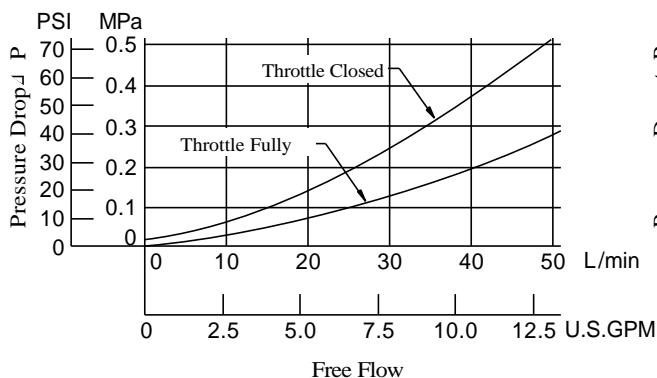


Typical Performance Characteristics

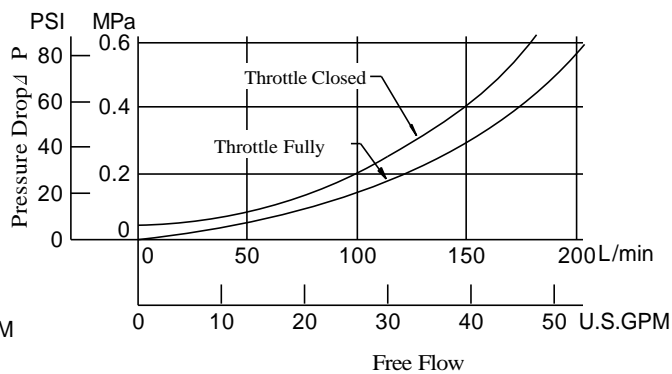
■ Pressure Drop for Reversed Free Flow (Only for "EFCG" Models)

Oil Viscosity: 35 mm²/s (164 SSU)
Specific Gravity: 0.850

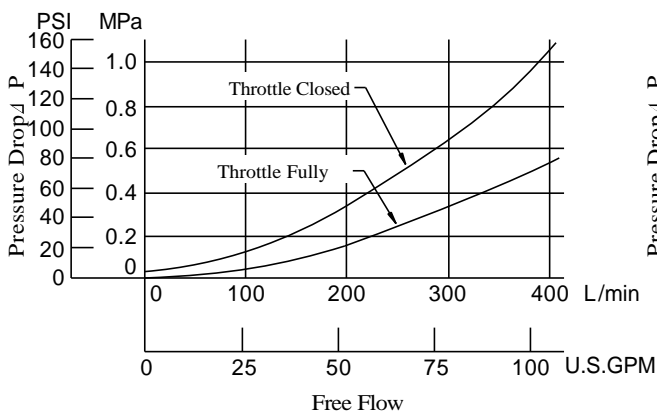
EFCG-02



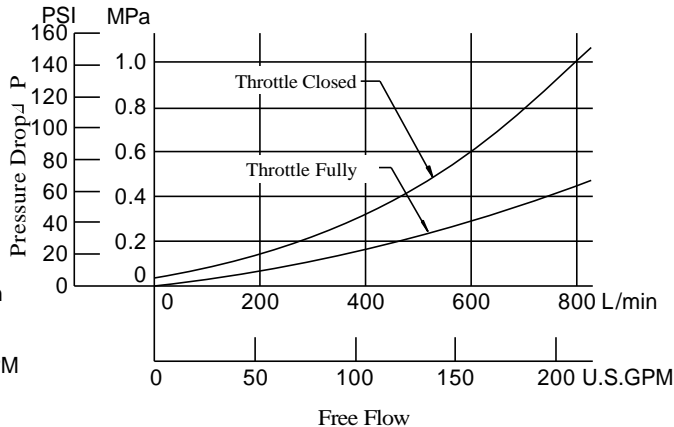
EFCG-03



EFCG-06



EFCG-10



- For any other viscosity, multiply the factors in the table below.

