

# AH-WEH...Type Electro-hydraulic Directional Control Valve



AH-WEH 10, 16, 25, 32 type

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

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#### Features

- Electro-hydraulic operation (AH-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.

AH-WEH type valves are directional spool valves with electro-hydraulic operation. They control the start, stop and direction of a flow.

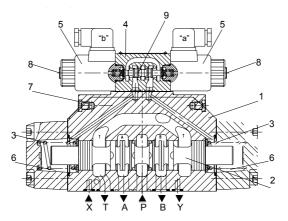
This valve consists of the main valve with housing(1), the main control spool(2), one or two return springs(3), the pilot control valve(4) with one or two solenoids(5).

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.

#### Main valves are 4/3-way directional valve with spring centring of the control spool.

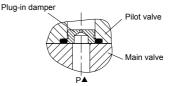
When one of the two ends of the main control spool(2) is pressurised with pilot pressure, the spool is moved to the switched position. The required ports in the valve are then opened to flow. When the pilot pressure is removed, the spring on the opposite side to the pressurised spool area causes the 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

### Pilot oil supply:

#### 1.Type AH-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 AH-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 AH-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 AH-WEH32

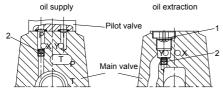
# (1)Conversion between internal supply and external supply:

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:

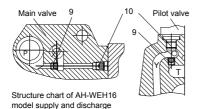
Dismounting plug screw(9) form T hole on the top of main valves and installing M6 plug bolt(9) is internal drain. Dismounting M6 bolt(9) is external drain.

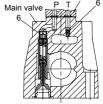
Pilot valve



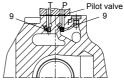
Structure chart of AH-WEH10

model supply and discharge





Structure chart of AH-WEH25 model supply and discharge



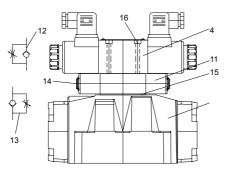
Structure chart of AH-WEH32 model supply and discharge

#### 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.



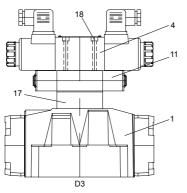
- 4- Pilot valve11- Switching time regulator
- 12- Meter-out throttling
- 13- Meter-in throttling
- 14- Adjustable bolt
- 15- Seal ring support plate
- 16- Set screw

Figure of AH-WEH... S or S2 type commutating time regulator for valve installation

#### Pressure reducing valves:

The pressure reducing valve (8) must be used if the pilot pressure is higher than 250 bar (for type AH-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.

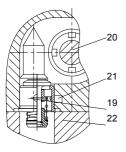


Structure chart of AH-WEH.../...S...D1 or D3 type valve with pressure reducing valves

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

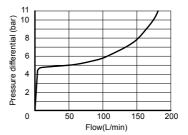
#### Back pressure valve:

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.

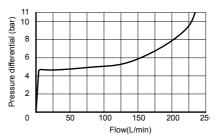


AH-WEH16(32).../...PO.45 type Structure chart of back pressure valve of electro-hydraulic directional valve

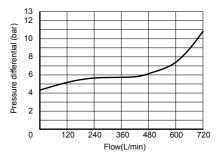
- 19- Back pressure valve
- 20- Main valve
- 21- Control oil chamber(X)
- 22- Connecting plate



Pressure loss curve of AH-**WEH16** type electro-hydraulic directional valves passing through back pressure valves (Test condition:use HLP46,t=40°C  $\pm$ 5°C )



Pressure loss curve of AH-**WEH25** type electrohydraulic directional valves passing through back pressure valves (Test condition:use HLP46,t=40°C  $\pm$ 5°C)



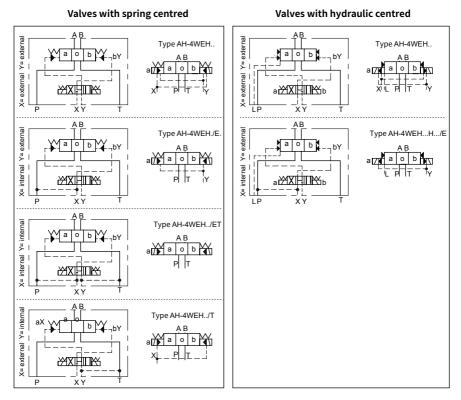
Pressure loss curve of AH-**WEH32** type electrohydraulic directional valves passing through back pressure valves (Test condition:use HLP46,t=40°C  $\pm5^\circ\text{C}$ )

