HOYEA

INDUSTRIAL HYDRAULICS

DETAIL CATALOGUE

HOYEA

About Hoyea

Hoyea,established in 1993,as the leader in the field of fluid power transmission & control in China,has devoted itself to the development of Electro-hydraulic control technology.

With strong technology basis and the advantage of hydromechatronics, Hoyea develops innovative ability, and at present has large quantities of independent technology, which fill the domestic blank market a lot. Multiple advanced patents, such as "differential pressure proportional pressure flow composite valve", and "bidirectional different pressing feedback type of proportional pilot-operated slide valve" shape a high quality technical supporting system of HOYEA. The company won the title of "National High Technological Enterprise", "Zhejiang Patent Demonstrating Firm", "Zhejiang Excellent Technology Innovation Enterprise". Various kinds of products win the 2nd and 3rd place of "Science and Technology Progress Prize of Zhejiang Province", and "Outstanding New Products Prize" awarded by the national industrial organization. Among them, the proportional pressing flow comples valve is classified as the national key new product, national-level Torch program project, whereas the proportional hydraulic component of new electro-hydraulic valve and the other two products has won the innovative fund project of National Science and Technology Department for technology-based small-and-medium-size enterprises, moreover, the proportional hydraulic component of new electro-hydraulic valve has also win the "National Major Achievements Transformation Projects" issued by the National Industrial Information Department.

The company has passed through ISO9001 quality system authentication, CE certificate, explosion proof safety certificate and typical certificate of mineral products safety. The company has advanced processing equipment and hardware facility. The products cover the whole fields of hydraulic components, and have already been widely applied in each field. There are routine hydraulic pressure valves, proportional valves, cartridge valves, restrictive valves, explosion isolation valves and proportional solenoid, internal gear pump and pneumatic components.

Therefore, Hoyea can offer its customers with comprehensive and advanced electro-hydraulic solutions, high cost-effective products, help them face the highly market competition, initiate its competitive ability, and create more value for the customers.

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Plants and Equipments

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Electrical operated directional control valve

Specification		02		03	
working pressure (MPa)	Oil ports P、A、B	35		31.5	
	Oil ports T	10		10	
Max. Flow	(L/min)	80		120	
Working fluid		Mineral oil;phosphate-ester			
Fluid temp.	(℃)	-20~70			
Viscosity	(mm²/s)	2.8~100			
Working voltage (v)	DC	12		24	
	AC	110V/50Hz		220V/50Hz	
Max.Switch frequency	(T/h)	15000(DC)		7200(AC)	
Insulation grade		IP65			
Weight (kg)	Single solenoid	1.45(DC)	1.4(AC)	5.1(DC)	4.3(AC
	Double solenoids	1.95(DC)	1.9(AC)	6.7(DC)	5.1(AC)
Cleanliness		The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638.It is suggested that the minimum filter rating should be β10≥75。			

Electro-hydraulic directional control valve

Electro-hydraulic directional control valve is a control valve which can use the pressure of the hydraulic circuit to pull the spool and change the hydraulic oil direction.

Electro-hydraulic directional control valve is the combination of the electrical operated directional control valve and the hydraulic operated directional control valve. It uses the electrical operated directional control valve to control the hydraulic operated directional control valve, and change the hydraulic oil direction.

Electro-hydraulic directional control valve and hydraulic operated directional control valve are used mostly in hydraulic systems when electrical operated directional control valve can not afford the flow. It may control the movement of the power elements, or control the direction of the flowing oil.

