












Series Proportional Electro-Hydraulic Controls

Types	Graphic Symbols	Max. Operating Pressure MPa (PSI)	Maximum Flow		Page
			U.S.GPM	L/min	
			.5 1 5 10 50 100 200	50 100 200	
			1 2 3 5 10 20 30 50 100 200 300 500 1000		
Pilot Relief Valves		24.5 (3550)	EDG 01		670
Relief Valves		24.5 (3550)	EBG	03 06 10	676
Relieving and Reducing Valves		24.5 (3550)	ERBG	06 10	685
40 Ω Series Flow Control (and Check) Valves		20.6 (3000)	EFG EFCG	02 03 06 10	695
10 Ω Series Flow Control (and Check) Valves		03: 20.6 (3000) 06: 24.5 (3550)	EFG EFCG	03 06	705
40 Ω - 10 Ω Series Flow Control and Relief Valves		24.5 (3550)	EFBG	03 06 10	712
10 Ω - 10 Ω Series Flow Control and Relief Valves		24.5 (3550)	EFBG	03 06 10	722
High Flow Series Flow Control and Relief Valves		24.5 (3550)	EFBG	03 06 10	733
Shockless Type Directional and Flow Control Valves		25 (3630)	EDFG	01	743
Directional and Flow Control Valves		25 (3630)	EDFHG	03 04 06	746
High Responses Type Directional and Flow Control Valves		01/03: 31.5 (4570) 04/06: 35 (5080)	ELDFG	01 03 ELDFHG 04 06	753

Power AmplifiersPage 766

Setting Adjusters.....Page 789

Hydraulic Fluids

● Fluid Types

Any type of hydraulic fluid listed in the table below can be used.

Petroleum Base Oils	Use fluids equivalent to ISO VG 32 or VG 46.
Synthetic Fluids	Use phosphate ester or polyol ester fluids. When phosphate ester fluid is used, prefix "F-" to the model number because the special seals (fluororubber) are required to be used.
Water-containing Fluids	Use water-glycol fluid.

Note: For use with hydraulic fluids other than those listed above, please consult your Yuken representatives in advance.

● Recommended Fluid Viscosity and Temperature

Use hydraulic fluids which satisfy the both recommended viscosity and oil temperatures given in the table below.

Name	Viscosity	Temperature
Pilot Relief Valves Relief Valves Reducing and Relieving Valves	15 - 400 mm ² /s (77 - 1800 SSU)	-15 - +70°C (5 - 160°F)
Flow Control Valves Flow Control and Check Valves Flow Control and Relief Valves	20 - 200 mm ² /s (98 - 900 SSU)	
Directional and Flow Control Valves	20 - 400 mm ² /s (98 - 1800 SSU)	0 - +60°C (32 - 140°F)
Shockless Type Directional and Flow Control Valves High Responses Type Directional and Flow Control Valves (Direct Type)	20 - 200 mm ² /s (98 - 900 SSU)	0 - +60°C (32 - 140°F)
High Responses Type Directional and Flow Control Valves (Two Stage Type)	15 - 400 mm ² /s (77 - 1800 SSU)	-15 - +60°C (5 - 140°F)

● Control of Contamination

Due caution must be paid to maintaining control over contamination of the hydraulic fluids which may otherwise lead to breakdowns and shorten the life of the valve. Please maintain the degree of contamination within NAS 1638-Grade 11. Use 20 μm or finer line filter.

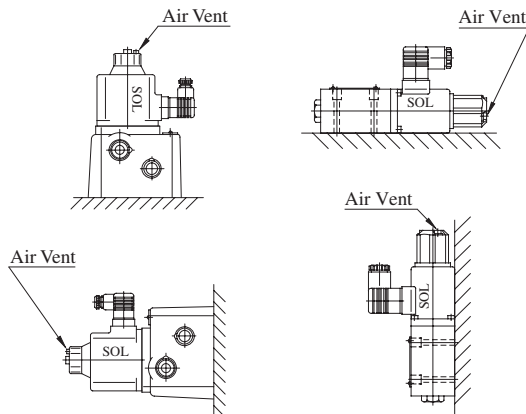
Instructions

Mounting

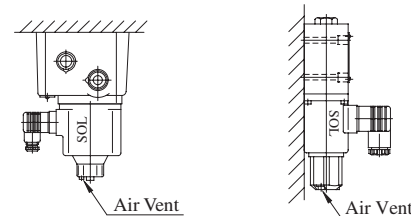
Be sure that the air vent faces up.

In addition, if the valve is mounted vertically, the minimum adjustment pressure is 0.2 MPa (29 PSI) or higher.

[Good example]



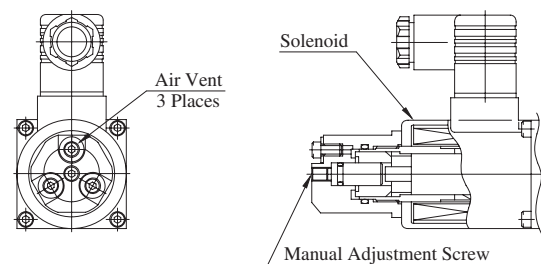
[Bad example]



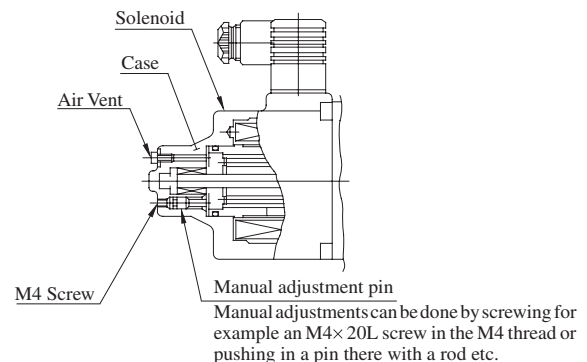
Air Bleeding

To ensure stable control, bleed the air from solenoid completely and fill its core with oil.

Bleeding can be done by slowly loosening one of the air vents at the end of the solenoid. Choose one of the three air vents which is expected to work most effectively (see the figure to the right).



10 Ω Series Solenoid



40 Ω Series Solenoid

Manual Adjustment Screw

When initial adjustments are to be made or when no current is supplied to the valve due to electrical failure or other problem, turn the manual adjustment screw to temporarily set the valve pressure / flow rate. In that case, when turn the manual adjustment screw clockwise, the valve pressure / flow rate increases. Under normal condition, however, this screw must be kept in its original position (see the figure to the right).

Tank and Drain Piping

The tank-line back pressure and drain back pressure directly affect the minimum adjustment pressure. Therefore, do not connect the tank or drain pipes to other lines, but connect them directly to the reservoir maintaining the back pressure as low as possible. Be sure that the tank and drain pipe ends are immersed in fluid.

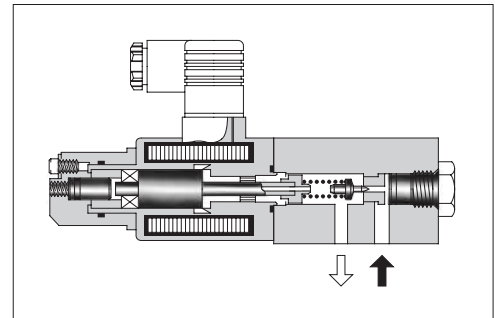
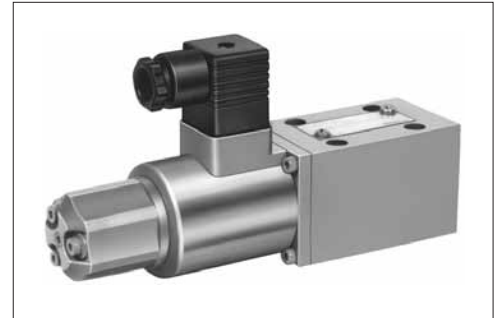
Hysteresis and Repeatability Value Indications

The hysteresis and repeatability values indicated in the specifications for each control valve are determined under the following conditions:

- Hysteresis Value: Obtained when Yuken's applicable power amplifier is used.
- Repeatability Value: Obtained when Yuken's applicable power amplifier is used under the same conditions.

■ Proportional Electro-Hydraulic Pilot Relief Valves

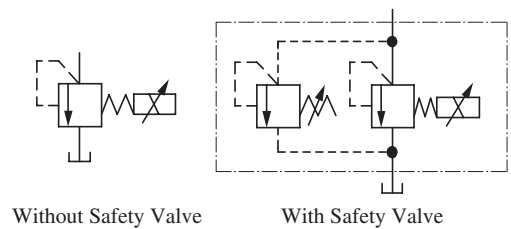
This valve consists of a small DC solenoid and a direct-acting relief valve. It serves as a pilot valve for a low flow rate hydraulic system or a proportional electro-hydraulic control valve and controls the pressure in proportion to the input current. Note that this valve is used in conjunction with the applicable power amplifier.



