



**PATRIOT**

**D05-D07-D08-D10 High**

**Pressure Directional Valves**

**Driven by Innovation**  
**Power Precision Performance**  
734-479-9641 [patriothyd.com](http://patriothyd.com)





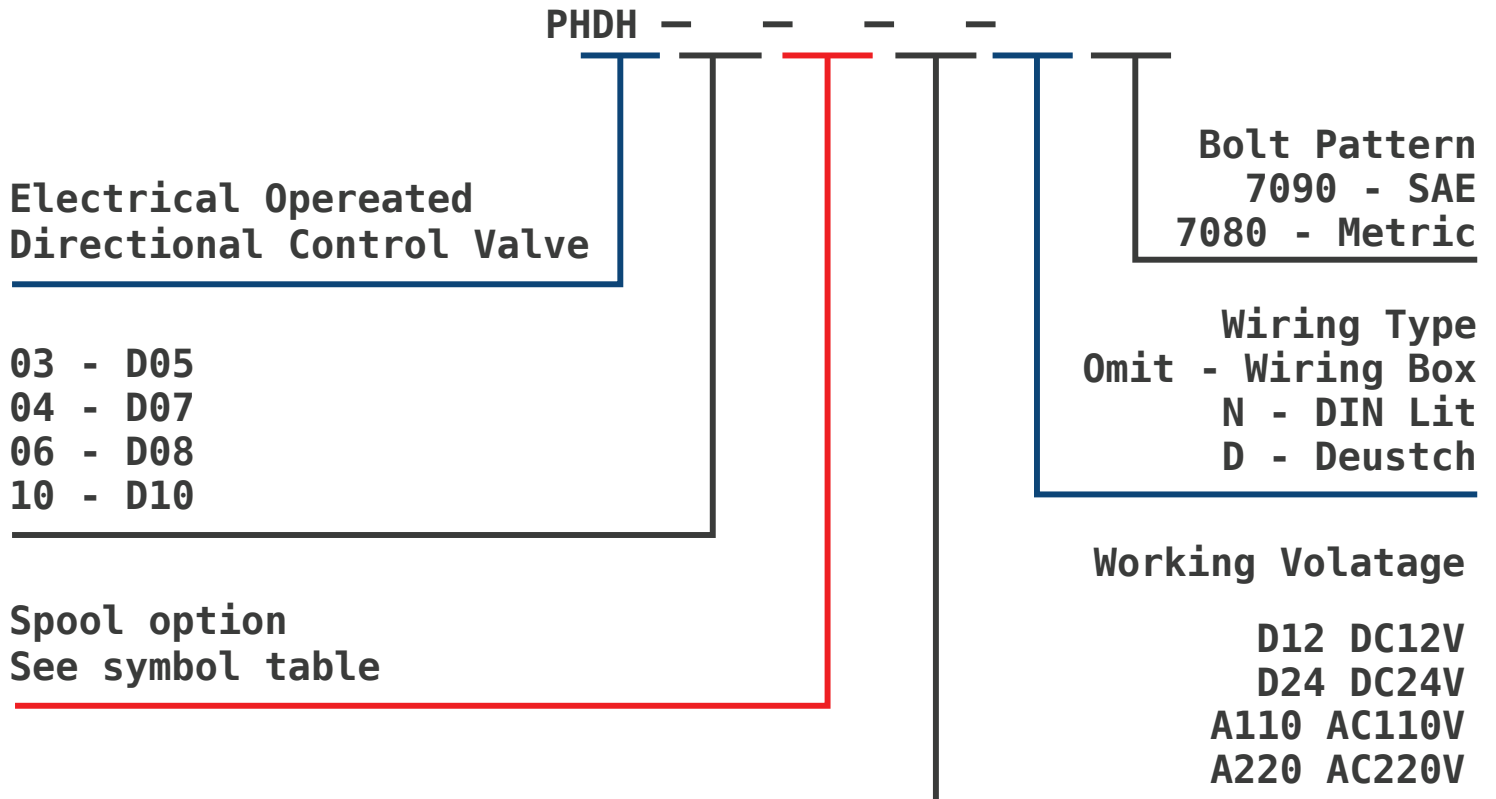
## D05-D10 Technical Specification

Specification		D05	D07	D08	D10
Model		PHDH03	PHDH04	PHDH06	PHDH10
Max. Working Pressure (PSI)	Ports P,A,B	5075	5075	5075	5075
	Tank Port T	1450	1450	1450	1450
	Port Y (drain)	1450	1450	1450	1450
Minimum Control Pressure (MPa)		1.0 Spring-Return 4/3 valve 4/2 valve	1.2 Spring-Return 4/3 valve 4/2 valve	1.3 Spring-Return 4/3 valve 4/2 valve	0.8 Spring-Return 4/3 valve 4/2 valve
Maximum Control Pressure (MPa)		3625			
Max. Flow	(GPM)	42	79	171	290
Working Fluid		Mineral oil: phosphate-ester			
Fluid Temp.	(°C)	-20~70			
Viscosity	(mm <sup>2</sup> /s)	2.8~380			
Cleanliness	The minimum allowable cleanliness of the oil should be according to 9th degree of standard NAS1638. It is suggested that the minimum filter rating should be $\beta_{10} \geq 75$				





