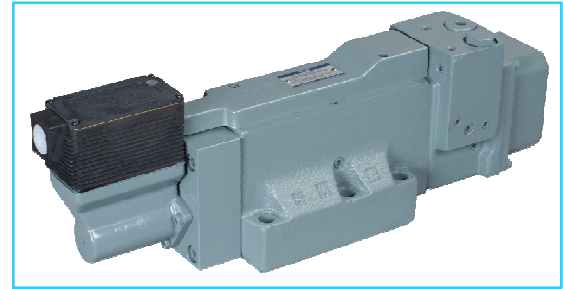


**High Response Type Proportional Electro-Hydraulic Directional and Flow Control valves**

This valve pursues the ultimate performance of proportional electrohydraulic directional & flow control valves and make themselves to have high response feature. The closed loop is composed in the valve inside by combination of a differential transformer (LVDT) and a power amplifier. Thus, high accuracy and reliability are provided. In addition to control in the open loop, this can be used for the closed loop system as a simplified servo valve.



**Specification**

Model		EHDFG-04	EHDFG-06
Numbers			
Description			
Max. Operating Pres.	Kgf/cm <sup>2</sup>	160	160
Rated Flow Valve	L/min.	130	280
Pres. Difference:	15 Kgf/cm <sup>2</sup>		
Min. Required Pilot Pres.	Kgf/cm <sup>2</sup>	15	15
Min. Required Pilot Flow	at Normal	2	2
	at Transition	6	10
Max. Drain Line Back Pres.	Kgf/cm <sup>2</sup>	1	1
Hysteresis		Less than 1 %	
Repeatability		Less than 1 % *	
Frequency Response	Hz	Refer Frequency Response on Page 10	
Coil Resistance	Ω	30	
Supply Electric Power		± 24 V DC (± 21 to ± 28 VDC included Ripple)	
Input Signal		Rated flow / ± 5V DC	
Input Impedence	kΩ	10	
Power Input (Max.)	W	20	
Alarm Signal Output (Open Collector)		Voltage: Max. 30 V DC Current: Max. 30 mA	
LVDT Output (Sensor Monitor)		± 5V DC/Rated Travel of Spool	
Ambient Temperature	°C	0-50 (With Circulated Air)	

\* The repeatability of the valves is obtained by having it tested independently on the conditions similar to its original testing.

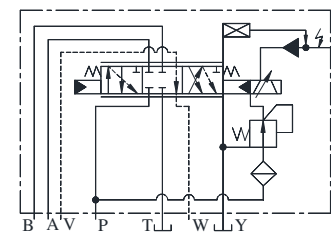
**Model Number Designation**

EHDF	G	-04	-130	-2	-E	-CB	-10
Series Number	Type of Mounting	Valve Size	Rated Flow L/min	Spool Type*1	Pilot Connection	Relief Type Pres. Compensator	Design Number
<b>EHDF</b> : Proportional Electro-Hydraulic Directional and Flow Control Valves (Sub-Plate Mounting)	<b>G</b> : Sub-Plate Mounting	<b>04</b>	<b>130</b> : 130	<b>2</b>	<b>None:</b> Internal Pilot <b>E:</b> External Pilot	<b>None:</b> Not provided <b>CB:</b> Provided	<b>10</b>
		<b>06</b>	<b>280</b> : 280	<b>40</b>			

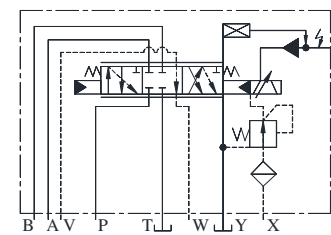
\*1 Spool type shown in the column is for the center position.