■ Specifications

Model Numbers	EDG-01
Description	EDG-01
Max. Operating Pres.	24.5 MPa (3550 PSI)
Max. Flow	2 L/min (.53 U.S.GPM)
Min. Flow	0.3 L/min (.08 U.S.GPM)
Pressure Adj. Range MPa (PSI)	Refer to Model Number Designation
Rated Current	EDG-01 *-B: 800 mA EDG-01 *-C: 900 mA EDG-01 *-H: 950 mA
Coil Resistance	10 Ω
Hysteresis	3% or less
Repeatability	1% or less
Approx. Mass	2 kg (4.4 lbs.)

Graphic Symbols



■ Model Number Designation

F-	ED	G	-01	V	-C	-1	-PN	T13	-51	*
Special Seals	Series Number	Type of Mounting	Valve Size	Applicable Control *1	Pressure Adj. Range MPa (PSI)	Safety Valve	P-Line Orifice	T-Line *2 Orifice	Design Number	Design Standards
F: Special Seals for Phosphate Ester Type Fluid (Omit if not required)	ED: Proportional Electro-Hydraulic Pilot Relief Valve	G: Sub-plate Mounting	01	None: General use	B: 0.5 - 6.9 (70 - 1000)	None: Without Safety Valve 1: With Safety Valve	PN: Without Orifice (Standard)	T15	51	Refer to *3
				V: Vent Control of Relief Valve (Omit if not required)	C: 1.0 - 15.7 (145 - 2275)			T13		
					H: 1.2 - 24.5 (175 - 3550)			T11		

★1. When the valve is to be used for vent control purpose, orifice adjustment is required due to piping capacity limitations. Therefore, consult your Yuken representative in advance.

★2. The orifice used as the pilot valve may differ from the standard orifice.

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

Attachment

● Mounting Bolts

Four socket head cap screws in the table below are included.

Descriptions	Soc. Hd. Cap Screw
Japanese Standard "JIS" European Design Standard	M5 × 45 Lg.
N. American Design Standard	No. 10 - 24 UNC × 1-3/4 Lg.

Sub-plate

Piping Size	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	
1/8	DSGM-01-31	Rc 1/8	DSGM-01-3180	1/8 BSPF	DSGM-01-3190	1/8 NPT	0.8 (1.8)
1/4	DSGM-01X-31	Rc 1/4	DSGM-01X-3180	1/4 BSPF	DSGM-01X-3190	1/4 NPT	0.8 (1.8)
3/8	DSGM-01Y-31	Rc 3/8	—	—	DSGM-01Y-3190	3/8 NPT	0.8 (1.8)

- 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.
- Sub-plates are those for 1/8 solenoid operated directional valves. For dimensions, see [page 356](#).

Instructions

● Tank-Line Back Pressure

Check that the tank line back pressure does not exceed 0.2 MPa (29 PSI).

● Vent Control

When the valve is used for vent control of relief valves or others, use the pipes of 6 mm (.24 in.) ID. 300 mm (11.8 in.) or less length for connection.

If the pressure is instable, provide a 1.0 to 1.5 mm (.04 to .06 in.) diameter orifice to the vent port of the relief valves or others.

● Circuit Pressure Control

When the pressure in a circuit is directly controlled with this valve, set the trapped oil volume being more than 40 cm³ (2.44 cu. in.).

Applicable Power Amplifier

For stable performance, it is recommended that Yuken's applicable power amplifiers be used (for details see [page 767, 771, 780](#)).

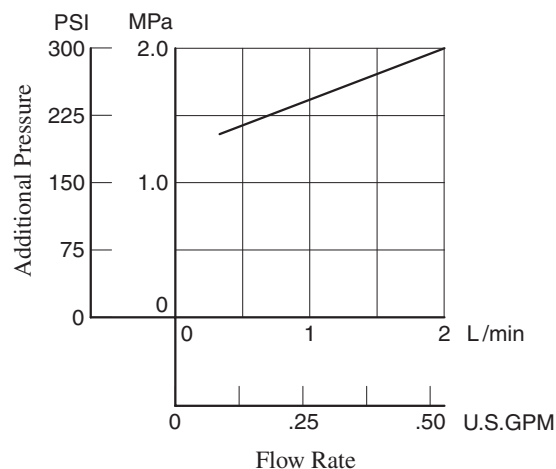
Model Numbers : AME-D-10-*-20
 AME-D2-1010-11
 SK1022-**-*-11
 SK1015-11 (For DC power supply)
 AMN-D-10 (For DC power supply)

● Safety Valve Pressure Setting

The pressure of the safety valve at the maximum flow is preset at the value equal to the upper limit of the pressure adjustment range plus 2 MPa (290 PSI).

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.

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

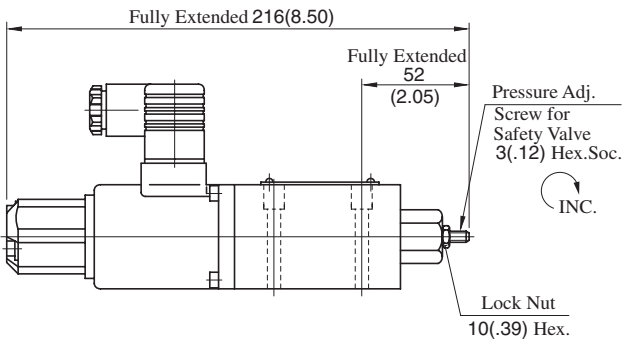


To lower the setting pressure, turn the safety valve pressure adjustment screw anti-clockwise. After adjustment, be sure to tighten the lock nut.



EDG-01*-*-1-PNT*-51/5190

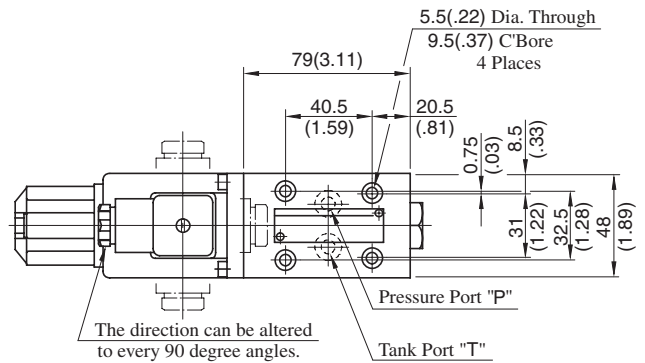
With Safety Valve



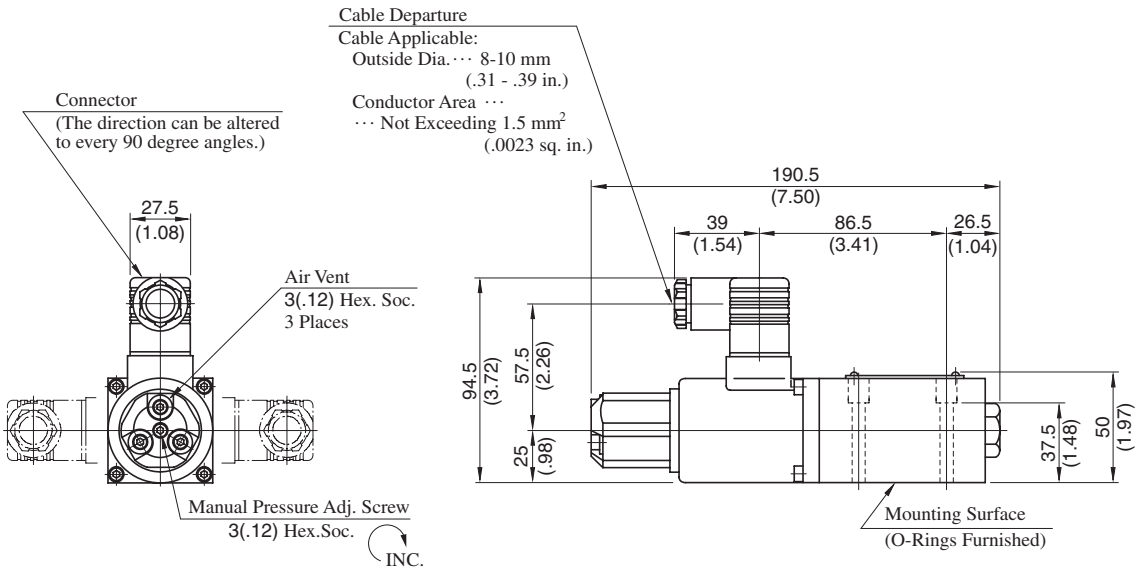
• For other dimensions, refer to the without safety valve.

