



4/3- and 4/2- way Directional Control Valves
Model: 4DE10 with Wet Pin AC or DC Solenoids

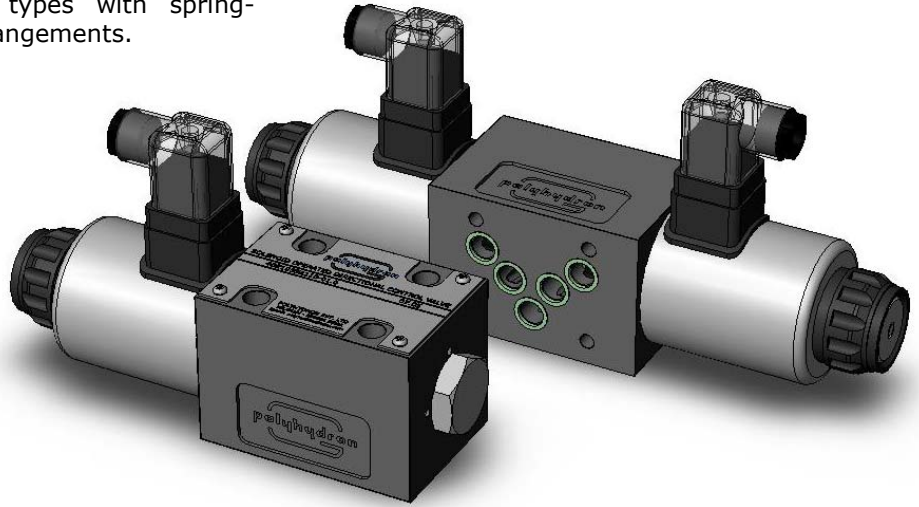
ENGINEERING 1/4

Size 10 (D 05) 315 bar 120lpm

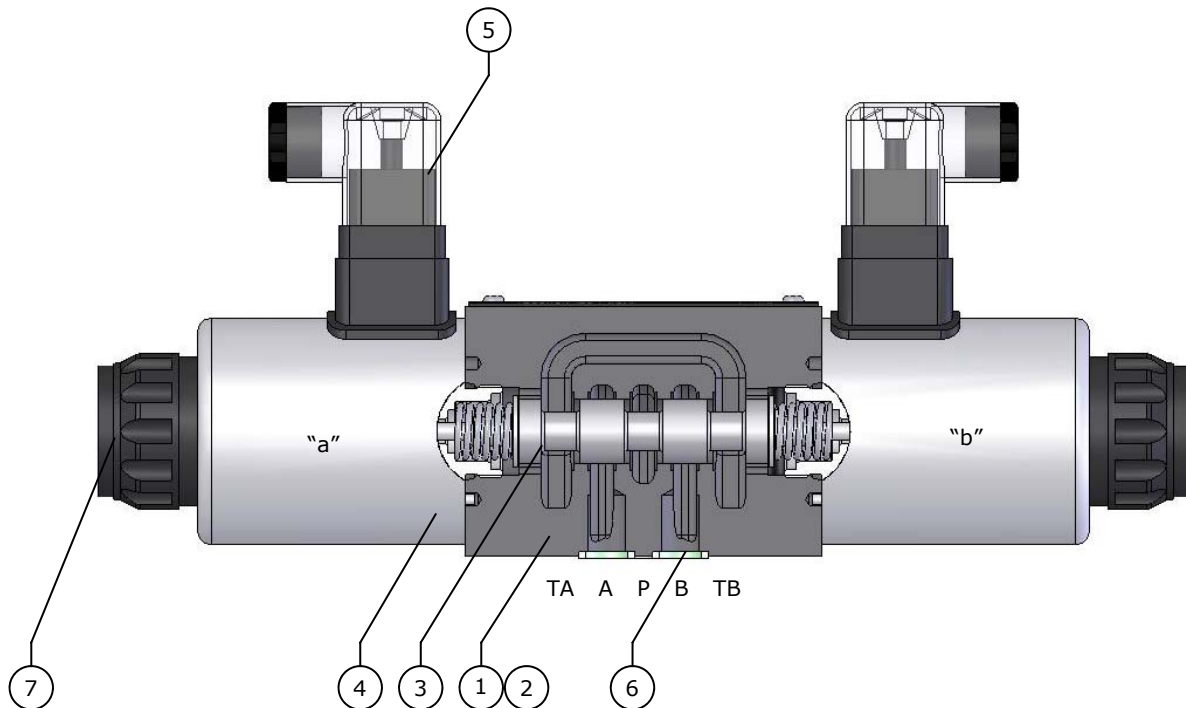
Y02101/07.06

Description

4-port, spool type, solenoid operated, directional control valves with wet armature AC or DC coils and wide variety of spool types with spring-centered and spring-offset arrangements.



