

Proportional Electro-Hydraulic Relieving and Reducing Valves

These valves consist of a small size but high performance EH series electro-hydraulic proportional pilot relief valve and reducing valve with relief function. The valves control the system pressure proportionally through a controlled input voltage.

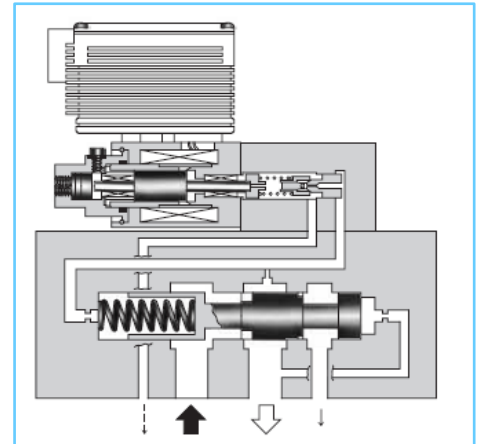
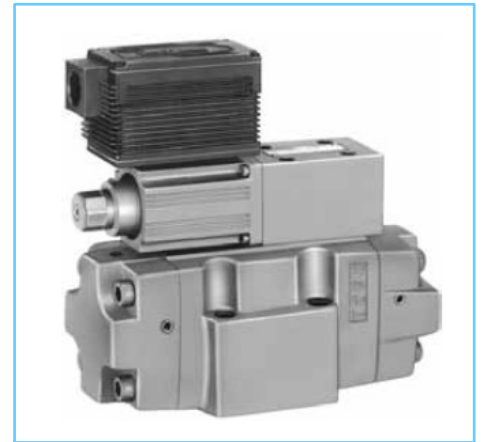
Moreover, a good response speed in reducing the pressure even at a large load capacity can be obtained with the relief function of the valves.

Specification

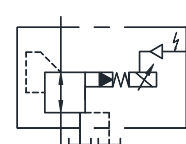
Model Number	EHRBG-06	EHRBG-10
Description		
Max. Operating Pres. Kg/cm ²	250	
Max. Flow L/min.	100	250
Max. Relieving Flow L/min.	35 ^{*1}	15 ^{*1}
Pres. Adj. Range	Refer to Model No. Designation	
Coil Resistance Ω	10	
Hysteresis	3% or Less	
Repeatability	1% or Less ^{*2}	
Frequency Response	Refer to Frequency Response on page 661	
Supply Electric Power	24V DC (21 to 28V DC included Ripple)	
Power Input (Max.) W	28	
Input Signal	B: 70 Kg/cm ² / 5V DC C: 140 Kg/cm ² / 5V DC H: 210 Kg/cm ² / 5V DC (at Flow rate Zero)	
Input Impedance kΩ	10	
Pressure Signal Output	B: 5V DC / 70 Kg/cm ² C: 5V DC / 140 Kg/cm ² H: 5V DC / 210 Kg/cm ²	
Ambient Temperature	0 – 50°C (With Circulated Air)	

^{*1} The figures shown are those obtained where the differential pressure between the secondary pressure port and tank port is 140 Kg/cm².

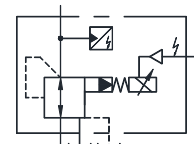
^{*2} The repeatability of the valve is obtained by having it tested independently on the conditions similar to its original testing.



Graphic Symbols



Open-Loop Type



Open-Loop Type
With Sensor

Model Number Designation

F-	EHRB	-G	-06	-C	-S	-50
Special Seals	Series Number	Type of Mounting	Valve Size	Pressure Adj. Range Kg/cm ²	Control Type	Design Number
F: Special Seals for Phosphate Ester Type Fluid (Omit if not required)	EHRB: Proportional Electro-Hydraulic Relieving & Reducing Valve	G: Sub-Plate Mounting	06	B: 8 ~ 70 C: 12 ~ 140 H: 15 ~ 210	None: Open-Loop	50
			10	B: 9 ~ 70 C: 12 ~ 140 H: 15 ~ 210	S: Open-Loop with sensor	

Mounting Bolts

Model Number	Socket head cap Screw	Qty	Bolt Kit Model Number
EHRBG-06	M10 x 70Lg.	4	BKEHRBG-06-50
EHRBG-10		6	

Sub-Plate

Sl. No.	Model Number	Sub-Plate Model Numbers	Thread size	Mass Kg.
1	EHRBG-06	ERBGM-06-2080	3/4 BSP.F	3.0
2	EHRBG-10	ERBGM-10-1080	1 1/4 BSP.F	6.5

- 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.

