Explosion-proof Electr Model: G-WEH4X/6X/7X	o-hydraulic Dire	ectional Valve
		 Size 10~32 Maximum working pressure 350 bar Maximum working flow 1100 L/min
Contents Function description, sectional drawing Models and specifications Functional symbols Technical Parameters Characteristic curve Characteristic limit Switching time adjustment, pressure reducing valve and pre-load valve Component size	02-03 04 05-07 08-09 10-14 10-14 15 16-24	 Maximum working new 1100 Lymm Features Mainly used to control the opening closing and flow direction of liquid flow Subplate mounting The mounting surface according to DIN24340 form A and ISO4401 Spring or hydraulic centered Spring or hydraulic return to initial position Explosion-proof solenoid Optional switching time adjustment Optional pre-load valve in port P of the main valve

Function description, sectional drawing

The G-WEH directional valve is a directional spool valve with explosion-proof electro-hydraulic operation. It is used to control the opening, closing and direction of the liquid flow.

The valve mainly consists of valve body (1), control spool (2), main valve with one or two reset springs (3.1) and (3.2), pilot valve (4) with one or two explosion-proof solenoids "a" (5.1) and "b" (5.2).

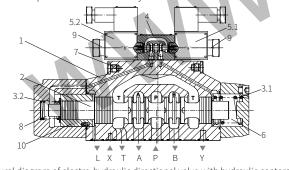
The main control spool is held in the neutral or initial position by springs or pressure. For the valve with spring-centered, the two spring chambers (6) and (8) are connected to the oil tank through the pilot valve in the initial position. The pilot valve (4) is supplied with oil through the control line (7). The control oil can be supplied internally or externally (externally via port X).

The main control spool (2) is hydraulically operated by the pilot valve (4). Due to the operating of the pilot valve on one end of the main control spool, the spool moves to the operation position, then the valve opens in the operation direction and the fluid flows from P to A and B to T or P to B and A to T. The control oil can be drained internally or externally.

4/3-way directional valve with hydraulic centered of main valve, model WEH..H/ In this structure, pressure oil acts on both end surfaces of the main control spool (2). The centering sleeve

(10) locates the main control spool (2) and keeps it in the middle position.

If one end of the main spool (2) is unloaded, the main spool (2) moves to the working position under the pressure from the other end, thereby changing the direction of the oil flow. The unloaded control spool face displaces the returning pilot oil into port Y externally through the pilot valve (4). The oil is drained internal from port L to the tank directly.



Structural diagram of electro-hydraulic directional valve with hydraulic centered Model G-4WEH...H/ $\,$

- 1 Main valve
- 2 Main control spool
- 3.1 Spring
- 3.2 Spring
- 4 Pilot solenoid valve
- 5.1 Solenoid A
- 5.2 Solenoid B
- 6 Spring chamber
- 7 Control oil inlet channel
- 8 Spring chamber
- 9 Manual operation
- 10 Centering sleeve

Pilot oil supply

1、 Model G-WEH10

(1) Conversion between internal supply and external supply:

The channel P on the top of the main valve body with M6 screw (3) is external supply, and is internal supply when M6 screw (3) dismounted. (2) Conversion between internal drain and external drain:

Removing the plug (1) and installing M6 screw (2) is external drain, dismounting the M6 screw (2) is internal drain.

2、Model G-WEH16

(1) Conversion between internal supply and external supply:

The channel P on the bottom of the main valve with M6 screw (8) is external supply, and is internal supply when M6 screw (8) dismounted. (2) Conversion between internal drain and external drain:

The channel T on the top of the main valve with M6 screw (7) is external drain, and is internal drain when M6 screw (7) dismounted.

3、Model G-WEH25

(1) Conversion between internal supply and external supply:

The channel P on the top of the main valve with M6 screw (9) is external supply, and is internal supply when M6 screw (9) dismounted. (2) Conversion between internal drain and external drain:

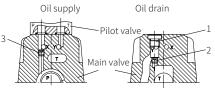
The channel T on the top of the main valve with M6 screw (10) is external drain, and is internal drain when M6 screw (10) dismounted.

4、Model G-WEH32

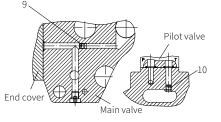
(1) Conversion between internal supply and external supply:

The channel P on the top pf the main valve with M6 screw (11) is external supply, and is internal supply when M6 screw (11) dismounted. (2) Conversion between internal drain and external drain:

The channel T on the top of the main valve with M6 screw (12) is external drain and is internal drain when M6 screw (12) dismounted.

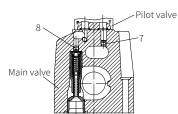




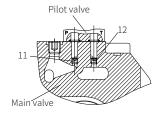


Model G-WEH25...XJ/

0313



Model G-WEH16...7XJ/

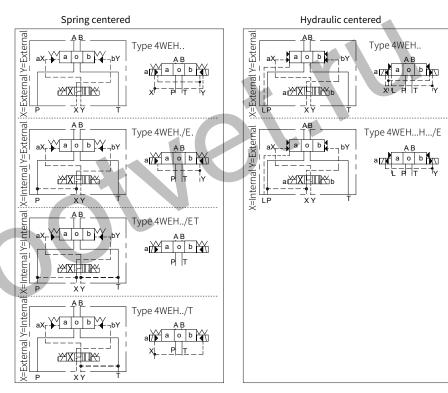


Model G-WEH32...XJ/

Models and specifications	
	*
working pressure	more informat
to 35MPa =no code	
explosion-proof =G1	sealing mate
class I	V= FKM se
explosion-proof =G2 class II	(consult for other se
four-way version =4	No code= without press
electro-hydraulic =WEH	D3 ²⁾ = with press
size	reducing va
size 10 =10	pre-load valve(not for size
size 16 =16	No code=without pre-load va
size 25 =25	P4.5= with pre-load va
size 32 =32	cracking pressure 0.45N P6.0= with pre-load va
main valve hydraulic =H return or centered	cracking pressure 0.6N
main valve spring =No code	
return or centered	No code= no plug-in thro B08= throttle Ø0.8r
functional symbols (see functional symbol diagram)	B10= throttle Ø1.0r
	B12= throttle Ø1.2r
40 to 49 series (size 10) =4X 60 to 69 series (size 25, 32) =6X	B15= throttle ∅1.5r
70 to 79 series (size 16, 22) =7X	additional device num
	(see additional device drawi
when the pilot valve is a 2-position valve	electrical connect
with two solenoids and hydraulic return in the main valve	K4= no insert p
without reset spring =0	Z5L= large right angle lamp p
without reset spring with detent =OF	FS2= deutsch water-proof p
solenoid with threaded connection =6E	DL= connection box with lar centralized connect
	Centralized connect
	No code= without switching ti adjustm
AC rectified voltage 36V. 220V =B36、B220	
AC rectified voltage 36V, 220V =B36、B220 for other voltages and frequencies, see directional	
for other voltages and frequencies, see directional valve WE6	S= switching time adjustment meter-in con
for other voltages and frequencies, see directional valve WE6 with hidden manual emergency operation =N9	S= switching time adjustment meter-in con S2= switching time adjustment
for other voltages and frequencies, see directional valve WE6 with hidden manual emergency operation =N9 1) For internal oil supply	S= switching time adjustment meter-in con S2= switching time adjustment meter-out con
for other voltages and frequencies, see directional valve WE6 with hidden manual emergency operation =N9 1) For internal oil supply *Minimum control pressure: see page 292	S= switching time adjustment meter-in con S2= switching time adjustment meter-out con pilot oil sup
for other voltages and frequencies, see directional valve WE6 with hidden manual emergency operation =N9 1) For internal oil supply	S= switching time adjustment meter-in con S2= switching time adjustment meter-out con pilot oil sup No code= pilot oil supply and drain exter
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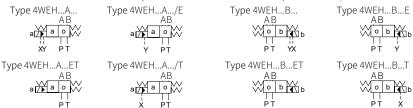
Functional symbols