# Specifications

AH WEH10	50S /		) *
Working pressure 280bar = no code Working pressure 350bar = H-			Further details in clear text No code = NBR seals
3 ways = 3 (For spool A and B) 4 ways = 4			V = FKM seals No code= without pressure reducing valves
Spring centering or reset =No code Hydrau reset = H (only 2-position valve A,B,C,D,K,Z,Y)	lic		D3= with constant-value pressure reducing valves
See function symbols			
Series 50S			No code = without cartridge dampers B08= with dampers 0.8mm B10= 1.0mm
	ves of arly, at		B12=       1.2mm         B15=       1.5mm         Z4 =       square plugs         (not applicable for the integer)         Z5L =       square plugs with lamps         K4 =DIN4365sockets without plugs         DL =Junction boxes with lead wires
High-performance solenoid pilot valve Low power solenoid pilot valve(onlyDC24V)	= 6E ) = 6H		and lamps (M22×1.5 interface)
DC24V AC 220V, 50HZ The integer110V(plugZ5L) The integer220V	= G24 = W220-50 = W110R = W220R		No code = Without switching time adjustment S = Switching time adjustment as meter-in control S2 = Switching time
With manual override buttons	= N	9	adjustment as meter-out control
Control oil supply and drain Type: external supply external drain internal supply external drain internal supply and internal drain (Not available for function C, Z, F, G, H, P, T, internal drain	= No d = = V) external suj =	E ET	

# Symbols

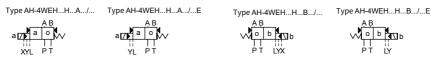
#### Detailed and simplified symbols for 3-position valves



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

Type AH-4WEHA	Type AH-4WEHA/E	Type AH-4WEHB	Type AH-4WEHBE
Type AH-4WEHAET	Type AH-4WEHA/T	Type AH-4WEHBET	Type AH-4WEHBT

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



# Symbols

# Spools of 3-position valves

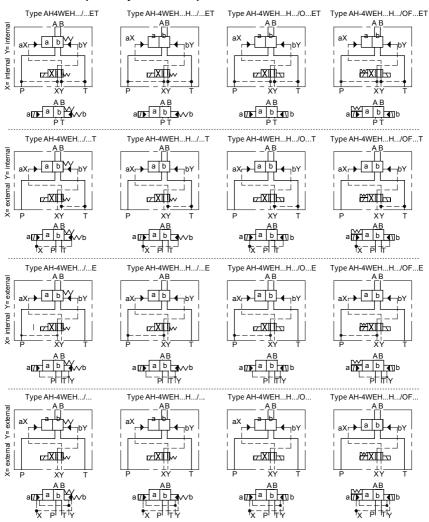
### 3-position valve

### 2-positon derivative from 3-position

3-position valve type	Symbol	Crossover Symbol	2-position valve type	Symbol (solenoid at A end)	2-position valve type	Symbol (solenoid at B end)
Е			EA	$X_{\rm II}^{\rm II}$	EB	; ; ; ; ; ;
F	XHU		FA	XF	FB	EI
G			GA		GB	ΗX
н	XHII		HA	XH	HB	
J	XFIII	XXHIII	JA	X	JB	EI
L	XHI	XREE	LA	XF	LB	
м	XHI	XZHI	MA	XE	MB	
Ρ	XH		PA	X	РВ	
Q	X		QA	X	QB	<u>*</u> _* ↓ ↓
R	X		RA	$X^{\rm III}_{\rm II}$	RB	<u></u> <u> </u> <u> </u>
S	XH		SA	X	SB	ΕB
т			ТА		ТВ	
U	$X_{\tau}^{1}$		UA	$X_{\scriptscriptstyle T}^{\scriptscriptstyle 1}$	UB	<u></u>  -   ↓ ↓ ↓
v	XH		VA	X	VB	
w	XHI		WA	X	WB	<u>*</u> *14 J
М1	X		M1A	X	M1B	Z
М2	X		M2A	XII	M2B	
J2	XHH		J2A	XH	J2B	