Features



- 1. Five chamber body and spool design to facilitate high flow.
- 2. Conforms to ISO4401-5, NFPA T3.5.1M R1 and ANSI B93-7 D 05 interface.
- 3. Available in 52 standard, interchangeable spool configurations.
- 4. Removable wet-armature AC and DC solenoids for quick replacement and conversions. Moulded solenoid coils to protect against moisture and ingress of dust.
- 5. Individual solenoid plug-in connectors with indicator lights to ISO 4400 and DIN 43650.
- 6. Special R-rings for high extrusion resistance. Increased stability under high dynamic condition.
- 7. Override for operation of valve without electrical power.

*Note on solenoid identification:
Solenoid "a" is close to Port "A" and Solenoid "b" is close to Port "B" for a direct operated valve.*



4/3- and 4/2- way Directional Control Valves
Model: 4DE10 with Wet Pin AC or DC Solenoids

ENGINEERING 2/4

Y02101/07.06

Size 10 (D 05)

315 bar

120lpm

Technical data

General

Weight		AC	DC
Valve with 1 solenoid	kg	4.2	4.3
Valve with 2 solenoids	kg	5.7	5.8

Hydraulic

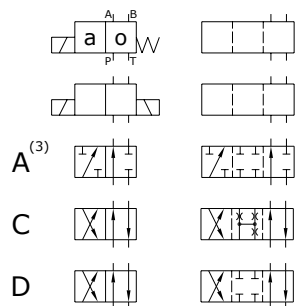
Nominal Pressure			
Ports P, A and B	bar	315	
Port T	bar	175	
Maximum Flow	lpm	120	
Flow Area			
Spool Q, A/B → T, position "0"		6%	5.9mm ²
Spool R, B → P, position "b"		50%	49.3mm ²
Spool V, A/B → T, position "0"		12%	11.8mm ²
P → A/B, position "0"		10%	9.9mm ²
Spool W, A/B → T, position "0"		3%	3.0mm ²
Others			>98.0mm ²
Hydraulic Fluid		Mineral Oil	
Fluid Temperature			
NBR	°C	-30 to 80°C	
FKM	°C	-20 to 80°C	
Maximum degree of fluid contamination		Class 18/15 according to ISO 4406 Filter β ₁₀ ≥ 75	

Electrical

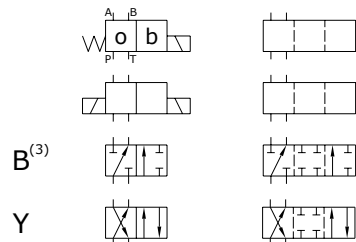
Power Requirement	W	35	
Duty Cycle		Continuous	
Shifting Time			
ON	ms	60	
OFF	ms	30	
Insulation		IP 65	

Spool Types

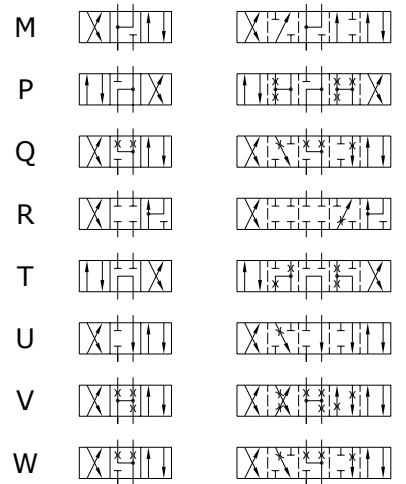
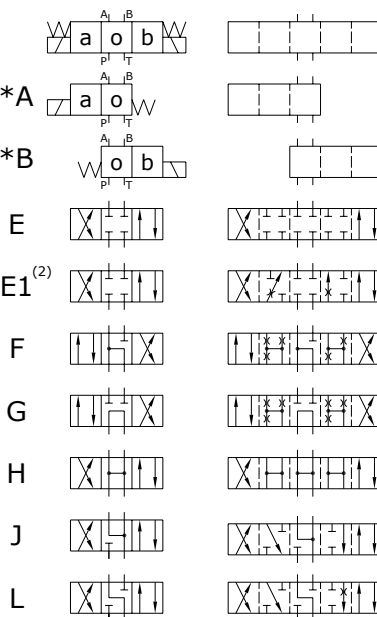
4/2 Way Valve with "0" and "a" positions



4/2 Way Valve with "0" and "b" positions



4/3 Way and 4/2⁽¹⁾ Way Valve



Note:

⁽¹⁾ When ordering a spool with only two positions "o" and "a" or "o" and "b", specify the desired position "A" or "B" after the spool code.
 Example: E Spool with "o" and "a" position—4DE10EA...