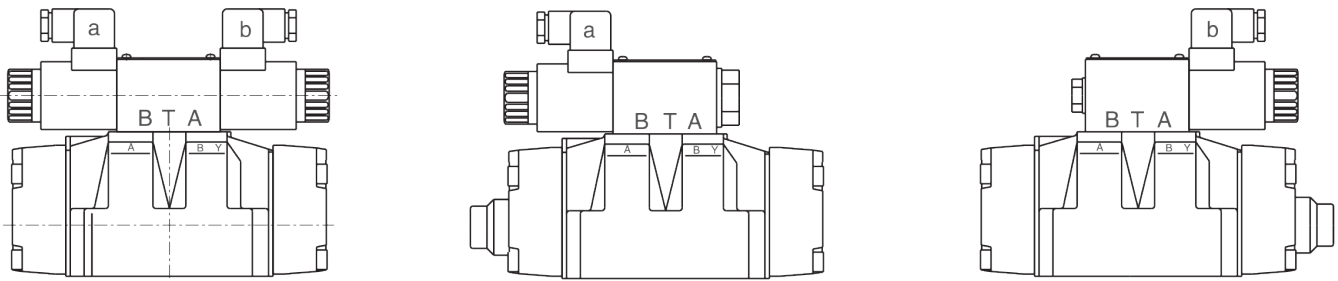
## CETOP Valve Model Codes





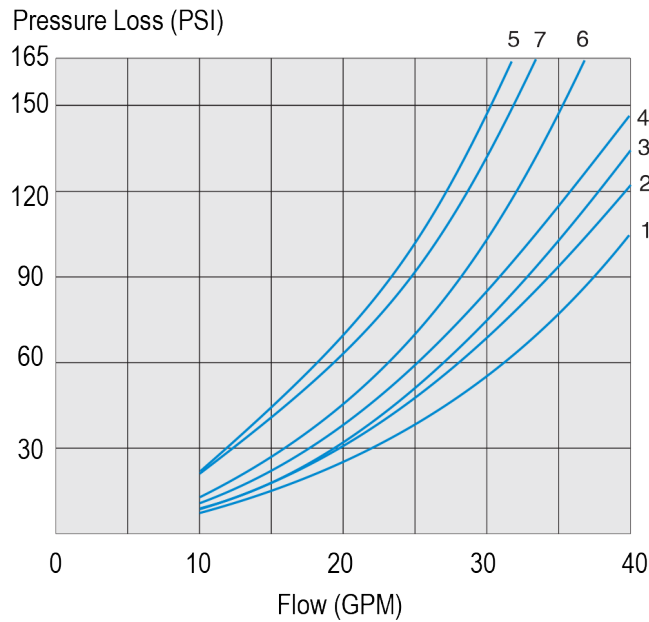


# Solenoid Operation



1. a When movement a,  $P \rightarrow A$   $B \rightarrow T$
2. b When movement b,  $P \rightarrow B$   $A \rightarrow T$
3. 3C6 Oil flow in the opposite direction with the above-mentioned movement.  
 For 3C29, when solenoid "a" works,  $P \rightarrow A, B$

# PHDH03 Performance Curve



Function	Switching position			
Symbol	P→A	P→B	A→T	B→T
3C2	1	2	4	5
3C5	1	4	1	1
3C6	4	2	2	6
3C3	4	4	1	4
3C4	1	2	1	3
3C12	2	3	1	4
3C9	4	4	3	4
3C25	4	1	3	4
3C29	2	3	3	5
3C10	3	3	3	4
3C7	2	2	3	5

Function	Neutral		
	A→T	B→T	P→T
3C5	3	-	6
3C6	-	-	7
3C3	1	3	5
3C25	-	7	5

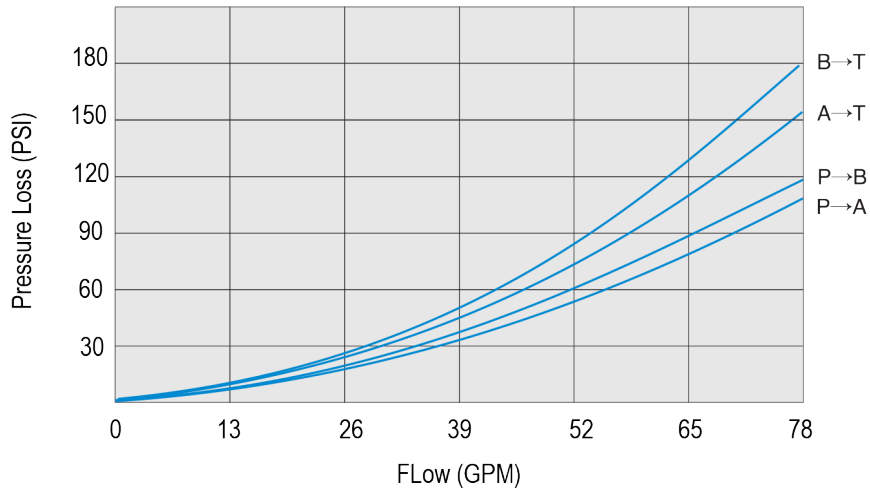
Function	Neutral		
	A→T	B→T	P→T
3C12	3	-	-
3C10	-	4	-