**Graphic Symbol**

Models without Pressure Compensator Valve

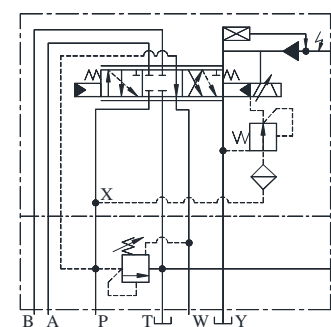


Internal Pilot



External Pilot

Models with Pressure Compensator Valve



Internal Pilot

**Attachment**

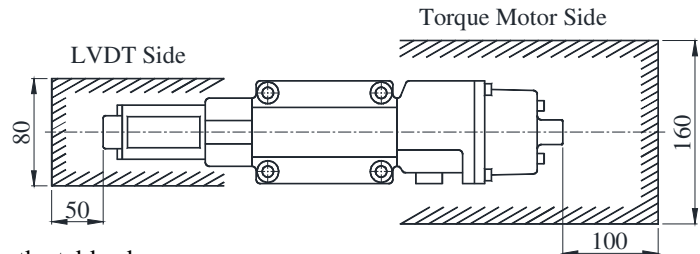
Model Numbers	Models Without Pres. Compensator	Models with Pres. Compensator	Qty.
EHDFG-04	M6x40Lg.	M6x120Lg.	2
	M10x45Lg.	M10x125Lg.	4
EHDFG-06	M12x60Lg.	--	6
	--	Mtg Bolt Kit MBK-06-01-30	1 Set

**Sub-Plate**

Valve Model Numbers	Sub-Plate Model Numbers	Pipe Connection Rc Thd.	Mass Kg.
EHDFG-04	DHGM-04-2080	1/2 BSP.F	4.4
	DHGM-40X-2080	3/4 BSP.F	4.1
EHDFG-06	DHGM-06-5080	3/4 BSP.F	7.4
	DHGM-06X-5080	1 BSP.F	

**Care in Application**

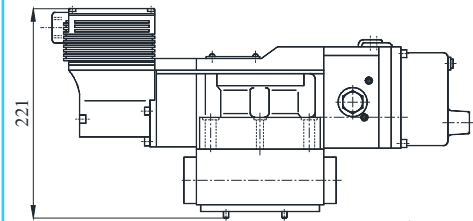
- **Back Pressure to Drain Port**  
The drain port should be connected directly to the oil tank with a back pressure of not more than 1 kgf/cm<sup>2</sup>.
- **Installation condition**  
(Protection from magnetic field of DC SOL.)  
If a DC SOL. is installed near this valve, the magnetic field of DC SOL. May affect the control flow rate. Therefore, install the DC SOL. outside the area shown below.



