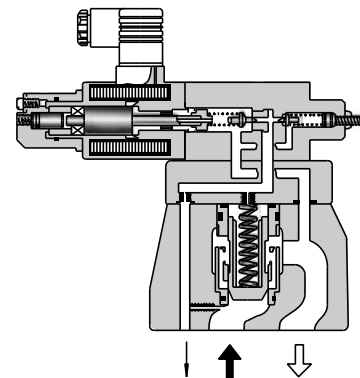


E Series Relief Valves EBG-03/06/10 (3/8, 3/4, 1-1/4) Sub-plate Mounting

Specifications / Model Number Designation

Specifications

Model Numbers Description	EBG-03	EBG-06	EBG-10
Max. Operating Pres. MPa (PSI)	24.5 (3550)	24.5 (3550)	24.5 (3550)
Max. Flow L/min(U.S.GPM)	100 (26.4)	200 (52.8)	400 (106)
Min. Flow L/min(U.S.GPM)	3 (.79)	3 (.79)	3 (.79)
Pressure Adjustment Range MPa (PSI)	Refer to Model Number Designation		
Rated Current	C: 770 mA H: 820 mA	C: 750 mA H: 800 mA	C: 730 mA H: 780 mA
Coil Resistance	10 Ω	10 Ω	10 Ω
Hysteresis	Less than 3%	Less than 3%	Less than 3%
Repeatability	Less than 1%	Less than 1%	Less than 1%
Approx. Mass kg (lbs.)	5.6 (12.3)	6.3 (13.9)	10 (22)



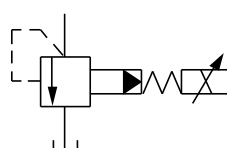
Model Number Designation

EB	G	-03	-C	-T	-51	*
Series Number	Type of Mounting	Valve Size	Pres. Adj. Range MPa (PSI)	Safety Valve	Design Number	Design Standards
EB: Proportional Electro-Hydraulic Relief Valve	G: Sub-plate Mounting	03	C: * - 15.7 (* - 2275) H: * - 24.5 (* - 3550)	None: With Safety Valve T: Without Safety Valve	51	Refer to ★2
		06				
		10				

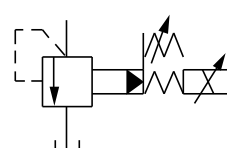
★1. Min. adjustment pressure shall be referred to the curves on page 16.

★2. Design Standards: None..... Japanese Standard "JIS" and European Design Standard 90..... N. American Design Standard

Graphic Symbols



Without Safety Valve



With Safety Valve

■ Attachment ● Mounting Bolts

Valve Model Numbers	Socket Head Cap Screw		
	Japanese Standard "JIS" & European Design Standard	N. American Design Standard	Qty.
EBG-03	M12 ×40 Lg.	1/2 - 13 UNC× 1-1/2 Lg.	4
EBG-06	M16 ×50 Lg.	5/8 - 11 UNC×2 Lg.	4
EBG-10	M20 ×60 Lg.	3/4 - 10 UNC× 2-1/4 Lg.	4

■ Applicable Power Amplifiers

For stable performance, it is recommended that Yuken's applicable power amplifiers be used (for details see Catalogue No. Pub. EC-1305).

Model Numbers: AME-D-10-※-20 SK1015-11 (For DC power supply)
 AME-D2-1010-※-10 AMN-D-10 (For DC power supply)
 SK1022-※-※-11

■ Sub-plate

Valve Model Numbers	Japanese Standard "JIS"		European Design Standard		N. American Design Standard		Approx. Mass kg (lbs)
	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	Sub-plate Model Numbers	Thread Size	
EBG-03	BGM-03-20	Rc 3/8	BGM-03-3080	3/8BSP.F	BGM-03-2090	3/8NPT	2.4(5.3)
	BGM-03X-20	Rc 1/2	BGM-03X-3080	1/2BSP.F	BGM-03X-2090	1/2NPT	3.1(6.8)
EBG-06	BGM-06-20	Rc 3/4	BGM-06-3080	3/4BSP.F	BGM-06-2090	3/4NPT	4.7(10.4)
	BGM-06X-20	Rc 1	BGM-06X-3080	1BSP.F	BGM-06X-2090	1NPT	5.7(12.6)
EBG-10	BGM-10-20	Rc 1-1/4	BGM-10-3080	1-1/4BSP.F	BGM-10-2090	1-1/4NPT	8.4(18.5)
	BGM-10X-20	Rc 1-1/2	BGM-10X-3080	1-1/2 BSP.F	BGM-10X-2090	1-1/2 NPT	10.3 (22.7)