Instructions

Pressure at the Primary Pressure Port

The necessary pressure at the primary pressure port should be equal to the set pressure plus 10 Kg/cm²

Drain Port

The back pressure at the drain port should be less than 2 Kg/cm².

The pipe from the drain port should be connected to the reservoir directly and the end of the pipe must always be in the oil.

Load capacity

The use of the valves at the load capacity of about 20 L is recommended.

Even at the lowest, a load capacity of more than 1.4 L is required.

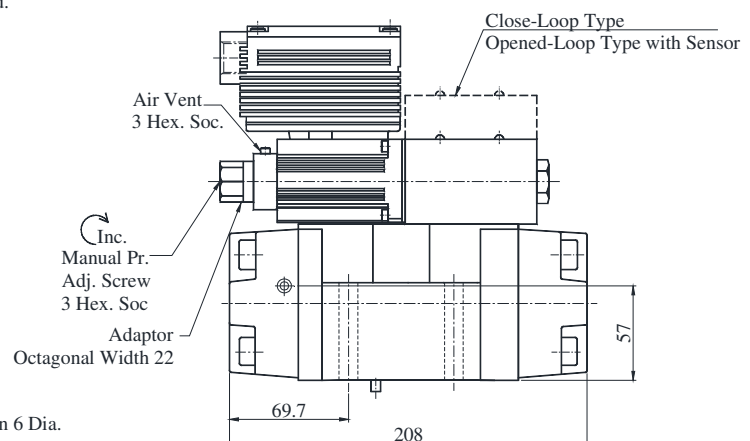
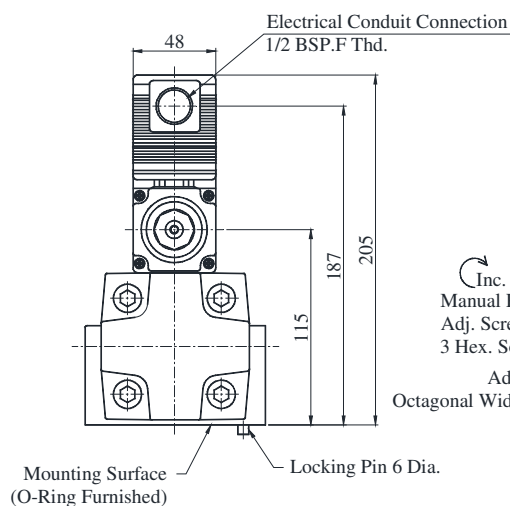
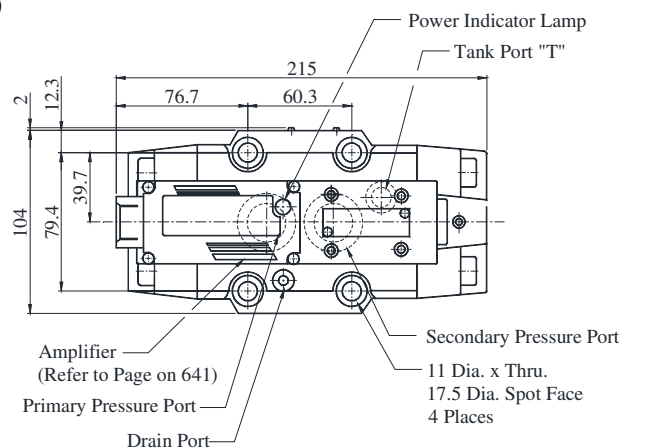
DIMENSIONS IN MILLIMETRES

- EHRBG-06-※-50 :** (Open-Loop Type)
- EHRBG-06-※-S-50 :** (Open-Loop Type with Sensor)

Approx. Mass.

Open Loop Type.....12.3 Kg.