Detailed and simplified symbols for 3-position directional valves



Spring return valves

(the solenoid at end A or B of the 2-position valve derived from the 3-position valve)





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Hydraulic return valves

(the solenoid at end A or B of the 2-position valve derived from the 3-position valve)



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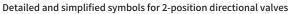
Functional symbols

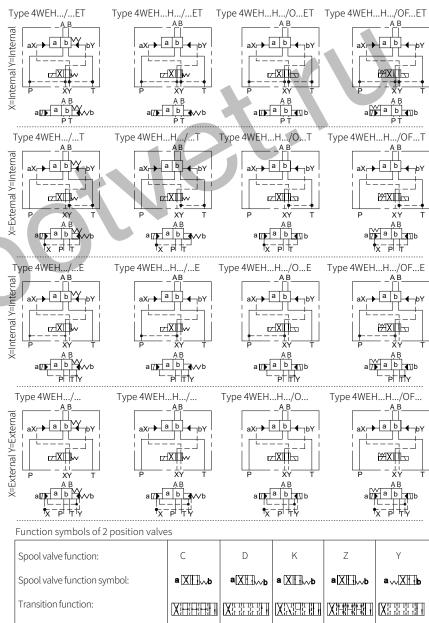
Functional symbols of 3-position valves

3-position valve

2-position valve derived from 3-position valve

3-position valve model	Functional symbol	Transition function	2-position valve model	Functional symbol	valve model	Functional symbol
4WEHE/ E		X	(S 4WEHEA/.	iolenoid at end X^{TT}_{TT}	4WEHEB/	noid at end B)
4WEHF/ F	XHI		4WEHFA/.	XB	4WEHFB/	
4WEHG/ G			4WEHGA/.		4WEHGB/	
4WEHH/ H	XHII		4WEHHA/	X H	4WEHHB/	
4WEHJ/ J	XHI		4WEHJA/.		4WEHJB/	
4WEHL/ L	XHI		4WEHLA/.	XF	4WEHLB/	
4WEHM/M	XHI		4WEHMA/	XB	4WEHMB/	
4WEHP/ P	X		4WEHPA/.	XI	4WEHPB/	┞╶╢╿╻
4WEHQ/ Q	X		4WEHQA/	X	4WEHQB/	eo
4WEHR/ R	X	XXIIZH	4WEHRA/.		4WEHRB/	
4WEHS/ S		XBEBR	4WEHSA/.		4WEHSB/	
4WEHT/ T			4WEHTA/.		4WEHTB/	EX
4WEHU/ U	Xt	XXIIIII	4WEHUA/.	XII	4WEHUB/	
4WEHV/ V	XH		4WEHVA/.	. XH	4WEHVB/	
4WEHW/W	XH		4WEHWA/	X F	4WEHWB/	
	N					



