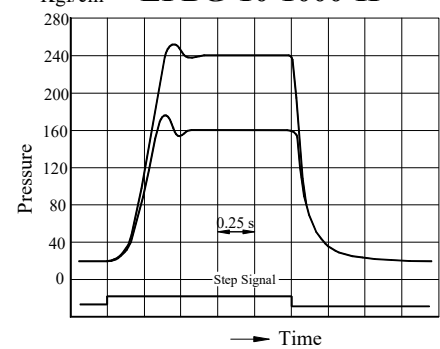
EFBG-03-250-H



EFBG-06-500-H

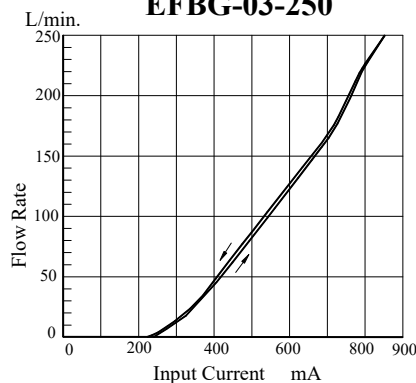


EFBG-10-1000-H

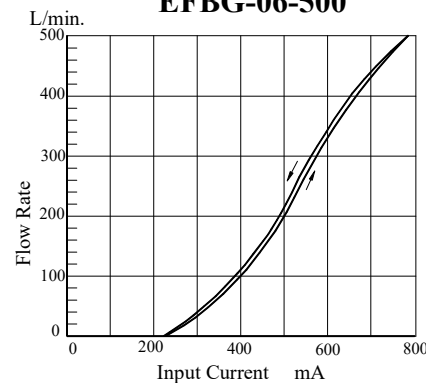


Input Current vs. Flow

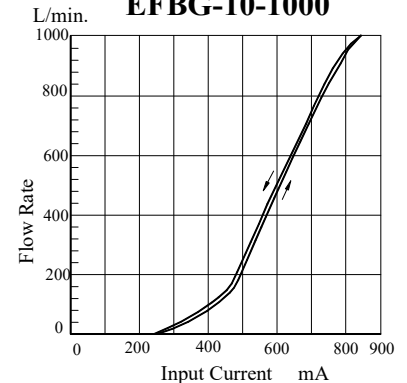
EFBG-03-250



EFBG-06-500

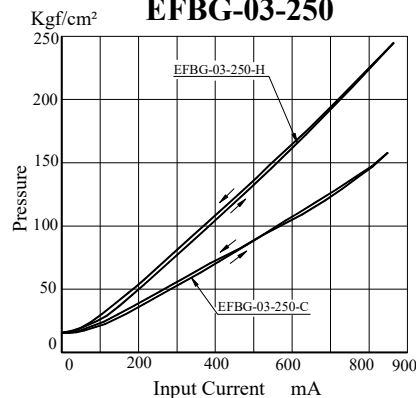


EFBG-10-1000

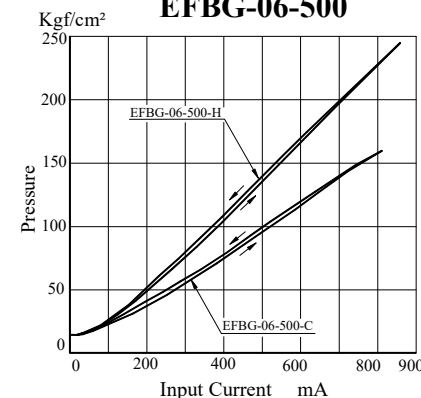


Input Current vs. Pressure

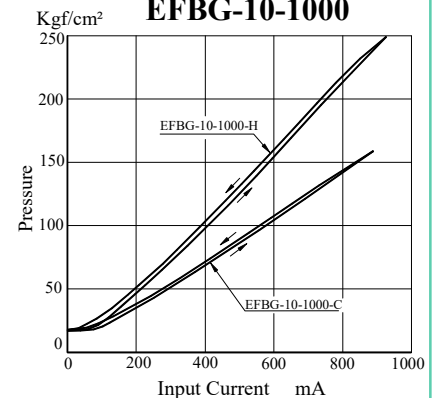
EFBG-03-250



EFBG-06-500



EFBG-10-1000



E Series

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

Spare Parts List

List of Seals

Sl. No.	Name of parts	Part Numbers	Qty.		
			EFBG-03	EFBG-06	EFBG-10
1	O-Ring	SO-NB-P42	1	1	-
2	O-Ring	SO-NB-P32	1	-	-
3	O-Ring	SO-NB-P30	1	-	-
4	O-Ring	SO-NB-P28	1	-	-
5	O-Ring	SO-NB-P22	1★	-	-
6	O-Ring	SO-NB-P21	1	-	-
7	O-Ring	SO-NB-P20	1★	-	-
8	O-Ring	SO-NB-P14	2	1★	-
9	O-Ring	SO-NB-P11	2	4	-
10	O-Ring	SO-NB-P9	6	4	-
11	O-Ring	SO-NB-G30	3	2	-
12	O-Ring	SO-NB-A013	1	1★	-
13	O-Ring	SO-NA-P6	1	1★	-
14	O-Ring	SO-NB-P46	-	1	-
15	O-Ring	SO-NB-P40	-	3	-
16	O-Ring	SO-NB-P36	-	1	-
17	O-Ring	SO-NB-P34	-	1	-
18	O-Ring	SO-NB-G55	-	1	-
19	O-Ring	JIS-B 2401-1B-P11	-	-	8
20	O-Ring	JIS-B 2401-1B-P55	-	-	1
21	O-Ring	JIS-B 2401-1B-G45	-	-	3
22	O-Ring	JIS-B 2401-1B-G50	-	-	1
23	O-Ring	JIS-B 2401-1B-G55	-	-	4
24	O-Ring	JIS-B 2401-1B-G65	-	-	1
25	O-Ring	JIS-B 2401-1B-P14	-	-	1
26	O-Ring	JIS-B 2401-1B-P11	-	-	1
27	O-Ring	JIS-B 2401-1B-P11	-	-	1

★ O-Rings are used only with the proportional pilot relief valve (EFBG-03-250-C/H)

List of Seal Kits

Model numbers	Seal Kit Numbers
EFBG-03-250-51*	KS-EFBG-03-250-51
EFBG-03-250-C/H-51*	KS-EFBG-03-250-C-51
EFBG-06-500-51*	KS-EFBG-06-500-51
EFBG-06-500-C/H-51*	KS-EFBG-06-500-C-51
EFBG-10-1000-51*	KS-EFBG-10-1000-51
EFBG-10-1000-C/H-51*	KS-EFBG-10-1000-C-51

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

Pilot Valve, Solenoid Ass'y and Safety Valve

Model numbers	Pilot Valve Model No.	Solenoid Ass'y Model No.	Safety Valve Model No.
EFBG-03-250-C/H(-E)-51	—	E318-Y06M1-04-61 E318-Y06M1-28-61	SB1094-2002
EFBG-03-250(-E)-51	—	E318-Y06M1-28-61	
EFBG-06-500-C(-E)51	EDG-01V-C-1-PNT11-5103	E318-Y06M1-28-61	—
EFBG-06-500-H(-E)-51	EDG-01V-H-1-PNT11-5103		—
EFBG-06-500(-E)-51	—		SB1094-2002
EFBG-10-1000-C(-E)-51	EDG-01V-C-1-PNT20-5197	E318-Y06M1-28-61	—
EFBG-10-1000-H(-E)-51	EDG-01V-H-1-PNT20-5197		—
EFBG-10-1000(-E)-51	—		SB1094-2002