EDG-01*-*-PNT*-51/5190

Without Safety Valve



DIMENSIONS IN MILLIMETRES (INCHES)

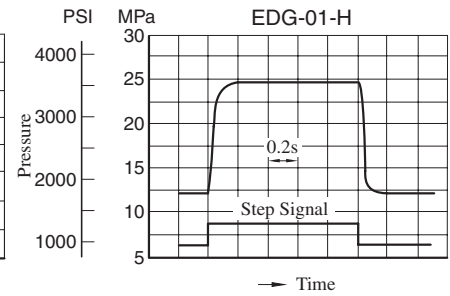
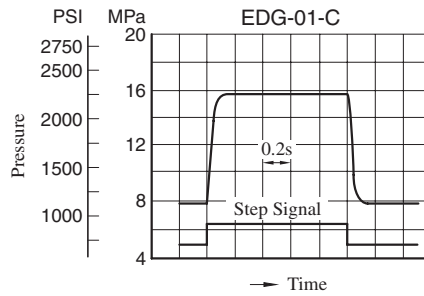
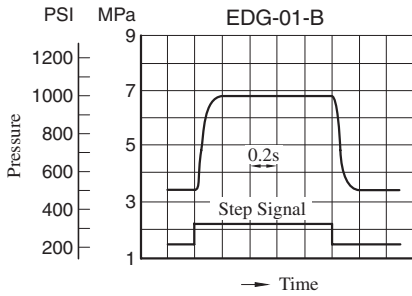


Note: For valve mounting surface dimensions, see the dimensional drawings of sub-plates (P.356) in common use.

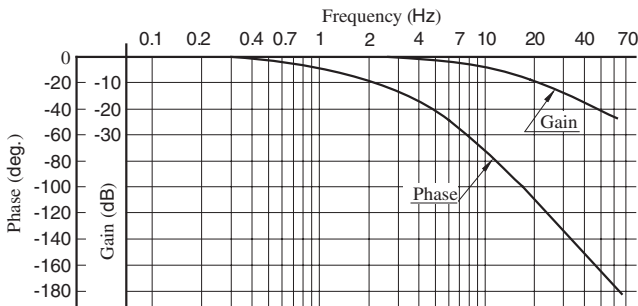
Step Response (Example)

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

Flow Rate : 2 L/min (.53 U.S. GPM)
 Trapped Oil Volume : 40 cm³ (2.44 cu. in.)
 Viscosity : 30 mm²/s (141 SSU)

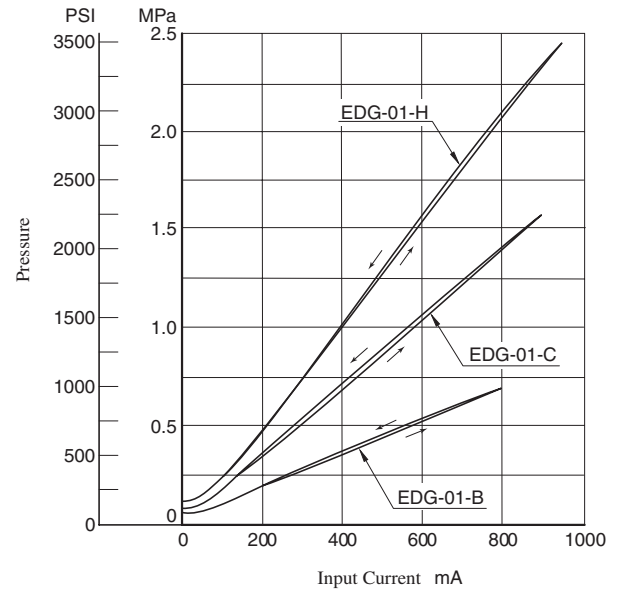


Frequency Response

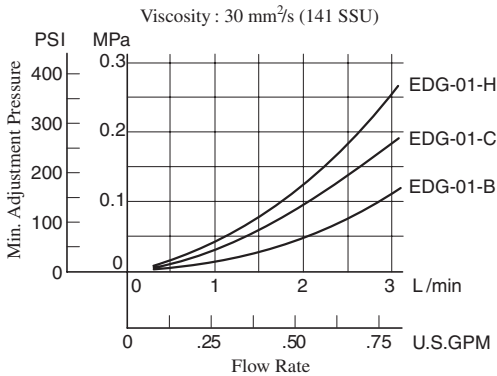


Flow Rate : 2 L/min (.53 U.S. GPM)
 Pressure : 7.8 ± 1.6 MPa (1130 ± 230 PSI)
 Trapped Oil Volume : 30 cm³ (1.83 cu. in.)
 Viscosity : 30 mm²/s (141 SSU)

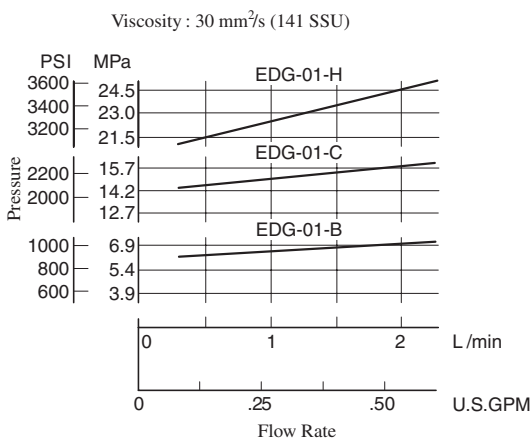
Control Pressure vs. Input Current



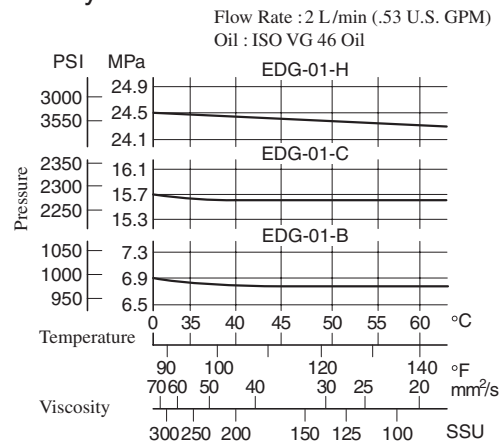
Min. Adjustment Pressure



Flow Rate vs. Pressure



Viscosity vs. Pressure



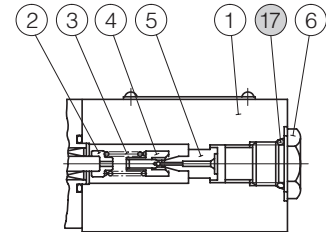
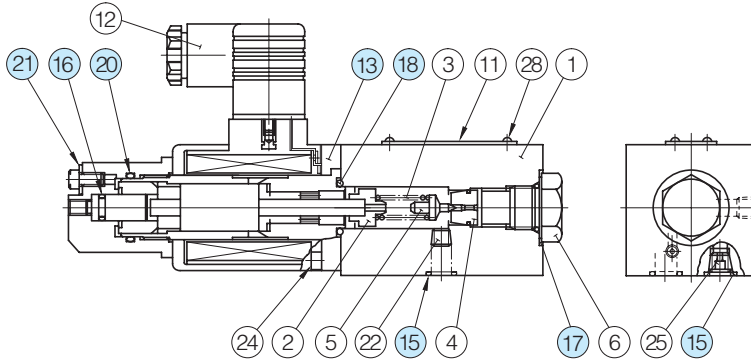
■ List of Seals and Solenoid Ass'y

● Without Safety Valve

EDG-01*-*-PNT*-51/5190

EDG-01V- *-PNT*-5103

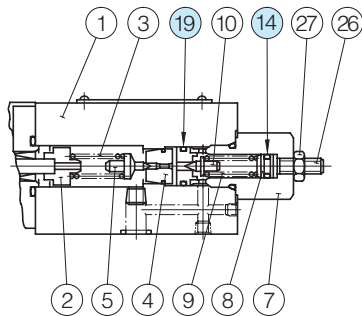
EDG-01- *-PNT*-5101



● With Safety Valve

EDG-01*-*-1-PNT*-51/5190

EDG-01V- *-1-P*T*-5103/5197



● List of Seals

Item	Name of Parts	Part Numbers	Qty.	Remarks
14	O-Ring	SO-NA-P6	1	Included in Seal Kit Kit No.: KS-EDG-01-51
15	O-Ring	SO-NB-P9	2	
16	O-Ring	SO-NB-P7	1	
17	O-Ring	SO-NB-P14	1	
18	O-Ring	SO-NB-P18	1	
19	O-Ring	SO-NB-A013	1	
20	O-Ring	SO-NB-P22	1	
21	Fastener Seal	SG-FCF-4	1	

Note) O-ring (Item 16, 18, 20) and the fastener seal (Item 21) are included in the solenoid assembly.

