WEH...Type Electro-hydraulic Directional Control Valve

WEH 10, 16, 25, 32 type

Sizes 10,16,25,32
Max. Working Pressure: 315 bar
Max. Flow: 1100L/min

Contents

Features

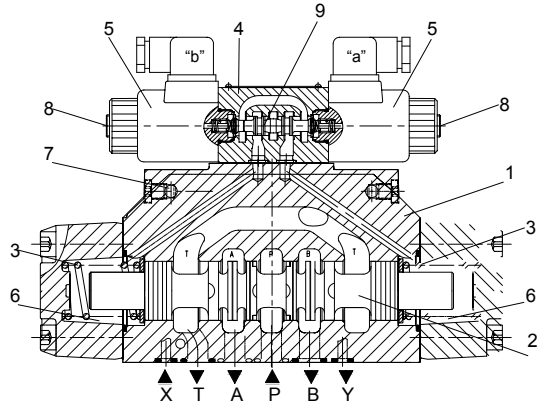
- Electro-hydraulic operation (WEH)
- Valves used to control the start, stop and direction of a fluid flow
- Porting pattern conforms to DIN 24 340 form A, ISO 4401 and CETOP-RP 121 H
- Wet pin DC or AC solenoids, optional
- Hand override, optional
- Electrical connections as an individual or central connection
- Spring or pressure centered, spring or hydraulic offset.

Function and configurations

WEH type valves are directional spool valves with electro-hydraulic operation. They control the start, stop and direction of a flow.
This valve consists of the main valve with housing(1), the main control spool(2), one or two return springs(3), the pilot control valve(4) with one or two solenoids(5).
The main valve spool(2) is held in the central or the initial position by the spring or by the pressure. The two spring chambers(6) in the initial position are connected with the tank through the pilot control valve (4). By the control line (7), the pilot control valve is supplied with pilot oil. Supply can be implemented internally or externally (externally via port X).
When one of the main control spool(2) is pressurised by the pilot contral valve(4), the spool(2) will be moved to the expected position. This gives free-flow from P to A and B to Tor P to B and A to T.
The pilot oil return is implemented internally or externally. An optional manual override(8) allows for moving of the pilot control spool(9) without solenoid energization.

02

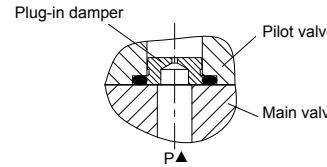
Main valves are 4/3-way directional valve with spring centring of the control spool.
When one of the two ends of the main control spool(2) is pressurised with pilot pressure, the spool is moved to the switched position. The required ports in the valve are then opened to flow. When the pilot pressure is removed, the spring on the opposite side to the pressurised spool area causes the spool to return to its neutral or initial position.



Structure chart of spring centering electro-hydraulic directional valve

Throttle insert:

The use of a throttle insert is required if the pilot oil supply in the P channel of the pilot valve is to be limited . This throttle is inserted in the P channel of the pilot valve.



Structure chart of plug-in dampers

Function and configurations

Pilot oil supply:

1. Type WEH10

(1) Conversion between internal supply and external supply:

P channel on the top of main valve bodies with M6 bolt(2) is external supply and with M6 bolt (2) dismounted is internal supply.

(2) Conversion between internal drain and external drain:

Dismounting plug screws(1) and installing M6 bolt(2) is external drain; dismounting M6 bolt(2) is internal drain.

2. Type WEH16

(1)Conversion between internal supply and external supply:

Dismounting plug screw(10) form P channel on the sidesurface of main valves and installing M6 bolt(9) is internal supply. Dismounting M6 plug bolt(9) is internal supply.

(2)Conversion between internal drain and external drain:

Dismounting plug screw(10) form T hole on the top of main valves and installing M6 plug bolt(9) is internal drain. Dismounting M6 bolt(9) is external drain.

3. Type WEH25

(1)Conversion between internal supply and external supply:

P channel on the top of main valve bodies with M6 bolt(6) is external supply and with M6 bolt (6) dismounted is internal supply.

(2)Conversion between internal drain and external drain:

Dismounting plug bolt(6) form T hole on the top of main vlaves and installing M6 plug bolt(9) is internal drain. Dismounting M6 bolt(9) is external drain.

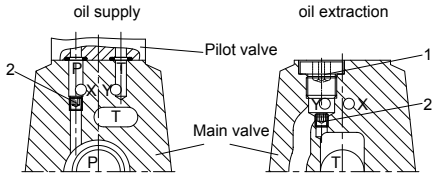
4. Type WEH32

(1)Conversion between internal supply and external supply:

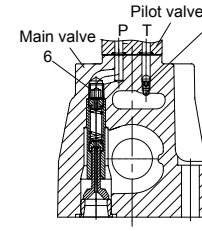
Dismounting plug screw(9) form P hole on the undersurface of main valves and installing M6 bolt(9) is internal supply. Dismounting M6 plug bolt(9) id internal supply.

(2)Conversion between internal drain and external drain:

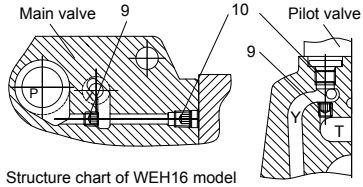
Dismounting plug screw(9) form T hole on the top of main valves and installing M6 plug bolt(9) is internal drain. Dismounting M6 bolt(9) is external drain.



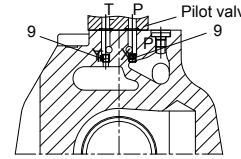
Structure chart of WEH10 model supply and discharge



Structure chart of WEH25 model supply and discharge



Structure chart of WEH16 model supply and discharge



Structure chart of WEH32 model supply and discharge

Function and configurations

Switching time adjustment:

A double throttle check valve has to be fitted between pilot valves and mian valves to influence the switching time of the main valve, that controls oil supply from pilot valves into main valve spools, thus adjusting the switching time of main valves.

Regulating bolt rotation clockwise, the time for switching of main valves is long, otherwise the time is short.

The throuttle check valve has two kinds: meter-in throttling and meter-out throttling. If there is a need of changing meter-in throttling into meter-out throttling, just install the valve after rotating 180° around the longitudinal axis again and then install pilot valves.

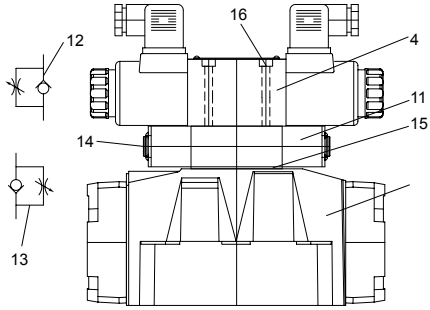


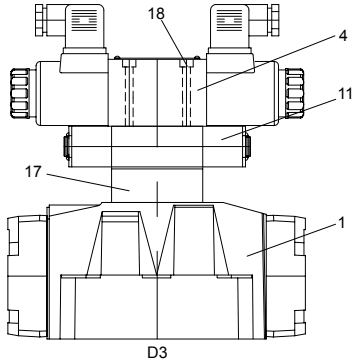
Figure of WEH……S or S2 type
commutating time regulator for valve installation

4- Pilot valve
11- Switching time regulator
12- Meter-out throttling
13- Meter-in throttling
14- Adjustable bolt
15- Seal ring support plate
16- Set screw

Pressure reducing valves:

The pressure reducing valve (8) must be used if the pilot pressure is higher than 250 bar (for type 4WEH 22 ...: 210 bar).Pressure reducing ratio of constant-ratio pressure reducing valves(D1)1:0.66. Pressure reducing pressure of constant-ratio pressure reducing valves shall not exceed 40bar. Minimum control pressure of technical specifications shall improve 1/0.66=1.515 after installing bottom plate pressure reducing valves.