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

■ Instructions

● Safety Valve

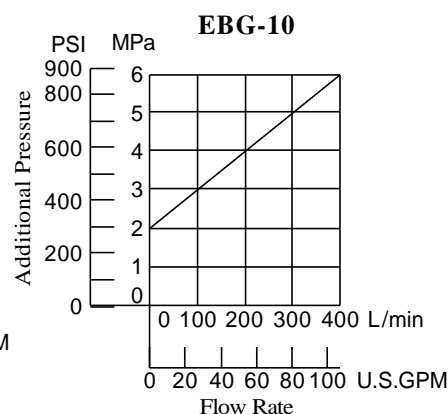
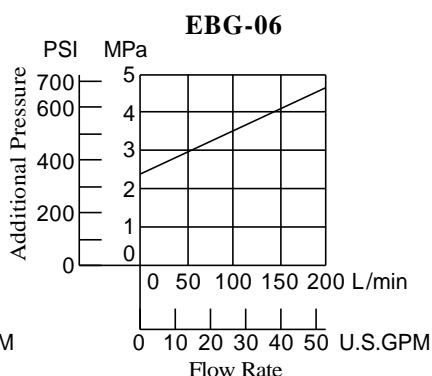
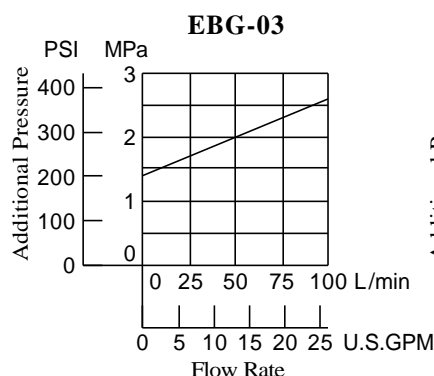
The pressure of the safety valve for EBG-03 is preset at the value equal to the upper limit of the pressure adjustment range plus 2 MPa (290 PSI) subject to a flow rate of 50 L/min (13.2 U.S.GPM).

The same for EBG-06 is preset at the value equal to the upper limit of the pressure adjustment range plus 3.5 MPa (510 PSI) subject to a flow rate of 100 L/min (26.4 U.S.GPM).

The same for EBG-10 is preset at the value equal to the upper limit of the pressure adjustment range plus 4 MPa (580 PSI) subject to a flow rate of 200 L/min (52.8 U.S.GPM).

In case where the upper limit of operating pressure is low or the upper limit of flow rate to be used is different from the specified maximum flow, please adjust and determine the setting pressure of the safety valve at the value calculated from the following formula.

$$\text{Setting pressure} = (\text{Operating pressure upper limit}) + (\text{Additional pressure indicated blow})$$

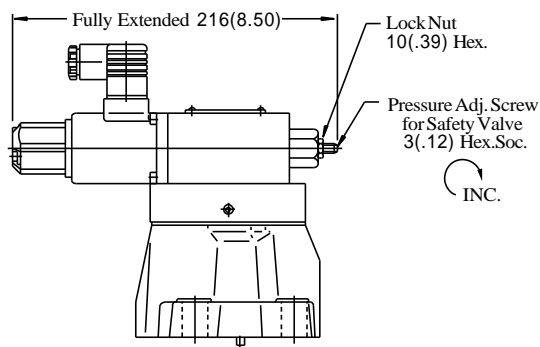


To lower the setting pressure, turn the safety valve pressure adjustment screw anti-clockwise. After adjustment, be sure to tighten the lock nut.