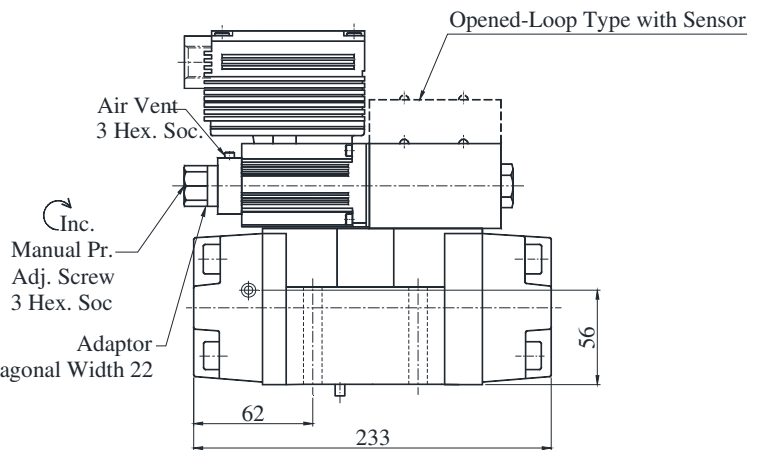
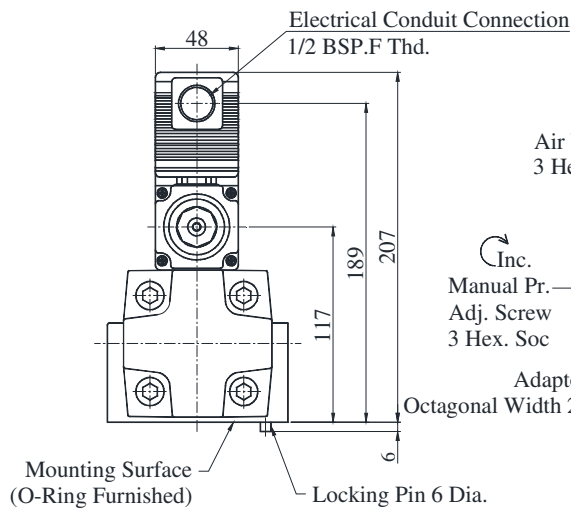
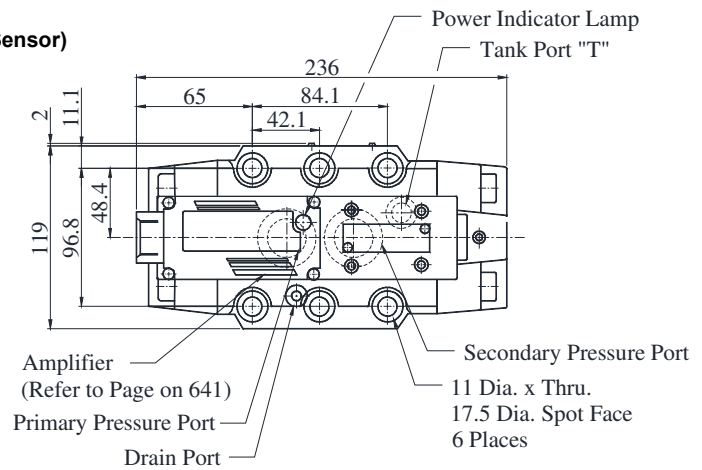
Open Loop Type Sensor.....13 Kg.



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- **EHRBG-10-※-50** : (Open-Loop Type)
- **EHRBG-10-※-S-50** : (Open-Loop Type with Sensor)



Approx. Mass.

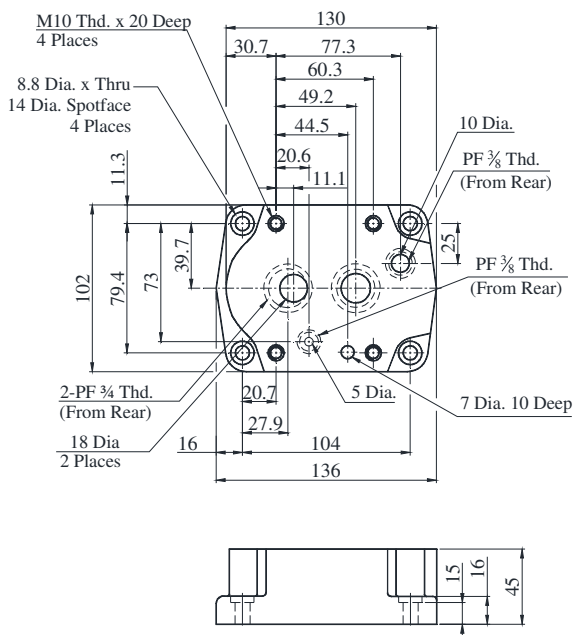
Open Loop Type.....13.8 Kg.