Constant-ratio pressure reducing valves shall not be used when controlling internal oil drain and using back pressure valves(P0.45) with control pressure decreased to 3bar.



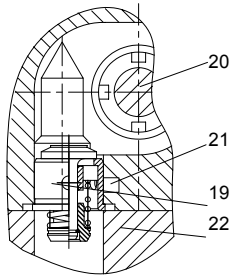
Structure chart of WEH…/…S…D1 or D3 type
valve with pressure reducing valves

1- Main valve
4- Piolt valve
11- Switching time regulator
17- Pressure reducing valve
18- Bolt

Function and configurations

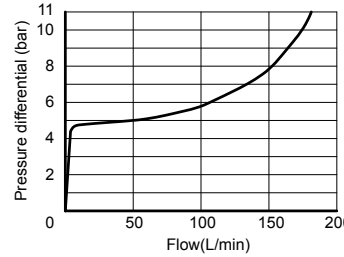
Back pressure valve:

Valves controlling oil inner supply with unloading passages, such as C, Z, G, H, P, S, T and V, In valves with zero pressure circulation and internal pilot oil supply,a back pressure valve (9) must be installed in the P-channel of the main valve to build up the minimun pilot pressure. The pressure differential of the back pressure valve must be added to the pressure differential of the main valve (see characteristic curves) in order to determine the acutal value. The opening pressure of this valve is approx. 4.5 bar. NG10 valves do not have back pressure valves.

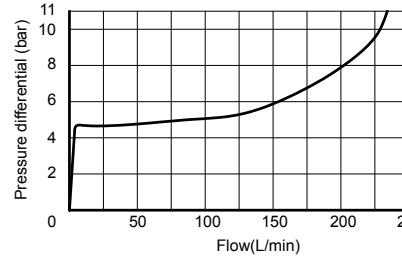


WEH16(32).../.../...PO.45 type
Structure chart of back pressure valve of electro-hydraulic directional valve

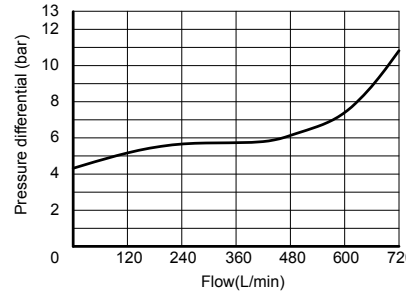
19- Back pressure valve
20- Main valve
21- Control oil chamber(X)
22- Connecting plate



Pressure loss curve of **WEH16** type electro-hydraulic directional valves passing through back pressure valves (Test condition:use HLP46,t=40℃ ±5℃)

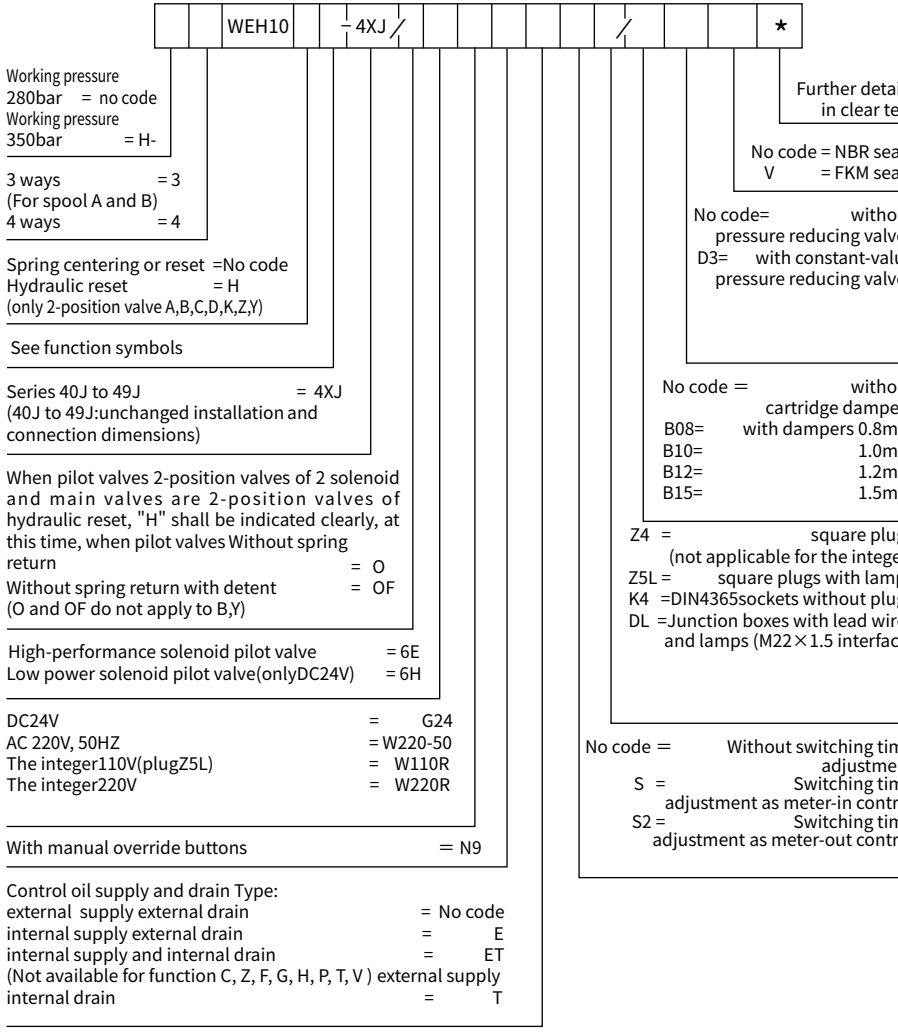


Pressure loss curve of **WEH25** type electro-hydraulic directional valves passing through back pressure valves (Test condition:use HLP46,t=40℃ ±5℃)

