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SOLENOID VALVES

LOW-POWER CONSUMPTION AND LOW SHOCK PILOT-OPERATED DIRECTIONAL CONTROL VALVE (HDD3C-LY*) SIZE 06/10



This is an assembly of a solenoid valve and a directional control valve with the low-shock function to prevent shock, vibration, noise and surge pressure when switching a larger flow rate.

Features

1. The low-shock function prevents generation of shock, vibration, noise and surge pressure at the switching operation.
2. It has each type of the internal and external pilots and the internal and external drains, and models (BDA, BHA, AEB) that unload at the neutral position incorporate a check valve to secure the pilot pressure.
3. Surge killer is standard equipment.

⚠ Cautions on use

Please read the Operating Manual carefully to ensure correct usage.

- For an internal-pilot type valve, in which the R and P ports are connected when the solenoid is in the neutral position (BDA, BHA, AEB), a back pressure of at least the pilot pressure must be applied to the R port.
- The switching frequency must be within 1 time/sec.
- For the solenoid characteristics, refer to HD1 series solenoid valve size 025 (page C-6).
- Finish the mounting faces to the same quality as the valve faces (3.2 μmRz).

Description of the model designation

HDD3C-3W-BCA-2-06B-LYR1 (S)

Directional control valve
(solenoid-controller pilot-operated directional control valve)

Max. operating pressure 3: 21 MPa

Low-shock type

Switching function

- 3W : Spring center type
- 2WD: No spring detent type
- 2S : Spring offset type

Spool type

Valve function and construction

- 1: Internal pilot and internal drain
- 2: Internal pilot and external drain
- 5: External pilot and internal drain
- 6: External pilot and external drain
- 9: Internal pilot, external drain and check (3W only)

Option

With diode (DC24 only)

S: Load side -COM

T: Load side +COM

Voltage indication

R1: AC100V

R2: AC200V

D2: DC24V

Low power/Axial direction wiring

Model No.

Nominal size

Specifications

Nominal Size	Rated Flow (L/min)	Max. Flow (L/min)	Max. Operating Pressure (MPa)	Permissible Back Pressure (MPa)	Pilot Pressure (MPa)		Voltage Range (V)	Type	Model
					At Rated Flow	At Maximum Flow			
06	120	190	21	External drain 21	0.35 or more *NOTE 2 *NOTE 3	0.4 to 0.6 *NOTE 2 *NOTE 3	±10% or rated voltage	Double solenoid, spring centered	HDD3C- 3W-***-* -06B-LY**(*)
								Double solenoid no spring detent	HDD3C- 2WD-***-* -06B-LY**(*)
								Single solenoid spring offset	HDD3C- 2S-***-* -06B-LY**(*)
10	320	500		Internal drain 10 (2) *NOTE 1		0.35 to 0.65 *NOTE 2 *NOTE 3		Double solenoid, spring centered	HDD3C- 3W-***-* -10B-LY**(*)
								Double solenoid no spring detent	HDD3C- 2WD-***-* -10B-LY**(*)
								Single solenoid spring offset	HDD3C- 2S-***-* -10B-LY**(*)

*NOTE 1: () for the detent type

*NOTE 2: Add the back pressure to the value for the internal drain type.

*NOTE 3: If a better response is necessary when a P port block type (BCA, BGA, BcA) is used, use the pilot pressure of 1.5 MPa or higher for 06 type and 2 MPa or higher for 10 type.

For ***, refer to each spool type on next page.