Installation Drawing

EBG-⁰³/₀₆ -* -51/5190

With Safety Valve



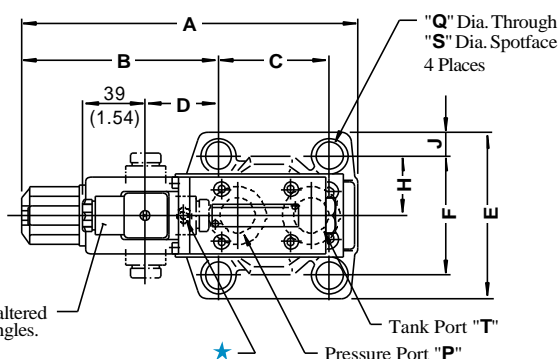
- For other dimensions, refer to the without safety valve.

Mounting Surface
EBG-03: ISO 6264-AR-06-2-A
EBG-06: ISO 6264-AS-08-2-A

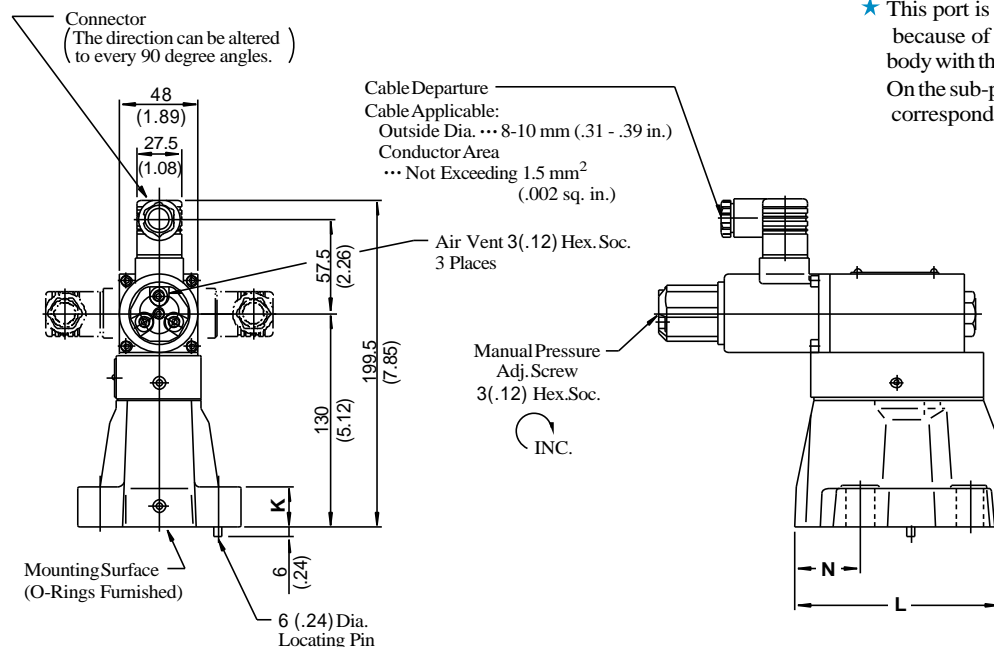
**DIMENSIONS IN
MILLIMETRES (INCHES)**

EBG-⁰³/₀₆ -* -T-51/5190

Without Safety Valve



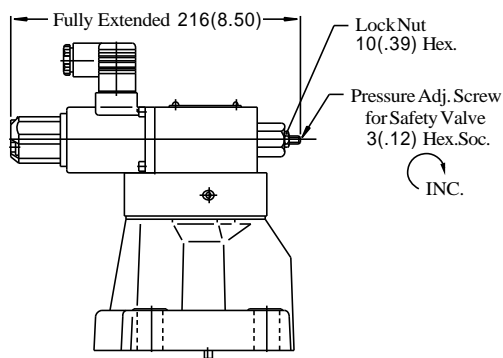
- ★ This port is not used. It is provided because of the common use of the body with the low-noise relief valve. On the sub-plate, plug the port which corresponds to this port.