# Symbols

#### Detailed and simplified symbols for 2-position valves



#### Spools of 2-position valves

Spools:	Α	с	D,DE	к	Z	В	Y,YE
Spool symbols:	a Z b Port T for draining		D a X		a XIIIwb	a ZE b Port T for draining	Y a√X∐b YE <sub>a√</sub> X∰b
Transition symbols:	<u> Yu iu iu iu i</u>		XIIIII	XXHIII	XHHHD	Zinnil.	XIIII

					1				
SIZE				1	10	16	25	32	
Maximum worki	na pressure	• PAR	(bar)	AH-4WEH	280	280	280	280	
			(bul)	AH-H-4WEH	350	350	350	350	
Port T	(bar)	With exte	rnal pilot	oil drain	315	250	250	250	
	(641)	With inter	nal pilot	oil drain	DC21	0	AC160		
Port Y	(bar)	With exte	rnal pilot	oil drain	DC21	0	AC160		
Max.control pres	ssuer			(bar)	250				
Internal pilot oil supply X(not apply to C,F,G,H,P,T,V,Z) 4.5									
Hydraulic fluid					Mine	ral oil, p	hosphat	e oil	
Temperature rar	nge of Hydr	aulic fluid	NBR sea	lls	-30 t	o +80			
			FKM sea	als	-20 to +80				
Viscosity rang	e			(mm² / s)					
Pilot volume for	3-spo	ol position	valve, spr	ring-centered	2.0	5.72	7.64	29.4	
switching proces	2-spo	ol position	valve		4.0	11.45	15.28	58.8	
		ol position	valve, pre	essure-centered					
(cm <sup>3</sup> )		-from zero	position	to "a" position	_	2.83	7.15	14.4	
		-from "a" p	osition to	zero position	_	2.9	7.0	15.1	
		-from zero	position	to "b" position	_	5.73	14.15	29.4	
		-from "b" p	ositiuon	to zero position	_	2.83	5.73	14.4	
Pilot flow for she	ortest switc	hing time, a	approx	(L/min)	35	35	35	45	
Weight,	Valve with	lve with one solenoid 6.4 8.5 17.8 40.5							
approx (kg)	Valve with	with two solenoids, spring-centered 6.8 8.9 18.0 41.0							
	Valve with	two soleno	ids, press	sure-centered	6.8	8.9	19.0	41.0	
Installation posit	tion Any(	except C,	D,K,Z,Y	type hydraulic -	-return	valve	s are	installed	

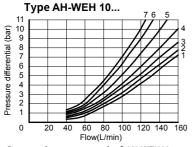
Switchin	g time													
	From zero position to	o switched posi	tion(A	C an	d DC	C sole	enoid	)						
	Control pressure	(bar) –	7	0	14		40		2	10			250	
		(bai)	AC	DC		AC	DC	2	AC	D	c	AC		DC
Size 10	3-position valve	(ms)	30	65		25	80	)	20	5!	5	15	5	50
5120 10	2-position valve	(ms)	35	80		30	75	5	25	70	0	20	6	55
	3-position valve	(ms)	30				1							
	2-poaition valve	(ms)	35	40		30	75	5	25	30	o 🛛	20	2	25
	From zero position to	o switched posi	tion											
	Control pressure	(bar)		50				150				2	50	
			A	кС	D	A	C		DC		A	C	D	C
	3-position valve, spr	ing-centered	3	85	6	3	0		60		3	0	5	8
	2-position	(ms)	4	ļ5	6	3	5		55		3	0	5	0
Size 16	3-position valve, pre	ssure-centered	a	b	a	b	a	b	a	b	a	b	a	b
5120 10		(ms)	30	30	65	65	25	25	55	63	20	25	55	60
	3-position valve	(ms)						3	0					
	2-position valve	(ms)	4	5	2	15	3	5	3	5	3	0	3	0
	3-position valve, hyd	raulic-centerec	l a	b	a	b	a	b	a	b	a	b	a	b
		(ms)	2	20	2	20	2	0	2	0	2	0	2	0