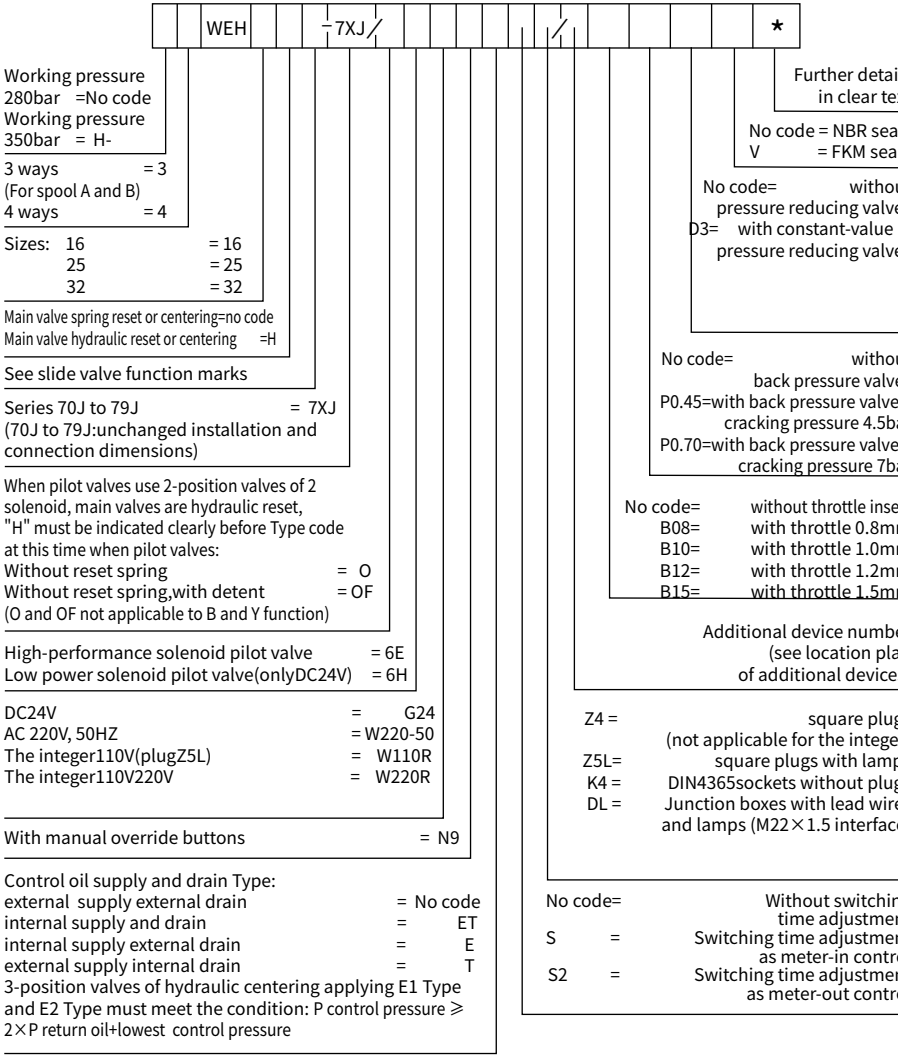


Pressure loss curve of **WEH32** type electro-hydraulic directional valves passing through back pressure valves (Test condition:use HLP46,t=40℃ ±5℃)

Specifications



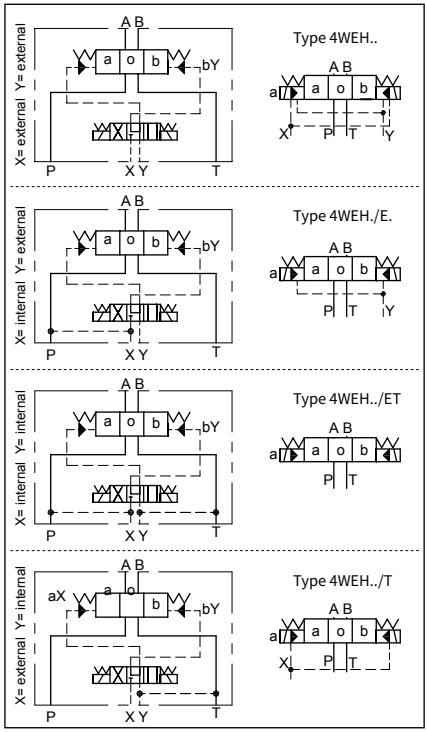
Specification



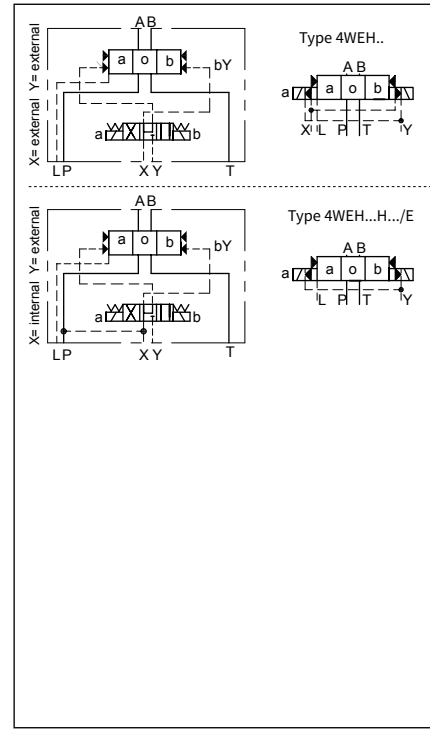
Symbols

Detailed and simplified symbols for 3-position valves

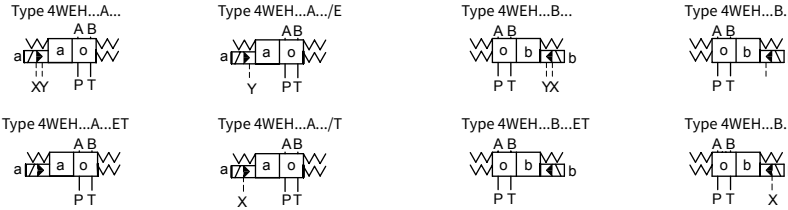
Valves with spring centred



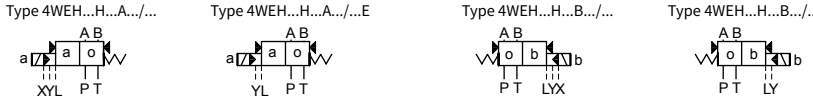
Valves with hydraulic centred



Valves with spring offset (At position A or B of 2-position valve derived from 3-position)



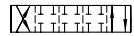
Valves with hydraulic offset (At position A or B of 2-position valve derived from 3-position)



Symbols

Spools of 3-position valves

3-position valve

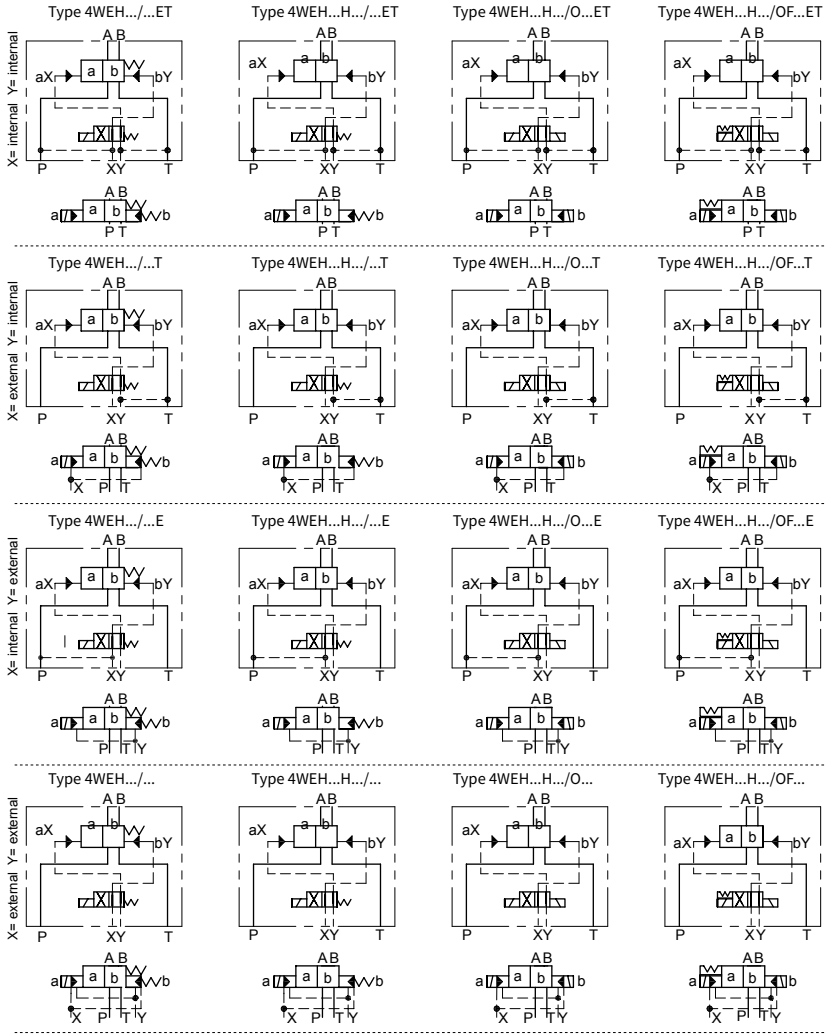
3-position valve type		Symbol	Crossover Symbol
4WEH...E.../...	E		
4WEH...F.../...	F		
4WEH...G.../...	G		
4WEH...H.../...	H		
4WEH...J.../...	J		
4WEH...L.../...	L		
4WEH...M.../...	M		
4WEH...P.../...	P		
4WEH...Q.../...	Q		
4WEH...R.../...	R		
4WEH...S.../...	S		
4WEH...T.../... T			
4WEH...U.../...	U		
4WEH...V.../... V			
4WEH...W.../...	W		
4WEH...M1.../...	M1		
4WEH...M2.../...	M2		
4WEH...J2.../...	J2		