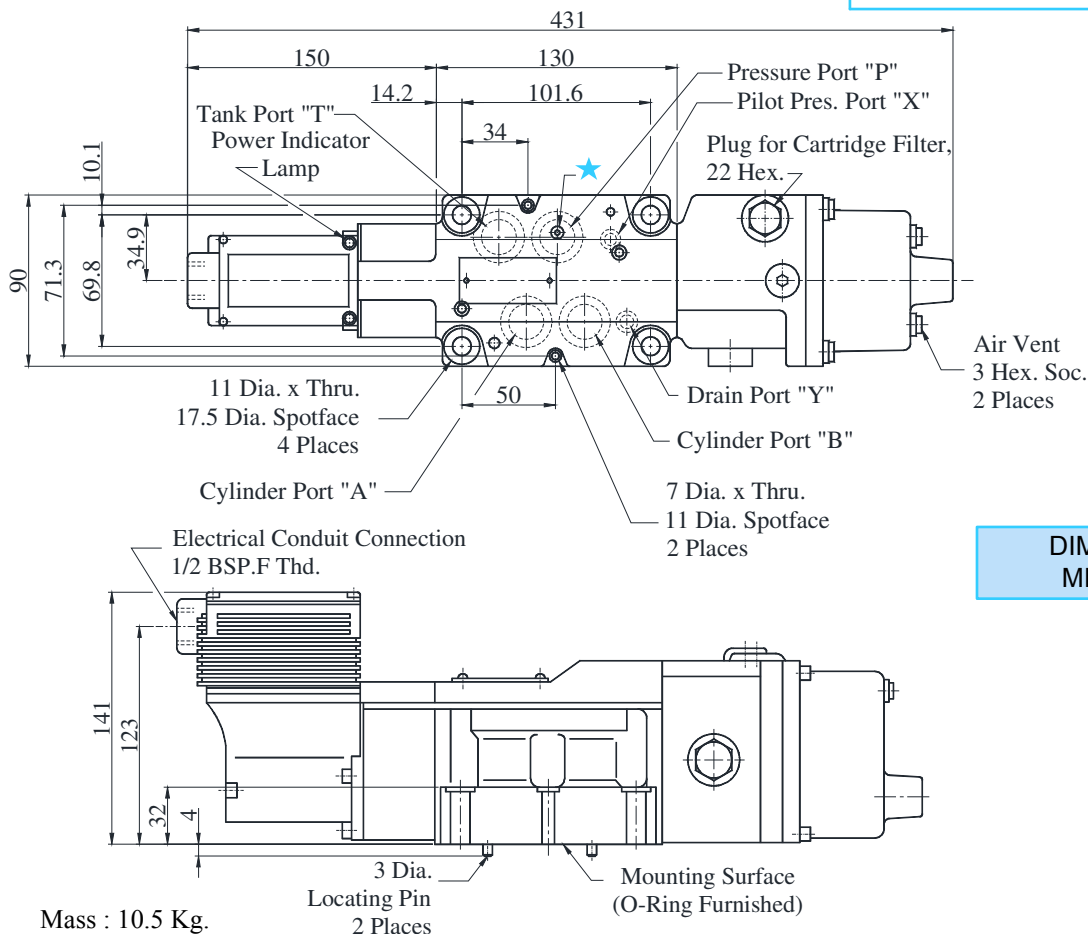
- Sub-plate are available. Specify sub-plate model from the table above.  
When sub-plates are not used, the mounting surface shall have a good machined finished.

● **EHDFG-04-130-※-※-※-10**

● **EHDFG-04-130-※-※-※-CB-10**



Mass : 17 Kg.



Mass : 10.5 Kg.

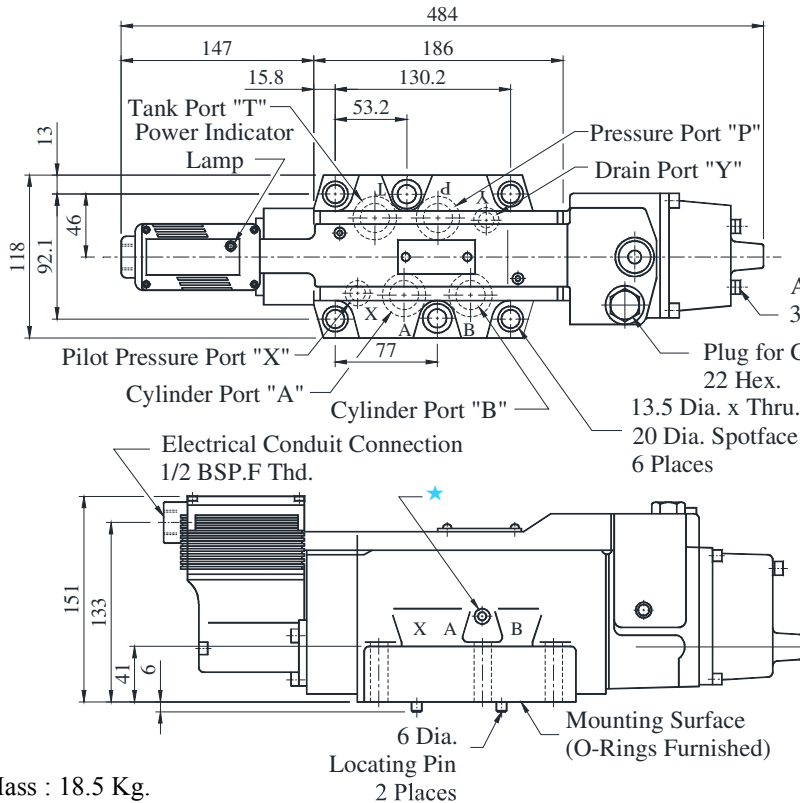
**DIMENSIONS IN MILLIMETRES**

- ★ For alternation of model from external pilot pressure to internal pilot pressure, take out another inner screen plug behind this plug.