Switchin	g time															
	-															
	Pilot control pressure		5	0		-	140			2	10		25		50	
	(bar)	AC		DC		AC		C	A	чС	D	С	A	C	C	C
	3-position valve, spring -centered (ms)		)	85		40	7	<b>′</b> 5	3	85	7	0	3	0	6	55
	2-position	12	0	160		100	1	30	8	35	12	20	7	0	1	05
	3-position valve,	a	b	a	o a	b	a	b	a	b	a	b	a	b	a	b
Size 25	hydraulic-centered (ms)	30	35	55 6	5 30	) 35	55	65	25	30	50	60	25	30	50	60
	3-position valve												1		1	
	2-position valve	120		125		95	1	00	8	35	9	0	7	'5	8	30
	3-position valve, hydraulic-centered		<b>b</b> 35		<b>)</b> a	-		b 35	а 30	<b>b</b>	а 30	<b>b</b>	а 30	b 35	а 30	<b>b</b>
	(ms)		hod	nocit						d)						
	Pilot valve pressure	switched positio			1011(7	150				u)			2	50		
	(bar)	А	C		bc /		AC [		DC		AC		2		DC	
	3-position valve, spring-centered (ms)	6	5		80		50		90			35				5
	2-position valve	10	00		30		75		100	)		60	0		11!	5
Size 32	3-position valve,	a	k	a	k	)	a	b	)	a	b	a	b		a	b
	hydraulic-centered (ms)	55	6	0 100	10	95	40	4	5	85	95	35	40		85	95
	3-position valve															
	2-position valve	1	15		90		35		7		70		65		65	
	3-position valve,	a	k		k		a	b		a	b	a		b	a	b
	hydraulic-centered (ms)	30	5	0 30	4	0	60	7	5	30	30	105	5   1	40	50	50

## 2. Electrical data

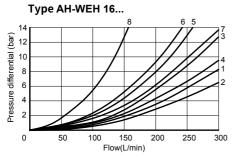
Type of voltage		Direct voltage		Alternating voltage
Voltage (allowable fluctuation of $\pm 10\%$ )		12, 24, 28 <sup>1)</sup> , 48, 96 110, 205, 220		110, 127, 220
Power(W)		High-performance solenoid valve 30	Low-powered solenoid valve 16	
Holding power	(VA)			50
Starting power	(VA)			220
Operating state		Continuous		
Temperature range of environment	(°C )	~ +50		
Temperature range of coil	(°C )	~ +150		
Protection class to DIN400	)50	IP65		

## **Characteristic curves**



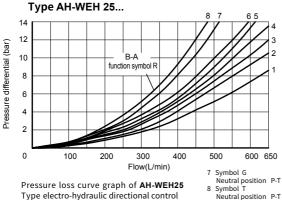
Pressure loss curve graph of AH-WEH10 Type electro-hydraulic directional control valve

Enginery	Sv	/itching	g positio	on	Enginery	Neut	tral pos	ition
symbol	$P \rightarrow A$	$P \rightarrow B$	$A \rightarrow T$	$B \rightarrow T$	symbol	$A\toT$	$B\toT$	$P\toT$
E, Y, D	2	2	4	5				
F	1	4	1	4	F	3	-	6
G, T	4	2	2	6	G, T	-	-	7
Н, С	4	4	1	4	Н	1	3	5
J, K	1	2	1	3				
L	2	3	1	4	L	3	-	-
М	4	4	3	4				
Р	4	1	3	4	Р	-	7	5
Q, V, W, Z	2	2	3	5				
R	2	2	3	-				
U	3	3	3	4	U	-	4	-



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

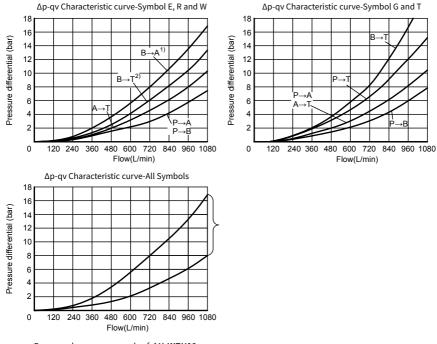
Symbol		Switc	hing po	sition	
Symbol	$P \rightarrow A$	$P\toB$	$A\toT$	$B \rightarrow T$	$P\toT$
E, Y, D	1	1	1	3	-
F	2	2	3	3	-
G, T	5	1	3	7	6
H, C, Q, V, Z	2	2	3	3	-
J, K, L	1	1	3	3	-
M, W	2	2	4	3	-
R	2	2	4	-	-
U	1	1	4	7	-
S	4	4	4	-	8