2-positon derivative from 3-position

2-position valve type	Symbol (solenoid at A end)	2-position valve type	Symbol (solenoid at B end)
4WEH...EA.../...		4WEH...EB.../...	
4WEH...FA.../...		4WEH...FB.../...	
4WEH...GA.../...		4WEH...GB.../...	
4WEH...HA.../...		4WEH...HB.../...	
4WEH...JA.../...		4WEH...JB.../...	
4WEH...LA.../...		4WEH...LB.../...	
4WEH...MA.../...		4WEH...MB.../...	
4WEH...PA.../...		4WEH...PB.../...	
4WEH...QA.../...		4WEH...QB.../...	
4WEH...RA.../...		4WEH...RB.../...	
4WEH...SA.../...		4WEH...SB.../...	
4WEH...TA.../...		4WEH...TB.../...	
4WEH...UA.../...		4WEH...UB.../...	
4WEH...VA.../...		4WEH...VB.../...	
4WEH...WA.../...		4WEH...WB.../...	
4WEH...M1A.../...		4WEH...M1B.../...	
4WEH...M2A.../...		4WEH...M2B.../...	
4WEH...J2A.../...		4WEH...J2B.../...	

Symbols

Detailed and simplified symbols for 2-position valves



Spools of 2-position valves

Spools:	A	C	D,DE	K	Z	B	Y,YE
Spool symbols:	a b Port T for draining	a b	D a b DE a b	a b	a b	a b Port T for draining	Y a b YE a b
Transition symbols:							

Technical details

SIZE		10	16	25	32
Maximum working pressure: P,A,B (bar)	4WEH	280	280	280	280
	H-4WEH	350	350	350	350
Port T (bar)	With external pilot oil drain	315	250	250	250
	With internal pilot oil drain	DC210 AC160			
Port Y (bar)	With external pilot oil drain	DC210 AC160			
Max.control pressuer (bar)		250			
Internal pilot oil supply X(not apply to C,F,G,H,P,T,V,Z)		4.5			
Hydraulic fluid		Mineral oil, phosphate oil			
Temperature range of Hydraulic fluid	NBR seals	-30 to +80			
	FKM seals	-20 to +80			
Viscosity range (mm^2/s)					
Pilot volume for switching process (cm^3)	3-spool position valve, spring-centered	2.0	5.72	7.64	29.4
	2-spool position valve	4.0	11.45	15.28	58.8
	3-spool position valve, pressure-centered				
	-from zero position to “a” position	-	2.83	7.15	14.4
	-from “a” position to zero position	-	2.9	7.0	15.1
	-from zero position to “b” position	-	5.73	14.15	29.4
	-from “b” positiuon to zero position	-	2.83	5.73	14.4
Pilot flow for shortest switching time, approx (L/min)		35	35	35	45
Weight, approx (kg)	Valve with one solenoid	6.4	8.5	17.8	40.5
	Valve with two solenoids, spring-centered	6.8	8.9	18.0	41.0
	Valve with two solenoids, pressure-centered	6.8	8.9	19.0	41.0
Installation position	Any(except C,D,K,Z,Y type hydraulic -return valves are installed				

Technical details

Switching time															
Size 10	From zero position to switched position(AC and DC solenoid)														
	Control pressure (bar)	70				140				210				250	
		AC		DC		AC		DC		AC		DC		AC	DC
	3-position valve (ms)	30		65		25		80		20		55		15	50
	2-position valve (ms)	35		80		30		75		25		70		20	65
	3-position valve (ms)	30													
	2-poaition valve (ms)	35		40		30		75		25		30		20	25
Size 16	From zero position to switched position														
	Control pressure (bar)	50				150				250					
		AC		D		AC		DC		AC				DC	
	3-position valve, spring-centered	35		6		30		60		30				58	
	2-position (ms)	45		6		35		55		30				50	
	3-position valve, pressure-centered	a	b	a	b	a	b	a	b	a	b	a	b	a	b
	(ms)	30	30	65	65	25	25	55	63	20	25	55	60		
	3-position valve (ms)	30													
	2-position valve (ms)	45		45		35		35		30				30	
	3-position valve, hydraulic-centered	a	b	a	b	a	b	a	b	a	b	a	b	a	b
	(ms)	20		20		20		20		20				20	

Technical details

Switching time

Size 25	Pilot control pressure	50				140				210				250			
	(bar)	AC		DC		AC		DC		AC		DC		AC		DC	
	3-position valve, spring-centered (ms)	50		85		40		75		35		70		30		65	
	2-position	120		160		100		130		85		120		70		105	
	3-position valve, hydraulic-centered (ms)	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
		30	35	55	65	30	35	55	65	25	30	50	60	25	30	50	60
	3-position valve																
	2-position valve	120		125		95		100		85		90		75		80	
	3-position valve, hydraulic-centered (ms)	a	b	a	b	a	b	a	b	a	b	a	b	a	b	a	b
		20	35	30	35	30	35	30	35	30	35	30	35	30	35	30	35

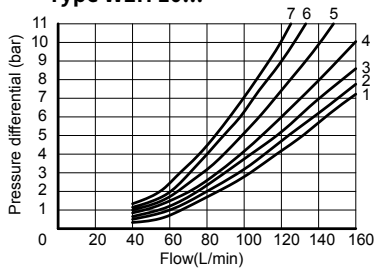
Size 32	From zero position to switched position(AC and DC solenoid)												
	Pilot valve pressure	50				150				250			
	(bar)	AC		DC		AC		DC		AC		DC	
	3-position valve, spring-centered (ms)	65		80		50		90		35		105	
	2-position valve	100		130		75		100		60		115	
	3-position valve, hydraulic-centered (ms)	a	b	a	b	a	b	a	b	a	b	a	b
		55	60	100	105	40	45	85	95	35	40	85	95
	3-position valve												
	2-position valve	115		90		35		70		65		65	
	3-position valve, hydraulic-centered (ms)	a	b	a	b	a	b	a	b	a	b	a	b
		30	50	30	40	60	75	30	30	105	140	50	50