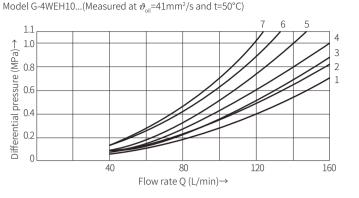


Size				10		16		22		25		32
Maximum	working pressur	re										
Oil ports P	, A, B		(MPa)	35		35		35		35		35
Oil port T	External Y por	t pilot oil drain	(MPa)	31.55	5)	25		25		25		25
	Internal Y port	t pilot oil drain	(MPa)					21 [DC 0			
			(MPa)					16 A	١C			
Oil port Y		-DC solenoid	(MPa)					21 [)C			
External pi	ilot oil drain	-AC solenoid	(MPa)					16 A	٩C			
		For 4WH type	(MPa)		25 (size 10	. 16.	25、3	2) 2	21 (siz	e 22)	
	pilot pressure vilot pressure, reducing valve i	is required)	(MPa)		25 (size 10	. 16.	25、3	2) 2	21 (siz	e 22)	
Minimum -Pilot oil sı -Pilot oil sı	pilot pressure upply X external upply X internal ool C, F, G, H, P,							H-4W	I			
	ring centered 3-p		(MPa)			1.4		1.25		1.3		0.85
Pre	ssure centered 3	3-position valve	(MPa)			1.4		1.05		1.8		0.85
Spr	ring centered 2-p	position valve	(MPa)			1.4		-		1.3		1.0
	ssure centered 2	2-position valve	(MPa)	0.7		1.4		1.4		0.8		0.5
	pply X internal C, F, G, H, P, T, V,	, Z, S ²⁾)		0.453		0.454		0.454	ł)	0.454)	0	.454)
	only for size 16.		ornal nile	t oil cupr	Juic	anlu			or mode VEH10		10, 31.5	6MPa for
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possible if or when th is large en	spools C, F, G, H, the flow from P he valve moves to ough to ensure t	, P, T, V, Z, the inte to T in the centra hrough the centra the pressure diffe	l positior al positio rential as	n (for 3-pc in (for 2-p s 0.65MPa Mir	osition ositic from neral	n valve) on valve) i P to T. hydrau	H-4	del H-4V WEH10. I or ph	VEH10 type is osphat	 s 31.5MF e ester	Pa hydrau	
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possible if or when the is large environment Hydraulice Temperatu Viscosity ra Cleanlines Pilot oil vo 3-position 2-position from neutr From posit from posit	spools C, F, G, H, the flow from P le valve moves to ough to ensure to oil ure range ange s of oil dume during swit valve spring cer valve valve hydraulic ral position to po tion "a" to neutr ral position to p ion "b" to neutra	, P, T, V, Z, the intt to T in the centra hrough the centra the pressure diffe The maximum a a fitter with the itching process intered centered osition "a" al position iosition "b" al position	l positior al positio rential as (°C) (mm²/s) llowable minimu (cm³) (cm³) (cm³) (cm³) (cm³) (cm³)	n (for 3-pc) n (for 2-p 0.65MPa Mir -30 2.8 e pollutio m filtrat 2.04 4.08 - -	sition ositic from neral to 5 to 1 to 5 to 5 to 5 to 5 to 5 to 5 to 5 to 5	n valve) on valve) P to T. hydrau 80 (NBR 00 vel of o occuracy 1.45 VEH 2.83 5.72 5.72 8.55	moc H-4V Ilic oil Seal Ilis N β10 7. 15 - - - - - -	del H-4V WEH10. VEH10.) -20- AS163. ≥75 64 .28 - - - - - - -	VEH10 type is +s0 (F 8 Class 14 28 WH 7.15 14.18 14.18 19.88	 s 31.5MF e ester KM sea 9, so w .2 .4 WEH 7.15 7.0 14.15 5.73	 by draw hydraw l) ive recon 29 58 WH 14.4 29.4 29.4 43.8 	lic oil nmend 9.4 8.8 WEH 14.4 15.1 29.4 14.4
possible if or when th is large end Hydraulic Temperatu Viscosity ra Cleanlines Pilot oil vo 3-position 2-position 3-position from neutr From posit Prior posit Pilot oil fdo	spools C, F, G, H, the flow from P revalve moves to ough to ensure to ange ange s of oil dume during swi valve spring cer valve valve hydraulic ral position to po tion "a" to neutr ral position to p ion "b" to neutra w for shortest so	P, T, V, Z, the intt to T in the centra hrough the centra the pressure diffe The maximum a a fitter with the itching process intered centered osition "a" al position iosition "b" al position witching time	l positior al positio rential as (°C) (mm²/s) llowable minimu (cm³) (cm³) (cm³) (cm³) (cm³) (cm³) (cm³) (cm³)	n (for 3-pc) n (for 2-p 0.65MPa Mir -30 2.8 e pollutio m filtrat 2.04 4.08 - - - - about 35	ssitio ositic from neral 1 to + to 5 on le ion a 5 1 1 1 2.83 5.72 5.72 8.55 abo	n valve) on valve) P to T. hydrau 80 (NBR 00 vel of ot becuracy 1.45 2.83 5.72 5.72 8.55 ut 35	ic oil H-4 seal lis N β10 7. 15 - - - - - - - - - - - - - - - - - -	I or ph. I or ph.) - 200 A\$163. ≥ 75 64 - - -	00000000000000000000000000000000000000	 s 31.5MF e ester KM sea 9, so w .2 .4 WEH 7.15 7.0 14.15 5.73 ut 35	 by draw hydraw l) be recon 29 58 WH 14.4 29.4 29.4 43.8 abc 	lic oil nmend 9.4 8.8 WEH 14.4 15.1 29.4 14.4 14.4 0ut 45
possible if or when th is large end Hydraulic of Temperatu Viscosity ra Cleanlines Pilot oil vo 3-position 2-position from neutr From posit From posit Pilot oil fito Valv	spools C, F, G, H, the flow from P revalve moves to ough to ensure to oil ure range ange s of oil dume during swi valve spring cer valve valve hydraulic ral position to p ion "b" to neutr ral position to p ion "b" to neutra w for shortest so re with one soler	P, T, V, Z, the inter to T in the centra hrough the centra the pressure diffe The maximum a a fitter with the itching process intered centered osition "a" al position osition "b" al position witching time noid	l positior al positio rential as (°C) (mm²/s) llowable minimu (cm³) (cm³) (cm³) (cm³) (cm³) (cm³) (cm³) (cm³) (cm³)	n (for 3-pc) n (for 2-p s 0.65MPa Mir -30 2.8 e pollutic am filtrat 2.04 4.08 - - - - about 35 about 7.8	ssition ossitic from to from to 5 on le son	n valve) on valve) P to T. hydrau 80 (NBR 00 vel of ot iccuracy 1.45 2.83 5.72 5.72 8.55 ut 35 ut 10	moc H-4\ Ilic oil Seal Ilis N β10 7. 15 - - - - - abou abou	del H-4V WEH10.) -20- AS163. ≥75 64 -28 - - - - - - - - - - - - - - - - - -	WEH10 type is osphat 8 Class 4 8 Class 14 28 WH 7.15 14.18 19.88 abou abou	 s 31.5MF KM sea 9, so w 2. 4 WEH 7.15 7.0 14.15 5.73 ut 35 t 18.8	22 hydrau () 29 53 WH 14.4 29.4 29.4 43.8 abc abc	lic oil nmend 9.4 8.8 WEH 14.4 15.1 29.4 14.4 14.4 14.4 14.4 14.4 14.4 14.4 1