Type electro-hydraulic directional control valve

Cumhal	S	witchir	ng posi	tion
Symbol	$P \rightarrow A$	$P \rightarrow B$	$A \rightarrow T$	$B\toT$
E	1	1	1	3
F	1	4	3	3
G	3	1	2	4
Н	4	4	3	4
J, Q	2	2	3	5
L	2	2	3	3
М	4	4	1	4
Р	4	1	1	5
R	2	1	1	-
U	4	1	1	6
V	2	4	3	6
W	1	1	1	3
Т	3	1	2	4

#### Type AH-WEH 32...



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

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

Size	Enginery	Open area (mm²)						
Size	Enginery	$P \rightarrow A$	$P \rightarrow B$	$A \rightarrow T$	$B \rightarrow T$			
	Q	-	-	13	13			
AH-WEH10	V	13	13	13	13			
	W	-	-	2.4	2.4			
	Q	-	-	32	32			
AH-WEH16	V	32	32	32	32			
	W	-	-	6	6			
	Q	-	-	83	83			
AH-WEH25	V	83	83	83	83			
	W	-	-	14	14			
	Q	-	-	78	78			
AH-WEH32	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  $\mu$ m. 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: AH-WEH10 electro-hydraulic directional control valve

3-position valve, spring centering					
Flow(L/min)	Press	sure stage	(bar)		
Symbol	200	250	315		
E, J, L, M, Q, U, W, R, V		160			
Н	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)	Pres	Pressure stage(bar)				
Symbol	200	250	315			
HC HD HK		160				
HZ HY		100				
HC/O HD/O	- 160					
HK/O HZ/O		100				
HC/OF						
HD/OF	160					
HK/OF		100				
HZ/OF						

#### Type: AH-WEH16 electro-hydraulic directional control valve

Spring-centering 3-position valve					2-position valve						
Flow(L/min)		Pressu	Ire stag	e(bar)		Flow(L/min)		Pressure stage(bar)			
Symbol	70	140	210	280	350	Symbol	70	140	210	280	350
E, H, J, L, M,	300	300	300	300 300	С	300	300	300	300	300	
Q, U, W, R	300	300	500		D, Y	300	270	260	250	230	
F, P	300	250	180	170	150	К	300	250	240	230	210
G, T	300	300	240	210	190	Z	300	260	190	180	160
S	300	300	300	250	220	Hydraulic-return 2-position valve					
V	300	250	210	200	180	HC, HD, HK, HZ, HY	300	300	300	300	300
Hydraulic-centering 3-position valve					When control oil is supplied internally and						
(min.control pressure 16 bar)				pressure valve is equipped, the flow of spool							
All functions	300	300	300	300	300	valve's enginery of	H, F, P,	G, T, S	i, V, C a	nd Z	
All functions	300	500	500	500	500	Types reaches 160L/min .					

# **Performance limit**

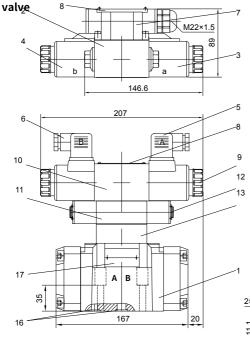
3-position valve of spring centering						2-position valve					
Flow(L/min)		Pressu	ure stag	e(bar)		Flow(L/min)	ŀ	Pressu	re stag	ge(bar	)
Symbol	70	140	210	280	350	Symbol	70	140	210	280	350
E, L, M						G, D, K, Z, Y	650	650	650	650	650
U, W, Q	650	650	650	650	650	Hydraulic-return 2	-posit	ion va	lve		
0, w, Q						( main valve witho	ut spr	ing)			
G, T	400	400	400	400	400	HC HD HK	650	650	650	650	650
F	650	550	430	330	300	HZ HY	020	020	020	020	020
Н	650	650	550	400	360	HC/O					
J	650	650	650	600	520	HD/O	650	650	CE0	CE0	CE0
Р	650	550	430	330	300	HK/O	650	650	650	650	650
V	650	550	400	350	310	HZ/O					
R	650	650	650	650	580	HC/OF					
Hydraulic-center	ing 3-p	osition	valve			HD/OF	]				
(minimum contro	ol press	ure 18	Bbar)			пD/Ог	650	650	650	650	650
E, F, H, J, L, M	650	650	650	650	650	HK/OF	]				
P, Q, R, U, V, W	650	650	650	650	050	HZ/OF					
G, T	400	400	400	400	400	When control oil is	suppli	ied int	ernall	y and	
Hydraulic-centering 3-position valve					pressure valve is ed	quippe	ed, the	flow o	of spoo	วโ	
(minimum control pressure 30bar)					valve's enginery of	G, Z, V	/, F, H,	Р, Т Ту	pes		
G, T	650	650	650	650	650	reaches 180L/min.					