● Solenoid Ass'y

Valve Model Numbers	⑬ Solenoid Ass'y
EDG-01*-*-P*T*-51/5190	E318-Y06M1-28-61
EDG-01- *-PNT*-5101	
EDG-01V- *-P*T*-51/5190	E318-Y06M1-05-61
EDG-01V- *-PNT*-5103	E318-Y06M1-04-61
EDG-01V- *-1-PNT20-5197	E318-Y06M1-28-61

Note) The connector assembly GDM-211-B-11 (Item 12) is not included in the solenoid assembly.

Interchangeability between Current and New Design

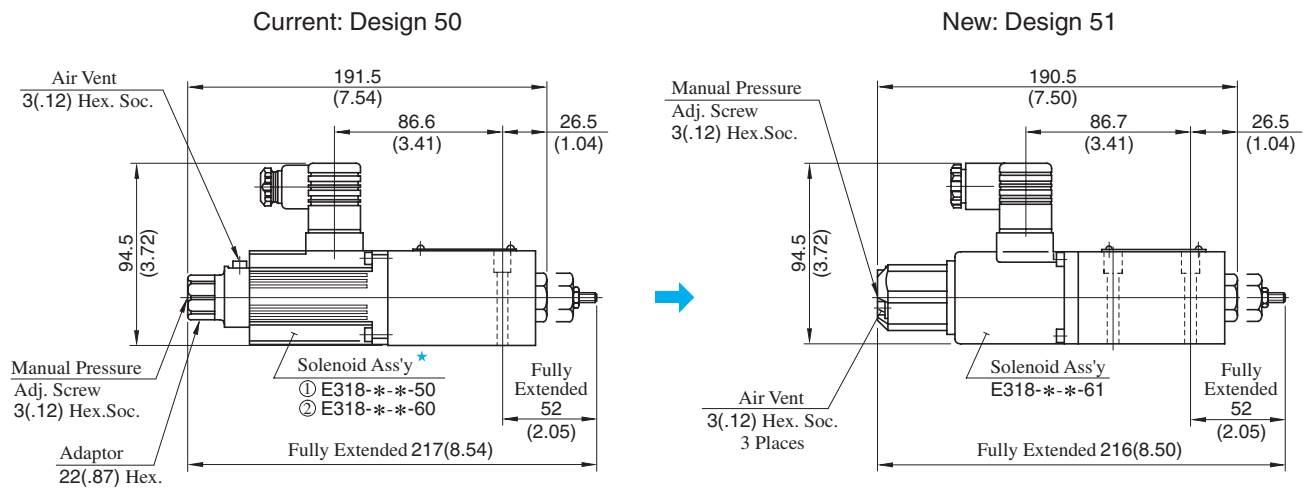
EDG-01 series valve has changed model from 50 to 51 design in line with the solenoid improvement.

Specifications and Characteristics

No change in specifications and characteristics between current and new design.

Mounting Interchangeability

There is an interchangeability in the mounting dimensions, however, the outside shape and dimensions are changed as shown below due to solenoid improvement and other modifications.



★ The solenoid assembly current design comes in two types: ① E318-50 design and ② 60 design. See the figure on the left for an external view of type ①. See the figure on the right for type ②.

DIMENSIONS IN
MILLIMETRES (INCHES)

■ Proportional Electro-Hydraulic Relief Valves

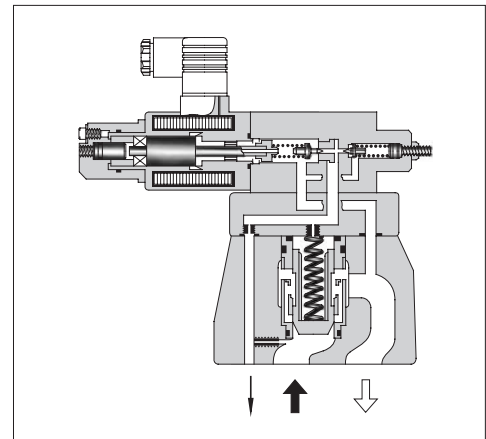
This valve is derived by combining a small, high-performance 1/8 proportional electro-hydraulic pilot relief valve with a specially developed low-noise relief valve.

With this valve, it is possible to regulate the system pressure in proportion to the input current. Note that this valve is used in conjunction with the applicable power amplifier.

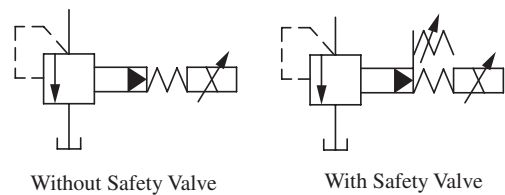


■ Specifications

Model Numbers	EBG-03	EBG-06	EBG-10
Description			
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	3% or less	3% or less	3% or less
Repeatability	1% or less	1% or less	1% or less
Approx. Mass kg (lbs.)	5.6 (12.3)	6.3 (13.9)	10 (22)



Graphic Symbols



■ Model Number Designation

F-	EB	G	-03	-C	-T	-51	*
Special Seals	Series Number	Type of Mounting	Valve Size	Pres. Adj. Range MPa (PSI)	Safety Valve	Design Number	Design Standards
F: Special Seals for Phosphate Ester Type Fluid (Omit if not required)	EB: Proportional Electro-Hydraulic Relief Valve	G: Sub-plate Mounting	03 06 10	C: * - 15.7 (* - 2275) H: * - 24.5 (* - 3550)	None: With Safety Valve T: Without Safety Valve	51	Refer to ^{★2}

★1. Min. adjustment pressure shall be referred to the curves on page 680.

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

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 [page 767, 771, 780](#)).

Model Numbers : AME-D-10-*-20 SK1015-11 (For DC power supply)
 AME-D2-1010-11 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	3/8 BSP.F	BGM-03-2090	3/8 NPT	2.4 (5.3)
	BGM-03X-20	Rc 1/2	BGM-03X-3080	1/2 BSP.F	BGM-03X-2090	1/2 NPT	3.1 (6.8)
EBG-06	BGM-06-20	Rc 3/4	BGM-06-3080	3/4 BSP.F	BGM-06-2090	3/4 NPT	4.7 (10.4)
	BGM-06X-20	Rc 1	BGM-06X-3080	1 BSP.F	BGM-06X-2090	1 NPT	5.7 (12.6)
EBG-10	BGM-10-20	Rc 1-1/4	BGM-10-3080	1-1/4 BSP.F	BGM-10-2090	1-1/4 NPT	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.
- Sub-plates are those for pilot operated relief valves. For dimensions, see [page 213](#).

Instructions

Safety Valve

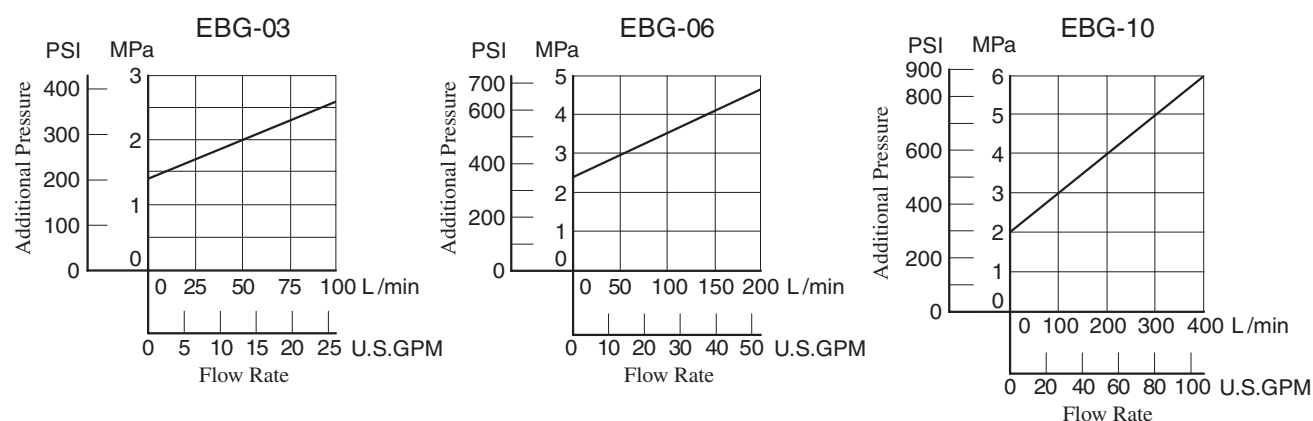
The pressure of the safety valve for EBG-03 is preset at the value equal to the upper limit of the pressure adjustment range plus 2 MPa (290 PSI) subject to a flow rate of 50 L/min (13.2 U.S.GPM).