Open Loop Type Sensor.....14.5 Kg.

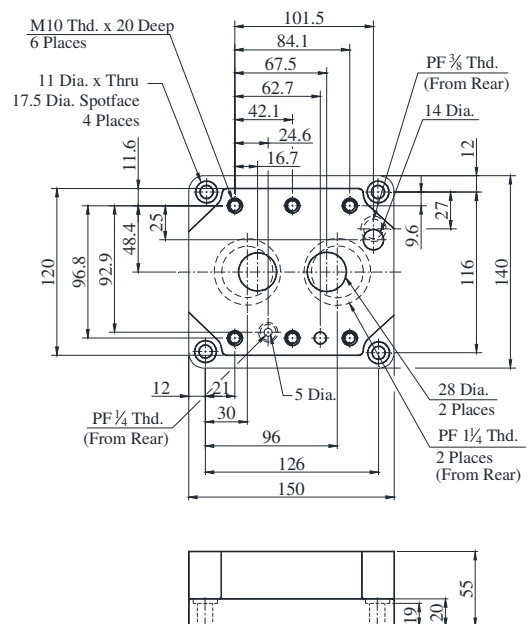
**DIMENSIONS IN
MILLIMETRES**

Sub-Plate

● ERBGM-06



● ERBGM-10

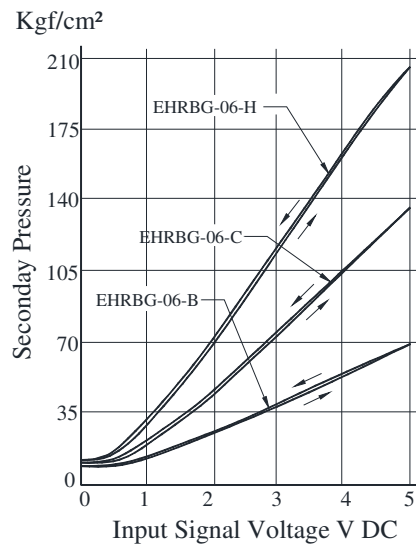


Input Signal Voltage Vs. Secondary Pressure

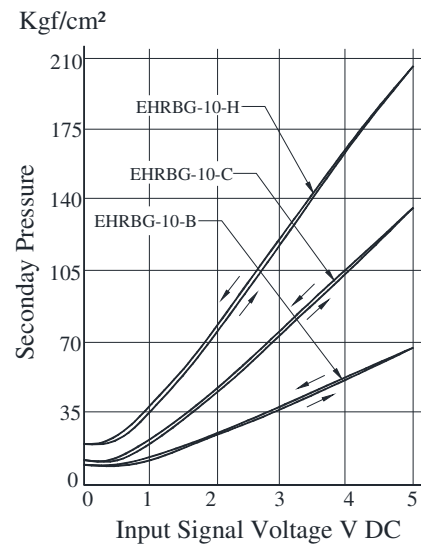
Primary Pressure : 250 Kg/cm²

Viscosity : 30 cSt