2. Electrical data

Type of voltage	Direct voltage		Alternating voltage
Voltage (allowable fluctuation of ±10%)	12, 24, 28 [1], 48, 96 110, 205, 220		110, 127, 220
Power(W)	High-performance solenoid valve 30	Low-powered solenoid valve 16	
Holding power (VA)			50
Starting power (VA)			220
Operating state	Continuous		
Temperature range of environment (°C)	～ +50		
Temperature range of coil (°C)	～ +150		
Protection class to DIN40050	IP65		

Characteristic curves (Measured at t=40℃ ±5℃ , using HLP46)

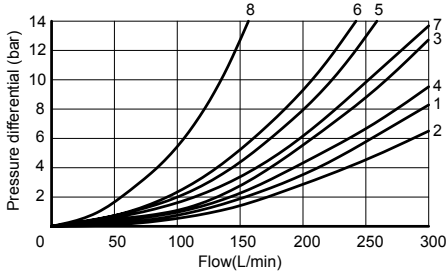
Type WEH 10...



Pressure loss curve graph of **WEH10** Type electro-hydraulic directional control valve

Enginery symbol	Switching position				Enginery symbol	Neutral position		
	P → A	P → B	A → T	B → T		A → T	B → T	P → T
E, Y, D	2	2	4	5				
F	1	4	1	4	F	3	-	6
G, T	4	2	2	6	G, T	-	-	7
H, C	4	4	1	4	H	1	3	5
J, K	1	2	1	3				
L	2	3	1	4	L	3	-	-
M	4	4	3	4				
P	4	1	3	4	P	-	7	5
Q, V, W, Z	2	2	3	5				
R	2	2	3	-				
U	3	3	3	4	U	-	4	-

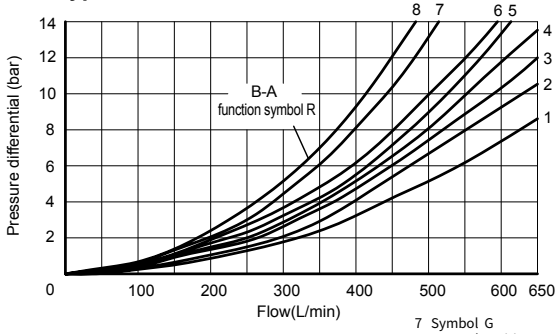
Type WEH 16...



Pressure loss curve graph of **WEH16** Type electro-hydraulic directional control valve

Symbol	Switching position				
	P → A	P → B	A → T	B → T	P → T
E, Y, D	1	1	1	3	-
F	2	2	3	3	-
G, T	5	1	3	7	6
H, C, Q, V, Z	2	2	3	3	-
J, K, L	1	1	3	3	-
M, W	2	2	4	3	-
R	2	2	4	-	-
U	1	1	4	7	-
S	4	4	4	-	8

Type WEH 25...



Pressure loss curve graph of **WEH25** Type electro-hydraulic directional control valve

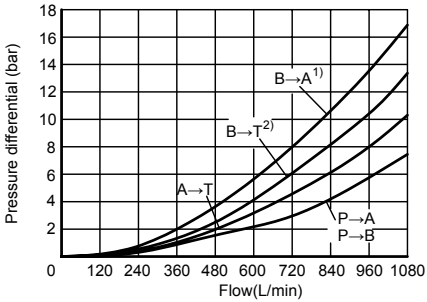
7 Symbol G
Neutral position P-T
8 Symbol T
Neutral position P-T

Symbol	Switching position			
	P → A	P → B	A → T	B → T
E	1	1	1	3
F	1	4	3	3
G	3	1	2	4
H	4	4	3	4
J, Q	2	2	3	5
L	2	2	3	3
M	4	4	1	4
P	4	1	1	5
R	2	1	1	-
U	4	1	1	6
V	2	4	3	6
W	1	1	1	3
T	3	1	2	4

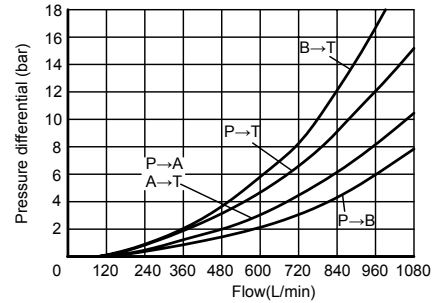
Characteristic curves (Measured at t=40℃ ±5℃ , using HLP46)

Type WEH 32...

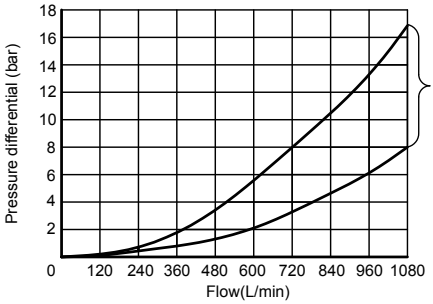
Δp-qv Characteristic curve-Symbol E, R and W



Δp-qv Characteristic curve-Symbol G and T



Δp-qv Characteristic curve-All Symbols



Pressure loss curve graph of **WEH32** Type electro-hydraulic directional control valve

When valve is at the middle position,open area of all flow directions

Size	Enginery	Open area (mm^2)			
		P → A	P → B	A → T	B → T
WEH10	Q	-	-	13	13
	V	13	13	13	13
	W	-	-	2.4	2.4
WEH16	Q	-	-	32	32
	V	32	32	32	32
	W	-	-	6	6
WEH25	Q	-	-	83	83
	V	83	83	83	83
	W	-	-	14	14
WEH32	Q	-	-	78	78
	V	73	73	84	84
	W	-	-	20	20

Performance limit

The switching function of valves depends on filtration due to adhesive effects. To achieve the specified permissible flow values, we recommend full-flow filtration with 25 µm. The flow forces acting within the valves also have an influence on the flow performance. With 4-way directional valves, the specified flow data are therefore valid for normal applications with 2 directions of flow. If the fluid flows in only one direction, the permissible flow may be significantly lower in critical cases.

Type: WEH10 electro-hydraulic directional control valve

3-position valve, spring centering			
Flow(L/min)	Pressure stage(bar)		
Symbol	200	250	315
E, J, L, M, Q, U, W, R, V	160		
H	160	150	120
G, T	160		140
F, P	160	140	120
2-position valve whose main valve has a returning spring			
C, D, K, Z, Y	160		

2-position valve, main valve without spring			
Flow(L/min)	Pressure stage(bar)		
Symbol	200	250	315
HC HD HK HZ HY	160		
HC.../O HD.../O	160		
HK.../O HZ.../O			
HC.../OF... HD.../OF... HK.../OF... HZ.../OF...	160		

Type: WEH16 electro-hydraulic directional control valve

Spring-centering 3-position valve					
Flow(L/min)	Pressure stage(bar)				
Symbol	70	140	210	280	350
E, H, J, L, M, Q, U, W, R	300	300	300	300	300
F, P	300	250	180	170	150
G, T	300	300	240	210	190
S	300	300	300	250	220
V	300	250	210	200	180
Hydraulic-centering 3-position valve (min.control pressure 16 bar)					
All functions	300	300	300	300	300

2-position valve					
Flow(L/min)	Pressure stage(bar)				
Symbol	70	140	210	280	350
C	300	300	300	300	300
D, Y	300	270	260	250	230
K	300	250	240	230	210
Z	300	260	190	180	160
Hydraulic-return 2-position valve					
HC, HD, HK, HZ, HY	300	300	300	300	300
When control oil is supplied internally and pressure valve is equipped, the flow of spool valve's enginery of H, F, P, G, T, S, V, C and Z Types reaches 160L/min .					