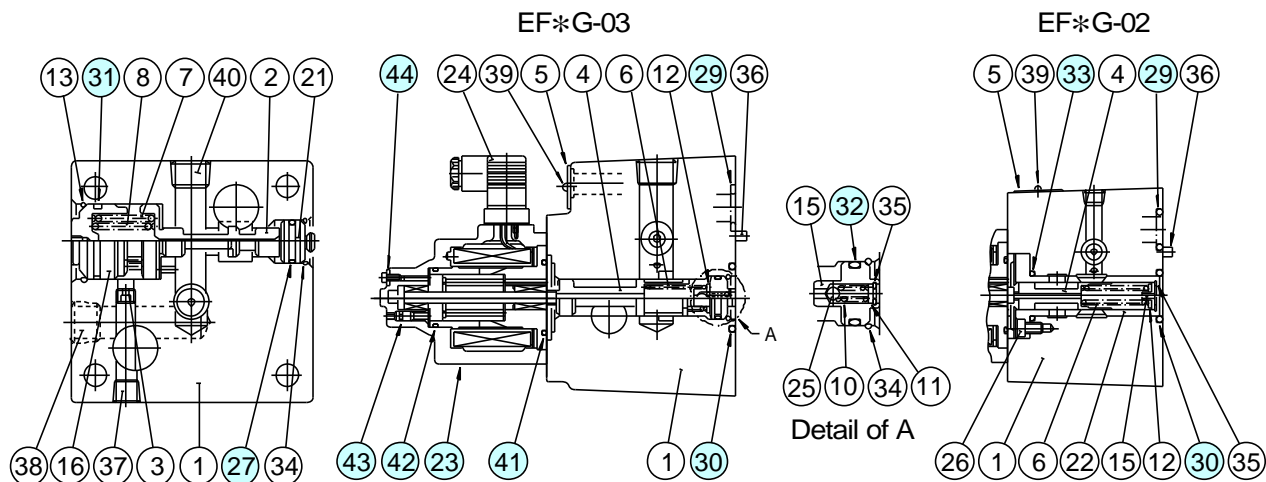
Viscosity	mm ² /s	20	40	60	80	100
	SSU	98	186	278	371	464
Factor		0.87	1.03	1.14	1.23	1.30

- For any other specific gravity (G'), the pressure drop (P') may be obtained from the formula below.
 $\Delta P' = \Delta P (G'/0.850)$

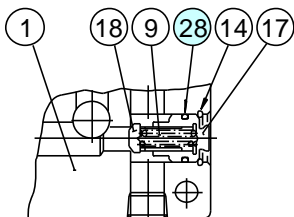


EFG/EFCG-02-*-31/3190

EFG/EFCG-03-*-26/2690



With Check Valve (EFCG-02, 03)



CAUTION

When making replacement of seals, please do it carefully after reading through the relevant instructions in the Operator's Manual.

● List of Seals and Solenoids Ass'y

Item	Name of Parts	Part Numbers		Qty.
		EF* G-02	EF* G-03	
23	Solenoid Ass'y	E321-45-20	E321-45-20	1
27	O-Ring	SO-NB-P18	SO-NB-P18	1
28	O-Ring	SO-NB-P10A	SO-NB-P21	1
29	O-Ring	SO-NB-P18	SO-NB-P28	2
30	O-Ring	SO-NB-P22	SO-NB-P31	1
31	O-Ring	SO-NB-G25	SO-NB-G35	1
32	O-Ring	—	SO-NB-P18	1
33	O-Ring	SO-NB-P22	—	1
41	O-Ring	SO-NB-G45	SO-NB-G45	1
42	O-Ring	SO-NB-G35	SO-NB-G35	1
43	O-Ring	SO-NA-P4	SO-NA-P4	1
44	Fastener Seal	SG-FCF-4	SG-FCF-4	1

Note: O-rings (Item 41, 42, 43) and the fastener seal (Item 44) are included in the solenoid assembly.

Note: The connector assembly GDM-211-B-11 (Item 24) is not included in the solenoid assembly.