Model Numbers	Dimensions mm (Inches)												
	A	B	C	D	E	F	H	J	K	L	N	Q	S
EBG-03	197.5 (7.78)	117.6 (4.63)	53.8 (2.12)	40.3 (1.59)	76 (2.99)	53.8 (2.12)	26.9 (1.06)	11.1 (.44)	21.5 (.85)	106 (4.17)	26.1 (1.03)	13.5 (.53)	21 (.83)
EBG-06	205.5 (8.09)	119.5 (4.70)	66.7 (2.63)	42.2 (1.66)	98 (3.86)	70 (2.76)	35 (1.38)	14 (.55)	26 (1.02)	122 (4.80)	36 (1.42)	17.5 (.69)	26 (1.02)

EBG-10-* -51/5190

With Safety Valve



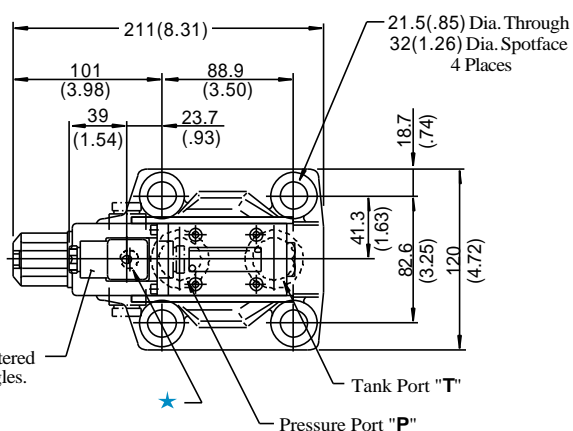
• For other dimensions, refer to the without safety valve.