Performance limit

Type: WEH25 electro-hydraulic directional control valve

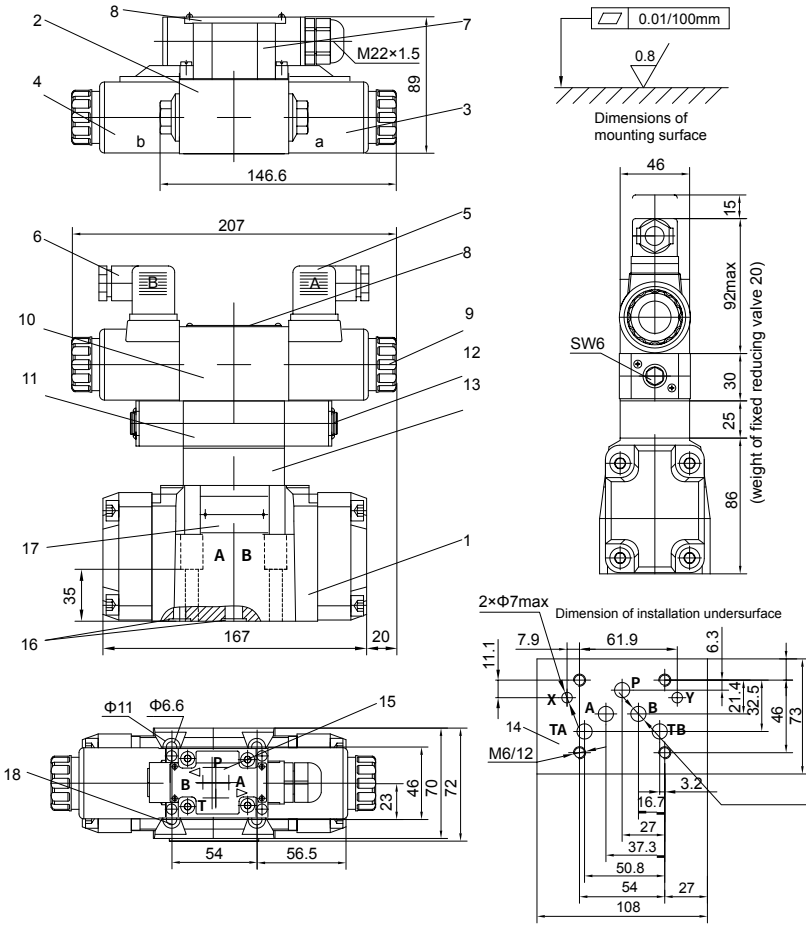
3-position valve of spring centering						**2-position valve**					
Flow(L/min)	Pressure stage(bar)					Flow(L/min)	Pressure stage(bar)				
Symbol	70	140	210	280	350	Symbol	70	140	210	280	350
E, L, M U, W, Q	650	650	650	650	650	G, D, K, Z, Y	650	650	650	650	650
						Hydraulic-return 2-position valve (main valve without spring)					
G, T	400	400	400	400	400	HC HD HK HZ HY	650	650	650	650	650
F	650	550	430	330	300						
H	650	650	550	400	360	HC.../O	650	650	650	650	650
J	650	650	650	600	520	HD.../O					
P	650	550	430	330	300	HK.../O					
V	650	550	400	350	310	HZ.../O					
R	650	650	650	650	580	HC.../OF...	650	650	650	650	650
Hydraulic-centering 3-position valve (minimum control pressure 18bar)						HD.../OF...					
E, F, H, J, L, M P, Q, R, U, V, W	650	650	650	650	650	HK.../OF...					
						HZ.../OF...					
G, T	400	400	400	400	400	When control oil is supplied internally and pressure valve is equipped, the flow of spool valve's enginery of G, Z, V, F, H, P, T Types reaches 180L/min.					
Hydraulic-centering 3-position valve (minimum control pressure 30bar)											
G, T	650	650	650	650	650						

Type: WEH32 electro-hydraulic directional control valve

3-position valve of spring centering						**2-position valve**					
Flow(L/min)	Pressure stage(bar)					Flow(L/min)	Pressure stage(bar)				
Symbol	70	140	210	280	350	Symbol	70	140	210	280	350
E, J, L, M, R U, W, R	1100	1040	860	750	680	C, D, K, Z, Y	1100	1040	860	750	680
H, G	1100	1000	680	500	450	**Hydraulic-return 2-position valve**					
F, T, P	820	630	510	450	400						
Hydraulic-centering 3-position valve (minimum control pressure 8.50bar)						HC, HD, HK, HZ, HY	1100	1040	860	750	680
All functions	1100	1040	860	750	680	When control oil is supplied internally and pressure valve is equipped, the flow of spool valve's enginery of C, G, T, F, P, H, V and Z Types reaches 180L/ min.					

Unit dimensions

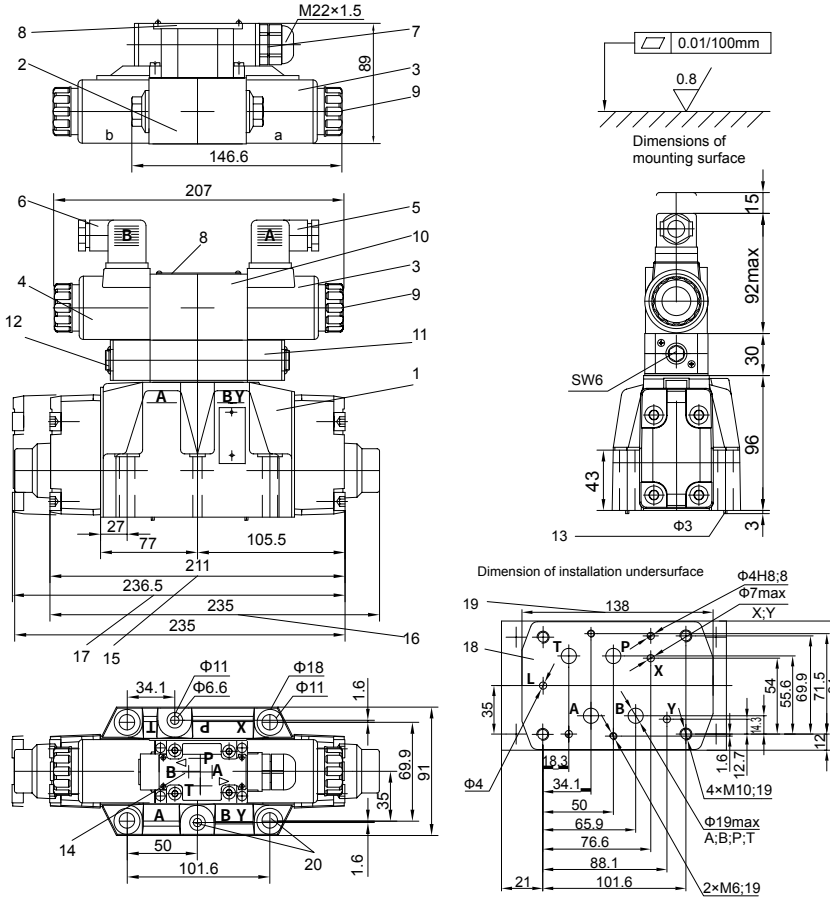
Unit dimensions of WEH 10 electro-hydraulic directional control valve



