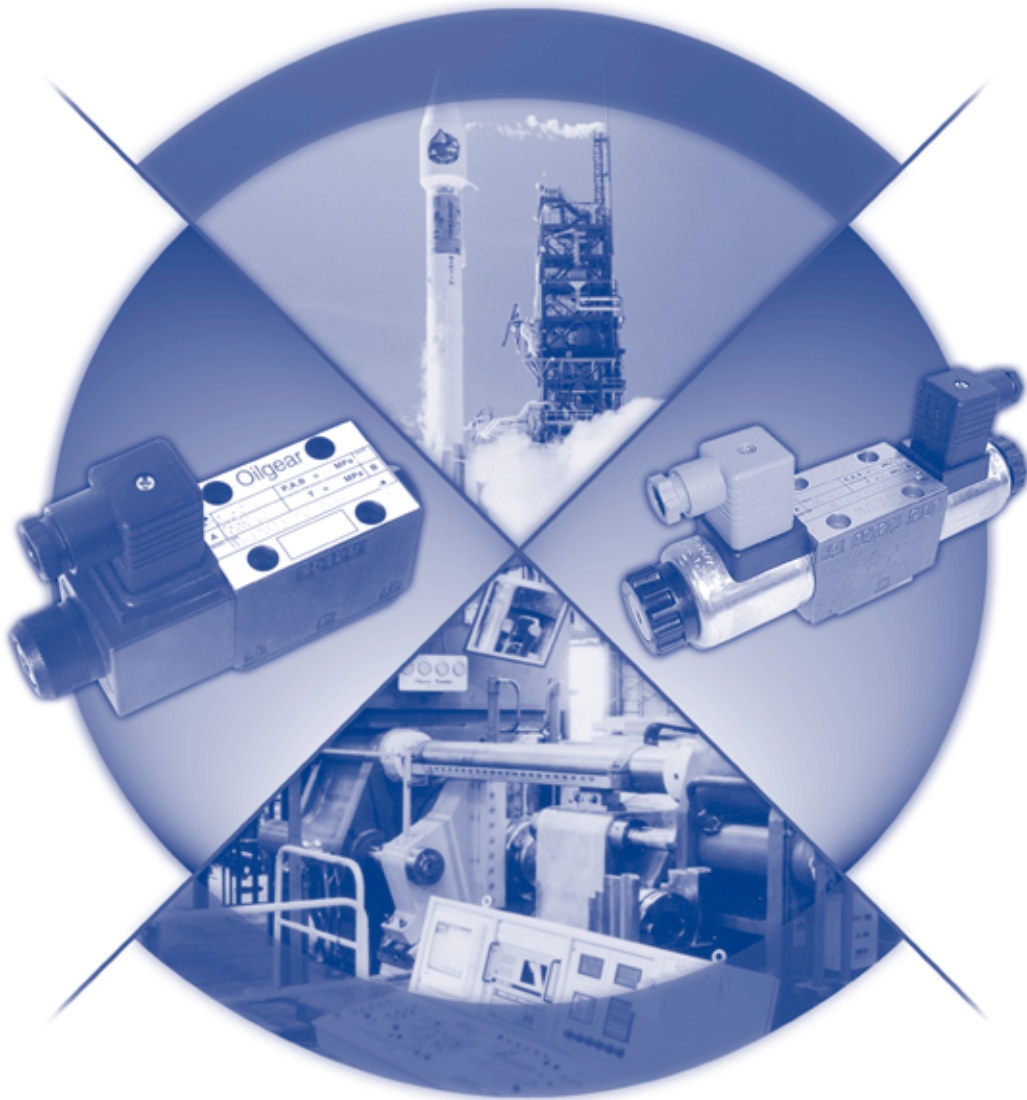




WE SERIES DIRECTIONAL CONTROL VALVES

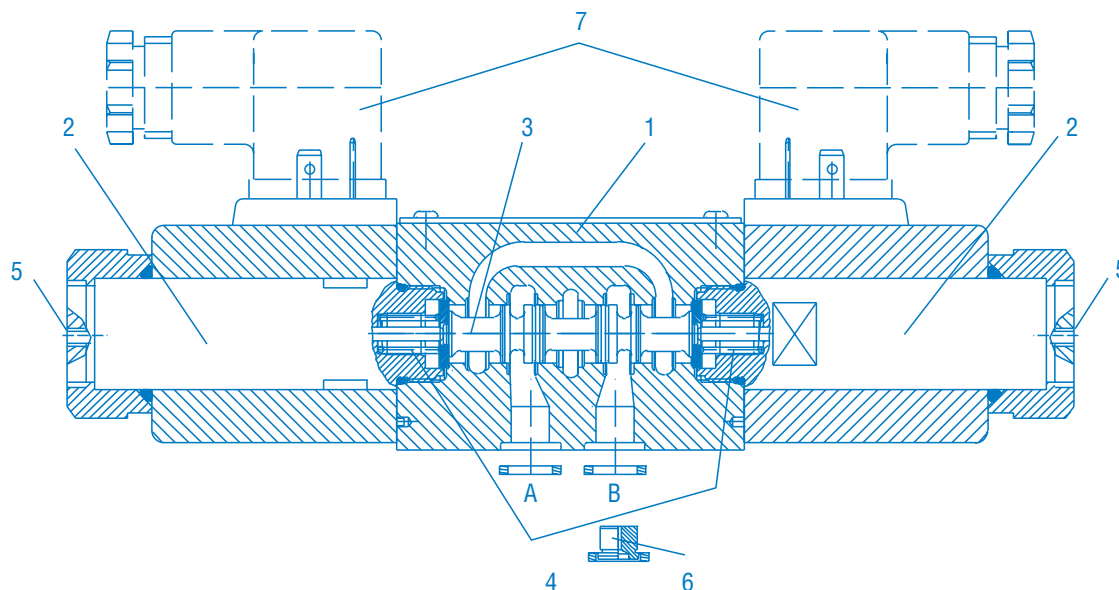
ISO4401 Size 03



DESIGNATION	PAGE
Features and General Description	3
Specifications	4
Operating Limits	5
Performance Data	6
Standard Models	7-8
Dimensions	9-12
Ordering Information	13
Spare Parts	14