⁽²⁾ Please check the possibility of cylinder intensification

⁽³⁾ For spool type A and B. Port T must be used as drain line



4/3- and 4/2- way Directional Control Valves
Model: 4DE10 with Wet Pin AC or DC Solenoids

ENGINEERING 3/4

Size 10 (D 05) 315 bar 120lpm

Y02101/07.06

Ordering Code

4	DE	10	E	S	A220	V	-01
---	----	----	---	---	------	---	-----

4 Service Ports

Directional Control, Electrically Operated

ISO size 5, NFPA/ANSI D 05 interface

Spool type (Refer Spool Chart)

Return

Spring return = **S**
 Without spring return = **O**

Design Series (Subject to Change)
 01 to 09 externally interchangeable

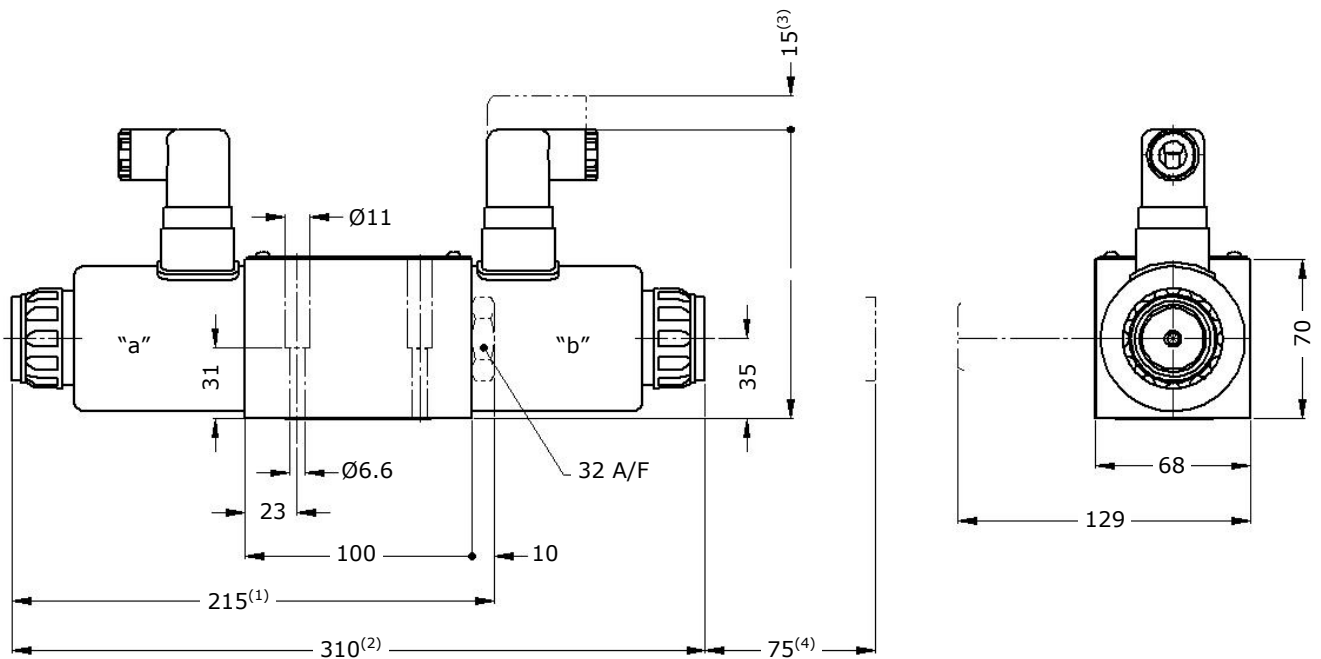
Seals

Nitrile (NBR) = **omit**
 Fluorocarbon (FKM) = **V**

Voltage

AC Voltage DC Voltage
A110 **D12**
A220 **D24**

Installation

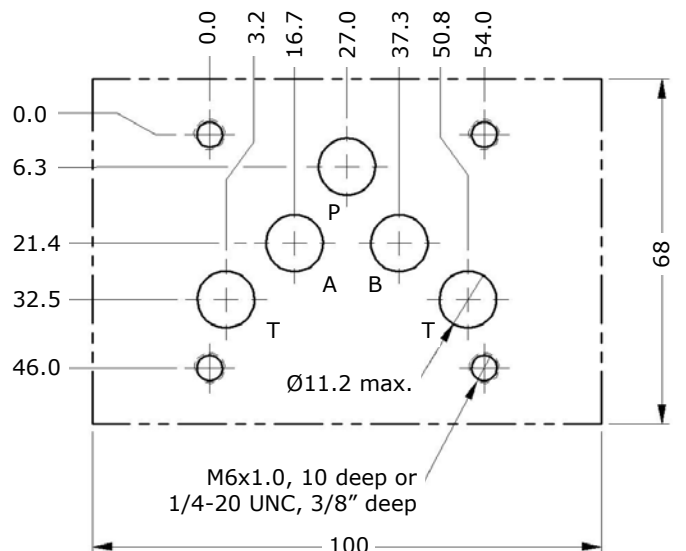
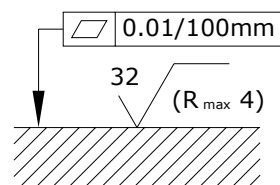