1 Main valve
2 2-position valve, with one solenoid
3 Solenoid a
4 Solenoid b
5 Plug of solenoid a
6 Plug of solenoid b
7 Junction box with lead and light, M22×1.5 interface
8 Label of pilot valve
9 Manual button
10 Double-solenoid 2-position valve, double-solenoid 3-position valve
11 Switching time regulator
12 Section flow of Switching time regulator "full open"
13 Reducing valve
14 Arrangement of main valve's oil outlets (attachment face of valve)
15 Position of leading oil outlet
16 O-ring of A, B, P and T outlets: 12×2; O-ring of X and Y: 10.82×1.78
17 Nameplate
18 Bolt4-M6×45 GB/T70.1-2000-10.9 grade Moment M_A=15.5Nm (bolt of vertical stack components combined with electro-hydraulic directional valve is selected according to actual height)

Unit dimensions

Unit dimensions of WEH 16 electro-hydraulic directional control valve

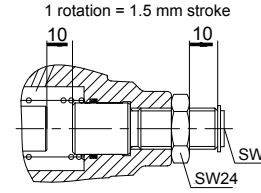


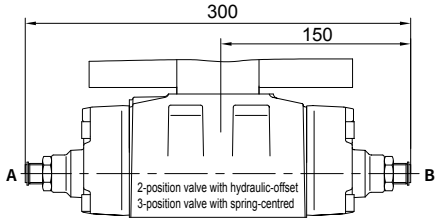
1 Main valve
2 2-position valve with one solenoid
3 Solenoid a
4 Solenoid b
5 Plug of solenoid a
6 Plug of solenoid a
7 Junction box with lead and light, M22×1.5 interface
8 Label of pilot valve
9 Manual button
10 Double-solenoid 2-position valve, Double-solenoid 3-position valve
11 Switching time regulator
12 Adjustable bolt
13 2 locating pins
14 Locating diagram of connector of pilot-operated solenoid valve
15 Size of spring-centering 3-position valve and hydraulic-return 2-position valve
16 Spring-return 2-position valve (icon sizes are C, D, K, Z engineries)
17 Hydraulic-centering 3-position valve
18 Connection diagram of main valve
19 Minimum size of process-required connection face of main valve
20 Bolt4-M10×60 GB/T70.1-2000-10.9 grade(M_A=75Nm)
Bolt 2-M6×55 GB/T70.1-2000-10.9grade (M_A=15.5Nm)
(bolt of vertical stack components combined with electro-hydraulic directional valve is selected according to actual height) must order separately.
O-ring for P, T, A, B outlets: 22×2.5; O-ring for X, Y, L outlets: 10×2

Unit dimensions

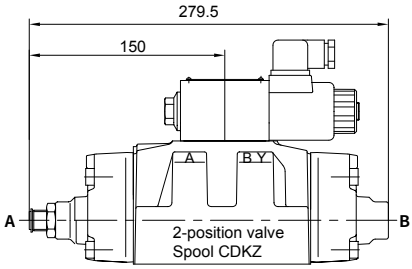
Dimension of additional devices of valve type WEH16

Range of stroke adjustment is 10 mm to adjust main spool stroke. Loosen the lock-up nut and rotate the rod clockwise, thus, shorten the stroke of the main spool.

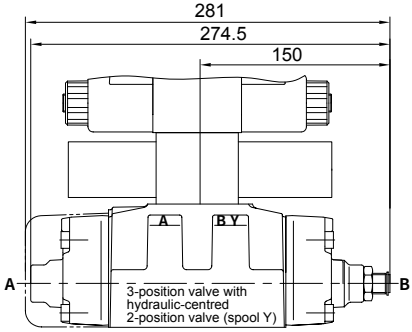




Stroke adjustment fixed on end "A"and "B" 10
Stroke adjustment fixed on end "A" 11
Stroke adjustment fixed on end "B" 12



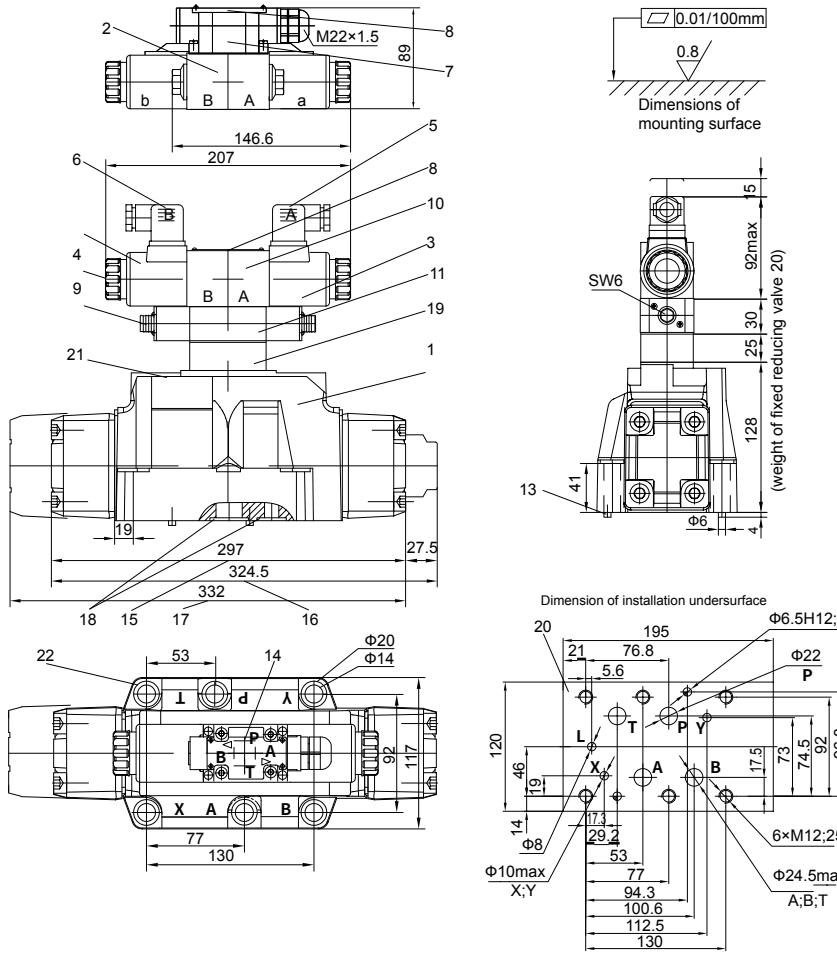
Stroke adjustment fixed on end "A" 11



Stroke adjustment fixed on end "B" 12

Unit dimensions

Unit dimensions of WEH 25 electro-hydraulic directional control valve

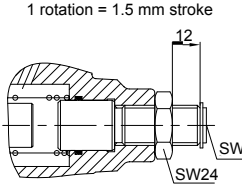


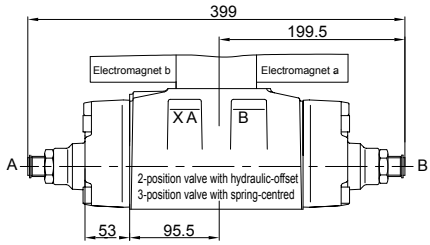
1 Main valve
2 2-position valve with one solenoid
3 Solenoid a
4 Solenoid b
5 Plug of solenoid a
6 Plug of solenoid b
7 Junction box with lead and light, M22×1.5 interface
8 Label of pilot valve
9 Manual button
10 Double-solenoid 2-position valve, Double-solenoid 3-position valve
11 Switching time regulator
12 Adjustable bolt
13 2 locating pins
14 Locating diagram of connector of pilot
15 Size of spring-centering 3-position valve and hydraulic-return 2-position valve
16 Spring-return 2-position valve (icon sizes are C, D, K, Z functions)
17 Hydraulic-centering 3-position valve
18 O-ring: 27×3(A, B, P and T); 19×3(X, Y)
19 Reducing valve
20 Diagram of connector of main valve
21 Labels
22 Bolt6-M12×60 GB/T70.1-2000-10.9 grade (M_A=130Nm) (bolt of vertical stack components combined with