Features

- Direct operated, solenoid controlled directional spool valve
- ISO4401-03 mounting pattern
- 2 or 3 switching positions (4/2-, 4/3- valves)
- Three chamber design for high performance
- Wet pin solenoids standard
- Removable coils for easy replacement or conversion
- Standard manual override

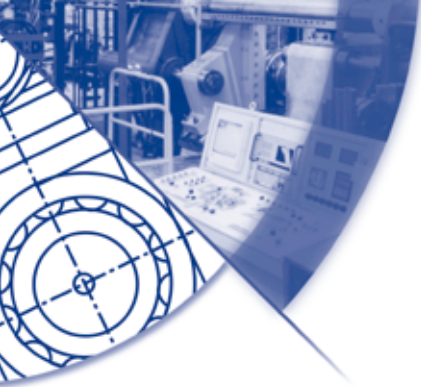


General Description

Oilgear's WE P06E series are directional control valves used to stop, start and control the direction of hydraulic fluid flow. The WE series comes in both 4-way, 3 position and 4-way, 2 position configurations. The three position configurations contain a central or neutral position.

The WE series consists of a body (1), one or two solenoids (2), a spool (3) and a return spring or springs (4). When the solenoid or solenoids are de-energized, the spool (3) is held in place by a return spring or springs (4). The spool (3) is shifted when a solenoid (2) is energized. The force of the solenoid pushes the spool against the opposing return spring, permitting flow from P $\blacktriangleright$ A and B $\blacktriangleright$ T or P $\blacktriangleright$ B and A $\blacktriangleright$ T. When the solenoid is de-energized, the return spring returns the spool to its neutral position.

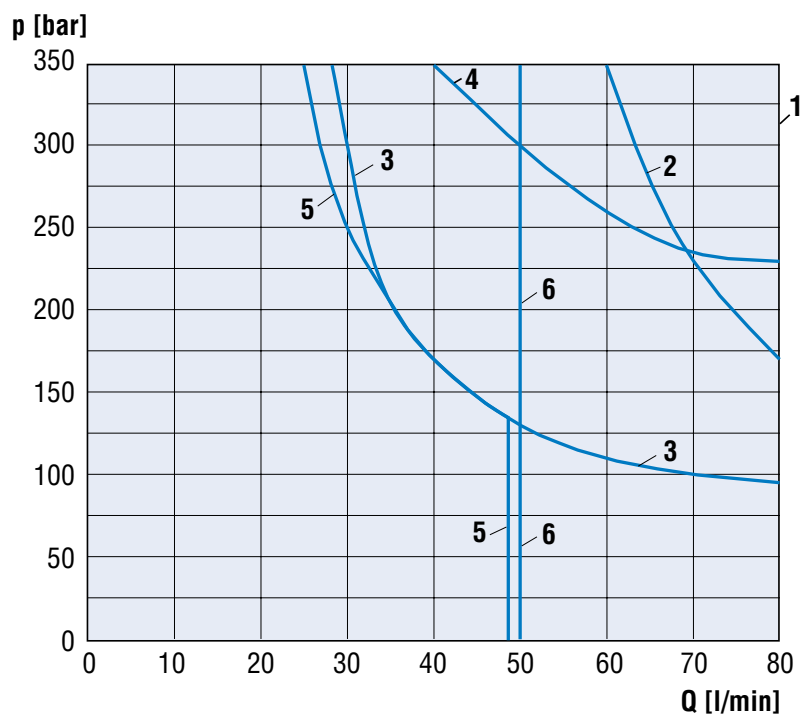
A manual override (5) allows user to shift the spool manually or without electrical power. In addition, orifice inserts (6) are available to limit maximum flows. The insert, which comes in various sizes, is installed in port P. Lastly, various mating electrical connectors (7) are available for each valve, with options listed on page 14.