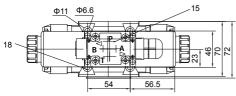
## Type: AH-WEH25 electro-hydraulic directional control valve

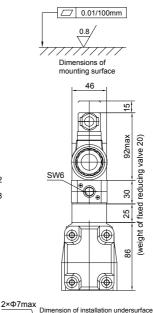
## Type: AH-WEH32 electro-hydraulic directional control valve

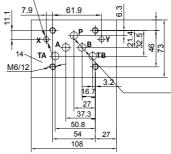
3-position valve of spring centering					2-position valve						
Flow(L/min)		Pressu	ire stag	e(bar)		Flow(L/min)	F	Pressu	re sta	ge(bar	)
Symbol	70	140	210	280	350	Symbol	70	140	210	280	350
E, J, L, M, R U, W, R	1100	1040	860	750	680	C, D, K, Z, Y	1100	1040	860	750	680
H, G	1100	1000	680	500	450	Hydraulic-return 2-position valve					
F, T, P	820	630	510	450	400						
Hydraulic-centering 3-position valve (minimum control pressure 8.50bar)					um	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 of AH-WEH 10 electro-hydraulic directional control





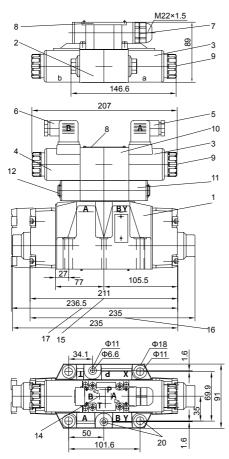


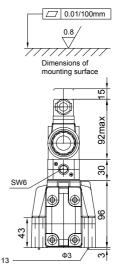


- 1 Main valve
- 2-position valve, with one solenoid 2
- 3 Solenoid a
- 4 Solenoid b
- 5 Plug of solenoid a
- 6 Plug of solenoid b
- Junction box with lead and light, M22×1.5 interface 7 Label of pilot valve
- 8 9 Manual button
- 10 Double-solenoid 2-position valve, double-solenoid 3-position valve
- 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<sub>A</sub>=15.5Nm (bolt of vertical stack components combined with electro-hydraulic directional valve is selected according to actual height)

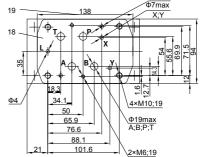
#### Unit dimensions of AH-WEH 16 electro-hydraulic directional control valve





Φ4H8;8

Dimension of installation undersurface

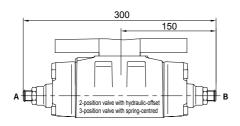


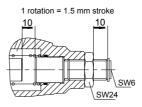
- 1 Main valve
- 2 2-position valve with one solenoid
- 3 Solenoid a
- 4 Solenoid b
- 5 Plug of solenoid a
- 6 Plug of solenoid a
- 7 Junction box with lead and light, M22×1.5 interface
- 8 Label of pilot valve
- 9 Manual button
- 10 Double-solenoid 2-position valve, Double-solenoid 3-position valve
- 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/T70.1-2000-10.9 grade ( $M_A$ =15.5Nm) (bolt of vertical stack components combined with electrohydraulic 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

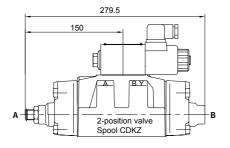
## Dimension of additional devices of valve type AH-WEH16