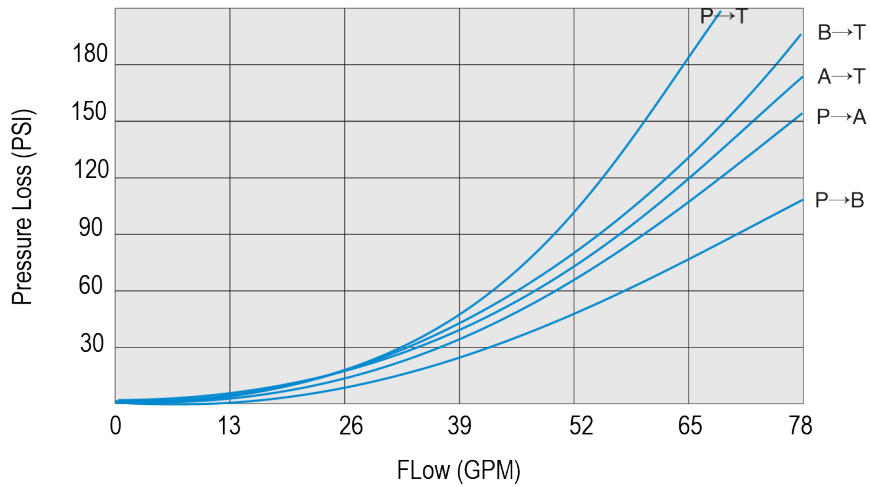


## PHDH07 Working Limits

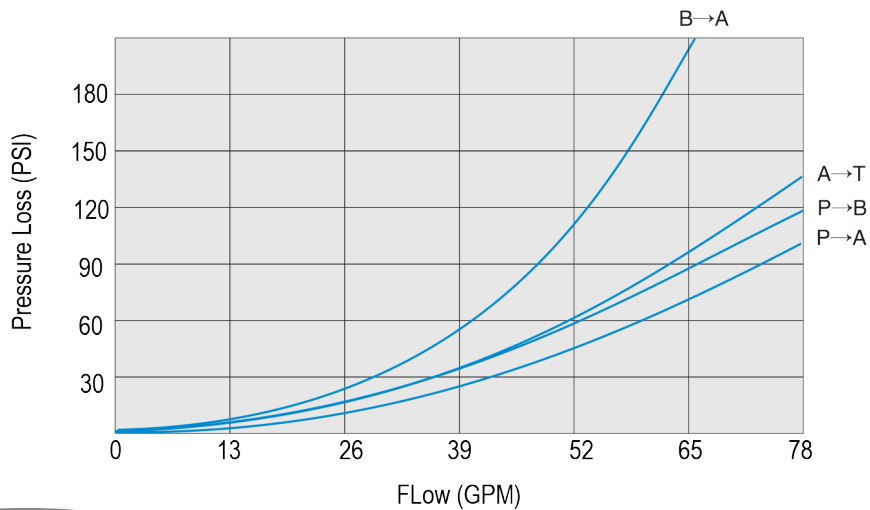
3C2



3C6

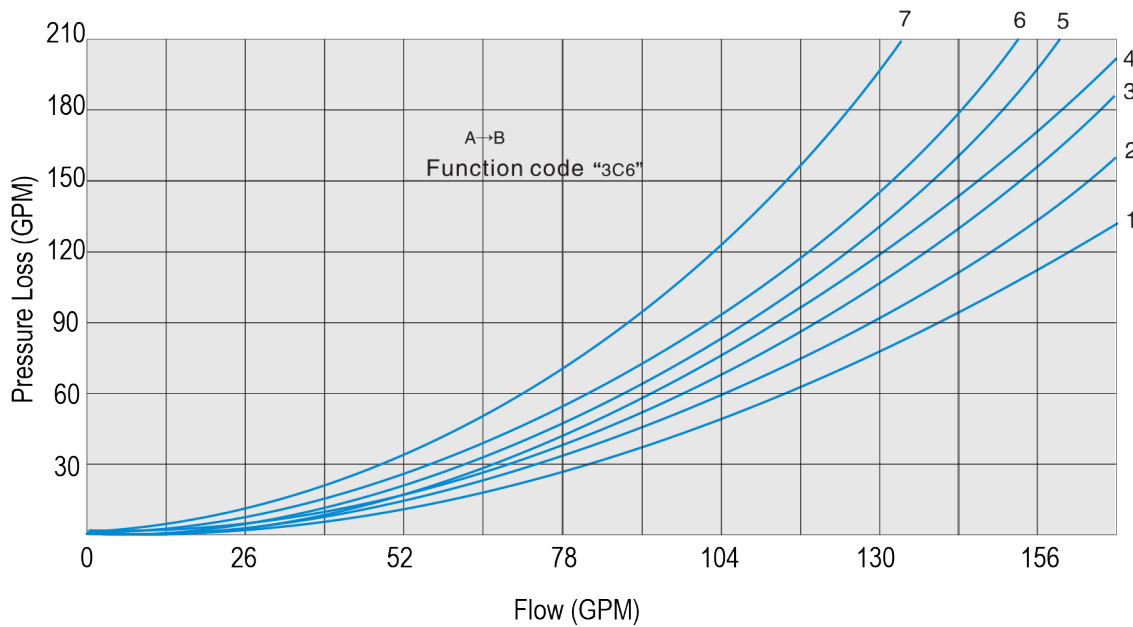


3C29





## PHDH08 Performance Curve



Function	Switching position			
	P→A	P→B	A→T	B→T
3C2	1	1	1	3
3C5	1	4	3	3
3C6	3	1	2	4
3C3	4	4	3	4
3C4	2	2	3	5
3C12	2	2	3	3
3C9	4	4	1	4
3C25	4	1	1	5
3C29	2	1	1	-
3C10	2	1	1	6
3C7	4	4	3	6

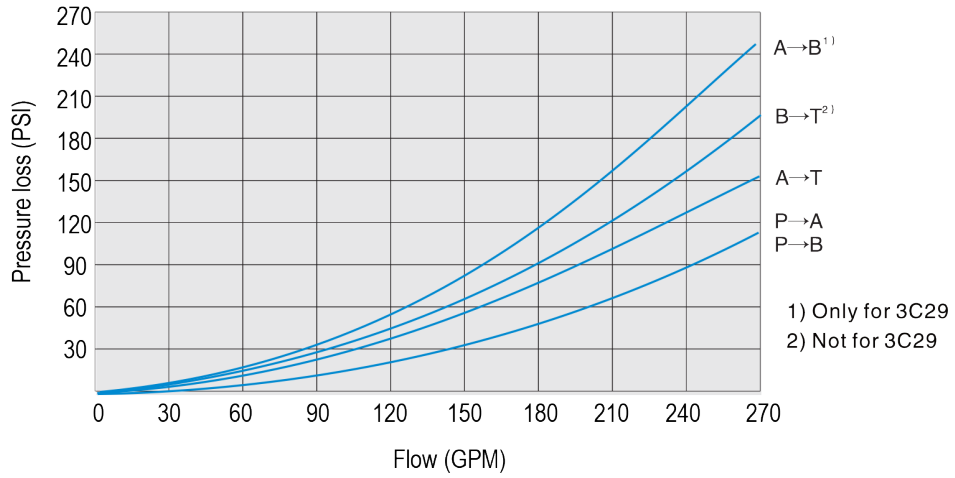
7. Function code "3C6" type, neutral position P→T  
 8. Function code "3C29" type, control position A→B