Possible if or when th is large end Hydraulic Temperatu Viscosity ra Cleanlines Pilot oil vo 3-position 2-position 3-position from neutr From posit Pilot oil flo	spools C, F, G, H, the flow from P te valve moves to ough to ensure to oil ure range ange s of oil dume during swi valve spring cer valve valve hydraulic ral position to p ion "b" to neutr ral position to p ion "b" to neutra sw for shortest sw re with one soler re with two soler	P, T, V, Z, the inter to T in the centra hrough the centra the pressure diffe The maximum a a fitter with the itching process intered centered centered centered osition "a" al position osition "b" al position witching time moid noid, spring center	l positior al positio rential as (°C) (mm²/s) llowable minimu (cm³) (cm²) (cm²) (cm²) (cm²) (cm²) (cm²) (cm²) (cm²) (cm²)	n (for 3-pc) n (for 2-p s 0.65MPa Mir -30 2.8 e polluticum filtrat 2.04 4.08 - - - about 35 about 7.8 about 9.1	ssition ossition from to to + to 5 on le ossi from ssitic on le ossi ssitic on le ossi ssitic on le ossi ssitic on le ossi ssitic from to + to 5 on le ossi ssitic on le ossitic on le o	n valve) on valve) P to T. hydrau 80 (NBR 00 vel of on iccuracy 1.45 2.83 5.72 5.72 8.55 ut 35 ut 10 ut 11.8	inoc H-4 lic oil seal lis N β10 7. 15 - - - - - - - - - - - - - - - - - -	del H-4V WEH10. I or ph()) -20- AS163:. ≥75 64 -28 - - - - - - - - - - - - -	WEH10 type is osphat 8 Class 8 Class 14 28 WH 7.15 14.18 19.88 abou abou abou	 s 31.5MF KM sea 9, so w 2. 4 WEH 7.15 7.0 14.15 5.73 ut 35 t 18.8 t 21.3	29a hydrau () 29 56 WH 14.4 29.4 29.4 43.8 abc abc abc	lic oil nmend 9.4 8.8 WEH 14.4 15.1 29.4 14.4 14.4 14.4 000 45 000 41.7 000 43.3
Possible if or when the is large end Hydraulice Temperature Viscosity ra Cleanlines Pilot oil vo 3-position 2-position 3-position from neutri From posit Pilot oil flo Value Val	spools C, F, G, H, the flow from P te valve moves to ough to ensure to ange s of oil dume during swi valve spring cer valve valve hydraulic ral position to p ion "b" to neutra ange to ensure to tion "a" to neutra ral position to p ion "b" to neutra w for shortest sa re with one soler re with two soler	P, T, V, Z, the inter to T in the centra hrough the centra the pressure diffe The maximum a a fitter with the itching process intered centered osition "a" al position osition "b" al position witching time noid poid, spring center oid, hydraulic center	l positior al positio rential as (°C) (mm²/s) llowable minimu (cm³) (cm²) (cm²	n (for 3-pc) n (for 2-p s 0.65MPa Mir -30 2.8 e pollution m filtrat 2.04 4.08 - - - about 35 about 7.8 about 9.1 about 9.1	ssition ossition from to to + to 5 on le ossi from ssitic on le ossi ssitic on le ossi ssitic on le ossi ssitic on le ossi ssitic from to + to 5 on le ossi ssitic on le ossitic on le o	n valve) on valve) P to T. hydrau 80 (NBR 00 vel of on iccuracy 1.45 2.83 5.72 5.72 8.55 ut 35 ut 10 ut 11.8	inoc H-4 lic oil seal lis N β10 7. 15 - - - - - - - - - - - - - - - - - -	del H-4V WEH10. I or ph) -20- AS163:. ≥75 64 -28 - - - - - - - - - - - - -	WEH10 type is osphat 8 Class 8 Class 14 28 WH 7.15 14.18 19.88 abou abou abou abou	 s 31.5MF KM sea 9, so w 2. 4 WEH 7.15 7.0 14.15 5.73 ut 35 t 18.8	29a hydrau () 29 56 WH 14.4 29.4 29.4 43.8 abc abc abc	lic oil nmend 9.4 8.8 WEH 14.4 15.1 29.4 14.4 14.4 14.4 14.4 14.4 14.4 14.4 1
Possible if or when th is large end Hydraulic Temperatu Viscosity ra Cleanlines Pilot oil vo 3-position 2-position 3-position from neutr From posit Pilot oil flo From neutr From posit Pilot oil flo Valv Yalv Swi	spools C, F, G, H, the flow from P te valve moves to ough to ensure to ange s of oil dume during swi valve spring cer valve valve hydraulic ral position to p ion "b" to neutra ange to ensure to to ensure to ensure with one soler with two soler teching time adju	P, T, V, Z, the inter to T in the centra hrough the centra the pressure diffe The maximum a a fitter with the itching process intered centered osition "a" al position osition "b" al position witching time noid position witching time noid spring center oid, hydraulic center istment	l positior al positio rential as (°C) (mm²/s) llowable minimu (cm³) (cm²) (cm²	n (for 3-pcn n (for 2-p s 0.65MPa Mir -30 2.8 e pollution m filtrat 2.04 4.08 - - - about 35 about 7.8 about 9.1 about 9.1	ssition ossition from to to + to 5 on le ossi from ssitic on le ossi ssitic on le ossi ssitic on le ossi ssitic on le ossi ssitic from to + to 5 on le ossi ssitic on le ossitic on le o	n valve) on valve) P to T. hydrau 80 (NBR 00 vel of on iccuracy 1.45 2.83 5.72 5.72 8.55 ut 35 ut 10 ut 11.8	inoc H-4 lic oil seal lis N β10 7. 15 - - - - - - - - - - - - - - - - - -	<pre>del H-4\/ WEH10. I on ph() -20- AS163:</pre>	WEH10 type is osphat 8 Class 8 Class 14 28 WH 7.15 14.18 19.88 abou abou abou abou c.8	 s 31.5MF KM sea 9, so w 2. 4 WEH 7.15 7.0 14.15 5.73 ut 35 t 18.8 t 21.3	29a hydrau () 29 56 WH 14.4 29.4 29.4 43.8 abc abc abc	lic oil nmend 9.4 8.8 WEH 14.4 15.1 29.4 14.4 14.4 14.4 000 45 000 41.7 000 43.3
Possible if or when th is large end Hydraulic Temperatu Viscosity ra Cleanlines Pilot oil vo 3-position 2-position 3-position from neutr From posit Pilot oil flo From neutr From posit Pilot oil flo Valv Yalv Swi	spools C, F, G, H, the flow from P te valve moves to ough to ensure to ange s of oil dume during swi valve spring cer valve valve hydraulic ral position to p ion "b" to neutra valve for shortest sw ve with one soler ve with two soler te with two soler to thing time adju ssure reducing v	P, T, V, Z, the inter to T in the centra hrough the centra the pressure diffe The maximum a a fitter with the itching process intered centered osition "a" al position osition "b" al position witching time noid position witching time noid spring center oid, hydraulic center istment	l positior al positio rential as (°C) (mm²/s) llowable minimu (cm³) (cm²) (cm²	n (for 3-pcn n (for 2-p s 0.65MPa Mir -30 2.8 e pollutic m filtrat 2.04 4.08 - - - about 35 about 7.8 about 9.1 about 9.1	sition ositic from neral to + to 5 on le ion a 5 1 1 WH 2.83 5.72 5.72 8.55 abo abo abo abo	n valve) on valve) P to T. hydrau 80 (NBR 00 vel of of occurace 1.45 1.45 2.83 5.72 5.72 8.55 ut 35 ut 10 ut 11.8 ut 11.8	il is N β10 7. 15 - - abou abou abou	I or ph I or ph 0 - 200 AS163: 64 -	WEH10 type is osphat 8 Class 14 28 8 Class 14 28 WH 7.15 14.18 19.88 abou abou abou abou 20.8 co.4	 s 31.5MF KM sea 9, so w 9, so w .2 .4 WEH 7.15 7.0 14.15 5.73 ut 35 t 18.8 t 21.3 t 21.3	Pa hydrau () ke recon 29 56 WH 14.4 29.4 29.4 43.8 abc abc abc	lic oil nmend 9.4 8.8 WEH 14.4 15.1 29.4 14.4 14.4 14.4 000 45 000 41.7 000 43.3

