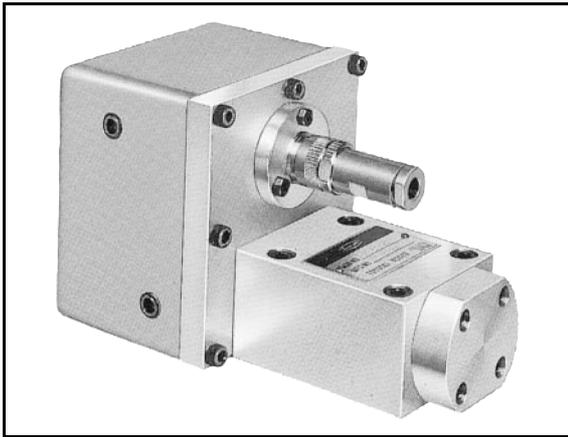


HIGH-SPEED DIRECTIONAL AND FLOW CONTROL VALVE (EHD1)



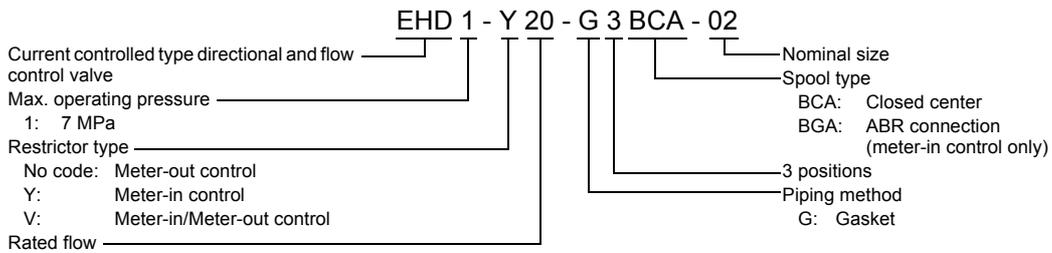
This high-speed directional and flow control valve enables remote control of the direction and flow of hydraulic fluid by controlling the coil current. The flow can be controlled steplessly in proportion to the coil current value.

In addition, this valve ensures high-speed response since it is driven by a torque motor that generates a large starting torque.

FEATURES

1. Since the valve features very high switching speed, it provides excellent performance in short cycle time continuous operation.
The valve is able to follow switching control of faster than 1,000 switching cycles per minute.
 2. By controlling the coil current, direction and flow can be controlled as required.
 3. The valve can be used in simple servo mechanisms as an electric-hydraulic servo valve.
- The valve can be used for fluids equivalent to ISO VG32 to 56.
 - The allowable maximum fluid temperature is 60°C.
 - Before starting operation, fill the torque motor casing with clean fluid so that the torque motor is immersed in the operating fluid.
 - Connect the drain pipe independently to the reservoir.
 - Install a surge absorber at both ends of the torque motor coil.

MODEL DESIGNATION



SPECIFICATIONS

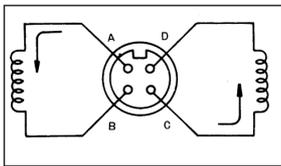
| Nominal Size | Max. Operating Pressure (MPa) | Rated Pressure (MPa) | Rated Flow (L/min) | Permissible Back Pressure (MPa) | Internal Flow (L/min) | Rated Voltage (V) | Rated Current (mA) | Model |
|--------------|-------------------------------|----------------------|--------------------|---------------------------------|-----------------------|--|--------------------|-------------------|
| 02 | 7 | 7 | 20 | 1 | 0.5 or less | 24, 48, 100 | — | EHD1-20-G3BCA-02 |
| | | | 26 | | | | — | EHD1-Y20-G3BCA-02 |
| | | | 20 | | | | — | EHD1-Y26-G3BGA-02 |
| | | | — | | | 150 (Serial connection) 300 (Parallel connection) | EHD1-V20-G3BCA-02 | |

| Nominal Size | Coil Resistance (Ω) | Hysteresis (%) | Step Response (sec) | Frequency Response (Hz) | Neutral Point Variation | | Mass (kg) | Model |
|--------------|-------------------------|-------------------------|---------------------|-------------------------|--|---------------------|-----------|-------------------|
| | | | | | Temperature Variation (%) | Supply Pressure (%) | | |
| 02 | 70 | — | 0.02 or less | — | — | — | 3 | EHD1-20-G3BCA-02 |
| | 280 | | | | | | | EHD1-Y20-G3BCA-02 |
| | 1,200 | | | | | | | EHD1-Y26-G3BGA-02 |
| | 46 (per single winding) | 5 or less (with dither) | — | — | 250 -6 dB, -160 deg Coil current: ±100 mA | 1 or less | 1 or less | EHD1-V20-G3BCA-02 |

SPOOL TYPE

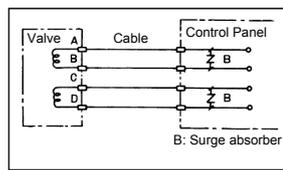
| Valve Model | Symbol | Variable Restrictor Type | Application Category | | |
|-------------------|--------|--------------------------|----------------------|-----------------|---------------|
| | | | ON-OFF Control | Current Control | Servo Control |
| EHD1-20-G3BCA-02 | | Meter-out | ○ | ○ | — |
| EHD1-Y20-G3BCA-02 | | Meter-in | ○ | ○ | — |
| EHD1-V20-G3BCA-02 | | Meter-in/out | ○ | ○ | ○ |
| EHD1-Y20-G3BGA-02 | | Meter-in | ○ | ○ | — |

Wiring at the Connector



- **Polarity**
When the current flows from terminal A → B or terminal C → D, the direction of flow is port P → A → Load → B → R.

Connecting a Surge Absorber



- Install a surge absorber in the control panel or at the control amplifier side. The recommended surge absorber is indicated below:
- Name: Varistor
 - Model: ERZ-C14DK201
 - Manufacturer: Matsushita

EXTERNAL DIMENSIONS