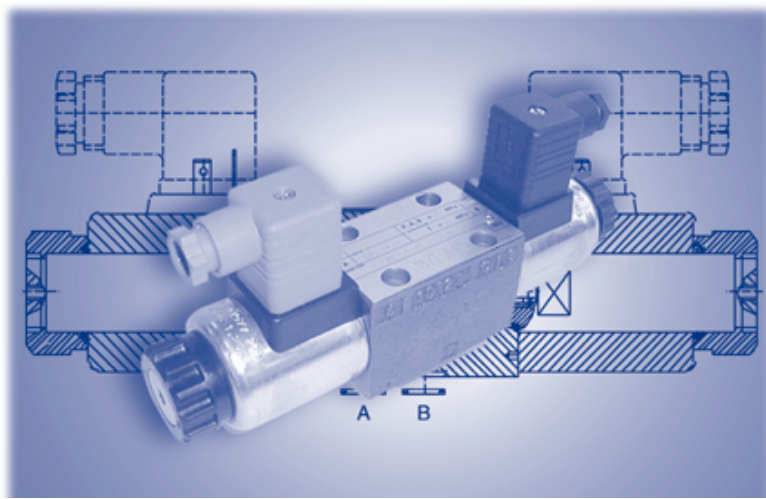
Specifications

General Data	Value	Unit	Specifications
Type of Unit	—	—	Directional Control Valve Direct Operated
Model Number	—	—	Refer to Ordering Code
Design	—	—	Sliding Spool Valve
Type of Mounting	—	—	Subplate
Type of Port Connections	—	—	Threads in Subplate
Dimension of Unit	—	—	Refer to Pages 10, 11, 12, & 13
Mounting Position	—	—	Any
Ambient Temperature Range	min.	°F (°C)	-13° (-25°)
	max.	°F (°C)	140° (60°)
Mounting Size	—	—	ISO 4401-03-03-0-94
Rated Flow	Q_N	gpm (lpm)	15.8 (60)
Weight	m	lbs (kg)	1 Solenoid 3.3 (1.5) 2 Solenoid 4.4 (2.0)
Hydraulic Data			
Operating Pressure A, B, P and T	max.	psi (bar)	A, B, P = 5,075 (350) T = 3,045 (210)
Fluid Temperature	min.	°F (°C)	-4° (-20°)
	max.	°F (°C)	158° (70°)
Viscosity	min.	$\text{mm}^2 \cdot \text{s}^{-1}$ [cSt]	35
	max.	$\text{mm}^2 \cdot \text{s}^{-1}$ [cSt]	380
Filtration	—	—	18/14 per ISO 4406 or NAS 1638 Class 10 or Better
Electric Data			
Cyclic Duration Factor	ED	%	100%
Enclosure Type	—	—	IP65
Plug In Connectors	—	—	Connector as per DIN 43650
Solenoid Design	—	—	Wet Pin Solenoid
Voltage	—	V	Refer to Ordering Code
Power Rating	max.	W	30
Coil Temperature	max.	°F (°C)	311 (155)
Type of Current	—	—	DC
	—	—	AC
Response Times			
	Solenoid	Energizing	De-energizing
	DC-solenoid	25 to 45 ms	10 to 25 ms
	AC-solenoid	10 to 20 ms	15 to 40 ms

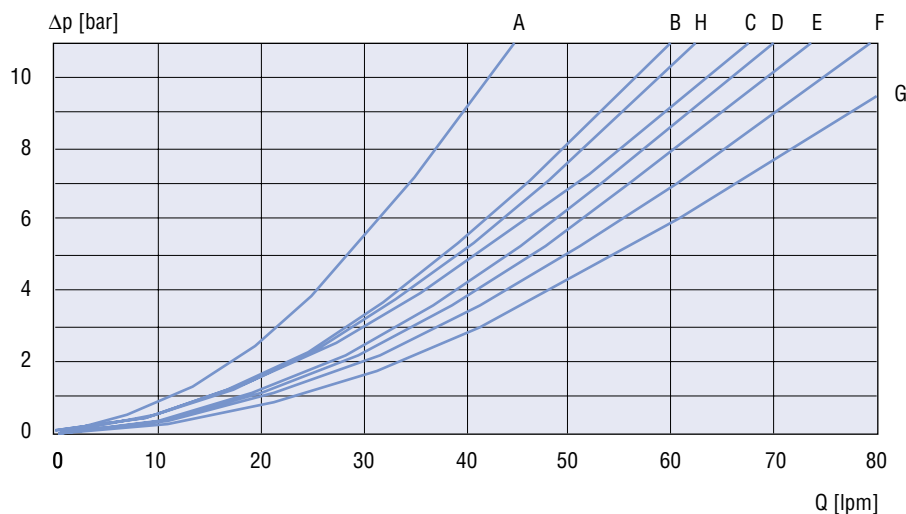
Operating Limits



Curve	Spool Symbol
1	03P, 08P, 21P, 22P, 13P, 14P
2	06P
3	23P, 24P
4	00P, 09P
5	04N, 05N
6	01N, 07N



DC Solenoid



Symbol	Flow Direction			
	P→A	P→B	A→T	B→T
03	H	H	C	C
06	D	D	C	C
01	F	G	F	F
09	H	B	F	E
04	C	C	H	C
05	C	C	H	C
08	C	C	F	F
07	B	B	D	D
00	H	B	F	E

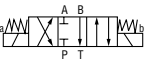
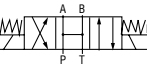
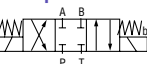
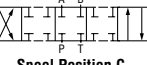
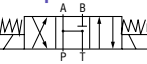
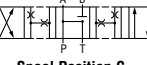
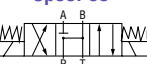
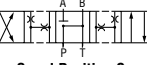
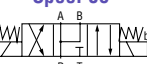
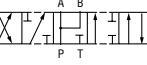
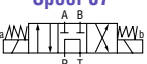
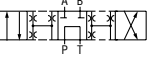
Symbol	Flow Direction			
	P→A	P→B	A→T	B→T
21	H	H	H	H
22	H	H	C	C
23	B	B	—	—
24	B	B	—	—
13	C	C	—	—
14	C	C	—	—

A: Symbol 07 in center position P→A

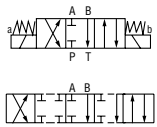
The curves refer to applications with symmetrical flow. In the case of asymmetric flow, reduced values may result.

If only one direction of flow is required, for example, when a 4-way valve has one port plugged, or unbalanced flows from large rod cylinders, the permissible flow in critical cases can be considerably lower.