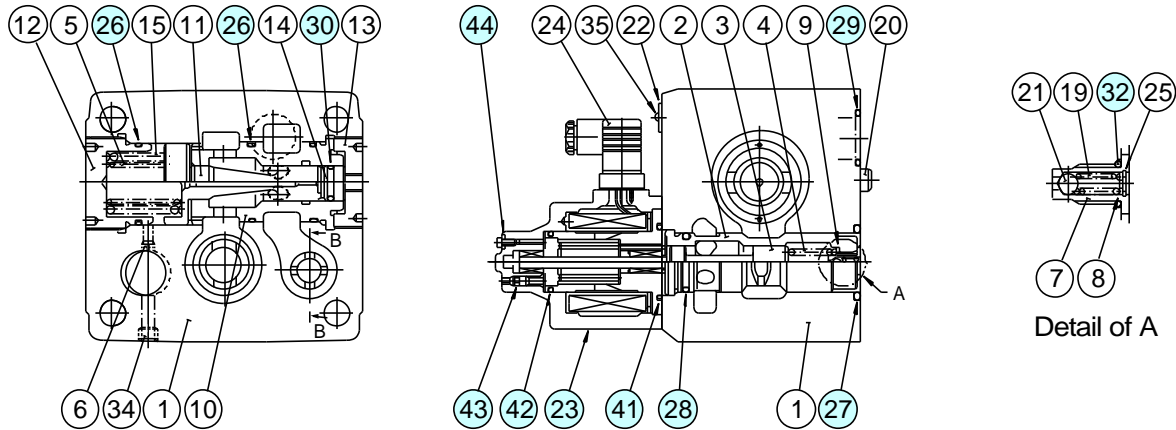
Note: When ordering seals, please specify the seal kit number from the table right.

● List of Seal Kits

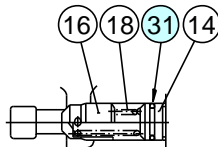
Model Numbers	Seal Kit Numbers
EFG-02-*-31*	KS-EFG-02-31
EFCG-02-*-31*	KS-EFCG-02-31
EFG-03-*-26*	KS-EFG-03-26
EFCG-03-*-26*	KS-EFCG-03-26

EFG/EFCG-06-250-22/2290

EFG/EFCG-10-500-11/1190



With Check Valve (EFCG-06, 10)



Section B-B



CAUTION

When making replacement of seals, please do it carefully after reading through the relevant instructions in the Operator's Manual.

● List of Seals and Solenoid Ass'y

Item	Name of Parts	Part Numbers		Qty.
		EF* G-06	EF* G-10	
23	Solenoid Ass'y	E321-45-20	E321-45-20	1
26	O-Ring	SO-NB-P50	SO-NB-G75	3
27	O-Ring	SO-NB-P44	SO-NB-G60	1
28	O-Ring	SO-NB-P34	SO-NB-P50	1
29	O-Ring	SO-NB-P32	SO-NB-P48	2
30	O-Ring	SO-NB-P21	SO-NB-P34	1
31	O-Ring	SO-NB-P21	SO-NB-P26	1
32	O-Ring	SO-NA-P10	SO-NA-P10	1
41	O-Ring	SO-NB-G45	SO-NB-G45	1
42	O-Ring	SO-NB-G35	SO-NB-G35	1
43	O-Ring	SO-NA-P4	SO-NA-P4	1
44	Fastener Seal	SG-FCF-4	SG-FCF-4	1

Note: O-rings (Item 41, 42, 43) and the fastener seal (Item 44) are included in the solenoid assembly.

Note: The connector assembly GDM-211-B-11 (Item 24) is not included in the solenoid assembly.

Note: When ordering seals, please specify the seal kit number from the table right.

● List of Seal Kits

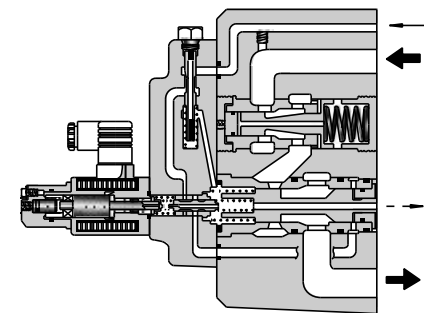
Model Numbers	Seal Kit Numbers
EFG-06-250-22*	KS-EFG-06-22
EFCG-06-250-22*	KS-EFCG-06-22
EFG-10-500-11*	KS-EFG-10-11
EFCG-10-500-11*	KS-EFCG-10-11