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).

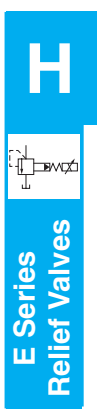
The same for EBG-10 is preset at the value equal to the upper limit of the pressure adjustment range plus 4 MPa (580 PSI) subject to a flow rate of 200 L/min (52.8 U.S.GPM).

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.

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

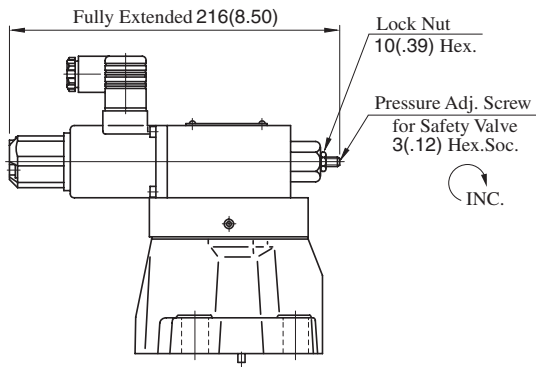


To lower the setting pressure, turn the safety valve pressure adjustment screw anti-clockwise. After adjustment, be sure to tighten the lock nut.



**EBG-03
06** - *-51/5190

With Safety Valve



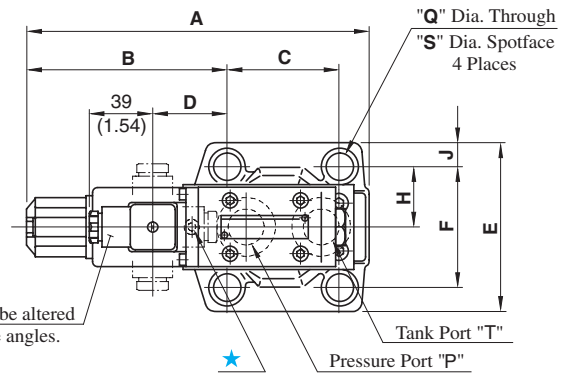
• For other dimensions, refer to the without safety valve.

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

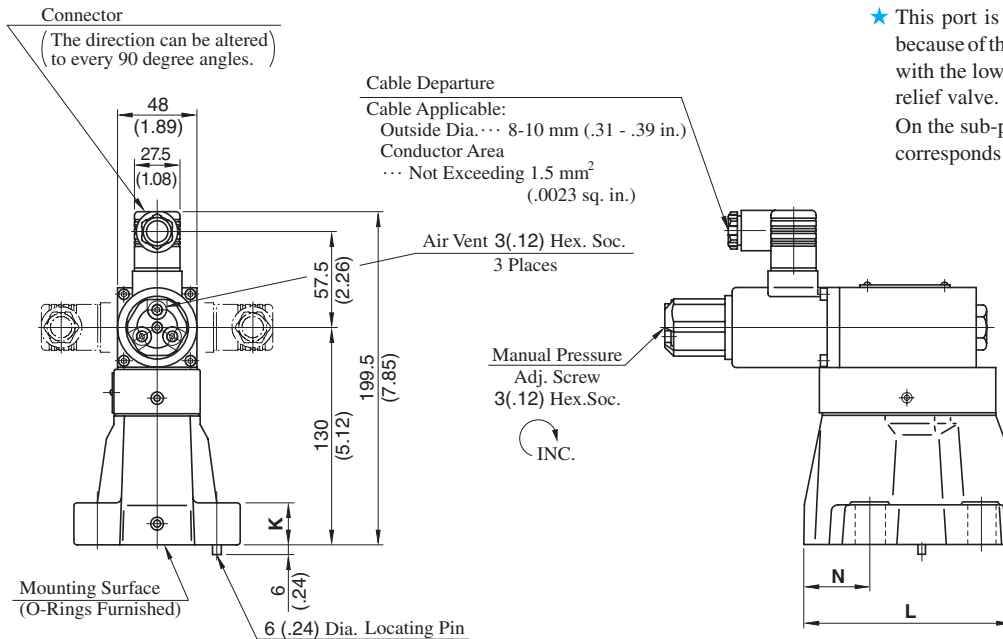
**DIMENSIONS IN
MILLIMETRES (INCHES)**

**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 type pilot operated relief valve. On the sub-plate, plug the port which corresponds to this port.



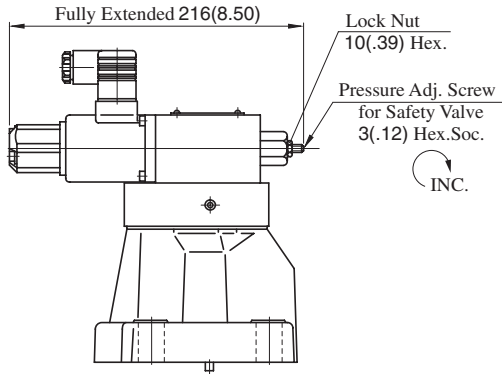
Model Numbers	Dimensions mm (Inches)												
	A	B	C	D	E	F	H	J	K	L	N	Q	S
EBG-03	197.5 (7.78)	117.6 (4.63)	53.8 (2.12)	40.3 (1.59)	76 (2.99)	53.8 (2.12)	26.9 (1.06)	11.1 (.44)	21.5 (.85)	106 (4.17)	26.1 (1.03)	13.5 (.53)	21 (.83)
EBG-06	205.5 (8.09)	119.5 (4.70)	66.7 (2.63)	42.1 (1.66)	98 (3.86)	70 (2.76)	35 (1.38)	14 (.55)	26 (1.02)	122 (4.80)	36 (1.42)	17.5 (.69)	26 (1.02)

Note: For valve mounting surface dimensions, see the dimensional drawings of sub-plates (p.213) in common use.

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

EBG-10- *-51/5190

With Safety Valve

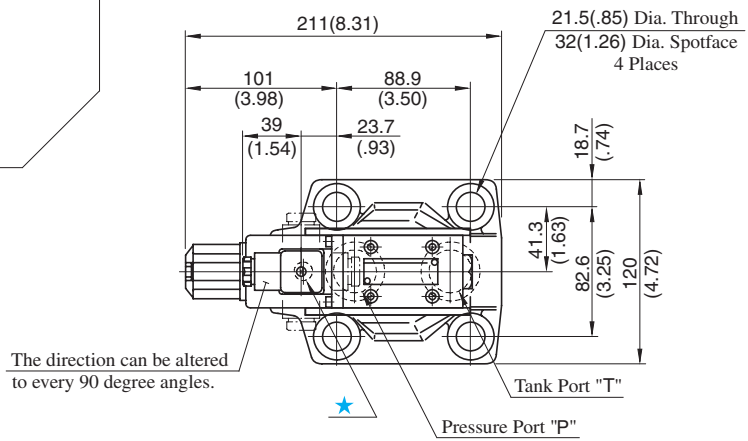


• For other dimensions, refer to the without safety valve.

**DIMENSIONS IN
MILLIMETRES (INCHES)**

EBG-10- *-T-51/5190

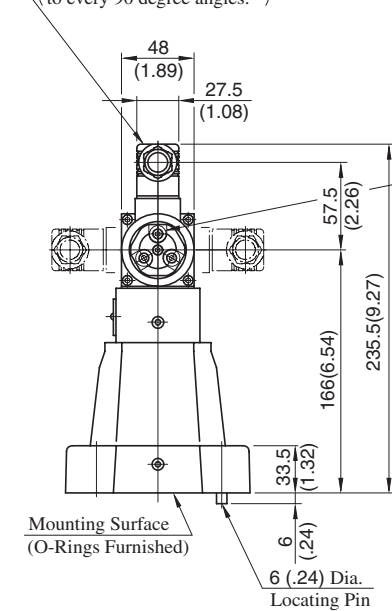
Without Safety Valve



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

Connector

(The direction can be altered to every 90 degree angles.)