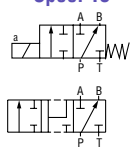
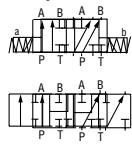
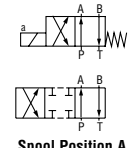
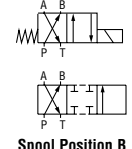
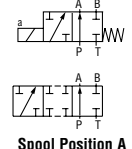
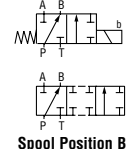
4/3 Directional Valve, 2 Solenoids, Standard Spool

Spool Position	Spool Code	Voltage	Box Car Designation	Part Number
Spool 00   Spool Position C	00	12 V DC	WE43P06E00PC0AN	XWB10725-000-01
		24 V DC	WE43P06E00PC0BN	XWB10676-000-01
		110 V AC 50/60 Hz	WE43P06E00PC0MN	XWB10695-000-01
		220 V AC 50/60 Hz	WE43P06E00PC0NN	XWB10696-000-01
Spool 01   Spool Position C	01	12 V DC	WE43P06E01NC0AN	XWB10726-000-01
		24 V DC	WE43P06E01NC0BN	XWB10642-000-01
		110 V AC 50/60 Hz	WE43P06E01NC0MN	XWB10697-000-01
		220 V AC 50/60 Hz	WE43P06E01NC0NN	XWB10698-000-01
Spool 03   Spool Position C	03	12 V DC	WE43P06E03PC0AN	XWB10727-000-01
		24 V DC	WE43P06E03PC0BN	XWB10540-000-01
		110 V AC 50/60 Hz	WE43P06E03PC0MN	XWB10699-000-01
		220 V AC 50/60 Hz	WE43P06E03PC0NN	XWB10700-000-01
Spool 04   Spool Position C	04	12 V DC	WE43P06E04NC0AN	XWB10785-000-01
		24 V DC	WE43P06E04NC0BN	XWB10596-000-01
		110 V AC 50/60 Hz	WE43P06E04NC0MN	XWB10709-000-01
		220 V AC 50/60 Hz	WE43P06E04NC0NN	XWB10710-000-01
Spool 05   Spool Position C	05	12 V DC	WE43P06E05NC0AN	XWB10733-000-01
		24 V DC	WE43P06E05NC0BN	XWB10598-000-01
		110 V AC 50/60 Hz	WE43P06E05NC0MN	XWB10711-000-01
		220 V AC 50/60 Hz	WE43P06E05NC0NN	XWB10712-000-01
Spool 06   Spool Position C	06	12 V DC	WE43P06E06PC0AN	XWB10733-000-01
		24 V DC	WE43P06E06PC0BN	XWB10598-000-01
		110 V AC 50/60 Hz	WE43P06E06PC0MN	XWB10711-000-01
		220 V/50/60 Hz AC	WE43P06E06PC0NN	XWB10712-000-01
Spool 07   Spool Position C	07	12 V DC	WE43P06E07NC0AN	XWB10729-000-01
		24 V DC	WE43P06E07NC0BN	XWB10594-000-01
		110 V AC 50/60 Hz	WE43P06E07NC0MN	XWB10703-000-01
		220 V AC 50/60 Hz	WE43P06E07NC0NN	XWB10704-000-01
Spool 08   Spool Position C	08	12 V DC	WE43P06E08PC0AN	XWB10730-000-01
		24 V DC	WE43P06E08PC0BN	XWB10539-000-01
		110 V AC 50/60 Hz	WE43P06E08PC0MN	XWB10705-000-01
		220 V AC 50/60 Hz	WE43P06E08PC0NN	XWB10706-000-01

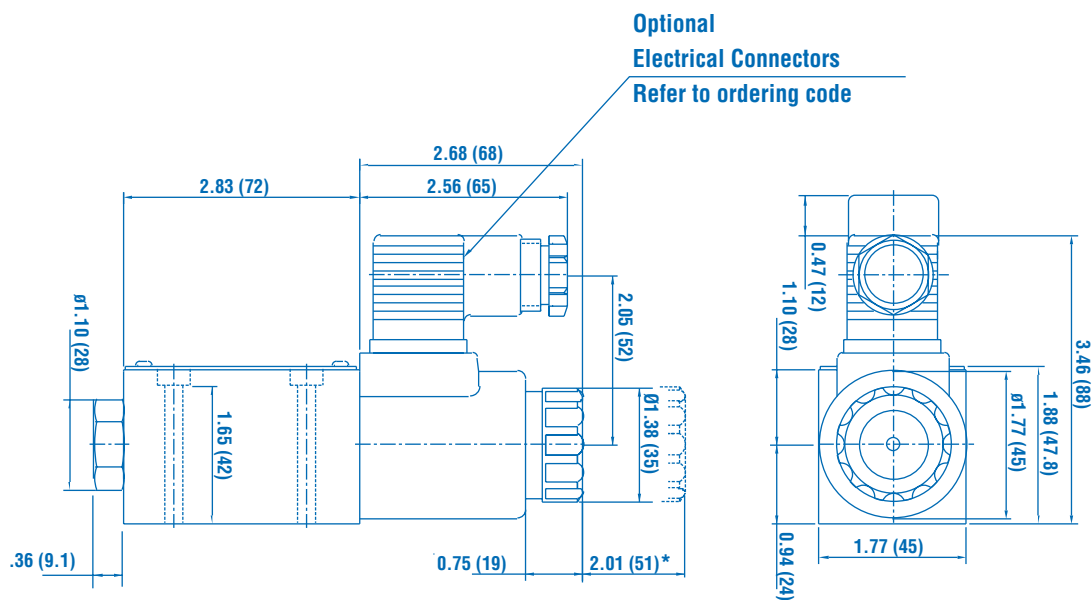
4/3 Directional Valve, 2 Solenoids, Standard Spool