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





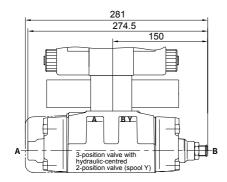
Stroke adjustment fixed on	
end "A"and "B"	10
Stroke adjustment fixed on	
end "A"	11
Stroke adjustment fixed on	
end "B"	12



Stroke adjustment fixed on end "A"

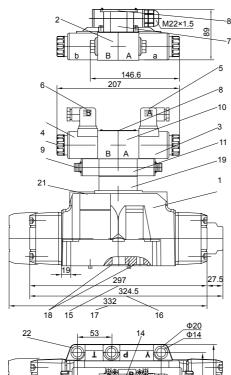
11

12



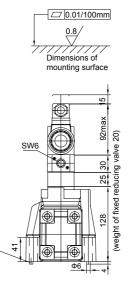
Stroke adjustment fixed on	
end "B"	

### Unit dimensions of AH-WEH 25 electro-hydraulic directional control valve



В

130



Dimension of installation undersurface Φ6.5H12;8 20 195 21 76.8 Φ22 5.6 Ρ ¢ 1 120 92 92 96.8 23 1 В 49 -4 292 6×M12;25 Φ8 53 Φ10max 77 Φ24.5max X;Y 94.3 A;B;T 100.6 112.5 130

- 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

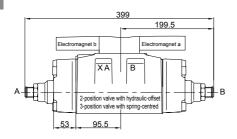
- 13 2 locating pins
- 14 Locating diagram of connector of pilot
- 15 Size of spring-centering 3-position valve and hydraulic-return 2-position valve
- 16 Spring-return 2-position valve (icon sizes are C, D, K, Z functions)

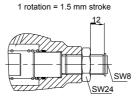
13

- 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<sub>A</sub>=130Nm) (bolt of vertical stack components combined with

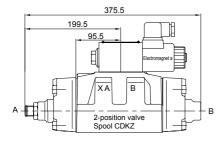
## Dimension of additional devices of valve type AH-WEH25.

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





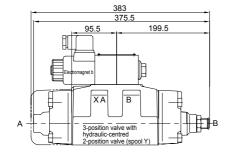
Stroke adjustment fixed on	
end "A"and "B"	10
Stroke adjustment fixed on	
end "A"	11
Stroke adjustment fixed on	
end "B"	12



Stroke adjustment fixed on end "A"

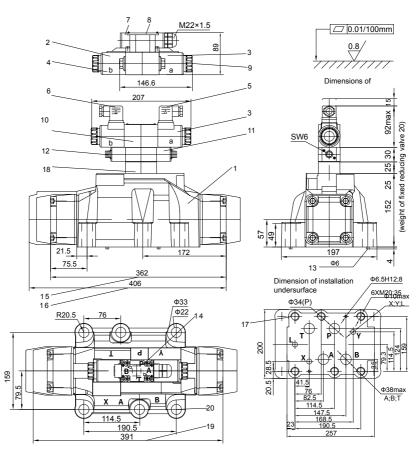
11

12



Stroke adjustment fixed on	
end "B"	

#### Unit dimensions of AH-WEH 32 electro-hydraulic directional control valve

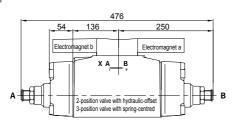


- 1 Main valve
- 2 2-position valve with one solenoid
- 3 Solenoid a
- 4 Solenoid b
- 5 Plug of solenoid a
- 6 Plug of solenoid a
- 7 Junction box with lead and light, M22×1.5 interface
- 8 Label of pilot valve
- 9 Manual button
- 10 Double-solenoid 2-position valve, Double-solenoid 3-position valve
- 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<sub>A</sub>=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

## Dimension of additional devices of valve type AH-WEH32

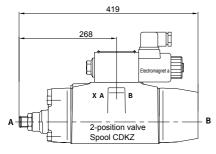
Range of stroke adjustment is 13 mm to adjust main spool stroke. Loosen the lock-up nut and rotate the rod clockwise, thus, shorten the stroke of the main spool.



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

11

12



479 435 245 Electomagnet b Electomagnet b Bectomagnet b Bect Stroke adjustment fixed on end "A"

Stroke adjustment fixed on end "B" of