Specification		03		04		06	
Model		FWH-03	HFWH-03	FWH-04	HFWH-04	FWH-06	HFWH-06
Max.Working pressure (MPa)	P、A、B Port	2831.528352835					
	T port (internal leakage of control oil)	10		10		10	
	Y port (extemal leakage of control oil)	10		10		10	
Minimum control pressure (MPa)		1.0Spring-Return three-way valve two-way valve		1.2Spring-Return three-way valve two-way valve		1.3Spring-Return three-way valve two-way valve	
Maximum control pressure (MPa)		to25					
Max. Flow (L/min)		160		300		650	
Working fluid		Mineral oil;phosphate-ester					
Fluid temp. (°C)		-20∽70					
Viscosity (mm2/s)		2.8∽380					
Weight (kg)	Single-head solenoid	6.4		8.5		17.6	
	Double-head solenoids	6.8		8.9		18	
	FH Valve	4		7.3		16.5	
	Adjustor of reversing time	0.8		0.8		0.8	
	Pressure reducing valve	0.5		0.5		0.5	
Cleanliness		The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638.It is suggested that the minimum filter rating should be β10≥75。					

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Manual operated directional control valve

Specification		02	03	04	06
Working pressure (MPa)	Port P、A、B	31.5			
	Port T	10			
Max. Flow	(L/min)	60	100	300	450
Working fluid		Mineral oil;phosphate-ester			
Fluid temp.	(℃)	~20-70			
Viscosity	(mm^2/s)	2.8~380			
Weight	(kg)	About 1.4	About 3.3	About 8	About 17
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638.It is suggested that the minimum filter rating should be β10≥75。				

Manual operated directional control valve is a directional control valve, by operating the handle, the spool moves in the axial direction to achieve oil loop switching.

Manual operated directional control valve and electrical operated directional control valve are played the same role in the hydraulic system. Easy operation, reliable work， and without the need for electricity.

Proportional pilot-operated relief valve

Specification		03	06	10
Maximum pressure	(MPa)	31.5	31.5	31.5
Maximum. Flow	(L/min)	100	200	400
Minimum. Flow	(L/min)	3		
Rated current	(mA)	800		
Coil resistance	(Ω)	10~19.5		
Hystersis	(%)	< ±1.5		
Repeatability	(%)	< ±2		
Cleanliness		Filter is recommended for the highest fluid pollution degree;the lowest specific filtration resistance according to ISO 4406(c)20/18/15.		

Comprised of proportional directly-operated relief vlave,pressure limiting valve and low-noise relief valve.

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Proportional relief valve

Specification		DN6
Installation position		optional, preferably horizontal
Storage temperature range	(℃)	-20∽80
Ambient temperature range (℃)	BY and BDY	-20∽70
	BYN and BDYN	-20∽50
Weight (Kg)	BY and BDY	2.4
	BYN and BDYN	2.5
Model B (D) Yand B (D) YN DN6 Component series 1X Maximum operating pressure 315bar Maximum flow 30L/min		

Measured at (P=1 OObar, Mineral oil HLP4+, 40C±5C)			
Operating pressure(bar)	PortsP, P1-P2 A1	-A2 ; B1-B2	Up to 315
	Port T		Up to 50
Highest setting pressure (bar)	Pressure class 50		50
	Pressure class 100		100
	Pressure class 200		200
	Pressure class 315		315
The minimum set pressure at zero point	(bar)	Please see the performance curve	
Back pressure of port A	(bar)	Single zero pressure back to oil tank	
Flow of pilot oil	(L/min)	0.6∽1.2	
Maximum flow	(L/min)	30	
Pressure fluid		Mineral oil (HL, HLP) to DIN 51 524;For other fluid please consult with us.	
Fluid temp. Range	(℃)	-20∽80	
Viscosity range	(℃)	15+380	
Oil cleanliness	(mm2/s)	Filter is recommended for the highest fluid pollution degree; the lowest specific filtration resistance according to ISO 4406 (C) 20/18/15.	
Hysteresis	(%)	Plus-minus 1.5 of the highest adjustable pressure	
Repeatability	(%)	Less than plus-minus 2 of the highest adjustable pressure	
Linearity	(%)	Plus-minus 3.5 of the highest adjustable pressure	
Sel value caused by the manufacturing errors - pressure characteristics curve derivation refertothe characteristics curvewhen pressure rising		BY and BDY(%)	Plus-minus 2.5 of the highest adjustable pressure
		BYN and BDYN(%)	Plus-minus 1.5 of the highest adjustable pressure
Phase step corresponding Tu+Tg	10%-90%(ms)	Approximately 80	Depend on the installation
	90%-10%(ms)	Approximately 50	
Cleanliness	Filter is recommended for the highest fluid pollution degree;the lowest specific filtration resistance according to ISO 4406 (C) 20/18/15.		