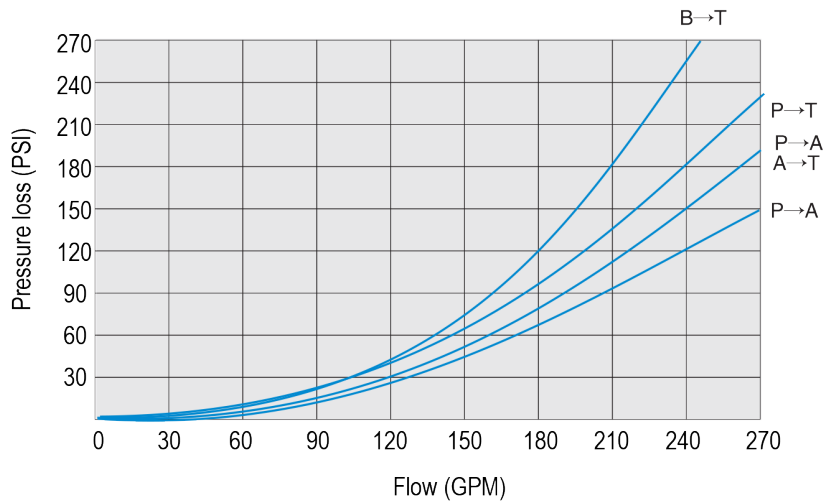


# PHDH10 Working Limits

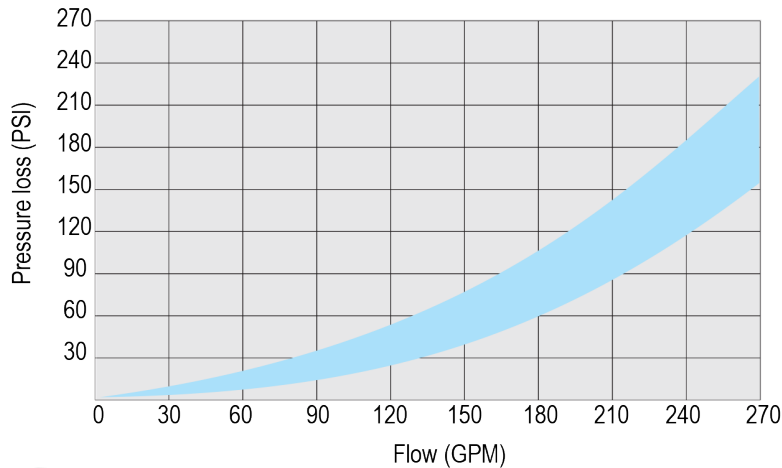
3C2, 3C4, 3C29



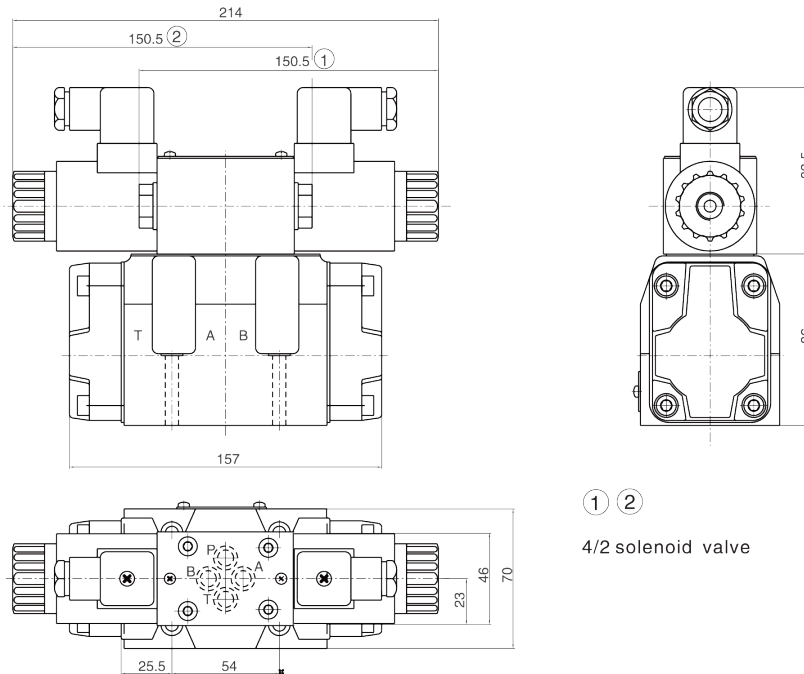
3C6



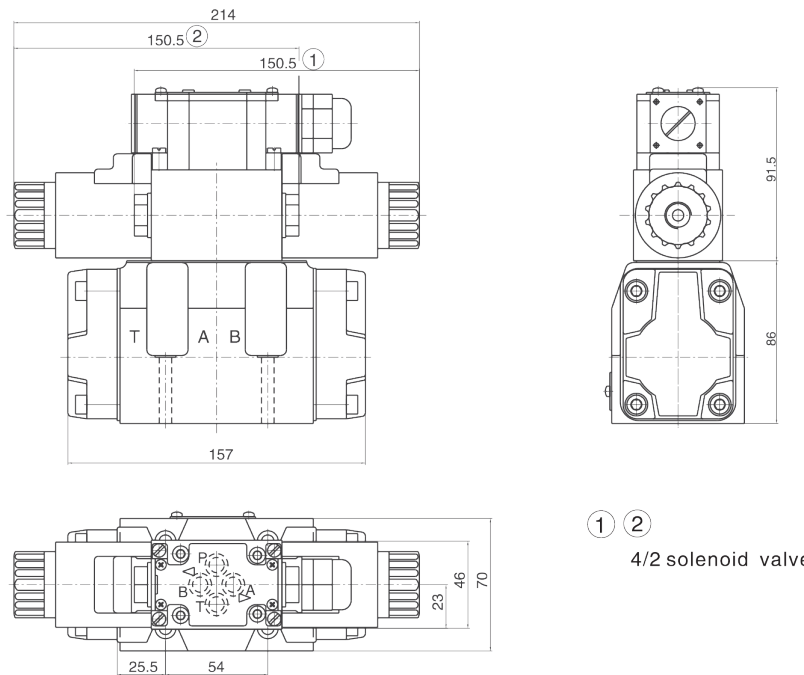
Other spool types



## PHDH03 DC Plug type

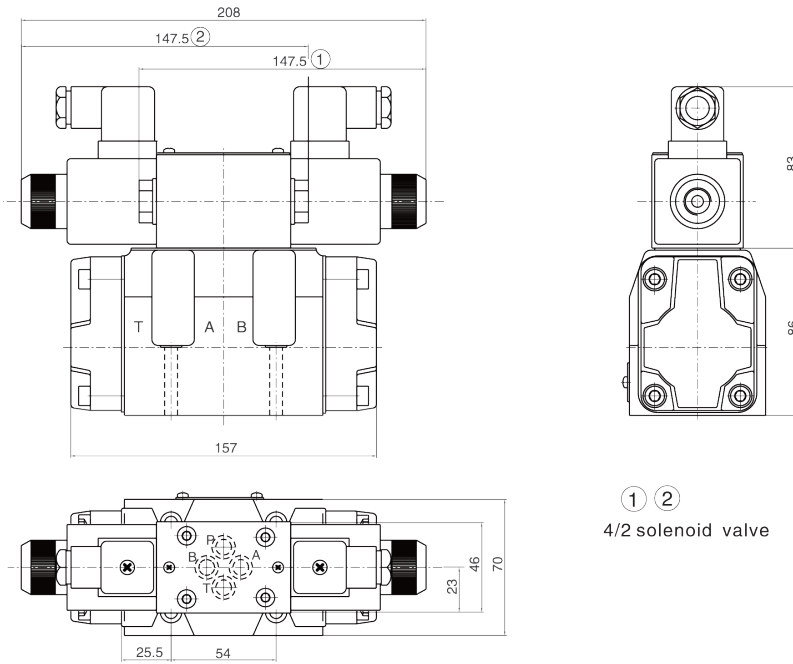


## PHDH03 DC Wire Box

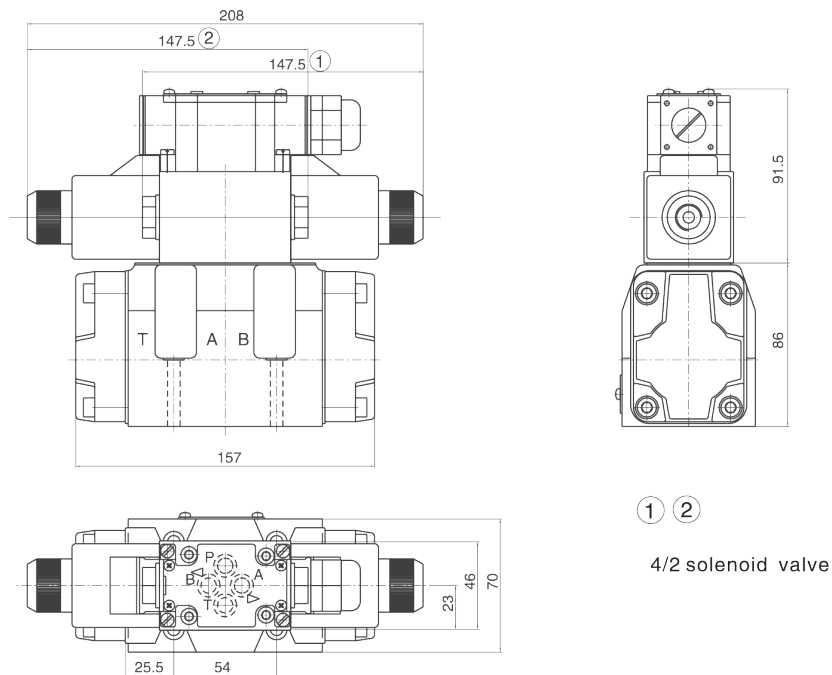




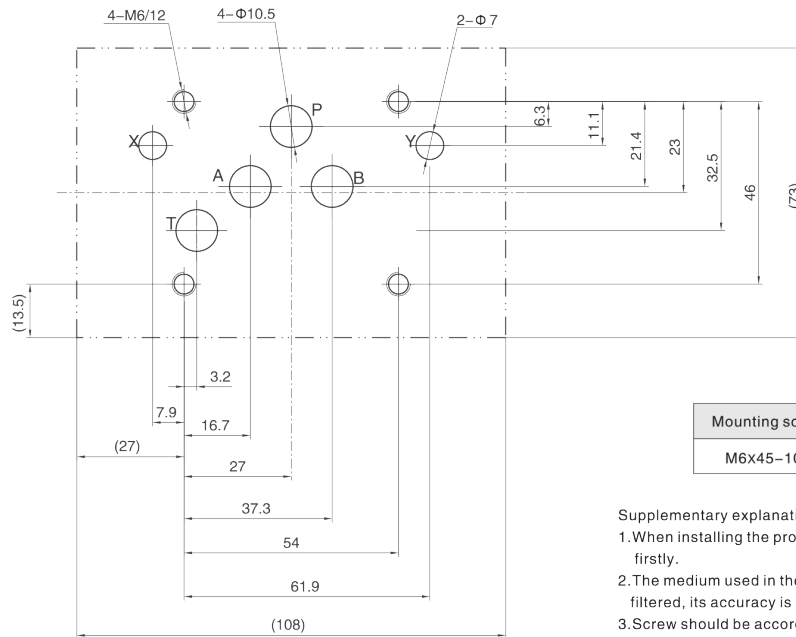
## PHDH03 AC Plug Type



## PHDH03 AC Wire Box



## PHDH03 Subplate Oil Port

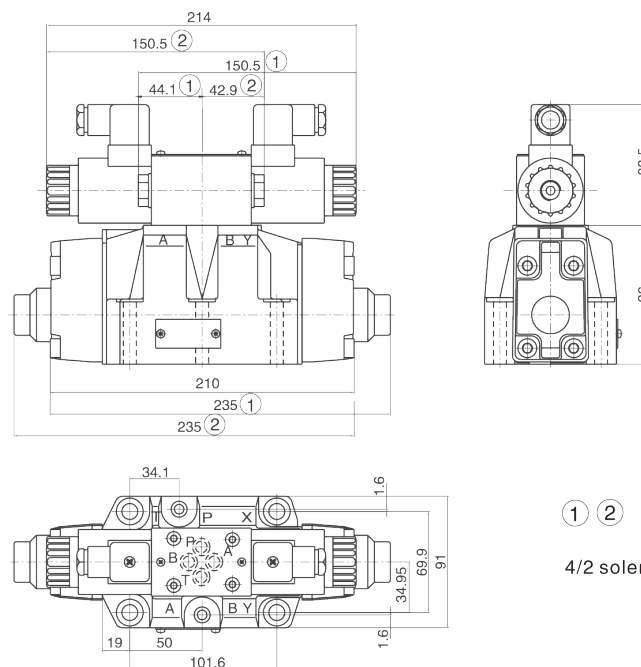


Mounting screw	Amount	Tighten torque
M6x45-10.9	4	15Nm