EHRBG-06

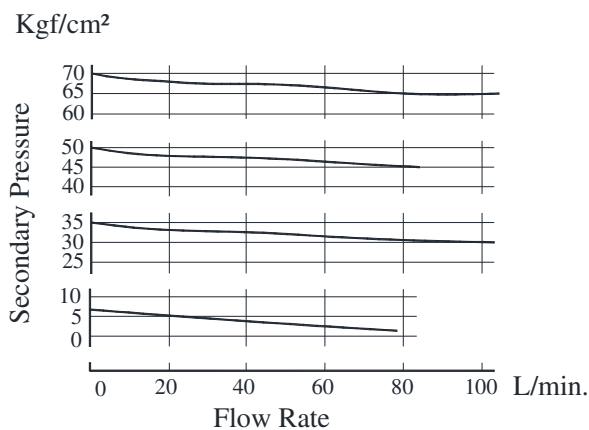


EHRBG-10

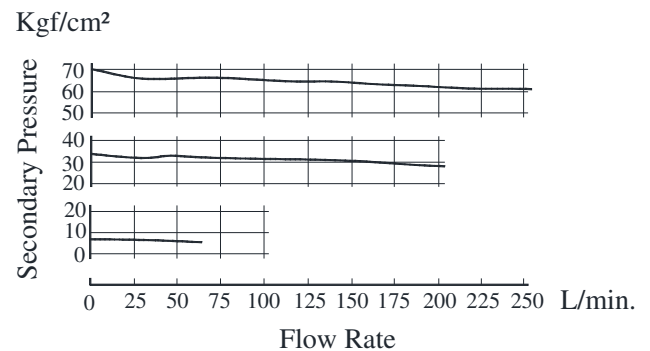


Flow Vs. Secondary Pressure

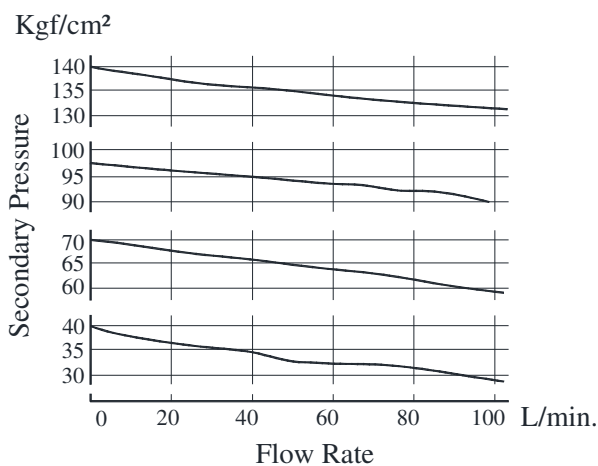
EHRBG-06-B



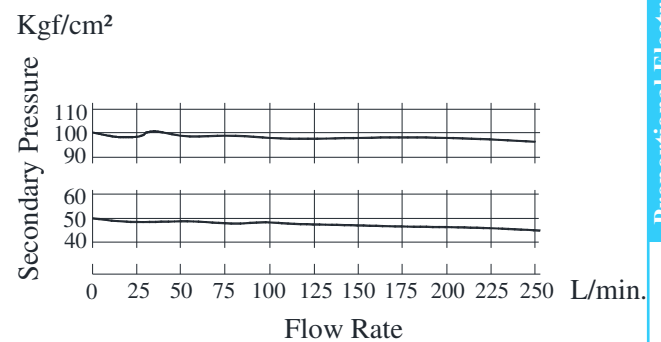
EHRBG-10-B

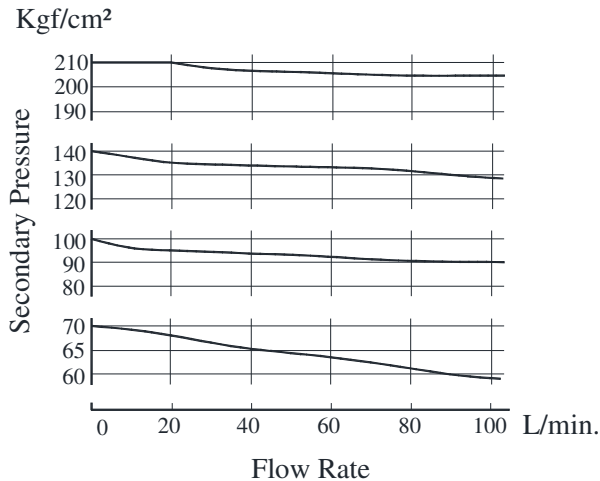
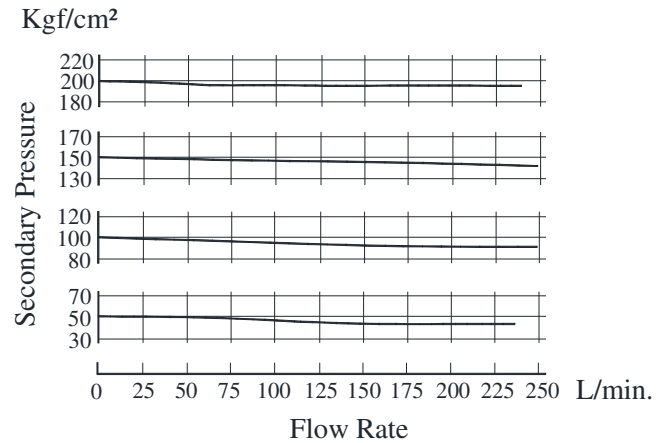