Mounting surface:
ISO 6264-AT-10-2-A

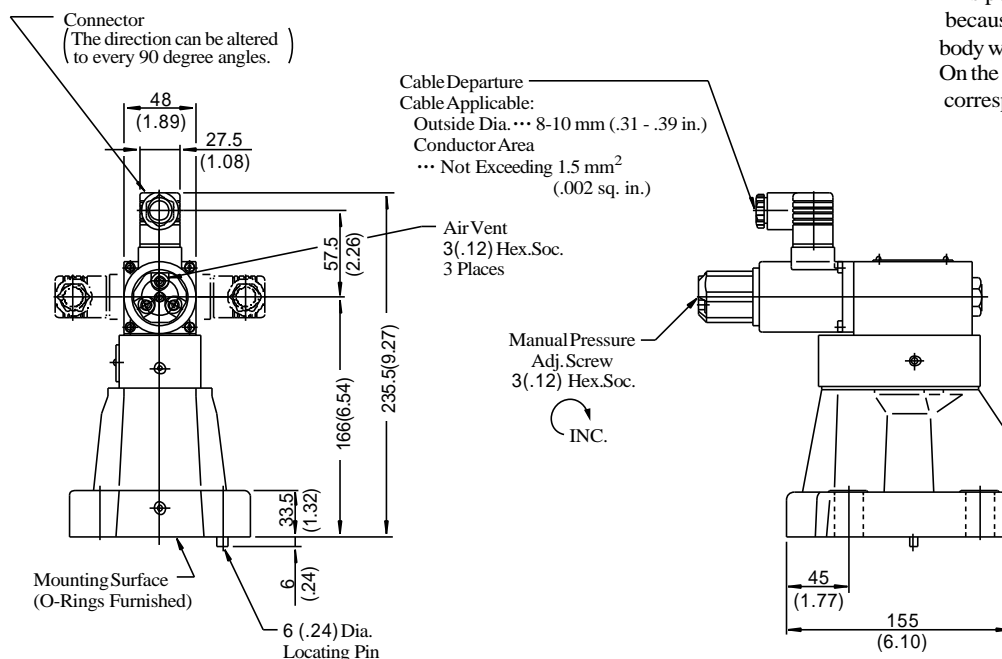
**DIMENSIONS IN
MILLIMETRES (INCHES)**

EBG-10-* -T-51/5190

Without Safety Valve



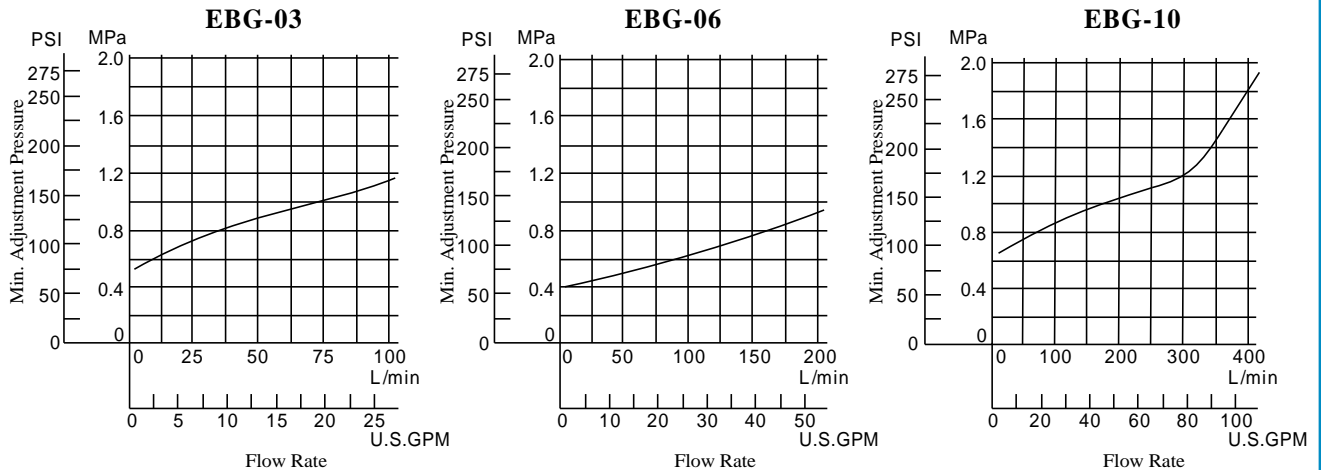
★ This port is not used. It is provided because of the common use of the body with the low-noise relief valve. On the sub-plate, plug the port which corresponds to this port.



Typical Performance Characteristics

■ Min. Adjustment Pressure

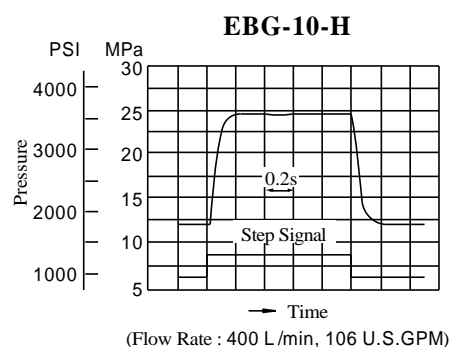
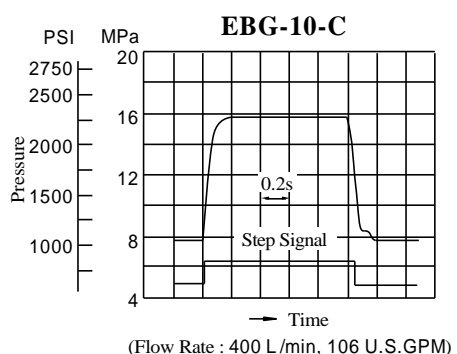
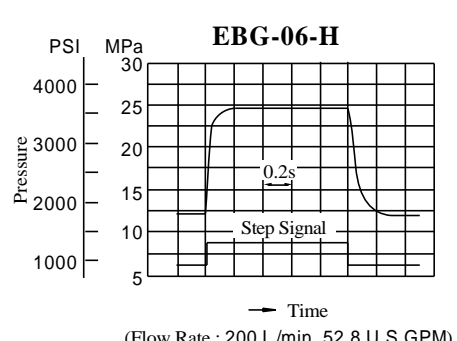
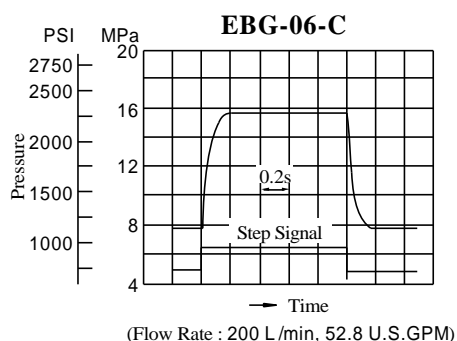
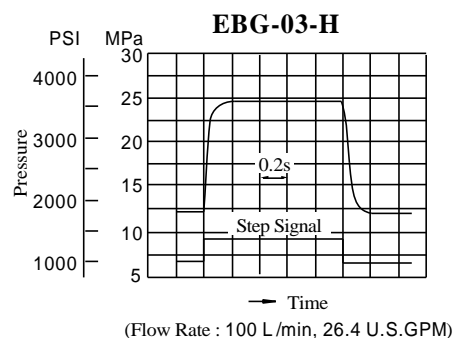
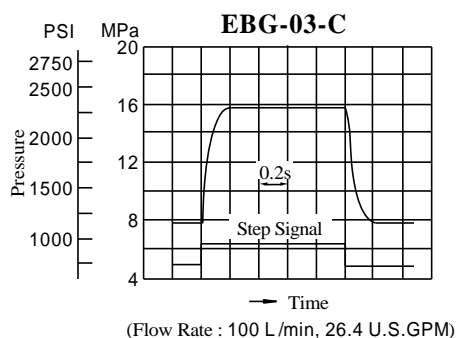
Viscosity : 30 mm²/s (141 SSU)