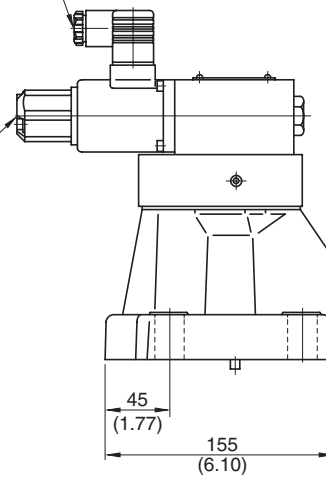
Cable Departure

Cable Applicable:
Outside Dia. ... 8-10 mm (.31 - .39 in.)
Conductor Area
... Not Exceeding 1.5 mm²
(.0023 sq. in.)

Air Vent
3(.12) Hex.Soc.
3 Places

Manual Pressure
Adj. Screw
3(.12) Hex.Soc.

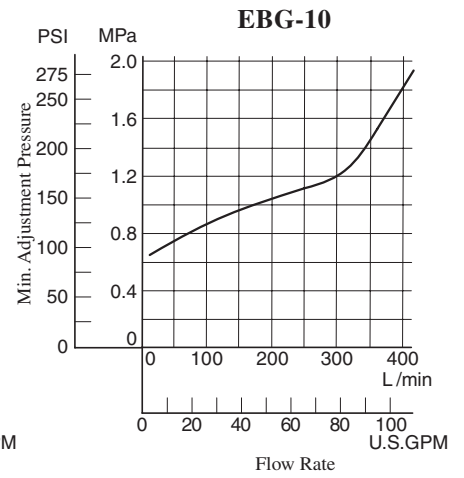
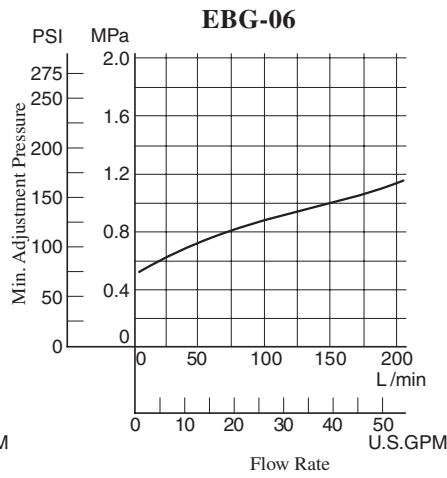
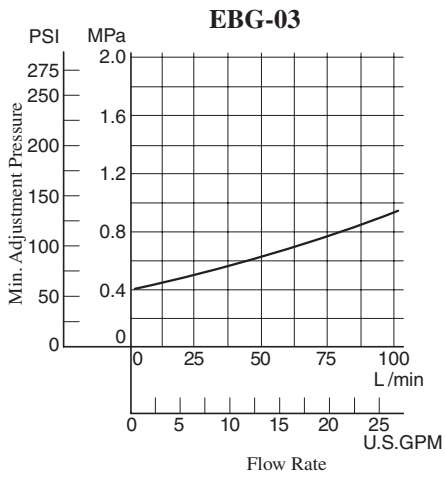
INC.



Note: For valve mounting surface dimensions, see the dimensional drawings of sub-plates (p.213) in common use.

Min. Adjustment Pressure

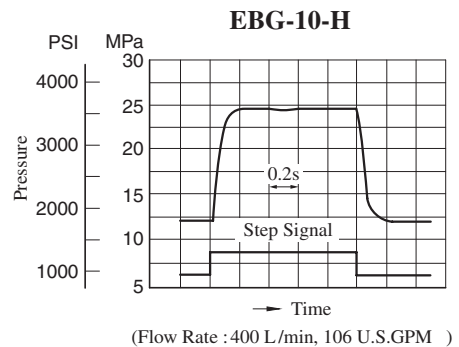
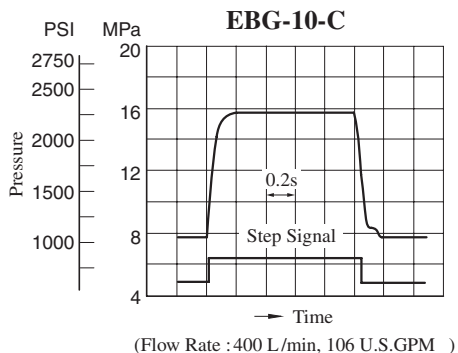
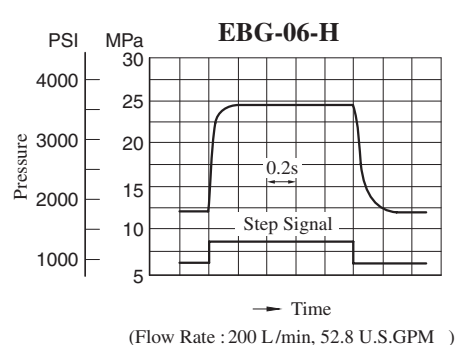
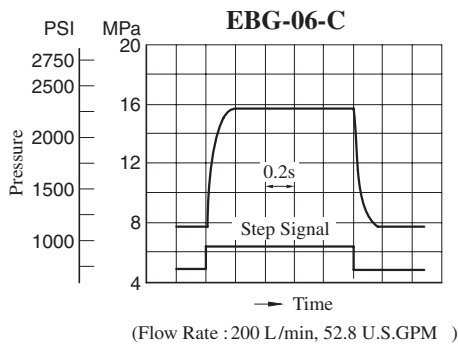
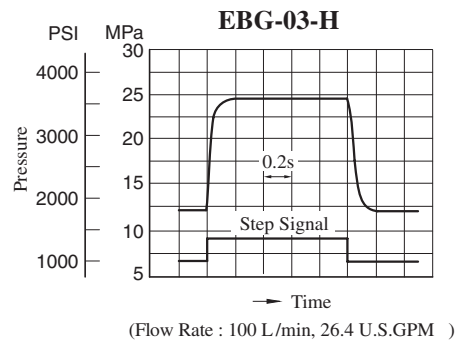
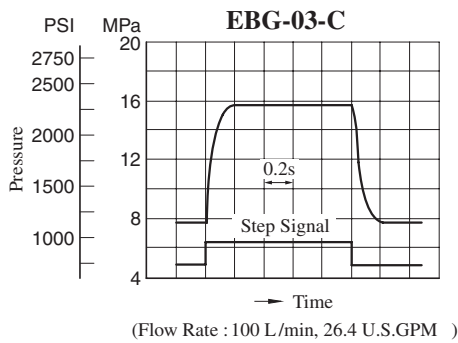
Viscosity : 30 mm²/s (141 SSU)



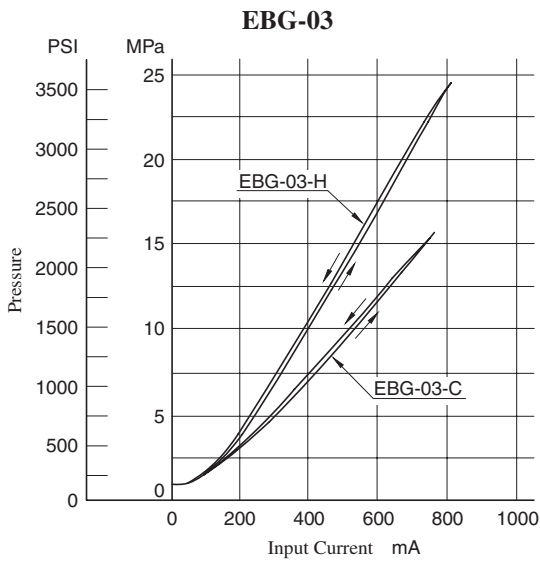
Step Response (Example)

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)