### Supplementary explanation

1. When installing the product, considering horizontal position firstly.
2. The medium used in the hydraulic system must be filtered, its accuracy is at least  $20\ \mu\text{m}$ .
3. Screw should be according to the parameters in catalogue.
4. The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

## PHDH07 DC Plug Type

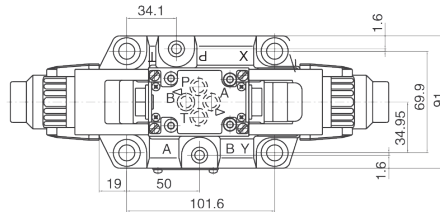
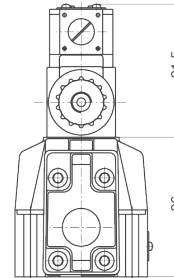
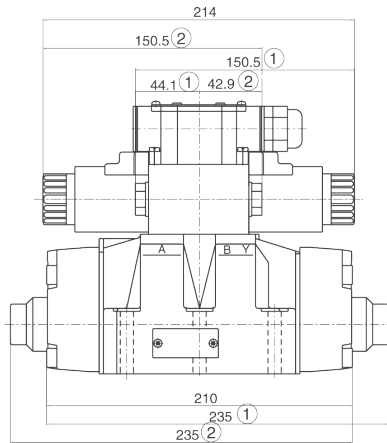


① ②

4/2 solenoid valve



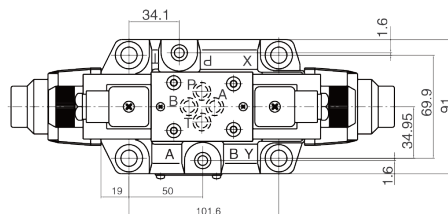
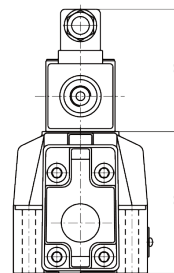
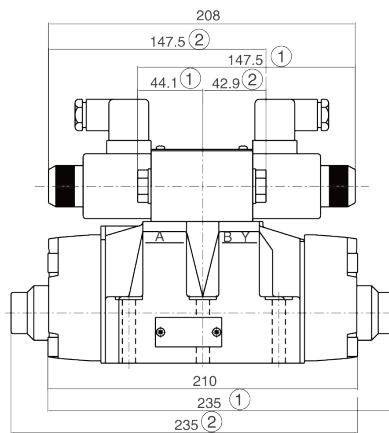
## PHDH07 DC Wire Box