Technical Parameters

Switchin	g time (refers to the time from the sol	enoid closii	ng to tl	he m	ain va	alve fu	illy c	pen	ing.))						
	Switching time for valve from neutr	al position t	o ope	rating	g pos	ition (for D	DC (=) and	d A	C (~)	ор	erat	ion)		
-	at pilot pressure	(MPa)		~7=		-	~14=	-		~	~21=				~25	=
-	3-position valve	(ms)	30	Τ	65	25		60		20		55		15	;	50
	2-position valve	(ms)	35	+	80	30		75		25		70		20)	65
Size 10	Switching time for valve from opera	ting positic	n to n	eutra	Inos	ition (ms)						٦			
Size	3-position valve	(ms)							30							
-	2-position valve	(ms)	35		40	30		75		25		30		20		25
	Switching time for valve from neutr	,													<u> </u>	25
-	0		.o ope	_					-		_ (· •)	oh				
	at pilot pressure	(MPa)		~7:		1	_	~15		_				25=		
-	3-position valve-spring centered	(ms)	253		40		530		40			53				40
-	2-position valve	(ms)	303		55		035		55)3				55
	3-position valve Solenoid oper - hydraulic centered				a t		b				а		b		а	b
Size 16		(ms)				10 30) 3	0 4	40 4	40	30		30		35	40
Size	Switching time for valve from opera	0.														
	3-position valve	(ms)				∕; 30 fo										
	2-position valve	(ms)	30		45		05	· .	45	1.		05			45	1.
	3-position valve - hydraulic centered	From-	а	b	-	b á		-		b	a		b		а	b
		(ms)	20		20		205		20			20				20
	Switching time for valve from neutr		· ·		g pos	ition (·	d A(<u> </u>	erat	ion)		
	at pilot pressure	(MPa)		~7=				-14=			~21				~2	-
	3-position valve-spring centered	(ms)	50	_	85	40	-	75		35		70		30		65
-	2-position valve	(ms)	120	_	160	100	-	130		85		120		70		105
55	3-position valve Solenoid oper - hydraulic centered			b a	b	a	~	a	· ·	a	ba	-	b	а		a b
Size 25	,	(ms)		35 55		_	35	55	65 2	25	30 5	50	60	25	30	50 60
S	Switching time for valve from opera	(ms)				·; 40 fc										
	3-position valve 2-position valve	(ms)	120	_	125	85	_	100		85		90		75		80
-	3-position valve - hydraulic centered	From-		b a	125 b	a	_		b a		b a		b		bi	a b
	s position value injundance centered	(ms)	305			305		30 3				0 3	· -	30!	-	30 35
	Switching time for valve from neutr	,														
-	at pilot pressure	(MPa)		~			T		~ 15			Т		~2	5=	
-	3-position valve-spring centered	(ms)	6		-	0	\vdash	50			90	+	3		Ť	105
-	2-position valve	(ms)	10	-		30 30	+	75		_	90 00	+	6	-		105
-	3-position valve Solenoid oper	,	a	b	a	b	a	- i	-	a	b	+	a	b	a	115 b
	- hydraulic centered	(ms)	-	35	100	105		-		85	95	3	а 35	40	85	
33	Switching time for valve from opera	,					140	1-5		05	55	13	5	40	103	55
Size 32	3-position valve	(ms)				r∼;5	0 fo	r =								
	2-position valve	(ms)	115			90	1	100	0	70)	65	58	0		65
-	1	, .,			-						-					b
I	3-position valve	From-	a	b	a	b	a	l Ł		a	b	a		b	а	

Characteristic curve



Spool	1	Workin	g positi	ion	Spool	Work	king pos	sition
Spool	P-A	P-B	A-T	B-T	Shoor	A-T	B-T	P-T
E、D、Y	2	2	4	5	F	3	-	6
F	1	4	1	4				
G、 T	4	2	2	6	G,T	-	-	7
H、 C	4	4	1	4				
J, K	1	2	1	3	н	1	3	5
L	2	3	1	4	L	3	-	-
М	4	4	3	4	Р	-	7	5
Q、V、W、Z	2	2	3	5				
R	2	2	3	-	U	-	4	-
U	3	3	3	4				
Р	4	1	3	4				

Characteristic limit

Model G-4WEH10...(Measured at ϑ_{oil} =41mm²/s and t=50°C)

Allowable flow of 2-position	n ar	nd 3-pos	sition valve	es (L/min)
Spool		Worl	king pressi	ure(MPa)
		20	25	31.5
E、J、L、M、Q、R、U、V、W C、D、K、Z、Y			160	
Н		160	150	120
G, T		160	160	140
F. P		160	140	120

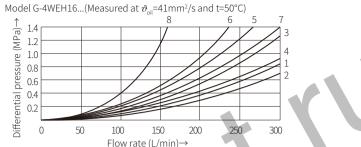
Notice:

The given characteristic limits are suitable for the use of flow in both directions (e. g. from P to A and return from B to T at the same time).

Due to the power of the fluid in the valve, the characteristic limit allowed for only one flow direction might be significantly reduced (e.g. from P to A, while B is closed)!

The characteristic limits are measured when the solenoid is at the operating temperature, at 10% below the standard voltage and without tank preloading.

Characteristic curve



Creat		Wor	king po	sition		
Spool	P-A	P-B	A-T	B-T	P-T	
E、D、Y	1	1	1	3	-	
F. P	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	

Characteristic limit

Model G-4WEH16...(Measured at ϑ_{oil} =41mm²/s and t=50°C) Allowable flow of 3-position valve (L/min)

Allowable flow of 2-position valve (L/min)											
Speed	W	orking	pressu	re(MPa)						
Spool	7	14	21	28	35						
Main valve spring return ¹⁾											
C、D、K、Z、Y	300	300	300	300	300						
Main valve spri	ng ret	urn ²⁾									
С	300	300	300	300	300						
D, Y	300	270	260	250	230						
К	300	250	240	230	210						
Z	300	260	190	180	160						
Main valve hydraulic return											
HC、HD、HK	300	300	300	300	300						
HZ、HY	300	300	300	300	300						

 The given flow value can be achieved when the minimum pilot pressure of 1.2MPa exists.
 The given flow value is limiting the value at which the reset spring can return the valve when the pilot pressure decreases.

Speed	Wo	rking p	oressu	re(MPa)	with pre-load	
Spool	7	7 14		28	35	valve and X port internal	
Main valve spr	ing re	eturn	1)			supply	
E、H、J、L、 MQ、U、W、R	300	300	300	300	300		
F、P	300	250	180	170	150	Spools F, G, H	
G、 T	300	300	240	210	190	P and S	
S	300	300	300	250	220	in general	
V	300	250	210	200	180		
Pressure cente pressure 1.6M	-	Spool approx. to					
All spools	300	300	300	300	300	160L/min	

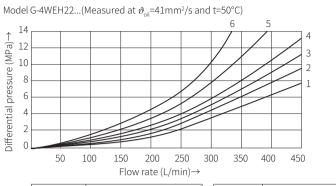
Notice:

When using a 4/3-way valve with pressure centered in the main spool which exceeds the given performance limits, a higher pilot pressure is required. Therefore, if the pressure is 35MPa and the flow is 300L/min in the circuit, the pilot pressure of 1.6MPa is required.