Unit dimensions

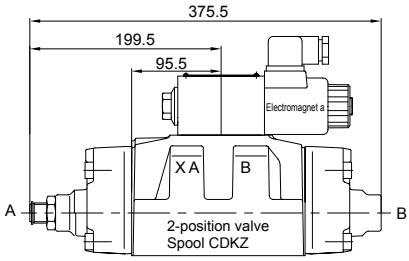
Dimension of additional devices of valve type WEH25.

Range of stroke adjustment is 12 mm to adjust main spool stroke. Loosen the lock-up nut and rotate the rod clockwise, thus, shorten the stroke of the main spool.

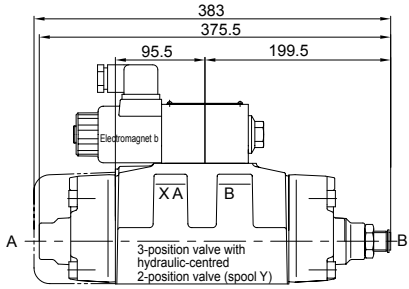




Stroke adjustment fixed on end "A"and "B" 10
Stroke adjustment fixed on end "A" 11
Stroke adjustment fixed on end "B" 12



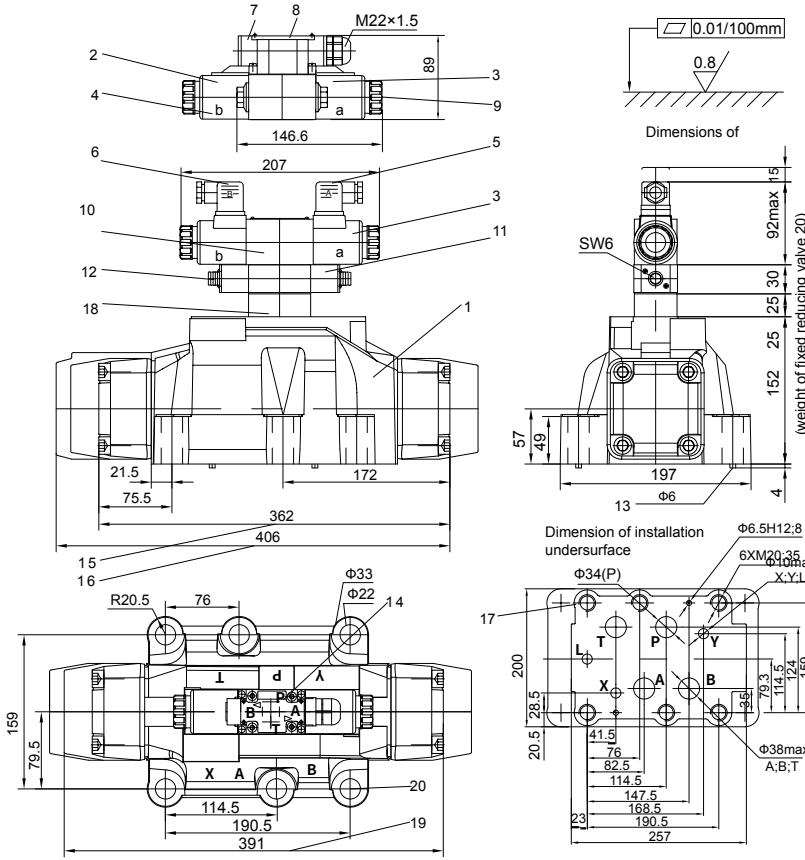
Stroke adjustment fixed on end "A" 11



Stroke adjustment fixed on end "B" 12

Unit dimensions

Unit dimensions of WEH 32 electro-hydraulic directional control valve

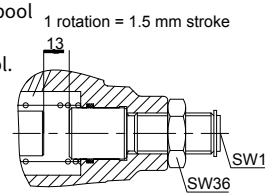


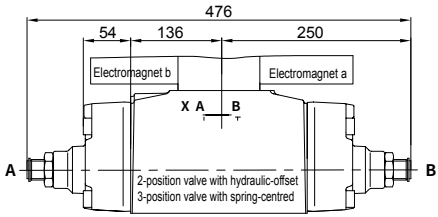
1 Main valve
2 2-position valve with one solenoid
3 Solenoid a
4 Solenoid b
5 Plug of solenoid a
6 Plug of solenoid a
7 Junction box with lead and light, M22×1.5 interface
8 Label of pilot valve
9 Manual button
10 Double-solenoid 2-position valve, Double-solenoid 3-position valve
11 Switching time regulator
12 The location when section flow full open
13 2 locating pins
14 Locating diagram of connector of pilot-operated solenoid valve
15 Size of spring-centering 3-position valve and hydraulic-return 2-position valve
16 Hydraulic-centering 3-position valve
17 Locating diagram of connector of main valve
18 Reducing valve
19 Spring-return 2-position valve
(Icon size is Y Type enginery.
For C, D, K, Z on the right head protruding function)
20 Bolt6-M20×80 GB/T70.1-2000-10.9 (M_A=430Nm)
(bolt of vertical stack components combined with electro-hydraulic directional valve is selected according to actual height)
P, T, A, B port O-rings: 42×3
X, Y, L port O-rings: 19×3

Unit dimensions

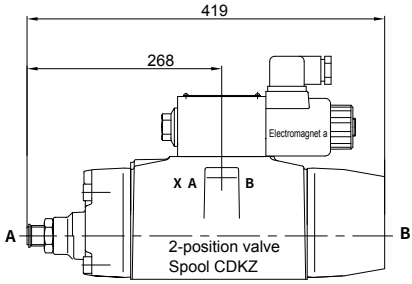
Dimension of additional devices of valve type WEH32

Range of stroke adjustment is 13 mm to adjust main spool stroke. Loosen the lock-up nut and rotate the rod clockwise, thus, shorten the stroke of the main spool.

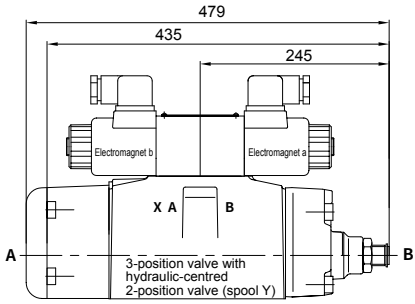




Stroke adjustment fixed on end "A"and "B" 10
Stroke adjustment fixed on end "A" 11
Stroke adjustment fixed on end "B" 12



Stroke adjustment fixed on end "A" 11



Stroke adjustment fixed on end "B" of 12