EHRBG-06-C

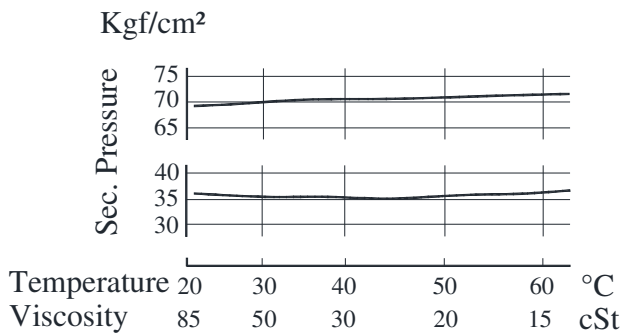


EHRBG-10-C

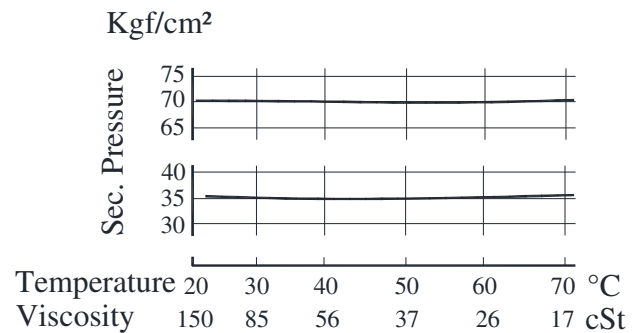


EHRBG-06-H**EHRBG-10-H****Viscosity Vs. Secondary Pressure****EHRBG-06-B**

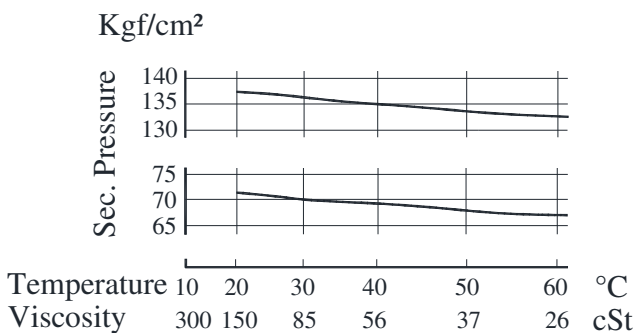
Oil : ISO VG 32 Oil.

**EHRBG-10-B**

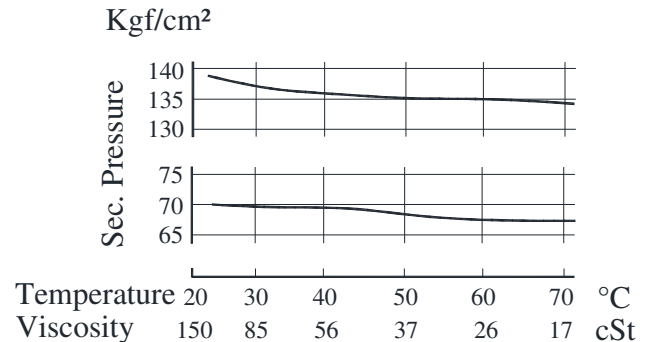
Oil : ISO VG 56 Oil.

**EHRBG-06-C**

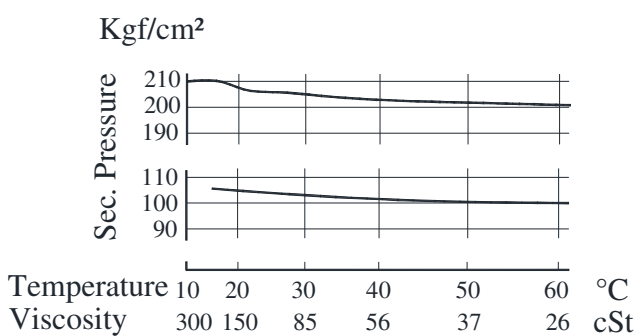
Oil : ISO VG 56 Oil.