C

SOLENOID VALVES / DIRECTIONAL CONTROL VALVES

■
 Spool types

Function	Spring Center Type (3W)				
Model	HDD3C-3W- ***-* 06 10 B-****				
Construction	Internal Pilot Internal Drain	Internal Pilot External Drain	External Pilot Internal Drain	External Pilot External Drain	Internal pilot External drain and check
Spool type	 BCA-1	 BCA-2	 BCA-5	 BCA-6	
	 BDA-1	 BDA-2	 BDA-5	 BDA-6	 BDA-9
	 BGA-1	 BGA-2	 BGA-5	 BGA-6	
	 AEB-1	 AEB-2	 AEB-5	 AEB-6	 AEB-9
	 BHA-1	 BHA-2	 BHA-5	 BHA-6	 BHA-9
	 BMA-1	 BMA-2	 BMA-5	 BMA-6	
	 BNA-1	 BNA-2	 BNA-5	 BNA-6	

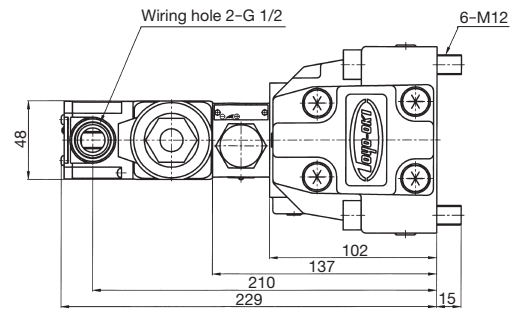
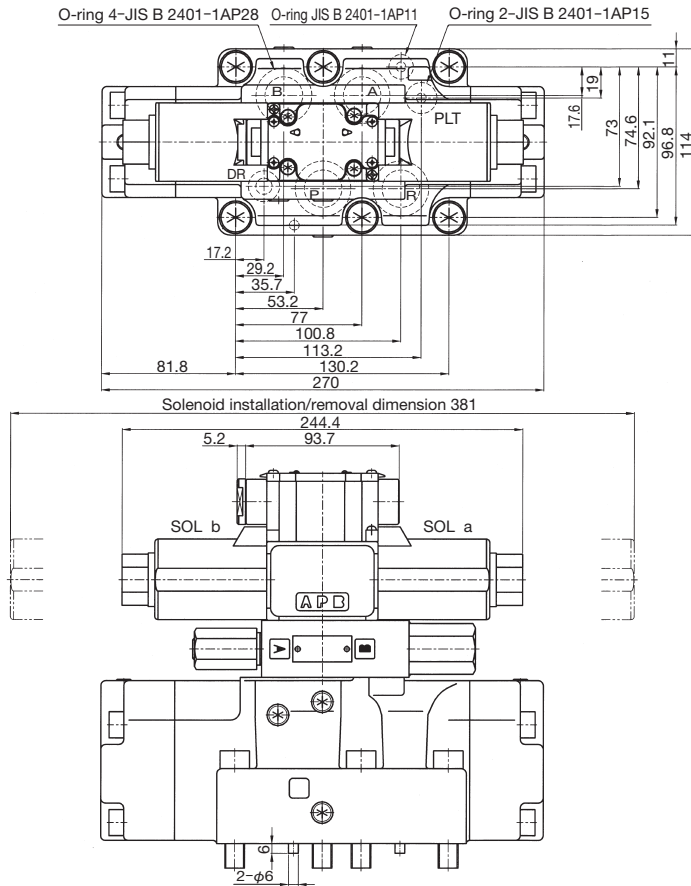
Function	No Spring Detent Type (2WD)			
Model	HDD3C-2WD- ***-* 06 10 B-****			
Construction	Internal Pilot/Internal Drain	Internal Pilot/External Drain	External Pilot/Internal Drain	External Pilot/External Drain
Spool type	 BcA-1	 BcA-2	 BcA-5	 BcA-6

NOTE: No-spring detent type valves have the switchover position holding function in the pilot valve.