■ Step Response (Example)

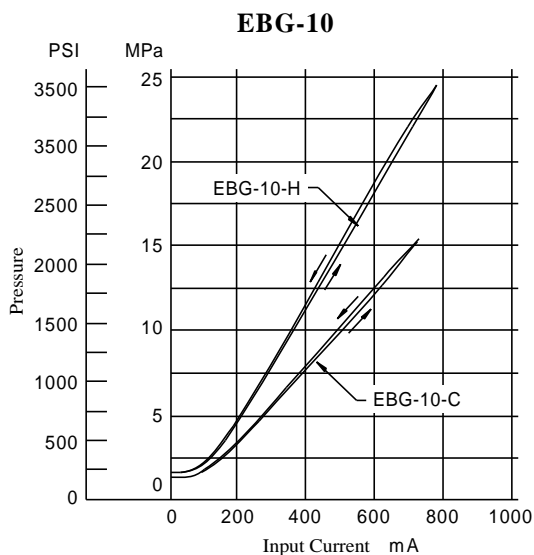
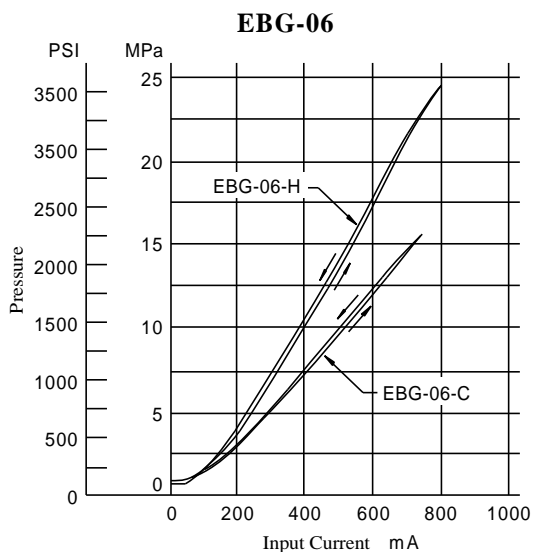
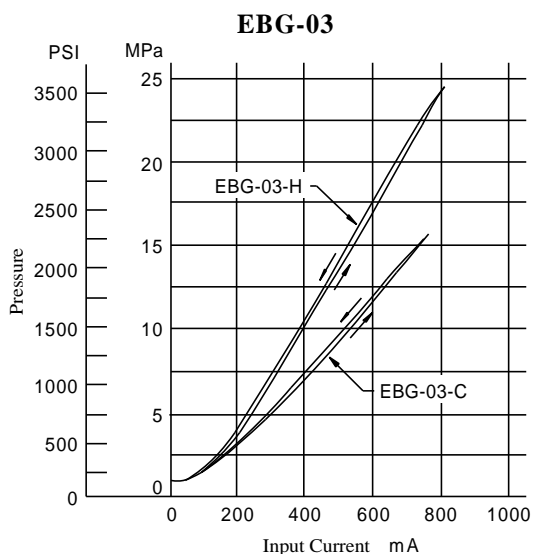
These Characteristics have been obtained by measuring on each valve.
Therefore, they may vary according to a hydraulic circuit to be used.