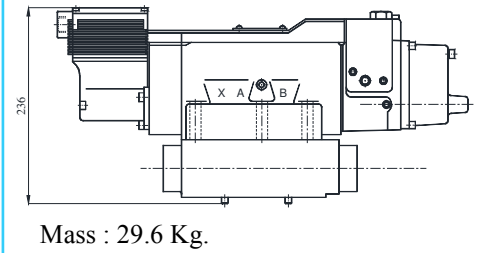
**EH Series**

**Proportional Electro-Hydraulic Directional and Flow Control Valve**

● EHDFG-06-280-※-※-※10



● EHDFG-06-280-※-※-※CB-10



Air Vent  
3 Hex. Soc. 2 Places

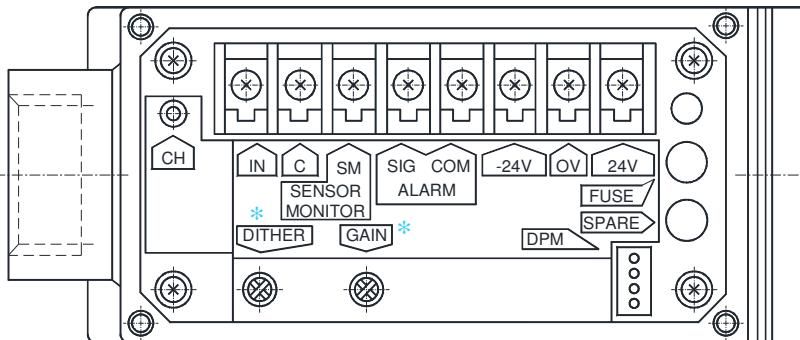
Plug for Cartridge Filter  
22 Hex.  
13.5 Dia. x Thru.  
20 Dia. Spotface  
6 Places

★ For alternation of model from external pilot pressure to internal pilot pressure, takeout another inner screw plug behind this plug.

DIMENSIONS IN MILLIMETRES

■ Detail of Amplifier

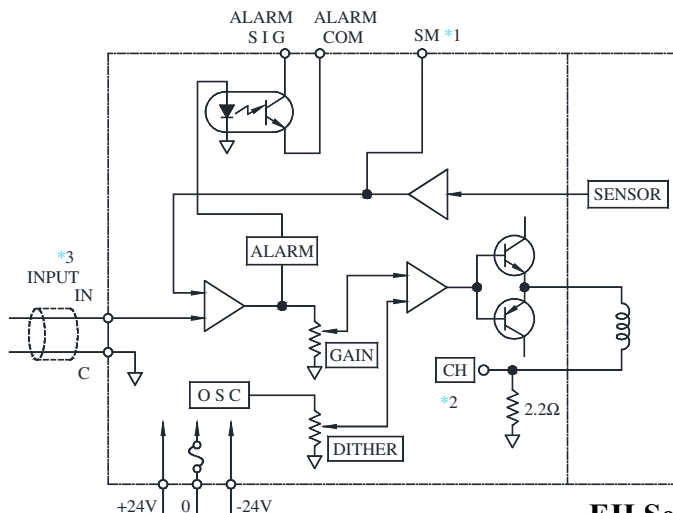
● Connecting Terminals



Terminal	Name	
IN	Input Signal (±)	
C	Input Signal (COM)	
SM	Sensor Monitor (to C)	
Alarm	SIG	Alarm Output
	COM	
-24V	Power Supply	
0V		
24V		
CH	SOL. Output Current Check (to C)	