Specifications

Model No.		EFG EFCG-03-60	EFG EFCG-06-250
Description			
Max. Operating Pressure MPa (PSI)		20.6 (3000)	24.5 (3550)
Metred Flow Adj. Range L/min (U.S.GPM)		60: 1-60 (.26-15.9) 125: 1-125 (.26-33)	2.5-250 (.66-66)
Min. Differential Pressure ^{★1} MPa (PSI)		1.0(145)	1.0(145)
Free Flow (EFCG Models Only) L/min (U.S.GPM)		130(34.3)	280(74.0)
Min Pilot Pressure ^{★2} MPa (PSI)		1.0 (145)	1.5 (220)
Pilot Flow L/min (U.S.GPM)	at Normal	0.5 (.13)	1 (.26)
	at Transition	2.6 (.69)	4 (1.06)
Rated Current		780 mA	820 mA
Coil Resistance		10 Ω	10 Ω
Hysteresis		Less than 3%	Less than 3%
Repeatability		Less than 1%	Less than 1%
Approx. Mass	kg (lbs.)	10 (22.1)	25 (55.1)

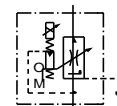
★ 1. Min pressure difference required between inlet and outlet ports to maintain function as pressure compensator.

★ 2. The minimum required value for the external pilot type.

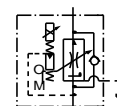


Graphic Symbols

Internal Pilot

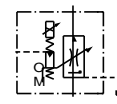


EFG-*

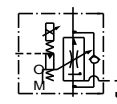


EFCG-*

External Pilot



EFG-*



EFCG-*

Model Number Designation

EFC	G	-03	-125	-E	-51	*
Series Number	Type of Mounting	Valve Size	Max. Metred Flow L/min (U.S.GPM)	Pilot Connection	Design Number	Design Standards
EF: Proportional Electro-Hydraulic Flow Control Valve	G: Sub-plate Mounting	03	60: 60 (15.9) 125: 125 (33)	None: Internal Pilot	51	Refer to ★
EFC: Proportional Electro-Hydraulic Flow Control and Check Valve		06	250: 250 (66)	E: External Pilot	51	

★ 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		Qty.
	Japanese Std. "JIS" and European Design Std.	N. American Design Std.	
EF* G-03	M10 × 80 Lg.	3/8-16 UNC × 3-1/4 Lg.	4
EF* G-06	M16 × 130 Lg.	5/8-11 UNC × 5 Lg.	4

■ Applicable Power Amplifiers

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

Model Numbers: AME-D-10-* -20

AME-D2-1010-* -10

SK1022-* -11

SK1015-11 (For DC power supply)

AMN-D-10 (For DC power supply)

■ 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	
EFG EFCG-03	EFGM-03Y-30	Rc 3/4	EFGM-03Y-3080	3/4 BSP.F	EFGM-03Y-3090	3/4 NPT	5.7 (12.6)
	EFGM-03Z-30	Rc 1	EFGM-03Z-3080	1 BSP.F	EFGM-03Z-3090	1 NPT	5.6 (12.3)
EFG EFCG-06	EFGM-06X-30	Rc 1	EFGM-06X-3080	1 BSP.F	EFGM-06X-3090	1 NPT	12.5 (27.6)
	EFGM-06Y-30	Rc 1-1/4	EFGM-06Y-3080	1-1/4 BSP.F	EFGM-06Y-3090	1-1/4 NPT	16 (35.3)

● 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

● Drain Back Pressure

Check that the drain back pressure dose not exceed 0.2 MPa (29 PSI).

● Pilot Type Selection

This valve is constructed so as to operate at a pre-determined pilot pressure. For the 03, a pilot pressure of 1 MPa (145 PSI) or higher is required. For the 06, the requied pilot pressure is 1.5 MPa (220 PSI) or higher. To obtain such a required pilot pressure, select the pilot type according to the circuit examples on the right.

① ②

Use the external pilot type (pilot connection code: E) whether a metre-in or metre-out circuit is employed.