Electrical Specification		
Voltage type		Direct Voltage 24V
Controlling current	(mA)	(Minimum) 100, (Maximum) 1600
Solenoid coil (Ω)	20℃ Measuring under	5.4
	Maximum numerical value	7.8
Resistance	(%)	100
Electrical connection see	BY and BDY	Plug to connect DIN 175 301 -803 and ISO 4400 Ocket to connect DIN 175 301-803 and ISO 4400
	BYN and BDYN	Plug to connect DIN EN175 301-803 Ocket to connect DINEN175 301-803
Type of insulation to DIN 40 050		IP65 has got installed and lockedup plug-in connector

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Proportional electro-hydraulic control P-Q valve

Model			BYLZ-02-*-*	BYLZ-03-*-*	BYLZ-06-250*-*
Maximum pressure		(MPa)	31.5		
Maximum flow		(l/min)	63	160	250
Flow range		(l/min)	1-63	1-160	2.5-250
Pressure control	Range current	(mA)	800		
	Coil resistance	(Ω)	19.5	43.5	43.5
	P Differential	(MPa)	0.6	0.6	0.7
	Hystersis	(%)	<5	<7	<7
	Repeatability	(%)	<1		
Flow control	Pressure Range	(MPa)	16:1.2-16	16:1.4-16	16:1.5-16
			25:1.2-25		
			31.5:1.2-31.5	25:1.4-25	25:1.5-25
	Range current	(mA)	800		
	Coil resistance	(Ω)	10	10	10
	Hystersis	(%)	<3		
	Repeatability	(%)	<1		
	Weight	(Kg)	7	16	30
	Cleanliness		Filter is recommended for the highest fluid pollution degree;the lowest specific filtration resistance according to ISO 4406(c)20/18/15.		

Y Relief valve

Specification		03	06	10
Max. working pressure	(MPa)	35		
Max. Flow	(L/min)	250	500	600
Working fluid		Mineral oil;phosphate-ester		
Fluid temp	(℃)	-20~70		
Viscosity	(mm²/s)	12~380		
Working press	(MPa)	5 10	20 31.5	35
Weight(Kg)	Y Model	3	3.9	5.3
	YW Model	4.5	5.4	6.8
Cleanliness		The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.		

The relief valve is a pressure control valve.It maintains constant pressure at inlet by discharging excess fluid in the system.Solenoids relief valve is a combination of electromagnetic drectional valve and pilot-operated pressure relief valve,it is used to control or unload multi-stage pressure in hydrautic system.

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YW Relief valve

Specification		03	06	10
Max.working pressure	(MPa)	35		
Max.Flow	(L/min)	250	500	600
Working fluid		Mineral oil;phosphate-ester		
Fluid temp	(℃)	-20~70		
Viscosity	(mm²/s)	12~380		
Working press (MPa)		5, 10, 20, 31.5, 35		
Weight(kg)	Y Model	3	3.9	5.3
	YW Model	4.5	5.4	6.8
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.			

The relied valve is a pressure control valve. It maintains constant pressure at inlet by discharging excess fluid in the system. Solenoids relief valve is a combination on of electromagnetic directional valve and pilot-operated pressure relief valve, it is used to control or unload multi-stage pressure in hydraulic system.