Spool Symbol	Spool Code	Spool Position	Voltage	Box Car Designation	Part Number
Spool 09  Spool Position C	09	—	12 V DC	WE43P06E09PC0AN	XWB10731-000-01
			24 V DC	WE43P06E09PC0BN	XWB10677-000-01
			110 V AC 50/60 Hz	WE43P06E09PC0MN	XWB10707-000-01
			220 V AC 50/60 Hz	WE43P06E00PC0NN	XWB10708-000-01

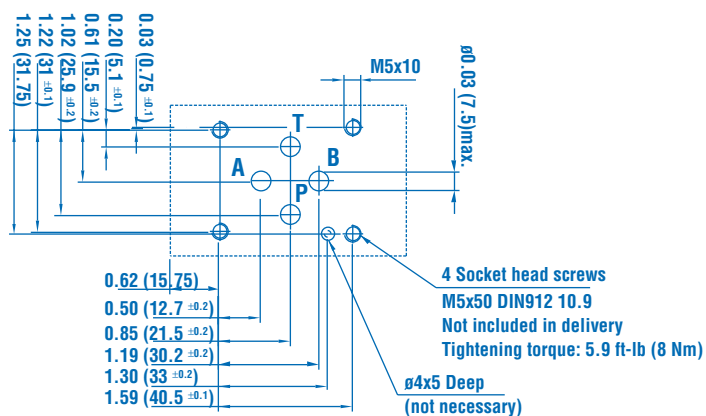
4/2 Directional Valve, 1 Solenoid, Standard Spool

Spool 13  Spool Position A	13	Solenoid on A Side	12 V DC	WE42P06E13PA0AN	XWB10734-000-01
			24 V DC	WE42P06E13PA0BN	XWB10679-000-01
			110 V AC 50/60 Hz	WE42P06E13PA0MN	XWB10713-000-01
			220 V AC 50/60 Hz	WE42P06E13PA0NN	XWB10714-000-01
Spool 14  Spool Position B	14	Solenoid on B Side	12 V DC	WE42P06E14PB0AN	XWB10735-000-01
			24 V DC	WE42P06E14PB0BN	XWB10624-000-01
			110 V AC 50/60 Hz	WE42P06E14PB0MN	XWB10715-000-01
			220 V AC 50/60 Hz	WE42P06E14PB0NN	XWB10716-000-01
Spool 21  Spool Position A	21	Solenoid on A Side	12 V DC	WE42P06E21PA0AN	XWB10736-000-01
			24 V DC	WE42P06E21PA0BN	XWB10650-000-01
			110 V AC 50/60 Hz	WE42P06E21PA0MN	XWB10717-000-01
			220 V AC 50/60 Hz	WE42P06E21PA0NN	XWB10718-000-01
Spool 22  Spool Position B	22	Solenoid on B Side	12 V DC	WE42P06E22PB0AN	XWB10737-000-01
			24 V DC	WE42P06E22PB0BN	XWB10651-000-01
			110 V AC 50/60 Hz	WE42P06E22PB0MN	XWB10719-000-01
			220 V AC 50/60 Hz	WE42P06E22PB0NN	XWB10720-000-01
Spool 23  Spool Position A	23	Solenoid on A Side	12 V DC	WE42P06E23PA0AN	XWB10738-000-01
			24 V DC	WE42P06E23PA0BN	XWB10643-000-01
			110 V AC 50/60 Hz	WE42P06E23PA0MN	XWB10721-000-01
			220 V AC 50/60 Hz	WE42P06E23PA0NN	XWB10722-000-01
Spool 24  Spool Position B	24	Solenoid on B Side	12 V DC	WE42P06E24PB0AN	XWB10739-000-01
			24 V DC	WE42P06E24PB0BN	XWB10644-000-01
			110 V AC 50/60 Hz	WE42P06E24PB0MN	XWB10723-000-01
			220 V AC 50/60 Hz	WE42P06E24PB0NN	XWB10724-000-01

WE42P06E – DC Solenoid



DIN 24340 A6 Interface

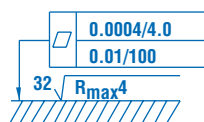


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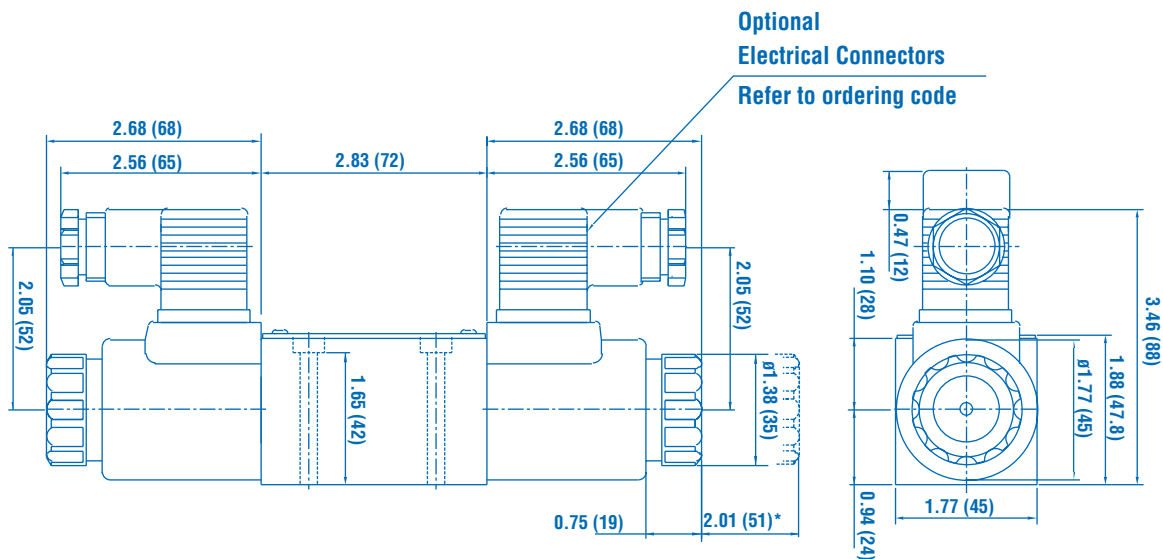
Valve mounting bolts must be ordered separately.