The maximum flow of the valve only depends on the acceptable pressure drop through the valve.

0

Characteristic curve



Spool	S	witchir	ng posi	tion		Spool	Med	lian posit	ion
5000	P-A	P-B	A-T	B-T		Spool	A-T	B-T	P-T
E、M、P、 Q、U、V	2	2	1	4		F	-	-	4
Q. U. V		-		-		G、Ρ	-	-	6
F	1	2	1	2		н	-	_	2
G、 T	2	2	2	4		1	4	_	-
H、J、W	2	2	1	3	1		4		-
L	2	2	1	2		Т	-	-	5
R	1	2	1	-		U	-	6	-

Characteristic limit

Model G-4WEH22...(Measured at ϑ_{oi} =41mm²/s and t=50°C)

Allowable flo	ow of 2-p	osition	valve L/r	nin	
Coool		work	ing press	sure(MP	a)
Spool	7	14	21	28	35
X external si (with P _{pilot m}	upply ma _{in} =11bar	ain valve /14bar)	spring r	eturn	-
C, D, K, Y, Z	450	450	450	450	450
X external s	upply ma	ain valve	spring r	eturn ¹⁾	
С	450	450	320	250	200
D,Y	450	450	450	400	320
K	450	215	150	120	100
Z	350	300	290	260	160
X external s	upply hy	draulic d	entered		
HC, HD, HK, HY, HZ	450	450	450	450	450
HC/O	450	450	450	450	450
HD/O	450	450	450	450	450
HK/O	450	450	450	450	450
HZ/O	450	450	450	450	450
HC/OF	450	450	450	450	450
HD/OF	450	450	450	450	450
HK/OF	450	450	450	450	450
HZ/OF	450	450	450	450	450

1)The specified flow value is the limited valu	e at which
the reset spring can return the spool back to	the end
position when the pilot pressure disappears	

Spool	WO	rking pr	essure(N	ИРа)	
1	7	14	21	28	35
X external s	supply s	pring ce	entered		
E, J, L, M, Q, U, W, R	450	450	450	450	450
Н	450	450	300	260	230
G	400	350	250	200	180
F	450	270	175	130	110
V	450	300	240	220	160
T	400	300	240	200	160
Р	450	270	180	170	110

When internal supply, a back pressure valve is required because of negative cover of spools Z, HZ, V and the flow less than 180L/min. It is also required due to negative cover of spools F, G, M, P and T.

Characteristic curve

Model G-4WEH25...(Measured at ϑ_{si} =41mm²/s and t=50°C)

8 7 65 1.4 1.2 1.0 0.8 0.4 0.4 0.4 0.4 300 600 650 100 200 400 500 Flow rate (L/min)→

Spool	W	orking p	position		Spool	Working position			
spool	P-A	P-B	A-T	B-T	shoor	P-A	P-B	A-T	B-T
E	1	1	1	3	Р	4	1	1	5
F	1	4	3	3	Q	2	2	3	5
G	3	1	2	4	Z	1	1	1	-
Н	4	4	-3	4	U	2	1	1	6
J	2	2	- 3	5	V	4	4	3	6
L	2	2	3	3	W	1	1	1	3
М	4	4	1	4	Т	3	1	2	4

Characteristic limit

pressure decreases.

Model G-4WEH25...(Measured at ϑ_{oi} =41mm²/s and t=50°C)

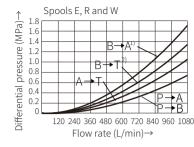
Allowable flo	with pre-load									
Spool	Wo	orking p	valve and X port internal							
5000	7	14	21	28	35	supply				
Main valve sp	Main valve spring return ¹⁾									
C, D, K, Z, Y	700	700	700	700	700					
Main valve sp	oring r	eturn ²⁾				Spools C				
С	700	700	700	700	700	and Z				
D, Y	700	650	400	350	300	approx. to				
K	700	650	420	370	320	180				
Z	700	700	650	480	400	L/min				
Main valve	Main valve hydraulic return									
HC、HD、HK	700	700	700	700	700	Spools HC and HZ				
HZ、 HY	700	700	700	700	700	approximately				
HC/O	700	700	700	700	700	to 180L/min				
HD/O	700	700	700	700	700					
HK/O	700	700	700	700	700					
HZ/O	700	700	700	700	700					
HC/OF	700	700	700	700	700					
HD/OF	700	700	700	700	700					
HK/OF	700	700	700	700	700					
HZ/OF	700	700	700	700	700					

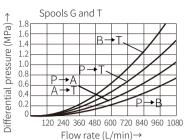
	Allowable f	low of 3	8-positi	on valv	e (L/mi	n)	with pre-load
	Spool	W	orking	pressu	re(MPa)	valve and X port internal
	Spool	7	14	21	28	35	supply
	spring cente	ered					
-	E、L、M Q、U、W	700	700	700	700	650	
	G/T	400	400	400	400	400	
	F	650	550	430	330	300	
	Н	700	650	550	400	360	
	J	700	700	650	600	520	Spools F, G,
	Р	650	550	430	330	300	HP and T
	V	650	550	400	350	310	approximately
y	R	700	700	700	650	680	to 180L/min
	Pressure cen (minimum p		ssure 1	8MPa)		
	E/F/H/J	700	700	700	700	650	
	L/M/P/Q	700	700	700	700	650	
	R/U/V/W	700	700	700	700	650	
	G/T	400	400	400	400	400	
	When the pil	ot pres	sure hi	gher th	nan 3M	Pa	
	G/T	700	700	700	700	700	

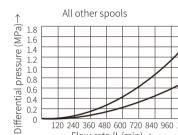
1) The given flow value can be achieved when the minimum pilot pressure of 1.3 MPa exists. 2) The given flow value is limiting the value at which the reset spring can return the valve when the pilot

Characteristic curve

Model G-4WEH32...(Measured at ϑ_{al} =41mm²/s and t=50°C)







1) Only for spool R 2) Not for spool R

11.0

(a

Characteristic limit

Model G-4WEH32...(Measured at ϑ_{al} =41mm²/s and t=50°C)

120 240 360 480 600 720 840 960 1080

Flow rate (L/min)→

Allowable flow	v of 2-j	positior	n valve	(L/min)			Allo			
Spool	W	/orking	pressu	re(MPa)	a) with pre-load valve and X					
Spool	7	14	21	28	25	port internal supply				
Main valve sp	oring re	eturn ¹⁾				Sappij	Ма			
C, D, K, Z, Y	1100	1040	860	750	680		E, H			
Main valve sp	oring re	eturn ²⁾				Spool Z	Q,			
С	1100	1040	860	800	700	approx to	G,			
D, Y	1100	1040	540	480	420	180L/min	V			
К	1100	1040	860	500	450		Pre			
Z	1100	1040	860	750	650		(m			
Main valve	hydra	aulic re	eturn			Spool Z	All			
HC、HD、HK	1100	1040	860	750	680	approx to	Not			
HZ、HY	1100	1040	860	750	680	180L/min	Whe the			

1)The given flow value can be achieved when the minimum pilot pressure of 1.0MPa exists. 2) The given flow value is limiting the value at which the reset spring can return the valve when the pilot pressure decreases.