\*Dither /Gain

Use as they are since they are factory-preset to the optimum position. (Do not touch them in normal condition)



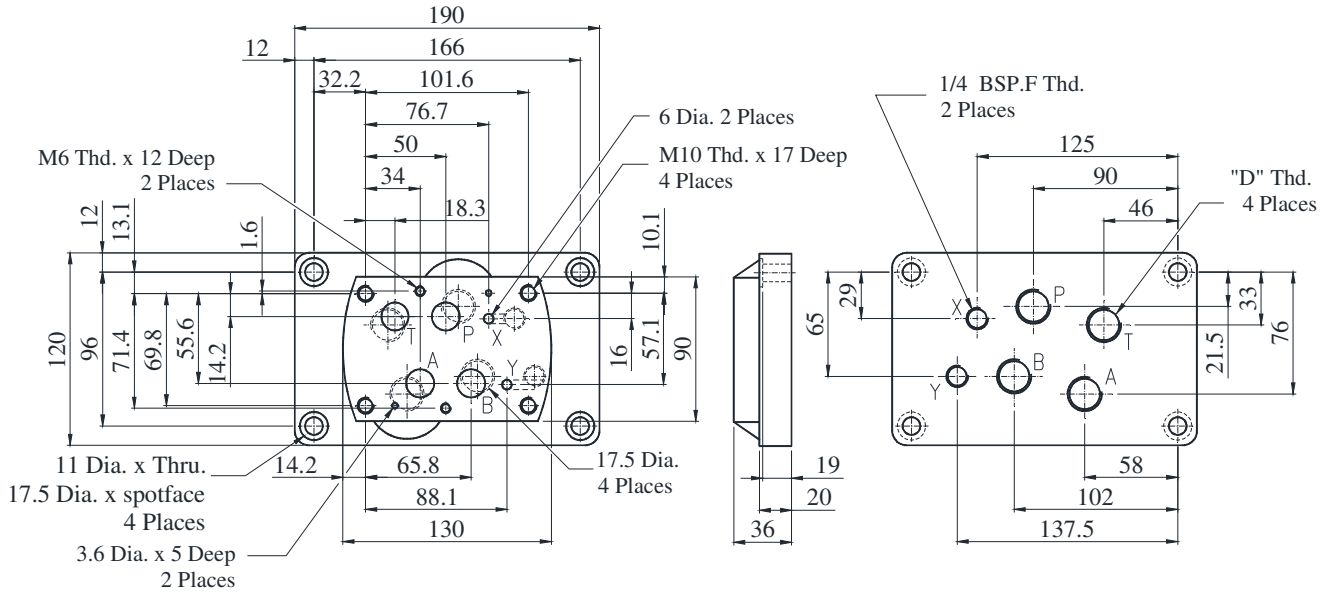
- \*1 For "SM" terminal, external instruments should have input impedance of more than 10 kΩ
- \*2 For "CH" terminal, external instruments should have input impedance of more than 10 kΩ
- \*3 Use shield cable for "Input" connection. The ground of the shield cable must be connected to input signal side.