*For coil removal.

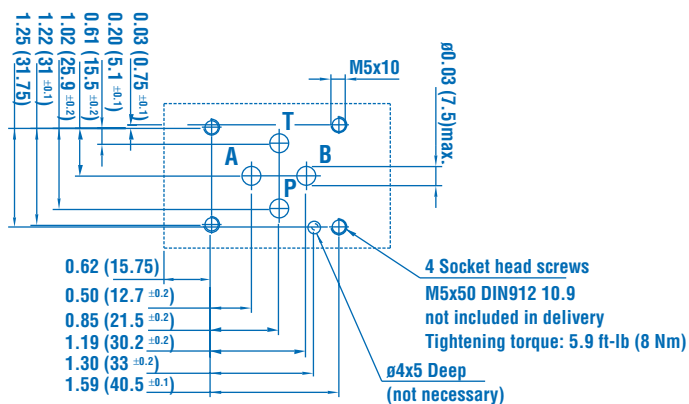
Required surface finish of surface when mounting the valve without subplate.



WE43P06E – DC Solenoid



DIN 24340 A6 Interface

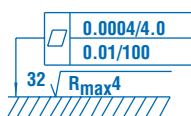


NOTES:

Valve mounting bolts must be ordered separately.

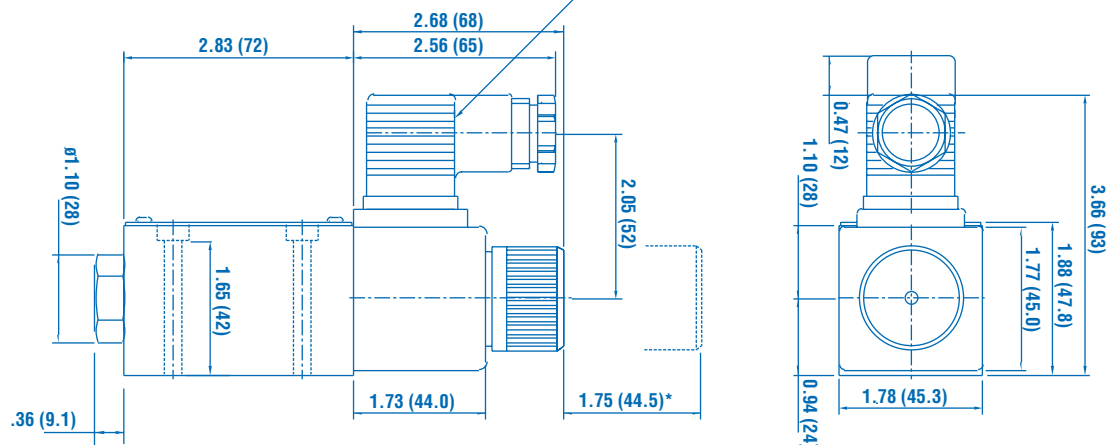
*For coil removal (for both ends).

Required surface finish of surface when mounting the valve without subplate.