	Allowable flow of	of 3-pos	sition va	alve (L/	min)		
ad	Spool	W	orking	with pre-load valve and X			
ıl	3p00i	7	14	21	28	25	port internal supply
	Main valve spr	ing ret	urn ¹⁾				SUPPY
_	E, H, J, L, M Q, U, W, R	1100	1040	860	750	680	
	G, T, H, F, P	900	900	800	650	450	Spools F, G, H,
	V	1100	1000	680	500	450	P and T approximately
	Pressure cente (minimum pilo		sure 0.8	(5MPa		1	to 180L/min
	All spools	1100	1040	860	750	680	

1 /1 / • •

tice:

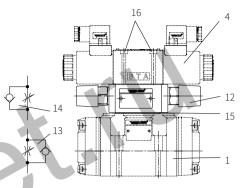
en using a 4/3-way valve with pressure centered in the main spool which exceeds the given performance limits, a higher pilot pressure is required. Therefore, if the pressure is 35MPa and the flow is 300L/min in the circuit, the pilot pressure of 1.5MPa is required. The maximum flow of the valve only depends on the acceptable pressure drop through the valve.

Operating time, pressure valves and pilot valves

Switching time adjustment

To control the switching time of the main valve (1), a double throttle check valve (12) is installed between the pilot valve and the main valve. Conversion from meter-in control (13) to meter-out control (14):

Remove the pilot valve (4) but retain the O-ring support plate (15), turn the throttle check valve around its longitudinal axis and reassemble it on the mounting surface, install the pilot valve (4). Tightening torque M_=9Nm for fixing screw (16).

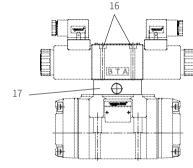


Model G-4WEH.../.../S or S2

Pressure reducing valve "D3"

The pressure reducing valve (17) must be used If the pilot pressure exceeds 25MPa. The secondary pressure should be maintained at 4.5MPa. When using the pressure reducing valve D3, it must install a plug-in throttle B10 in port P of the pilot valve

Tightening torque M_=9Nm for fixing screw (16).

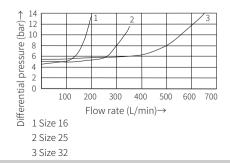


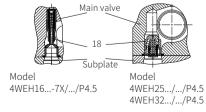


Pre-load valve (not for size 10)

In the valve with pressureless bypass and internal pilot oil supply, a pre-load valve (18) is installed in port P of the main valve to build up the minimum pilot pressure.

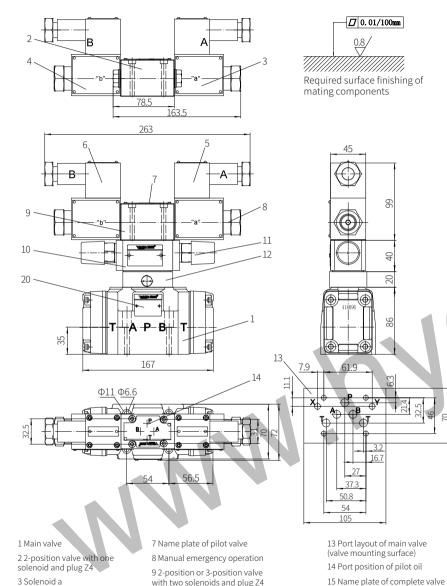
The differential pressure of the pre-load valve must be added to the differential pressure of the main valve to determine the actual value (see characteristic curve). The cracking pressure of the valve is 0.45Mpa.





Component size

Model G-WEH10...-4XJ/...



10 Switching time adjustment 11 Adjustment bolt

Component size

Size unit: mm

[] 0.01/100mm

66

6

2

27

37.3

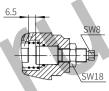
0.8

Dimension of additional devices for model G-WEH10

145 5 237

The installation range of the stroke adjustment is 6.5mm. The stroke limiter is used to adjust the stroke of the main spool. Loosen the lock nut and rotate the adjusting rod clockwise, the stroke of the main spool will be shortened (the adjustment must be carried out without pressure in the control chamber)





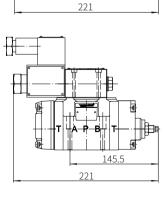
Stroke adjustment installed on the ends A and B of the main valve.../10 Stroke adjustment installed on the end A of the main valve.../11

Stroke adjustment installed on the end B of the main valve.../12

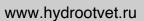
Stroke adjustment installed on the end A of the main valve.../11 (2-position valve, symbols C, D, K, Z)

Stroke adjustment installed on the end B of the

main valve.../12 (2-position valve, symbol Y)



145.5



4 Solenoid b

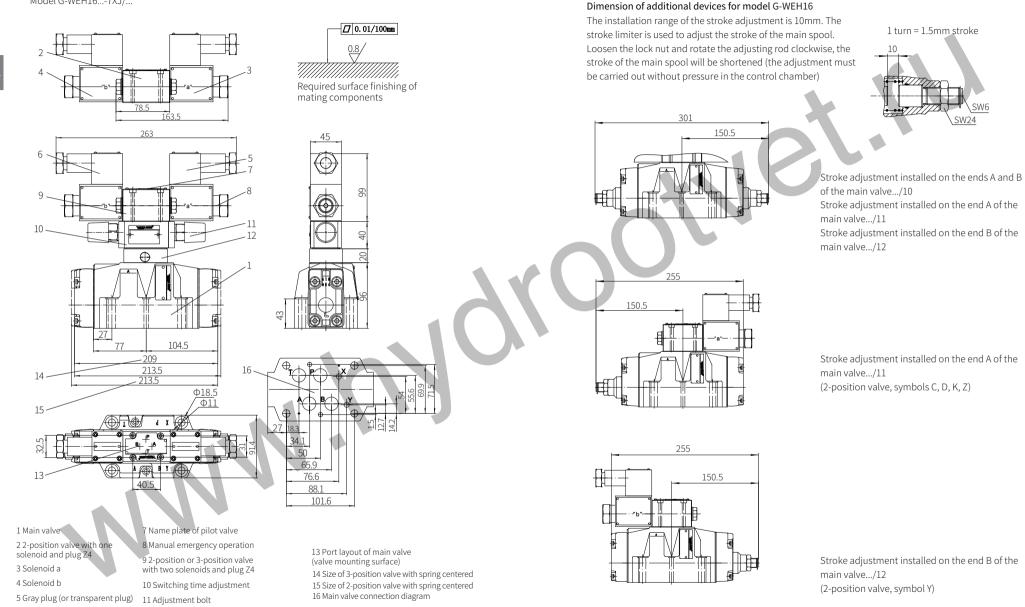
5 Gray plug (or transparent plug)

6 Black plug (or transparent plug)

Size unit: mm

Component <u>size</u>

Model G-WEH16...-7XJ/...