EH Series

Proportional Electro-Hydraulic Directional and Flow Control Valve

■ Sub-Plate: DHGM-04,04X

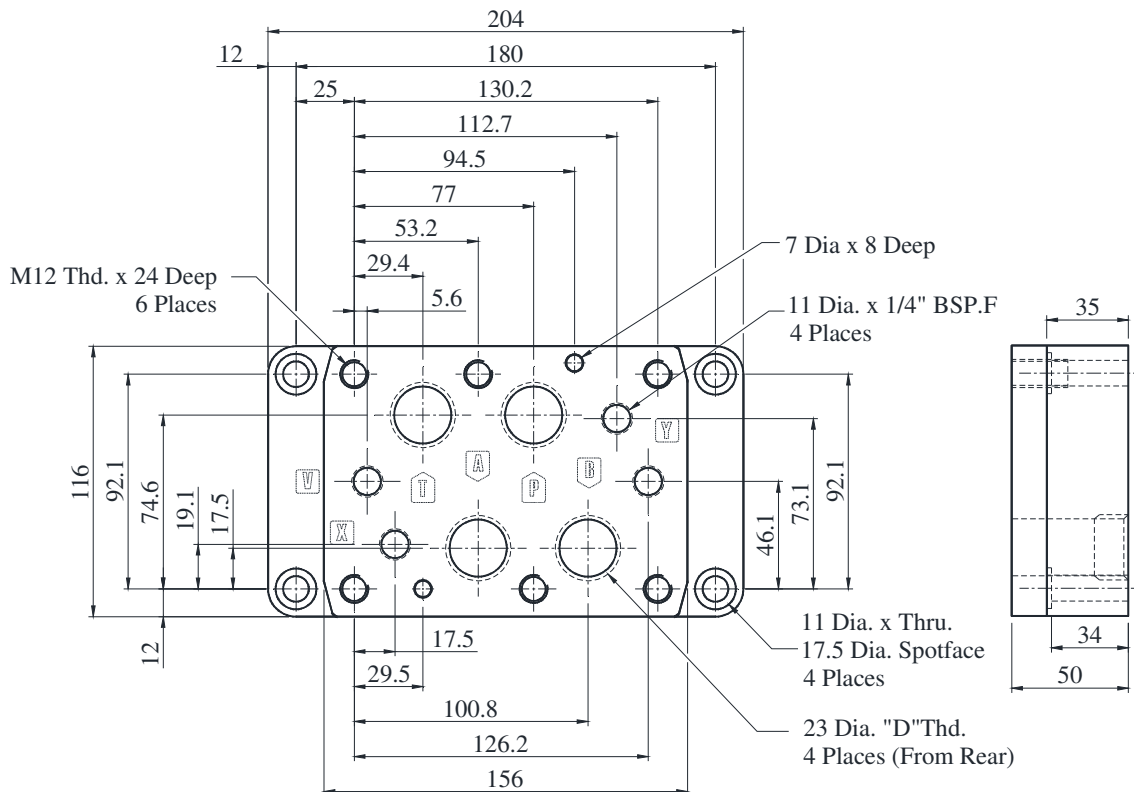
Model No.	"D" Pipe connection (BSP.F)
DHGM-04-2080	1/2
DHGM-04X-2080	3/4



DIMENSIONS IN MILLIMETRES

■ Sub-Plate: DHGM-06-06X

Model No.	"D" Pipe connection (BSP.F)
DHGM-06-5080	3/4
DHGM-06X-5080	1



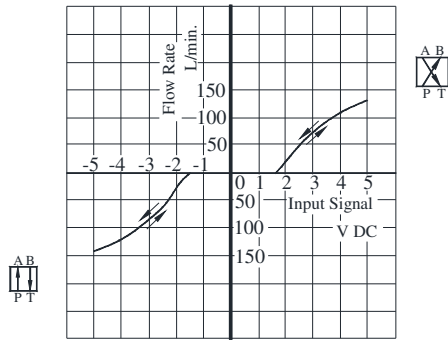
EH Series

Proportional Electro-Hydraulic Directional and Flow Control Valve

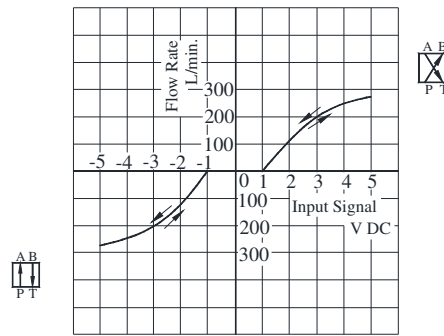
**Flow Vs Input Signal Voltage**

Viscosity : 30cSt : 15 Kg/cm<sup>2</sup> – Const. Pressure Difference.