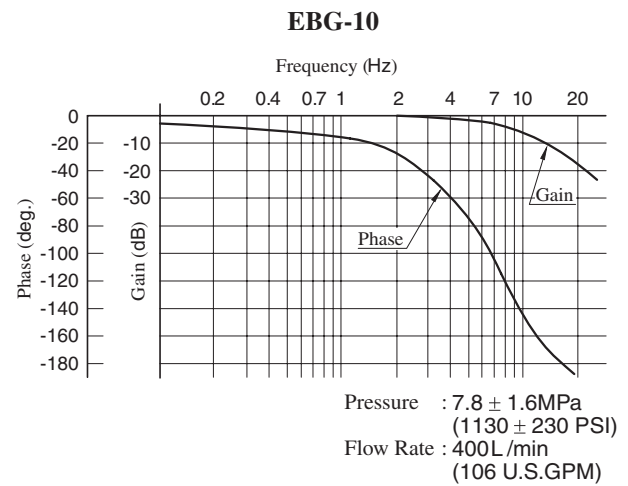
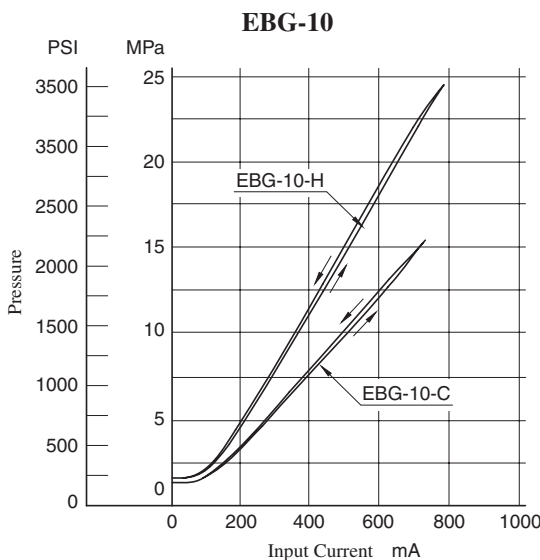
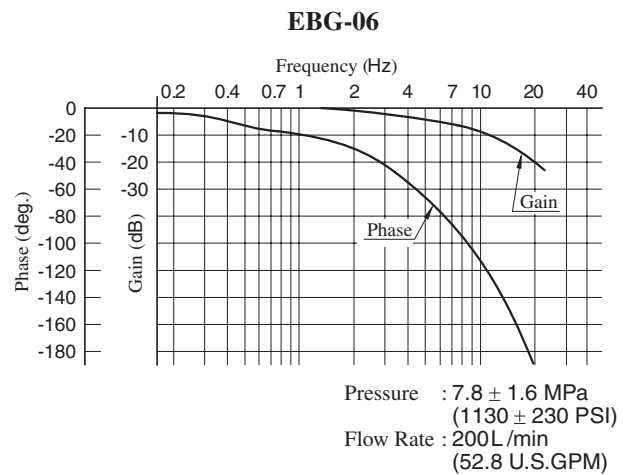
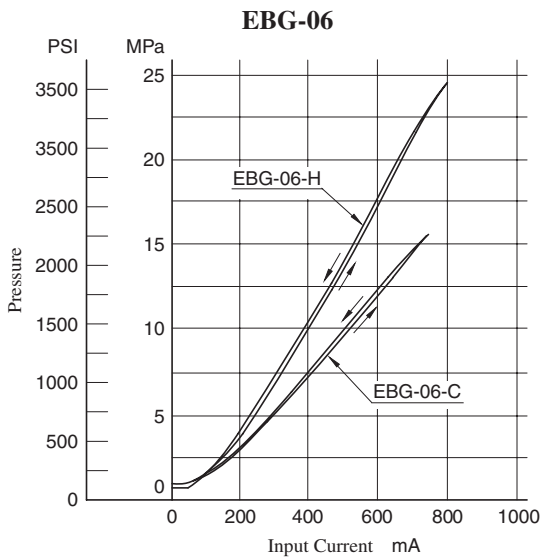
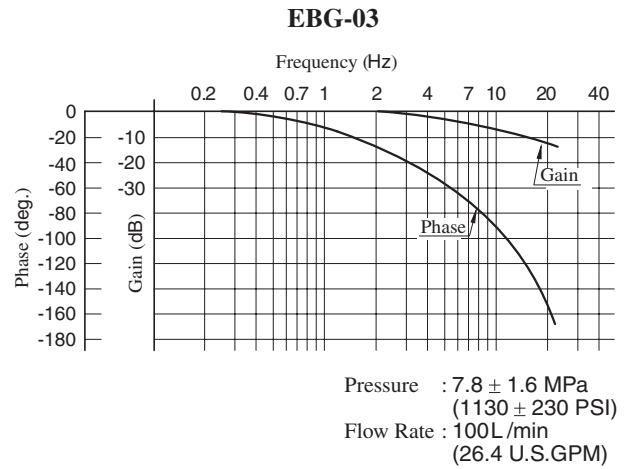


Input Current vs. Pressure



Frequency Response

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



Viscosity vs. Pressure

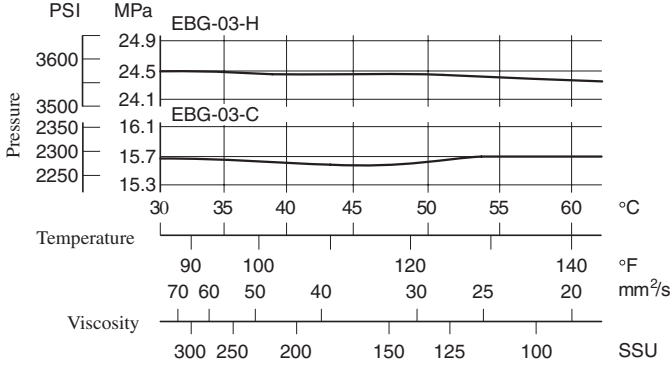
Oil : ISO VG 46 Oil

Flow Rate vs. Pressure

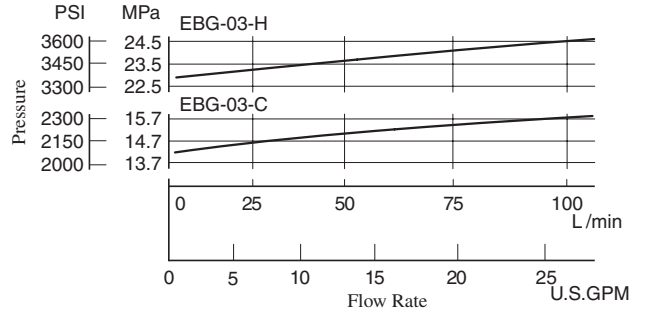
Viscosity : 30 mm²/s (141 SSU)