① ②

4/2 solenoid valve

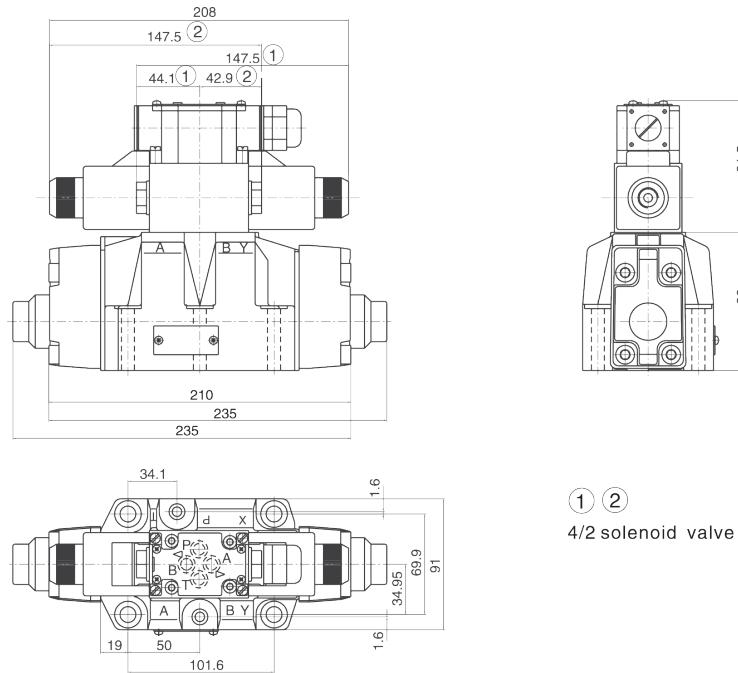
## PHDH07 AC Plug Type



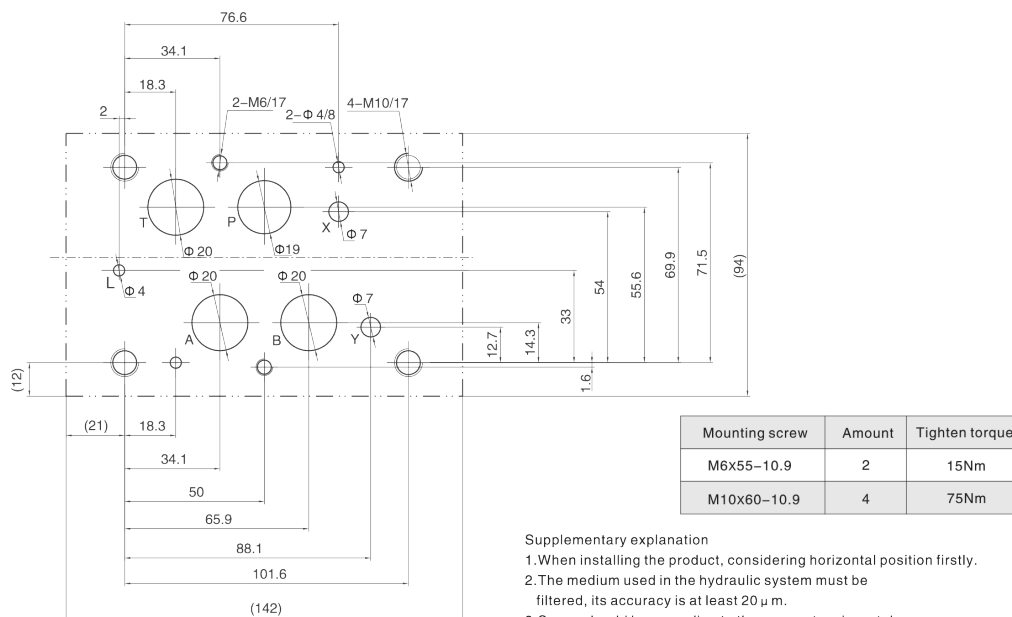
① ②

4/2 solenoid valve

# PHDH07 AC Wire Box



# PHDH07 Subplate oil port

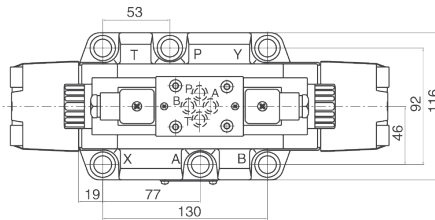
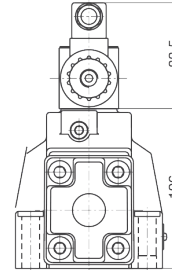
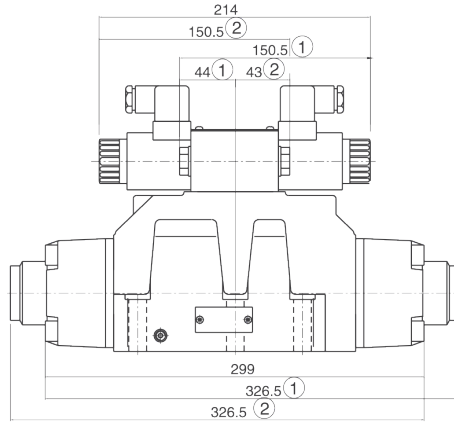


### Supplementary explanation

- When installing the product, considering horizontal position firstly.
- The medium used in the hydraulic system must be filtered, its accuracy is at least 20 μm.
- Screw should be according to the parameters in catalogue.
- The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.



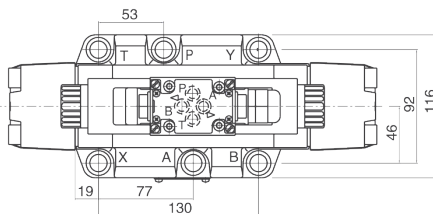
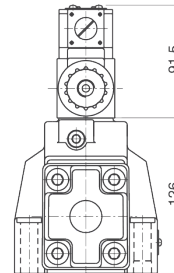
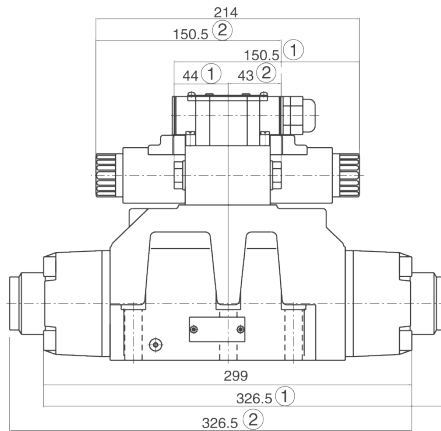
## PHDH08 DC Plug Type