● **EHDFG-04**

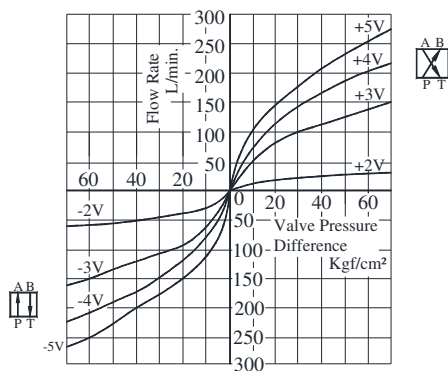


● **EHDFG-06**

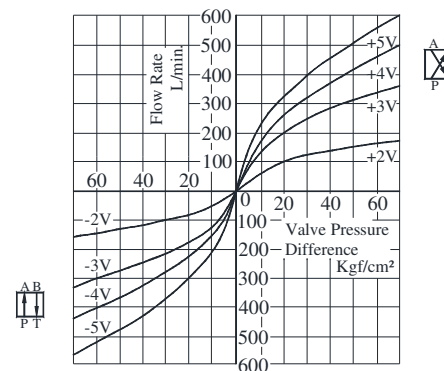


**Differential Pressure Vs Metered Flow**

● **EHDFG-04**

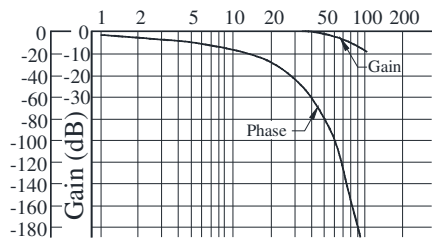


● **EHDFG-06**



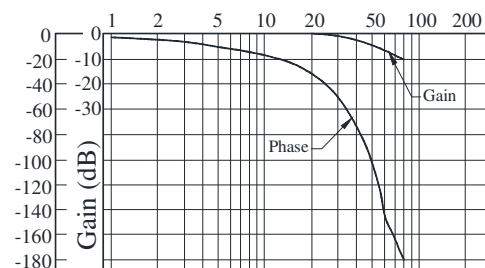
**Frequency Response (Travel of Spool)**

● **EHDFG-04** Frequency (Hz)



Model Number : EHDFG-04-130-2-E-10  
 Viscosity : 30 cSt  
 Pilot Pressure : 160 Kg/cm<sup>2</sup>  
 Travel of Spool : ± 10% of Rated Travel

● **EHDFG-06** Frequency (Hz)

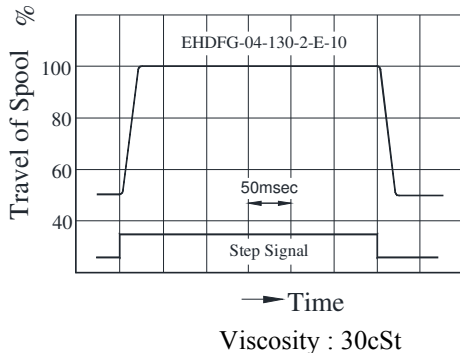


Model Number : EHDFG-06-280-2-E-10  
 Viscosity : 30 cSt  
 Pilot Pressure : 160 Kg/cm<sup>2</sup>  
 Travel of Spool : ± 10% of Rated Travel

**Step Response**

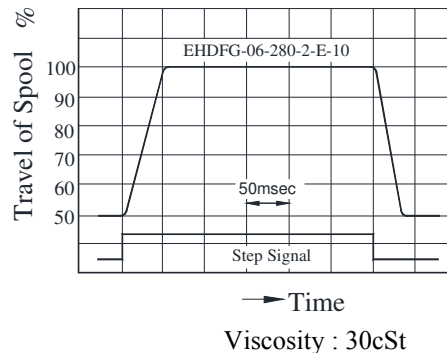
The step responses below are those obtained when the valve itself is tested independently. The step responses may differ from them when the valve is used in combination with other control valves.

● **EHDFG-04**



Viscosity : 30cSt

● **EHDFG-06**



Viscosity : 30cSt

**EH Series**

**Proportional Electro-Hydraulic Directional and Flow Control Valve**