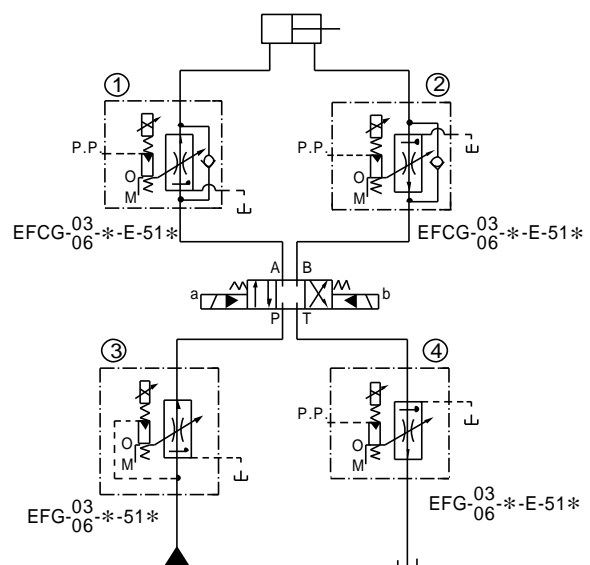
③

Use the internal pilot type (pilot connection code: None)

④

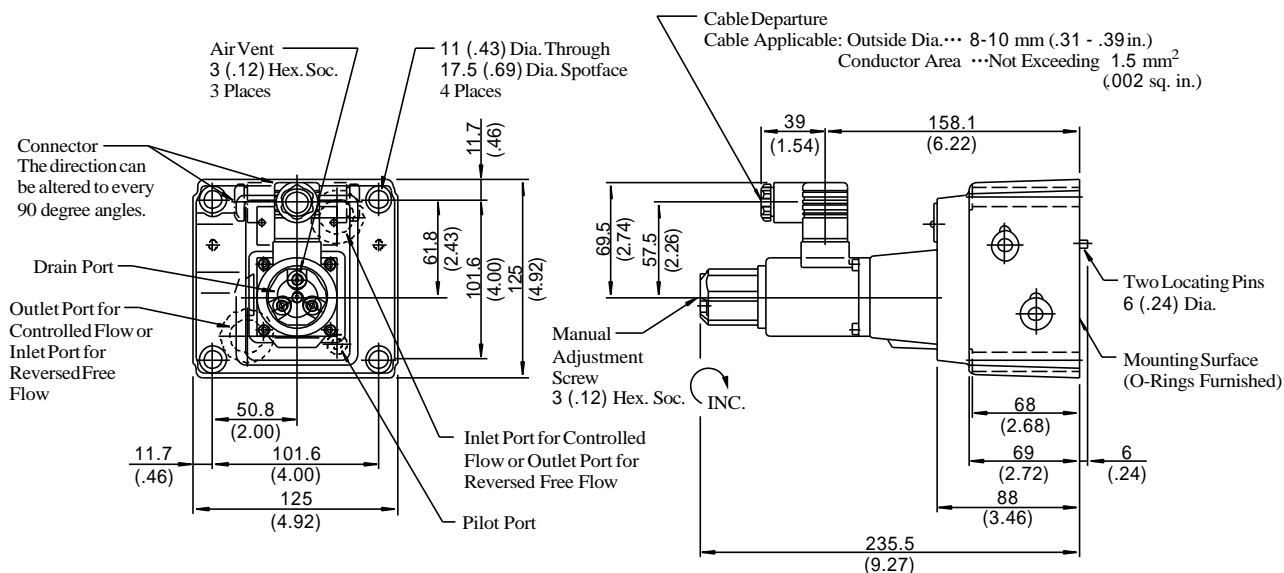
Use the external pilot type (pilot connection code: E)

[Example of Circuit]