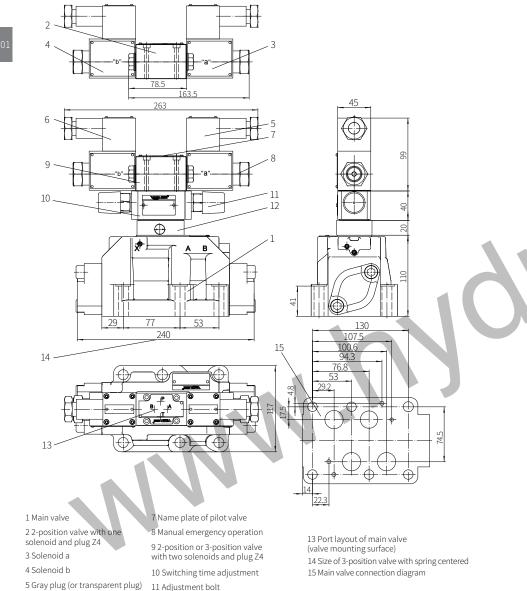


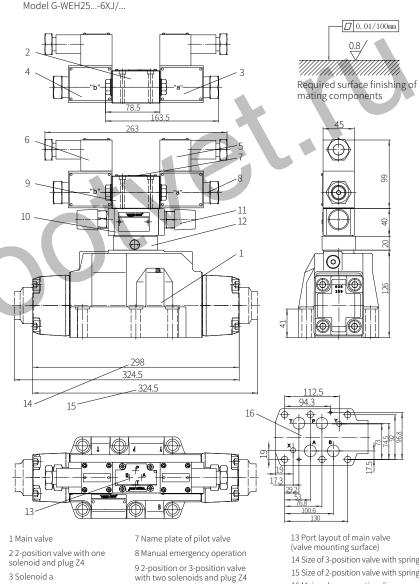
Component size

Size unit: mm

Component size

Model G-WEH22...-7XJ/...





11 Adjustment bolt

6 Black plug (or transparent plug) 12 Pressure reducing valve

0.01/100mm 0.8

g

ା

Model G-WEH25...-6XJ/...

Component size

Size unit: mm

4 Solenoid b

5 Gray plug (or transparent plug)

10 Switching time adjustment

0331

13 Port layout of main valve (valve mounting surface) 14 Size of 3-position valve with spring centered 15 Size of 2-position valve with spring centered 16 Main valve connection diagram

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6 Black plug (or transparent plug) 12 Pressure reducing valve

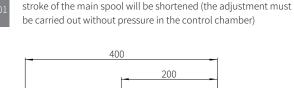
Component size

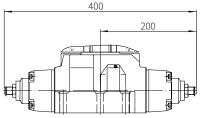
Size unit: mm

W24

0.01/100mm

Model G-WEH32...-6XJ/...





Dimension of additional devices for model G-WEH25

The installation range of the stroke adjustment is 12.5mm. The

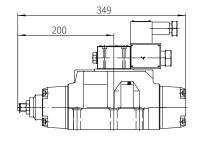
Loosen the lock nut and rotate the adjusting rod clockwise, the

stroke limiter is used to adjust the stroke of the main spool.

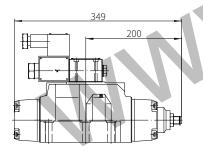


1 turn = 1.5mm stroke

12.5

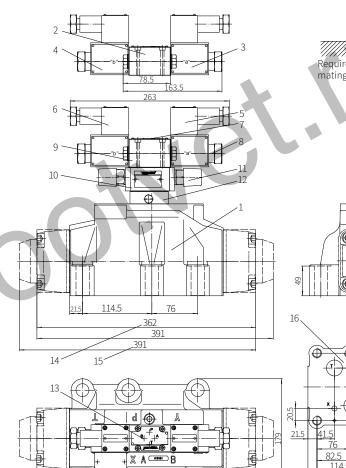


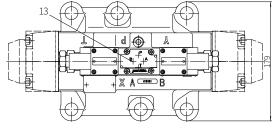
Stroke adjustment installed on the end A of the main valve.../11 (2-position valve, symbols C, D, K, Z





Stroke adjustment installed on the end B of the main valve.../12 (2-position valve, symbol Y)





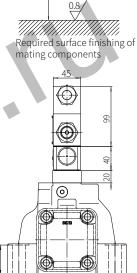


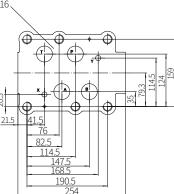


9 2-position or 3-position valve with two solenoids and plug Z4 10 Switching time adjustment

7 Name plate of pilot valve

11 Adjustment bolt 6 Black plug (or transparent plug) 12 Pressure reducing valve

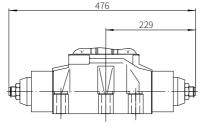




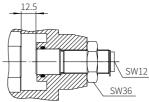
13 Port layout of main valve (valve mounting surface) 14 Size of 3-position valve with spring centered 15 Size of 2-position valve with spring centered 16 Main valve connection diagram

Dimension of additional devices for model G-WEH32

The installation range of the stroke adjustment is 15mm. The stroke limiter is used to adjust the stroke of the main spool. Loosen the lock nut and rotate the adjusting rod clockwise, the stroke of the main spool will be shortened (the adjustment must be carried out without pressure in the control chamber)



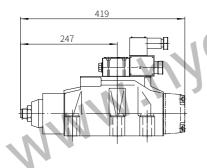




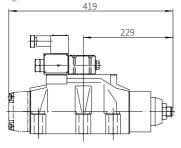
Stroke adjustment installed on the ends A and B of the main valve.../10 Stroke adjustment installed on the end A of the main valve.../11

Stroke adjustment installed on the end B of the main valve.../12

1



Stroke adjustment installed on the end A of the main valve.../11 (2-position valve, symbols C, D, K, Z)



Stroke adjustment installed on the end B of the main valve.../12 (2-position valve, symbol Y)

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