Trapped Oil Volume : 1 L (.264 U.S. Gallons)
Viscosity : 30 mm²/s (141 SSU)



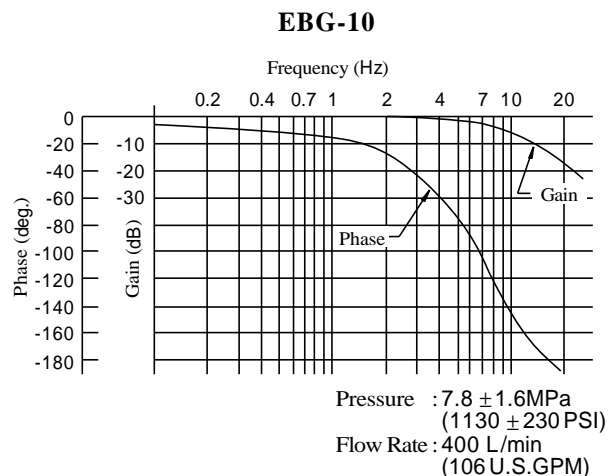
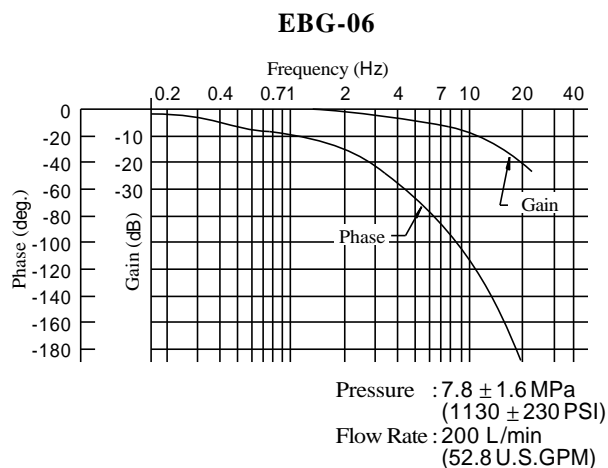
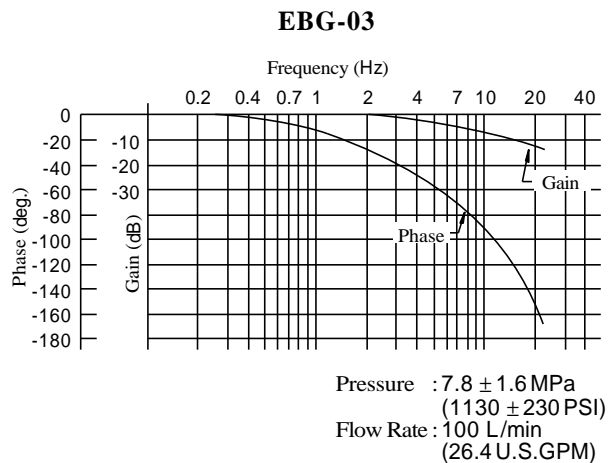
Typical Performance Characteristics

Input Current vs. Pressure



Frequency Response

Trapped Oil Volume : 1 L (.264 U.S. Gallons)
Viscosity : 30 mm²/s (141 SSU)