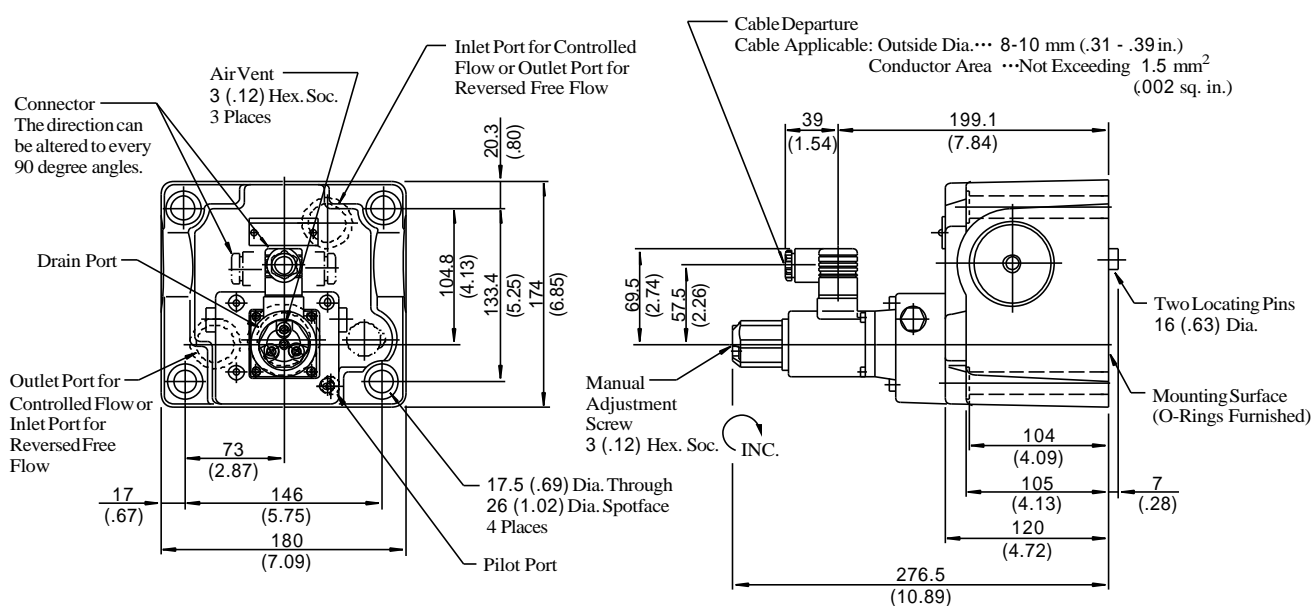
Installation Drawing

EFG
EFCG-03-⁶⁰₁₂₅ -* -51/5190



DIMENSIONS IN
MILLIMETRES (INCHES)

EFG
EFCG-06-250-* -51/5190

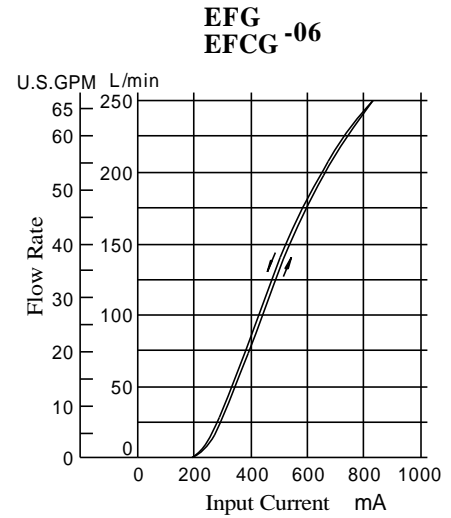
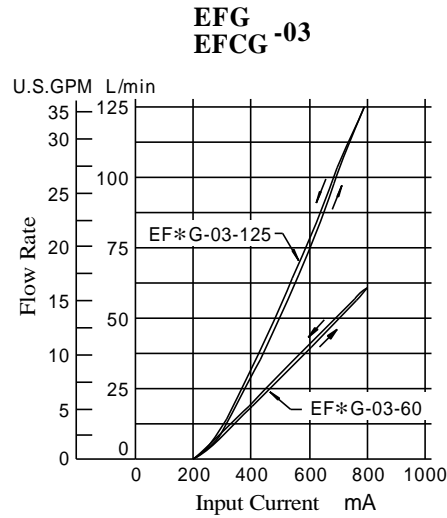


Sub-plate Model Numbers	Thread Size			E mm(in.)
	"B" Thd.	"C" Thd.	"D" Thd.	
EFGM-03Y-30	Rc 3/4	Rc 1/4	M10	18 (.71)
EFGM-03Z-30	Rc 1			
EFGM-03Y-3080	3/4BSP.F	1/4BSP.F		
EFGM-03Z-3080	1BSP.F			
EFGM-03Y-3090	3/4NPT	1/4 NPT	3/8-16 UNC	21 (.83)
EFGM-03Z-3090	1 NPT			