EBG-03

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

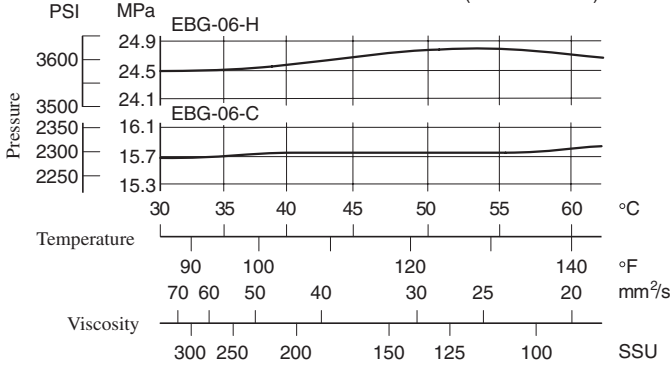


EBG-03

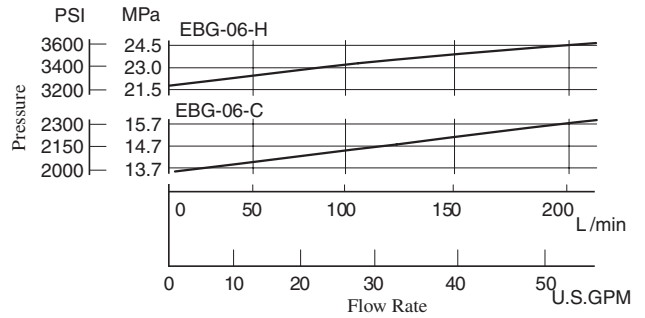


EBG-06

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

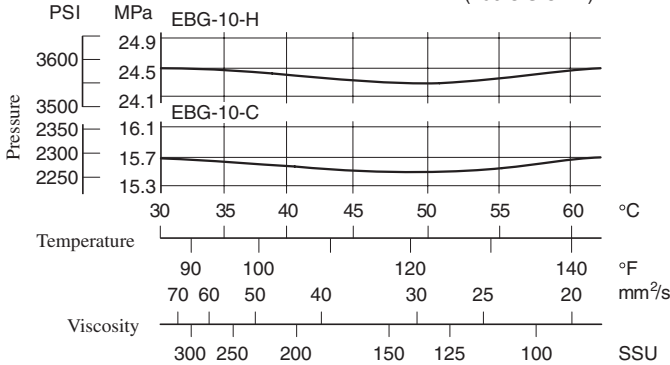


EBG-06

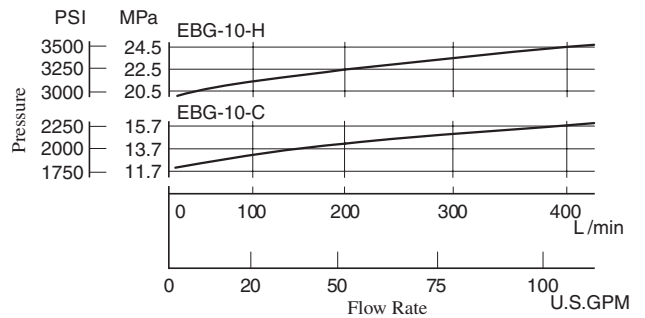


EBG-10

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

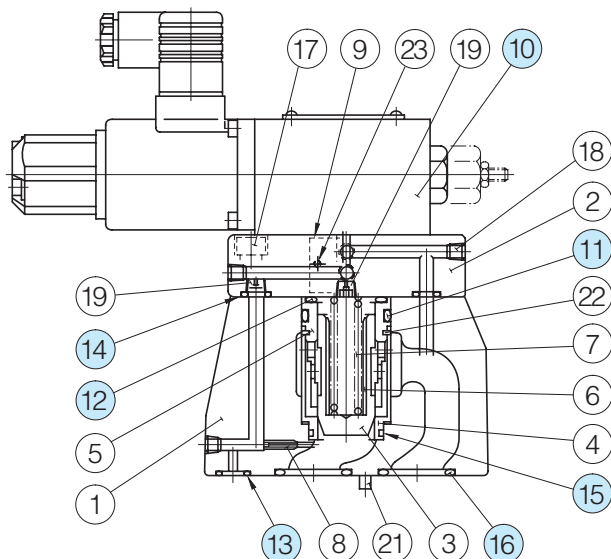


EBG-10



List of Seals and Pilot Valves

03
EBG-06-**-**-51/5190
10



● Pilot Valve

Valve Model Numbers	⑩ Pilot Valve Model Numbers
EBG-03-C-51/5190	EDG-01V-C-1-PNT09-51
EBG-03-H-51/5190	EDG-01V-H-1-PNT09-51
EBG-03-C-T-51/5190	EDG-01V-C-PNT09-51
EBG-03-H-T-51/5190	EDG-01V-H-PNT09-51
EBG-06-C-51/5190	EDG-01V-C-1-PNT10-51
EBG-06-H-51/5190	EDG-01V-H-1-PNT10-51
EBG-06-C-T-51/5190	EDG-01V-C-PNT10-51
EBG-06-H-T-51/5190	EDG-01V-H-PNT10-51
EBG-10-C-51/5190	EDG-01V-C-1-PNT11-5103
EBG-10-H-51/5190	EDG-01V-H-1-PNT11-5103
EBG-10-C-T-51/5190	EDG-01V-C-PNT11-5103
EBG-10-H-T-51/5190	EDG-01V-H-PNT11-5103

Note: For the details of pilot valves, refer to "Pilot Relief Valves" on [page 674](#).

● List of Seals

Item	Name of Parts	Part Numbers			Qty.
		EBG-03	EBG-06	EBG-10	
11	O-Ring	SO-NB-P32	SO-NB-P32	SO-NB-P42	1
12	O-Ring	SO-NB-P28	SO-NB-P28	SO-NB-P28	1
13	O-Ring	SO-NB-P9	SO-NB-P11	SO-NB-P9	1
14	O-Ring	SO-NB-P9	SO-NB-P9	SO-NB-P9	2
15	O-Ring	SO-NB-A024	SO-NB-A024	SO-NB-A128	1
16	O-Ring	SO-NB-P18	SO-NB-P28	SO-NB-P32	2

Note) When ordering seals, please specify the seal kit number from the table below.
In addition to the above O-rings, seals for pilot valve are included in the seal kit.
For the details of the pilot valve seals, see [page 674](#).

● List of Seal Kit

Model Numbers	Seal Kit Numbers
EBG-03	KS-EBG-03-51
EBG-06	KS-EBG-06-51
EBG-10	KS-EBG-10-51

Interchangeability between Current and New Design

EBG-03/06/10 series valves have changed model from 50 to 51 design in line with the model change of pilot valve (EDG-01).

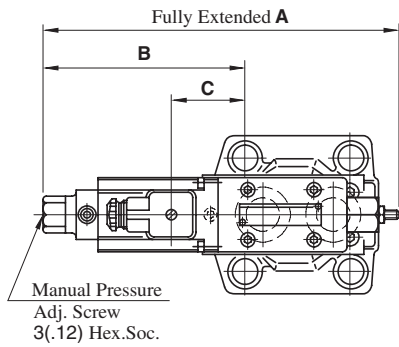
Specifications and Characteristics

No change in specifications and characteristics between current and new design.

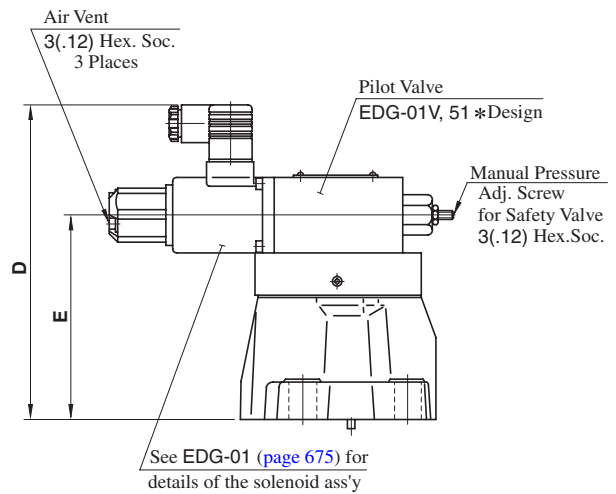
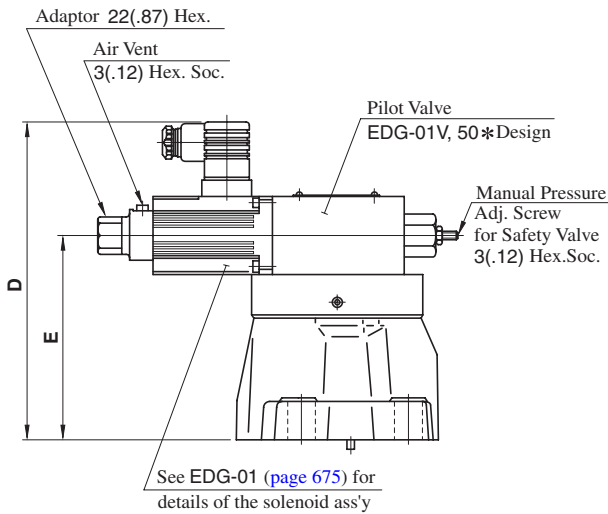
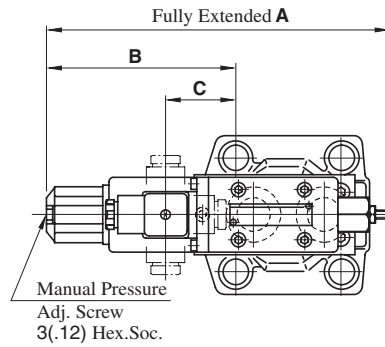
Mounting Interchangeability

There is an interchangeability in the mounting dimensions, however, the outside shape and dimensions are changed as shown below due to pilot valve improvement and other modifications.

Current: Design 50



New: Design 51



Model Numbers		A	B	C	D	E
Current	EBG-03-*-50/5090	217 (8.54)	118.6 (4.67)	40.2 (1.58)	199.5 (7.85)	130 (5.12)
New	EBG-03-*-51/5190	216 (8.50)	117.6 (4.63)	40.2 (1.59)		
Current	EBG-06-*-50/5090	217 (8.54)	120.5 (4.74)	42.1 (1.66)	199.5 (7.85)	130 (5.12)
New	EBG-06-*-51/5190	216 (8.50)	119.5 (4.70)	42.1 (1.66)		
Current	EBG-10-*-50/5090	217 (8.54)	102 (4.02)	23.6 (.93)	235.5 (9.27)	166 (6.54)
New	EBG-10-*-51/5190	216 (8.50)	101 (3.98)	23.6 (.93)		

DIMENSIONS IN
MILLIMETRES (INCHES)