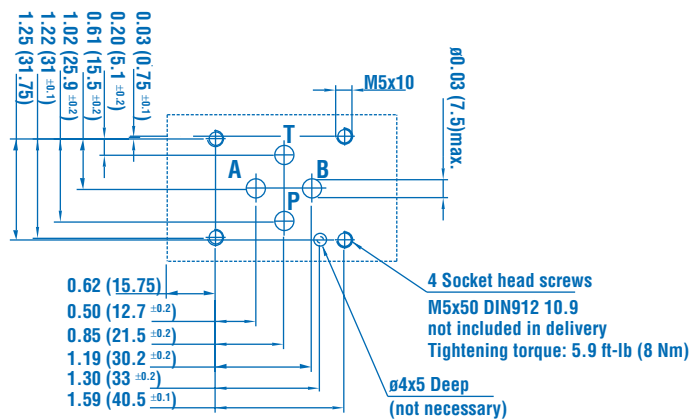


WE42P06E – AC Solenoid

Optional
Electrical Connectors
Refer to ordering code



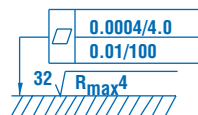
DIN 24340 A6 Interface



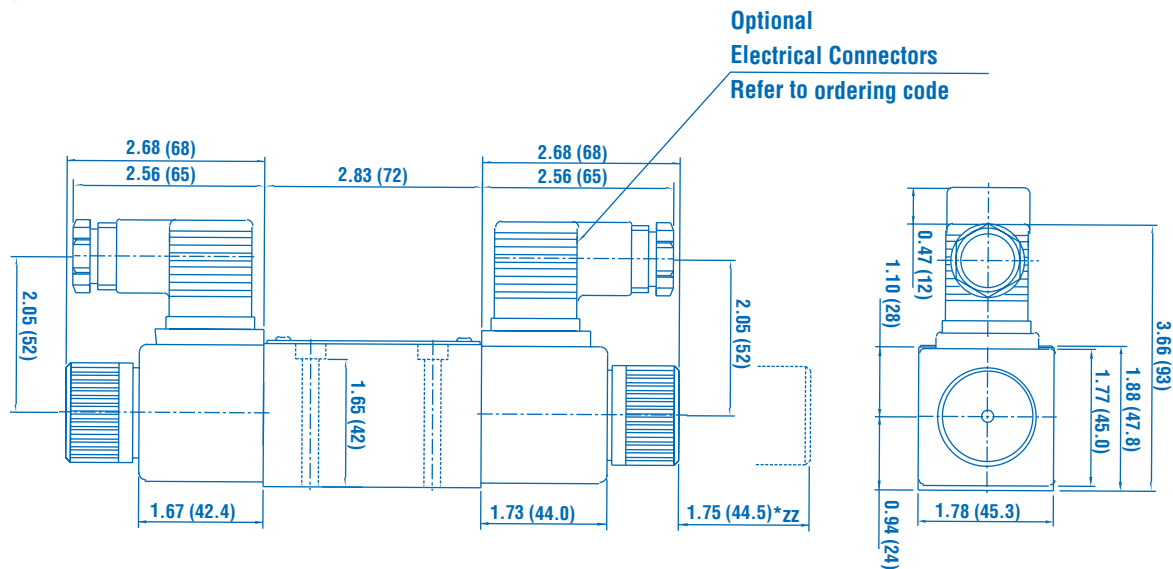
NOTES:
Valve mounting bolts must be ordered separately.

*For coil removal.

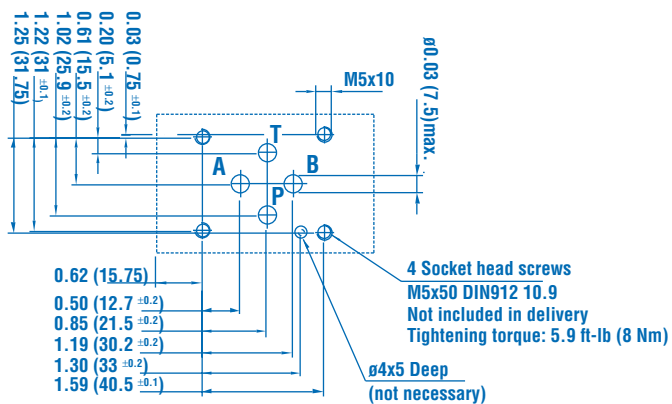
Required surface finish of surface when mounting the valve without the subplate.



WE43P06E – AC Solenoid



DIN 24340 A6 Interface

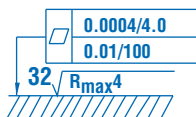


NOTES:

Valve mounting bolts must be ordered separately.

*For coil removal (both ends).

Required surface finish of surface when mounting the valve without the subplate



Oilgear Ordering Information

	W	E	4		P	06	E				0		N	/	
--	---	---	---	--	---	----	---	--	--	--	---	--	---	---	--

Type of Seals	
–	VITON seals (standard)
N	BUNA-N seals
M	Mixed VITON & PU seals
S	Special seals on request

Valve Type	
W	Directional

Type of Control	
E	Electrical

Number of Service Ports	
4	A, B, P and T ports

Number of Operating Positions	
2	2 position
3	3 position

Mounting	
P	Subplate

Size Nominal Bore (NG)	
06	NG06(D03), ISO4401 Size 03

Series Number	
E	Series E

Spool Symbol	
00, 01, 03, 04, 05, 06, 07, 08, 09, 13, 14, 21, 22, 23, 24	
Refer to pages 7 & 8	

Modification	
PXX	Orifice in P-port in 10ths of mm (ex: P10 = orifice Ø1.0 mm)
CI	With position indication A-side, inductive
DI	With position indication B-side, inductive
Other types available upon request	

Solenoid Design	
N	Wet pin solenoid

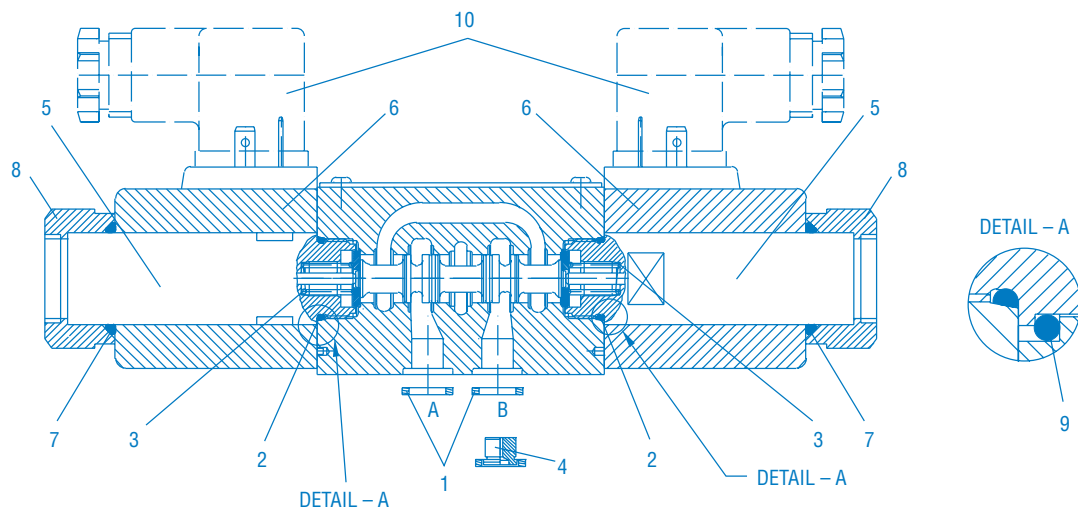
Solenoid Voltage*	
A	12 V DC
B	24 V DC
M	110 V AC 50/60 Hz
N	220 V AC 50/60 Hz