Note:

- (1) Length of valve with 1 solenoid
- (2) Length of valve with 2 solenoids
- (3) Space required to remove plug-in connector
- (4) Space required to remove solenoid

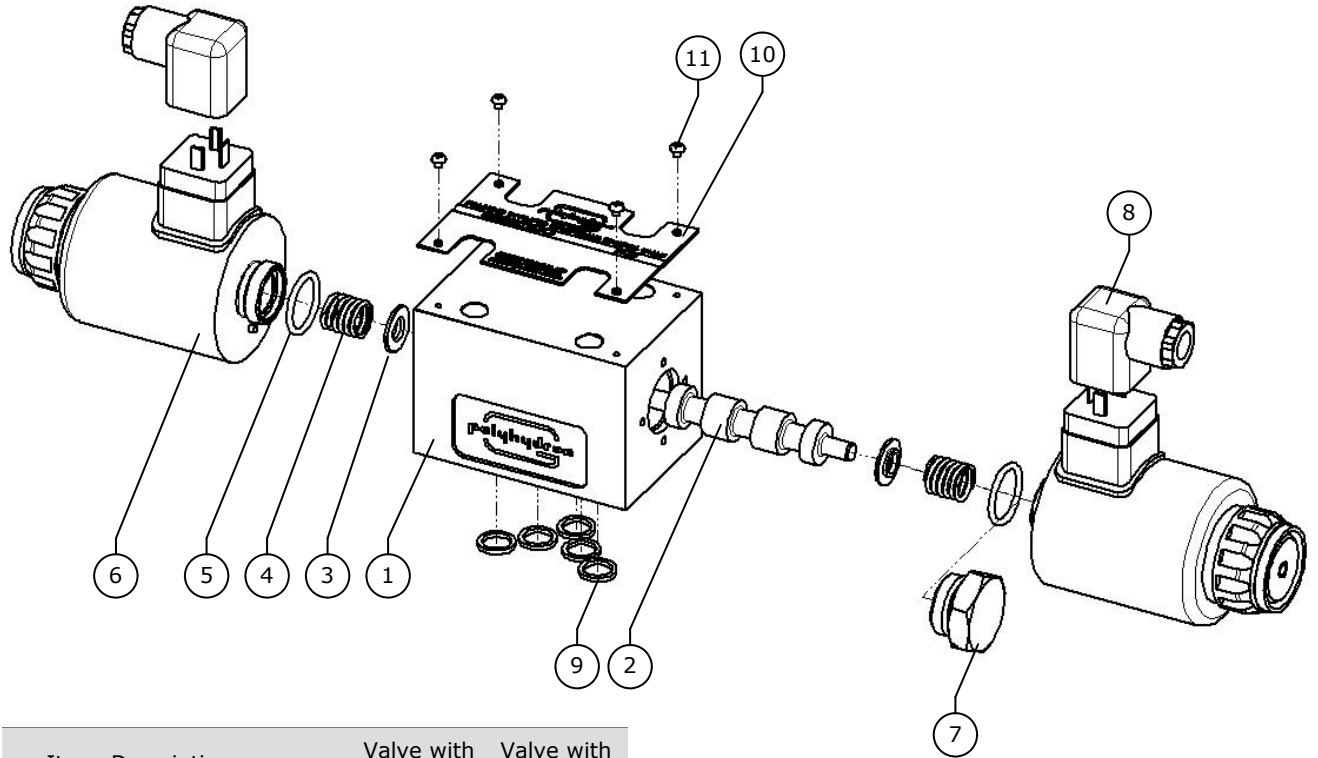
Valve Mounting Bolts:

M6 x 40 mm or 1/4-20 UNC x 1.1/2"
 Tightening Torque 15.5 Nm
 Mounting Hardware not included in scope of supply





Spares



Item	Description	Valve with 1 solenoid	Valve with 2 solenoids
1	Valve Body	1	1
2	Spool	1	1
3	Spring Pad	2	2
4	Spring	2	2
*	5 O-ring 21.9 x 2.62	2	2
6	Solenoid Coil	1	2
7	Plug	1	0
*	8 Plug-in connector	1	2
*	9 R-ring (Alternately use O-ring 12 x 2)	5	5
10	Label	1	1
11	Screw M3	4	4

* Recommended Spares