Sub-plate Model Numbers	Thread Size		
	"A" Thd.	"B" Thd.	"C" Thd.
EFGM-06X-30	Rc 1	Rc 3/8	M16
EFGM-06Y-30	Rc 1-1/4		
EFGM-06X-3080	1 BSP.F	3/8 BSP.F	
EFGM-06Y-3080	1-1/4 BSP.F		
EFGM-06X-3090	1 NPT	3/8 NPT	5/8-11 UNC
EFGM-06Y-3090	1-1/4 NPT		

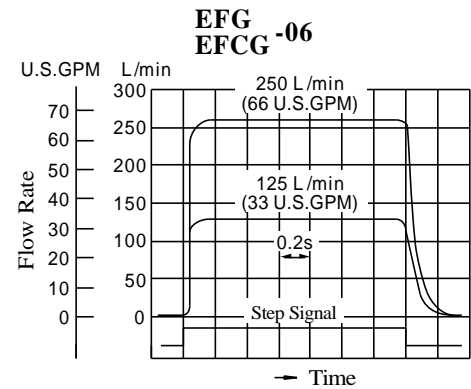
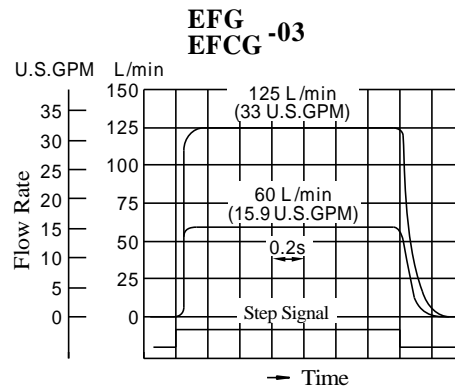
Typical Performance Characteristics

Input Current vs. Flow

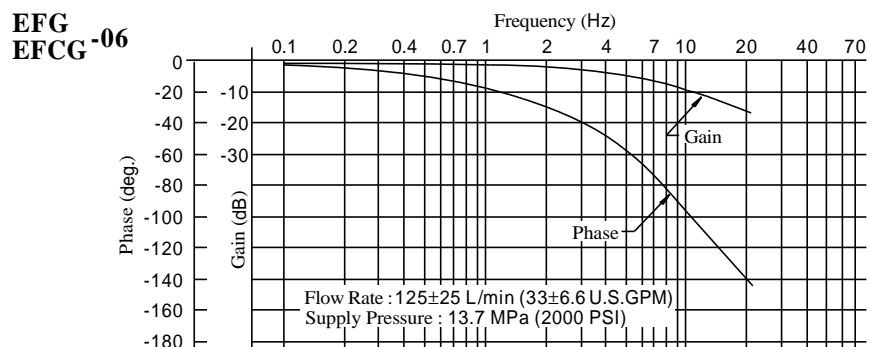
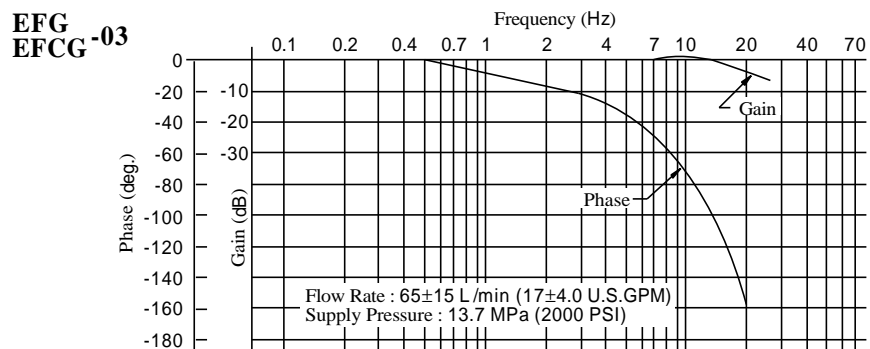