Pilot Port	
0	Direct operated

Spool Position	
A	Solenoid on A side
B	Solenoid on B side
C	Two solenoids

Spool Type	
P	Positive transition
N	Negative transition

*Other coil ratings available.
Subject to change without notice.



Item	Description	Order Number			
–	Seal Kit for WEP06E	XEB		16512	
1	O-Ring, Viton 9.25 x 1.78	X980 –		02012	
2	O-Ring, Viton 17, 17 x 1.78	X980 –		02017	
3a	Spring P06E – DC solenoid	XEF		10368	
3b	Spring P06E – AC solenoid	XEF		10362	
4	Orifice Insert Ø 0.6	X784 –		90006	
4	Orifice Insert Ø 0.8	X784 –		90008	
4	Orifice Insert Ø 1.0	X784 –		90010	
4	Orifice Insert Ø 1.2	X784 –		90012	
4	Orifice Insert Ø 1.5	X784 –		90015	
4	Orifice Insert Ø 1.8	X784 –		90018	
4	Orifice Insert Ø 2.0	X784 –		90020	
4	Orifice Insert Ø 2.5	X784 –		90025	
4	Orifice Insert Ø 3.0	X784 –		90030	
5a	Core tube with manual override – DC solenoid	X788 –		00025	
5b	Core tube with manual override – AC solenoid	X788 –		00035	
6a	Coil 12 V DC	X788 –		00020	
6b	Coil 24 V DC	X788 –		00021	
6c	Coil 110 V AC 50/60 Hz	X788 –		01109	
6d	Coil 220 V AC 50/60 Hz	X788 –		02209	
7	O-Ring NBR 21.82x3.53	X788 –		00027	
8a	Handknob – DC solenoid	X788 –		00026	
8b	Handknob – AC solenoid	X788 –		00038	
9*	O-Ring VITON 22.0x2.0	X788 –		00037	
5,6,7,8	Solenoid 12 V DC complete	XEB		16583	
5,6,7,8	Solenoid 24 V DC complete	XEB		16584	
5,6,7,8,9	Solenoid 110 V AC 50/60 Hz complete	XEB		16966	
5,6,7,8,9	Solenoid 220 V AC 50/60 Hz complete	XEB		17011	
Item	Connector DIN 43650/ISO 4400	Valve side A color grey		Valve side B color black	
		Order number		Order number	
10	Plug connector DIN 43650/ISO 4400 (PG 9)	X798 –	00005	X798 –	00004
10	Big plug connector DIN 43650/ISO 4400 without LED (PG 11)	XEB	16577	XEB	16580
10	Big plug connector DIN 43650/ISO 4400 with LED and free wheeling (PG 11)	XEB	16578	XEB	16581

Order example: O-Ring Viton 17,17 x 1.78 Pos. 2
Order number X980 – 02017

*Only with AC solenoid models

Performance Assurance

Each Oilgear component manufactured is shipped with corporate commitment to stay with the installation until the unit performs as specified.

This total dedication to performance is based upon experience gained since 1921 in matching fluid power systems to a tremendous range of machines and applications.

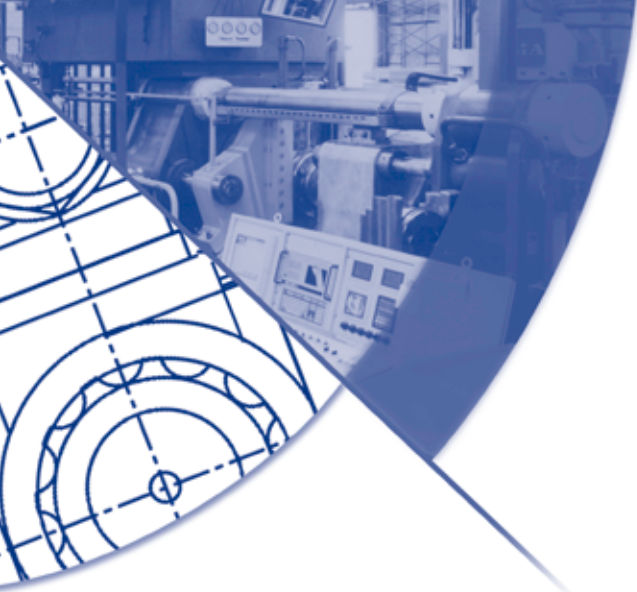


Oilgear's Performance Assurance is made

possible because of the many hydraulic techniques learned over the years in supplying machinery builders and users with unique solutions to hundreds of unusual fluid power problems.

Historically, Oilgear has concentrated its energies on hydraulic equipment and systems. Every Oilgear facility is staffed with factory trained and field experienced application engineers.

Performance Assurance doesn't stop with the design of the system or the sale of the component. Oilgear engineers will be there — when they are needed, where they are needed — supplying the technical support, field service, parts and repairs to make sure each component operates correctly.



Oilgear

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For more information about your application or the products in this brochure, please contact your nearest Oilgear facility.



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