

ELDFHG Two Stage High Response Proportional Valve with OBE

OBE High Response Proportional Electro-Hydraulic Directional and Flow Control Valves

■ ELDFHG-04/06 EH Series

ELDFHG-04/06EH is a high flow closed loop OBE type High Response Proportional Electro-Hydraulic Directional and Flow Control Valve. The two different models of two stage OBE valves have a maximum rated flow rate up to 500 L/min ($\Delta P=0.5\text{MPa}$ (72 psi) at each port) are available.

The two stage valve is a result of a direct operated high response proportional Electro-Hydraulic pilot valve developed from Yukens' high-speed linear servo valve known for its' fast response.

A small, powerful proportional solenoid pilot valve is applied closed loop around the main stage with an LVDT for spool position detection. The valves provide high response, high accuracy, and high reliability equivalent to that of basic servo valves.

Zero lap spools (spool type 3C2L) are offered, suitable for position or pressure control.

■ Features

● Response Characteristics Equivalent to those of basic Servo Valves

ELDFHG-04EH : 50 Hz/90° ($\pm 25\%$ Amplitude)

ELDFHG-06EH : 47 Hz/90° ($\pm 25\%$ Amplitude)

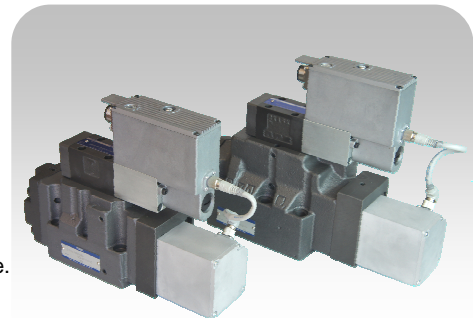
These valves can be used in place of basic Servo Valves for position or pressure control.

● Simple Operation and User-Friendliness

24 V DC power supply ,
Low voltage or amperage control signals result in accurate and fast response.

● Excellent Contamination Resistance

The valves provide excellent contamination resistance due to the powerful solenoids, thus reducing problems caused by fluid contamination.



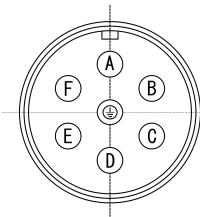
■ Specifications

| Model Number | | ELDFHG-04EH-280 | ELDFHG-06EH-350 | ELDFHG-06EH-500 |
|--|------------------|-----------------------------------|-----------------|-----------------|
| Max. Operating Pressure | MPa (PSI) | 35 (5100) | | 31.5 (4600) |
| Max. Tank Line Back Pressure | MPa (PSI) | 21 (3100) | | |
| Rated Flow ($\square P=0.5\text{MPa}$ at 1Port) | L/min | 280 | 350 | 500 |
| Hysteresis | | 0.1 % or less | | |
| Repeatability | | 0.1 % or less | | |
| Step Response | (0→100%V) | 20 ms | 20 ms | 22 ms |
| | (100→0%V) | | | |
| Frequency Response ($\pm 25\%$ Amplitude) | Phase:-90 degree | 50 Hz | 47 Hz | 40 Hz |
| | Gain:-3dB | 42 Hz | 58 Hz | 50 Hz |
| Coil Resistance (20°C) | Ω | 3 | | |
| Current Consumption | A | Max:2 Intermittent :3 | | |
| Mass | kg | 13 | 19 | |
| Electric Connection | | 6+PEConnector (EN175201 Part 804) | | |

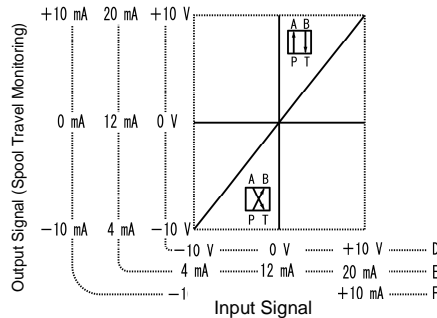
Electrical Specification

| Valve Model | | ELDFHG- * EH- * -D | ELDFHG- * EH- * -E | ELDFHG- * EH- * -F |
|-------------|--------------------------|---|--------------------------|---------------------------|
| Pin A | Power Supply | 24 VDC (DC 21.6 ~ 26.4 V Included Ripple) 75 VA or more | | |
| Pin B | | 0 V | | |
| Pin C | Signal Common | COM (0 V) | | |
| Pin D | Input(+)(Differential)*1 | 0~±10V Ri≥50kΩ #1 | 4~20mA Ri=200Ω | 0~±10mA Ri=200Ω |
| Pin E | Input(+)(Differential)*1 | | | |
| Pin F | Spool Travel Monitoring | 0~±10V RL≥10kΩ | 4~20mA RL=100~500Ω ★2 | 0~±10mA RL=100~500Ω ★2 |
| Pin | Protective Earth | - | | |

Pin-Out



I/O Signal Characteristics

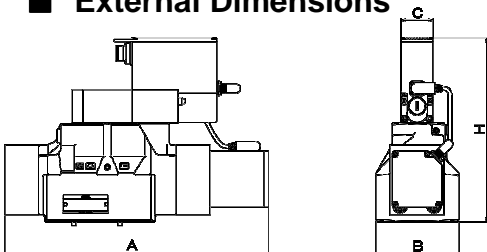


- ★1. Differential input signals can be used only for the valves with +/-10V(ELDFHG-*EH-* -D).
- ★ 2. The recommended load resistance is $R_L=200\Omega$.

Model Number Designation

| ELDFH | G | - 04 | EH | - 280 | - 3C2 | - XY | - E | - T | - C | - D | - 10 |
|---|--|------------|---------------------------|------------------|---|-------------------------------------|---|---|---|---|---------------|
| Series Number | Type of Mounting | Valve Size | Amplifier Type | Rated Flow L/min | Spool Type | Direction of Flow | Pilot Connection | Drain Connection | Fail-Safe Function | Input Signal /Spool Travel Monitoring | Design Number |
| ELDFH: Two Stage type High Response Type Proportional Electro-Hydraulic Directional and flow Control Valves | G: Sub- Plate Mounting | 04 | EH: OBE Type | 280 | 3C2: 10%Over Lap 3C40: A,B,T Connection 3C2L: 2% Over Lap (Linear Flow Gain) | XY: Meter-In Meter-Out | None: Internal Pilot E: External Pilot | None: External Drain T: Internal Drain | C: Neutral A: PABT Position Valve Opening10% B: PBAT Position Valve Opening10% | D: Voltage Signal ±10V E: Current Signal 4~20 mA F: Current Signal ±10 mA | 10 |

External Dimensions



| Model Code | Dimensions (mm) | | | | Standard of Mounting Surface |
|---------------|-----------------|-----|----|-------|------------------------------|
| | A | B | C | H | |
| ELDFHG-04EH-* | 298.5 | 91 | 46 | 229.5 | ISO4401-07-06-0-94 |
| ELDFHG-06EH-* | 375.5 | 118 | 46 | 255.5 | ISO4401-08-07-0-94 |

ELDFHG-04EH/06EH

OBE type High Response Proportional Electro-Hydraulic
Directional and Flow Control Valves
Pub No. : EL-1309
First Edition: 6th Mar, 2015
Issued: Yuken Kogyo Co., Ltd.

YUKEN KOGYO CO., LTD.

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