Function	Spring Offset Type (2S)			
Model	HDD3C-2S- ***-* 06 10 B-****			
Construction	Internal Pilot/Internal Drain	Internal Pilot/External Drain	External Pilot/Internal Drain	External Pilot/External Drain
Spool type	 BcA-1	 BcA-2	 BcA-5	 BcA-6

Outside dimensions

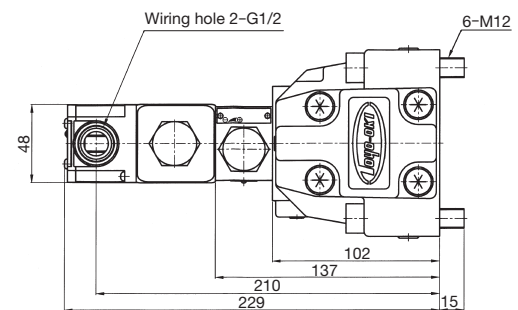
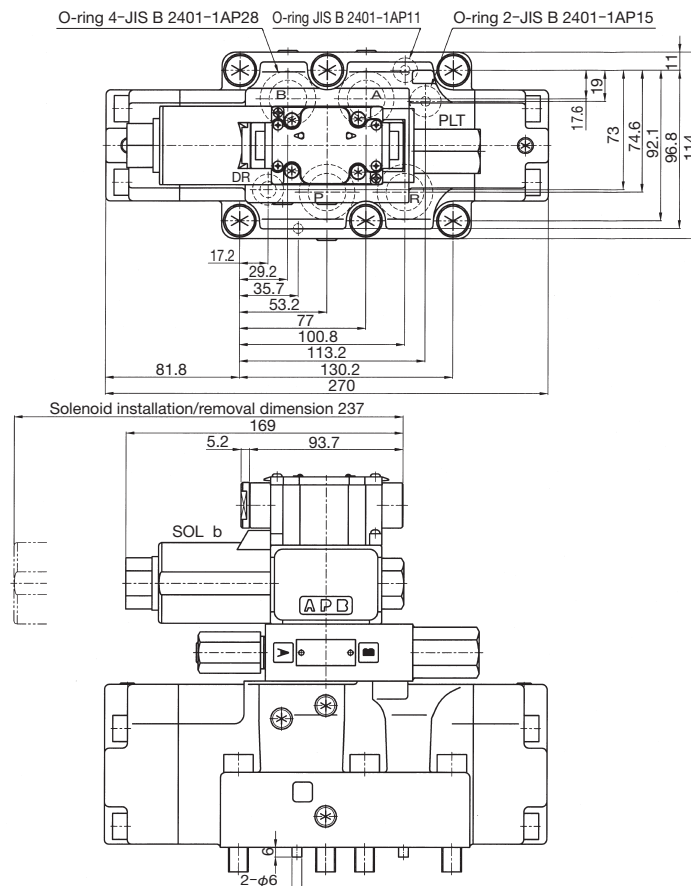
HDD3C-3W
2WD -***-06B-LY**



NOTE: Use by protecting the surge pressure from entering this solenoid directional control valve.

Mass: 17.4kg

HDD3C-2S-***-06B-LY**



NOTE: Use by protecting the surge pressure from entering this solenoid directional control valve.

Mass: 16.4kg

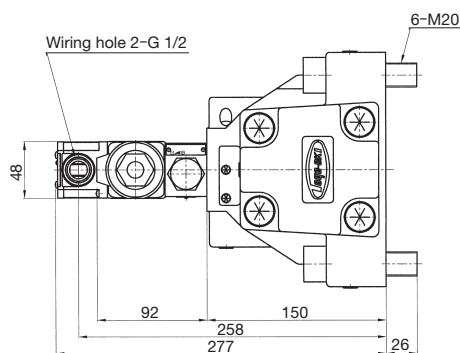
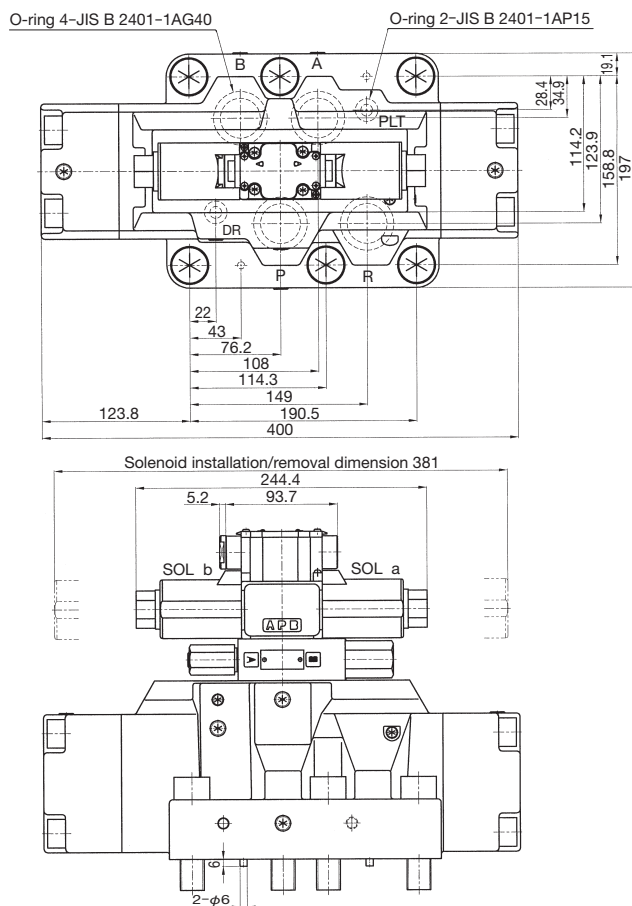
● For the sub-plate SHD06-**T1(A), refer to page L-3.
SHD06-**T3, refer to page L-7.