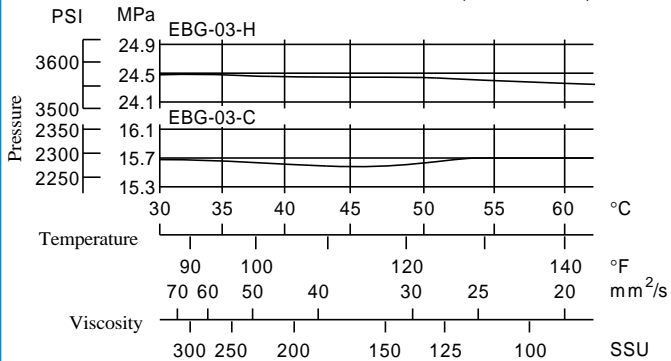
Typical Performance Characteristics

■ Viscosity vs. Pressure

Oil : ISO VG 46 Oil

EBG-03

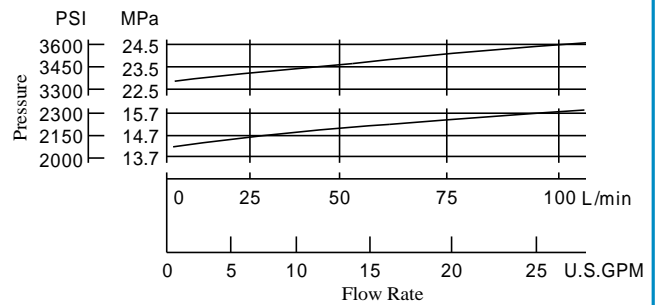
Flow Rate : 100 L/min
(26.4 U.S.GPM)



■ Flow Rate vs. Pressure

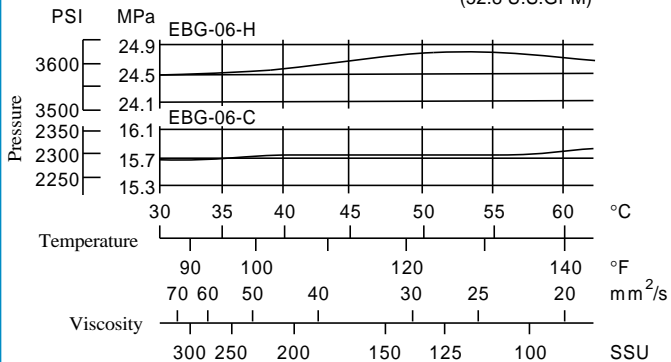
Viscosity : 30 mm²/s (141 SSU)

EBG-03

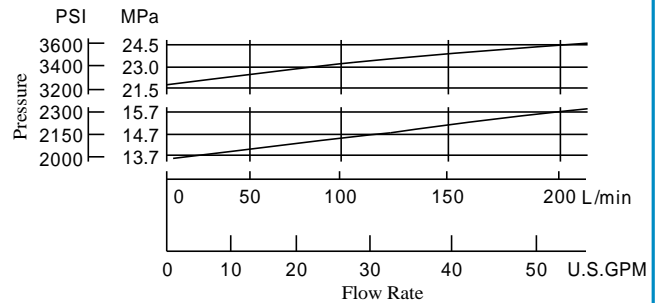


EBG-06

Flow Rate : 200 L/min
(52.8 U.S.GPM)

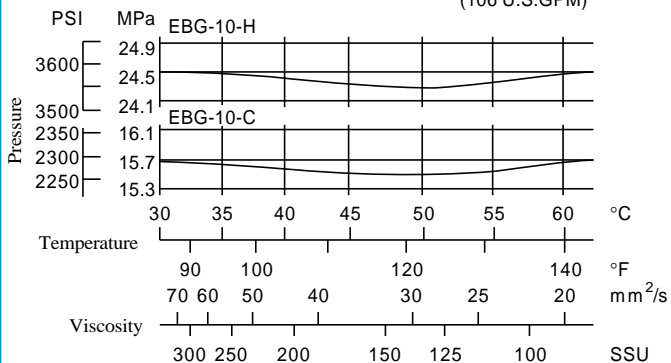


EBG-06



EBG-10

Flow Rate : 400 L/min
(106 U.S.GPM)



EBG-10