Step Response

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

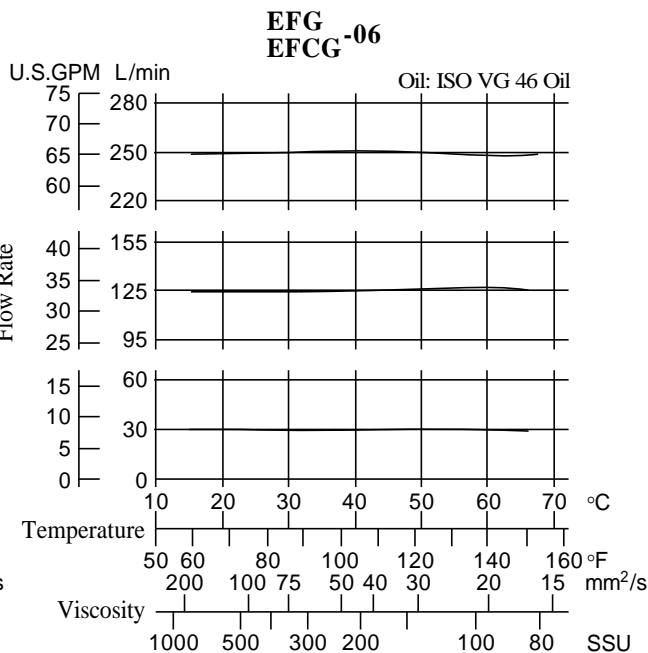
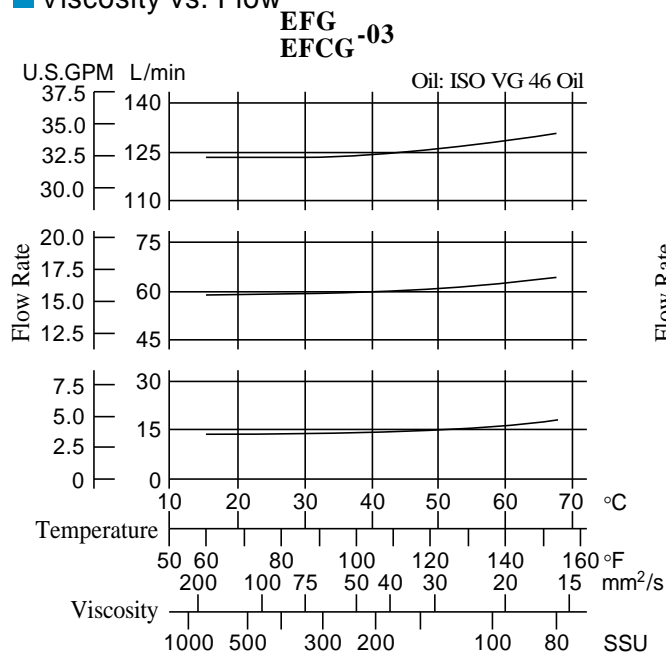


Frequency Response



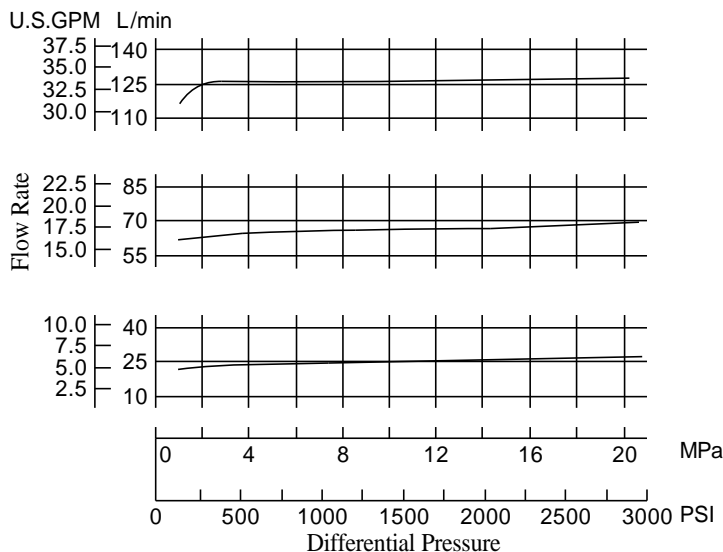
Typical Performance Characteristics

■ Viscosity vs. Flow



■ Differential Pressure vs. Metred Flow

**EFG
EFCG-03**



**EFG
EFCG-06**