C

SOLENOID VALVES / DIRECTIONAL CONTROL VALVES

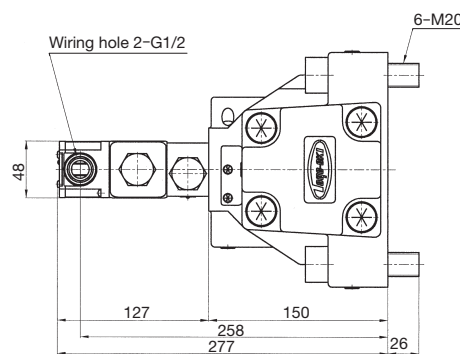
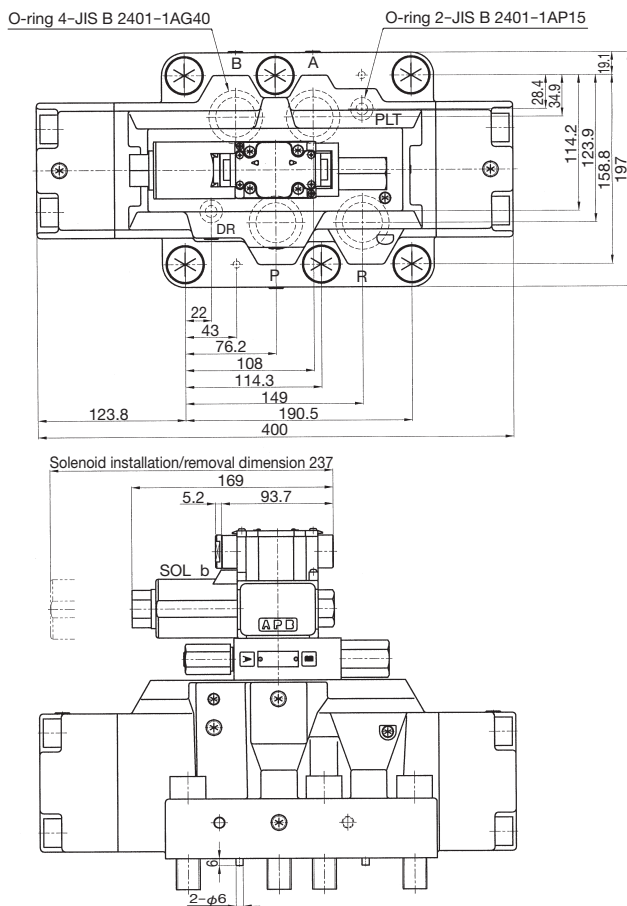
Outside dimensions

HDD3-3W-2WD-***-10B-LY**



Mass: 45.9kg

HDD3-2S-***-10B-LY**



Mass: 45.2kg

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