① ②

4/2 solenoid valve

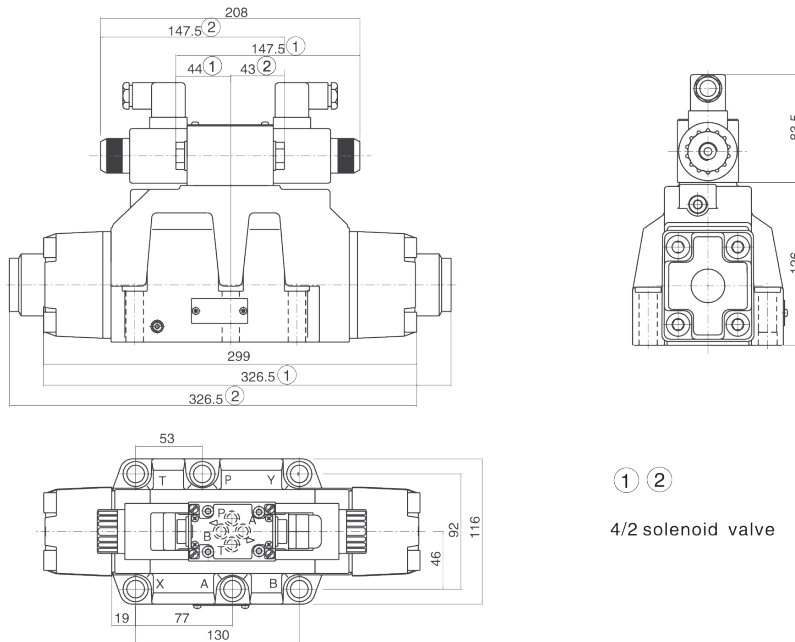
## PHDH08 DC Wire Box



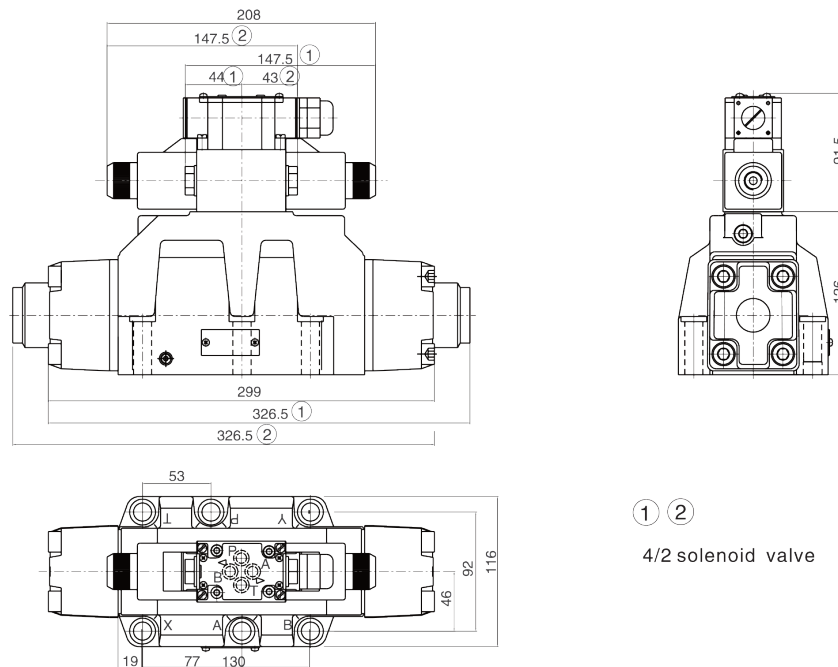
① ②

4/2 solenoid valve

## PHDH08 AC Plug Type

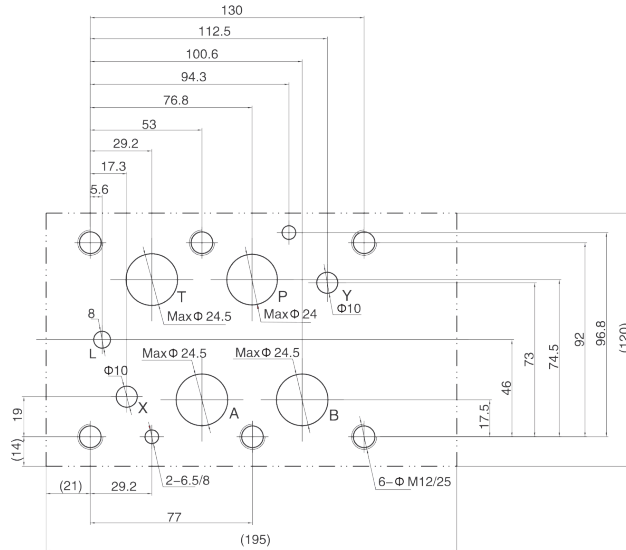


## PHDH08 AC Wire Box





## PHDH08 Subplate

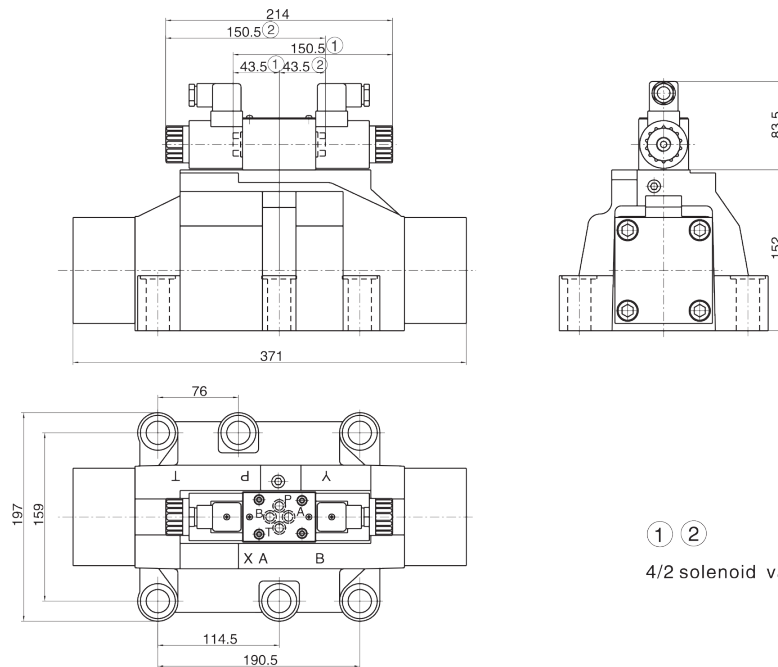


Mounting screw	Amount	Tighten torque
M12x60-10.9	6	130Nm

### Supplementary explanation

1. When installing the product, considering horizontal position firstly.
2. The medium used in the hydraulic system must be filtered, its accuracy is at least  $20\ \mu\text{m}$ .
3. Screw should be according to the parameters in catalogue.
4. The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.