**EHRBG-10-C**

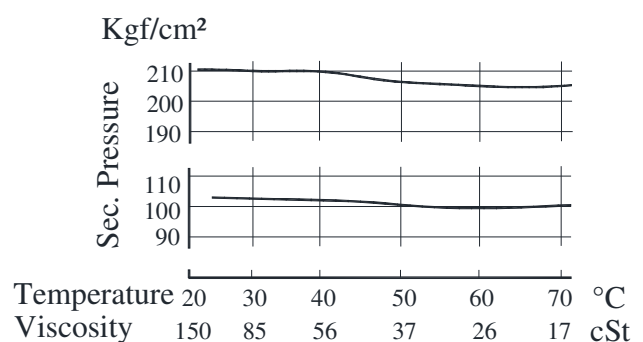
Oil : ISO VG 56 Oil.

**EHRBG-06-H**

Oil : ISO VG 56 Oil.

**EHRBG-10-H**

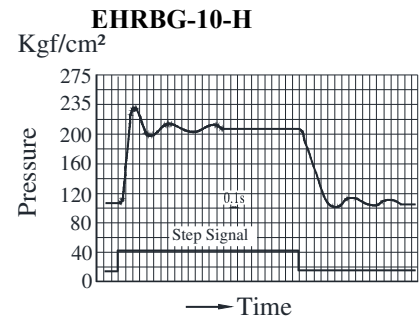
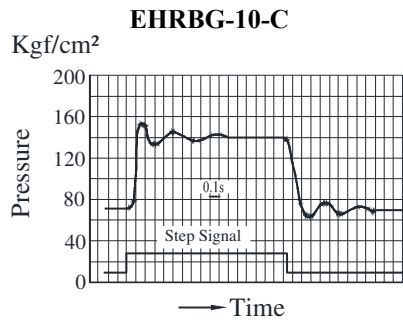
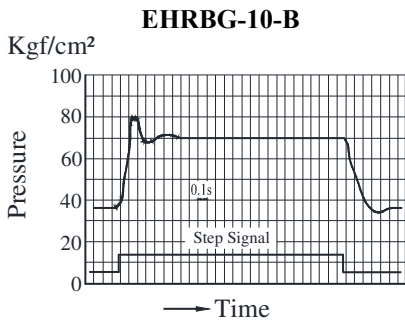
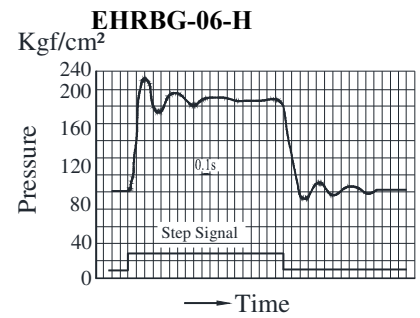
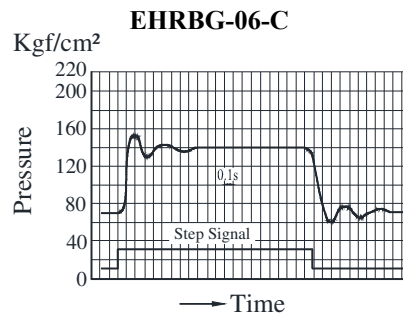
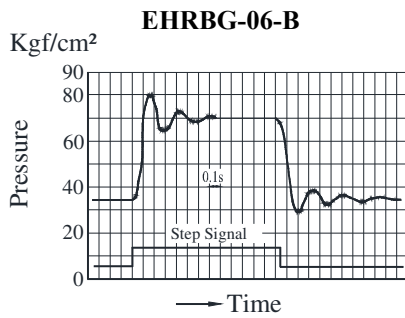
Oil : ISO VG 56 Oil.

**EH Series****Proportional Electro-Hydraulic Relieving and Reducing Valves**

Step Response (Example)

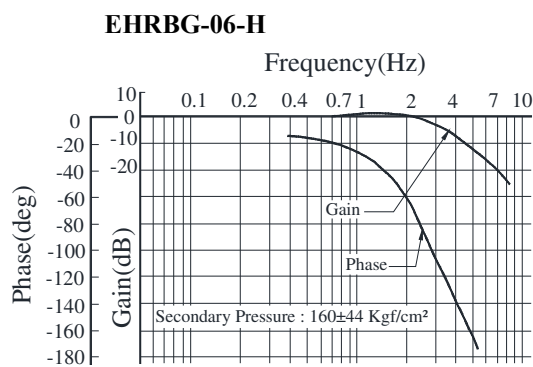
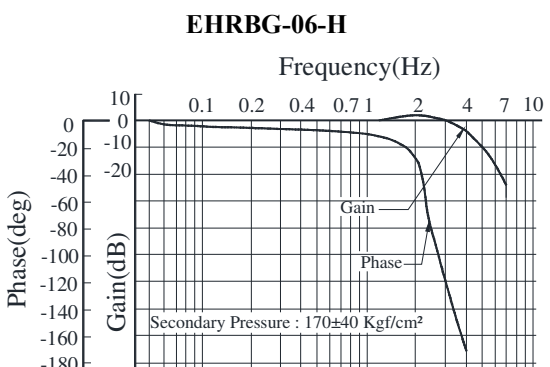
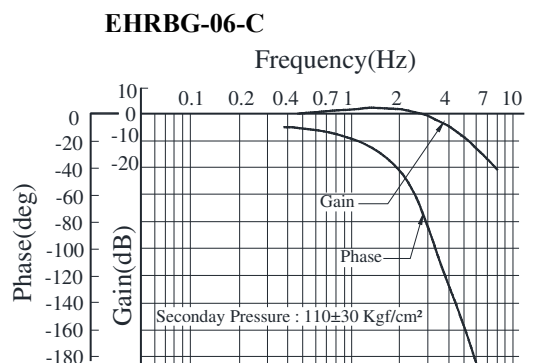
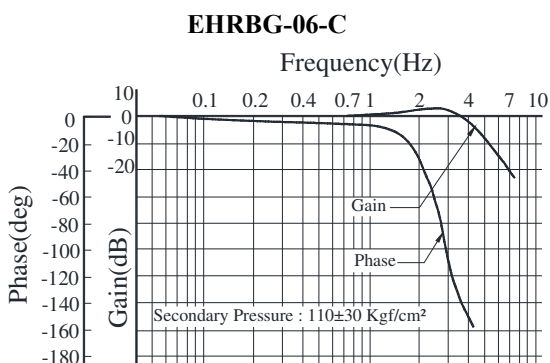
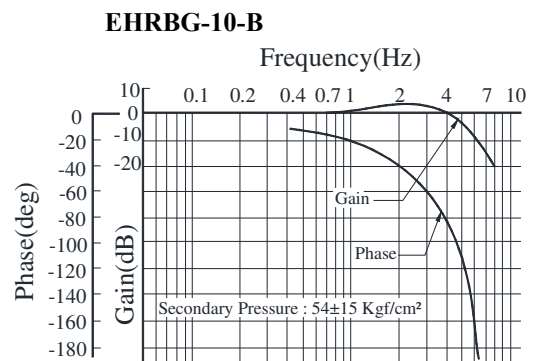
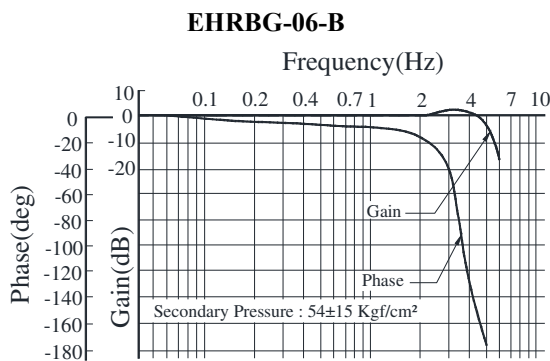
The following step response measurements are taken when the trapped oil volume is 20 L. The step response varies by trapped oil volume.

Primary Pressure : 250 Kg/cm²
Trapped Oil Volume : 20 L
Viscosity : 30 cSt



Primary Pressure : 250 Kg/cm²
Trapped Oil Volume : 20 L
Viscosity : 30 cSt

Frequency Response



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