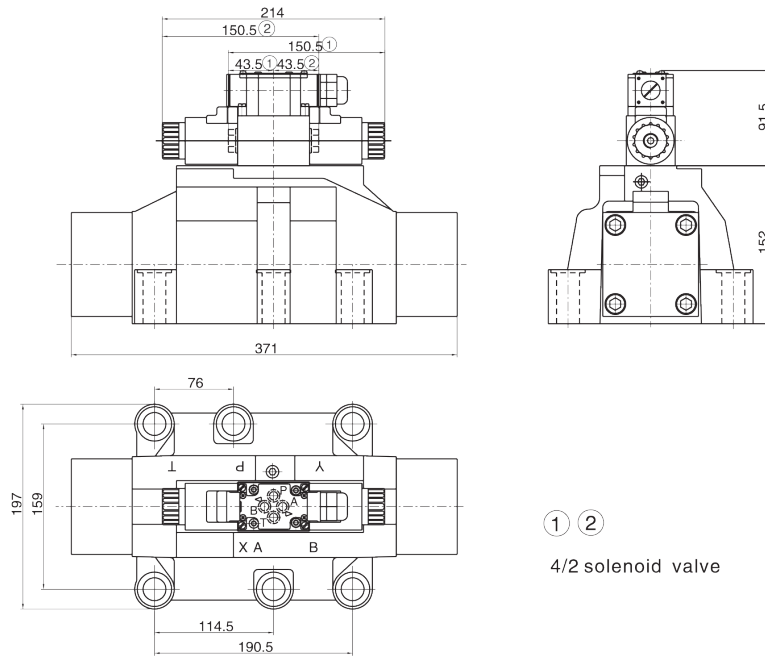
## PHDH10 DC Plug Type



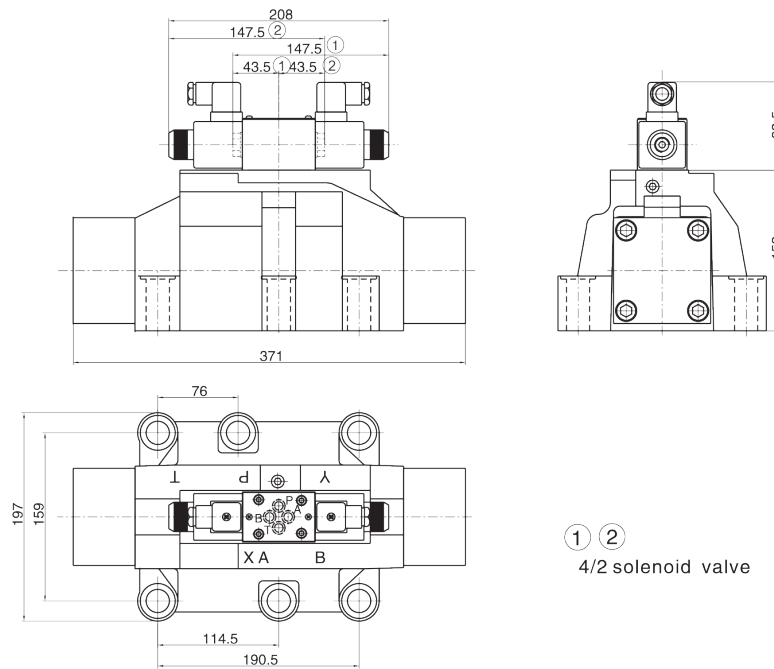
① ②

4/2 solenoid valve

## PHDH10 DC Wire Box

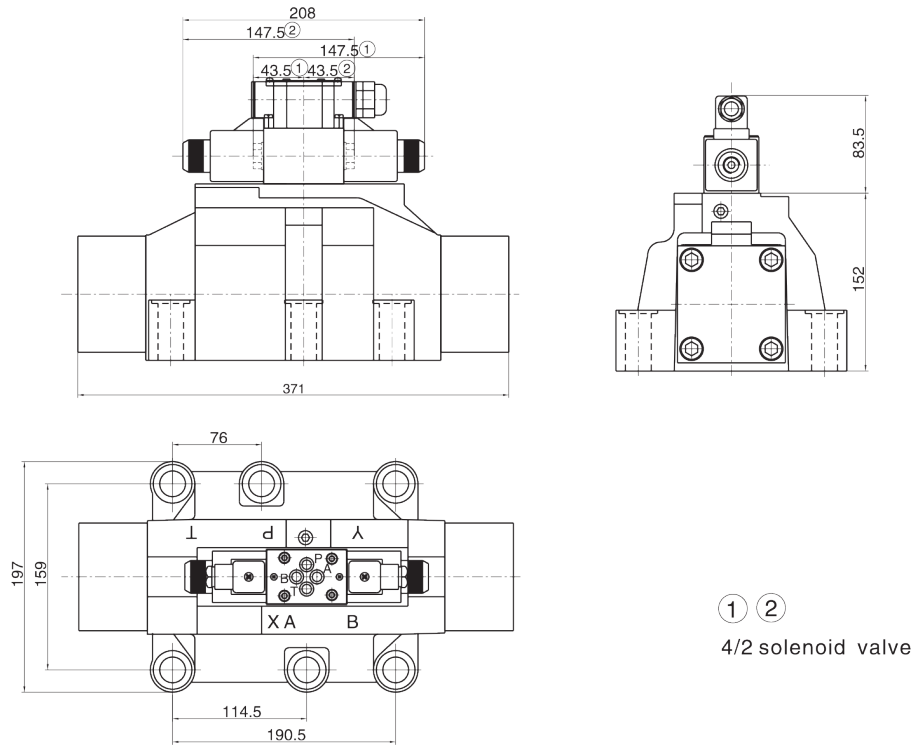


## PHDH10 AC Plug Type



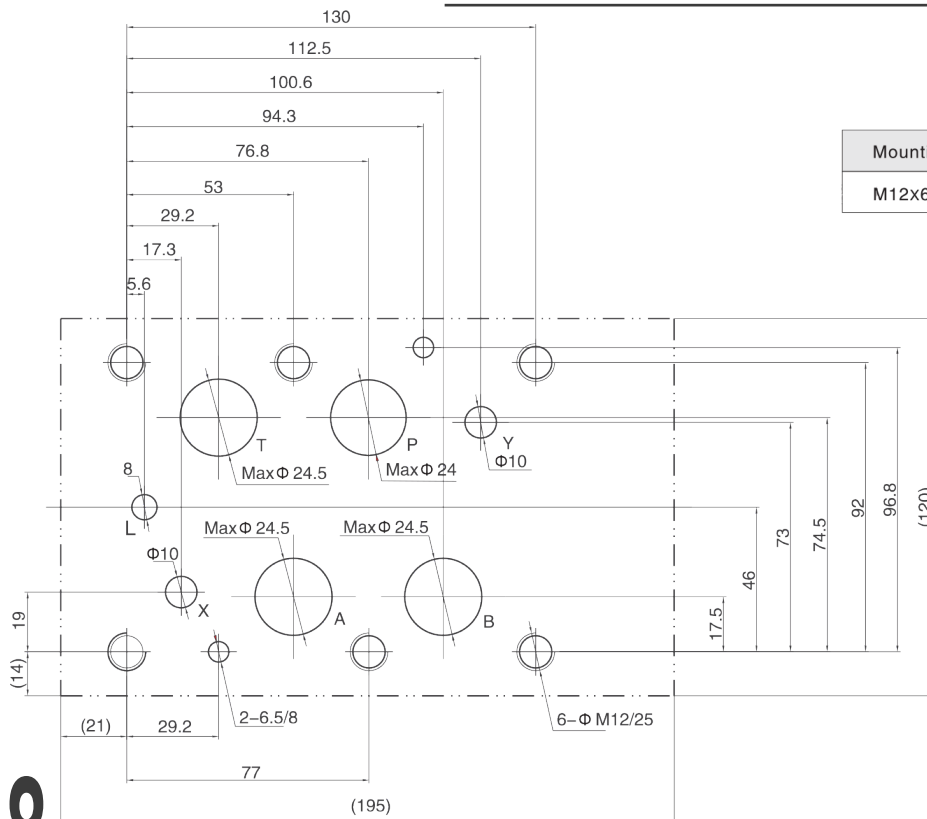


## PHDH10 AC Wire box



① ②  
4/2 solenoid valve

## PHDH10 Subplate



Mounting screw	Amount	Tighten torque
M12X60-10.9	6	130Nm

### Supplementary explanation

1. When installing the product, considering horizontal position firstly.
2. The medium used in the hydraulic system must be filtered, its accuracy is at least  $20 \mu\text{m}$ .
3. Screw should be according to the parameters in catalogue.
4. The surface, connecting with the valve, should be Ra0.8 roughness, and 0.01/100mm flatness.