Modular pilot-operated check valve

Specification		02	03	04	06
Max. working pressure	(Mpa)	31.5			
Max. Flow	(L/min)	60	100	200	360
Working fluid		Mineral oil;phosphate-ester			
Fluid temp.	(℃)	-20~70			
Viscosity	(mm²/s)	2.8~500			
Opening pressure	(MPa)	a0.05 b0.25 c0.4			
Weight	(kg)	0.8	2	7	11.7
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS1638.It is suggested that the minimum filter rating should be β10≥75。				

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Modular relief valve

Specification		02	03
Max. working pressure	(MPa)	31.5	
Max. Flow	(L/min)	35	70
Working fluid		Mineral oil;phosphate-ester	
Fluid temp	(℃)	-20~70	
Viscosity	(mm^2/s)	12~380	
Working press	(MPa)	7 14 21 31.5	
Weight	(Kg)	1.49 2.19 3.35 4.66	
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.		

Modular reducing valve

Specification		02		03
Max. working pressure	(MPa)	21		
Max. Flow	(L/min)	35		70
Working fluid		Mineral oil;phosphate-ester		
Fluid temp	(℃)	-20~70		
Viscosity	(mm^2/s)	12~380		
Working press	(MPa)	7	14	21
Weight	(Kg)	1.29		3.39
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.			

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Modular flow control valve

Specification		01	03
Max. working pressure	(MPa)	31.5	
Max. Flow	(L/min)	30	50
Hydraulic fluid		Mineral oil;phosphate-ester	
Fluid temp	(℃)	-20~70	
Viscosity	(mm^2/s)	2.8~380	
Opening pressure	(MPa)	a: 0.05	
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.		

Explosion isolation proportional directional control valve (50)

Specification		01	03
Max. working pressure (MPa)	Oil ports P, A, B	31.5	
	Oil ports T	10	
Working fluid		Mineral oil;phosphate-ester	
Fluid temp. (℃)		-20∽70	
Viscosity (mm2/s)		2.8∽380	
Hysteresis (%)		<5	
Repeatability (%)		<2	
Working voltage (V)		DC24	
Rated current (mA)		750	1500
Coil resistance (Ω)		19.5	10
Insulation grade		IP55	
Cleanliness	The maximum allowable cleanliness of the oil Cleanliness should be according to 9th degree of Standard NAS1638.It is suggested that the minimum filter rating should be β10≥75。		

Explosion isolation solenoid check valve

Specification		06	10
Max. working pressure (MPa)		31.5	
Max. Flow(L/min)		220	430
Working fluid		Mineral oil;phosphate-ester	
Fluid temp (℃)		-20~70	
Viscosity(mm^2/s)		2.8~380	
Opening pressure (MPa)		a:0.05	b:0.4
Working voltage (V)	DC	24	
	*AC	127,	220
Insulation grade		IP55	
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.		

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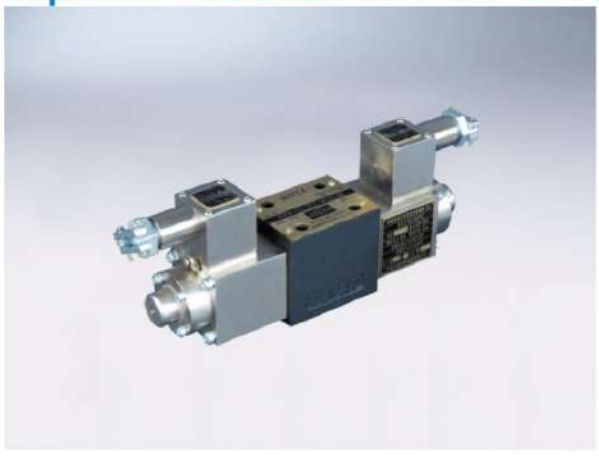
Explosion isolation solenoid directional control valve (51)

Specification			01	
Max. working pressure (MPa)			Oil ports P,A,B	31.5
			Oil ports T	10
Max. Flow(L/min)			(L/min)	80
Working fluid			Mineral oil;phosphate-ester	
Fluid temp (℃)			-20~70	
Viscosity(mm²/s)			2.8~380	
Working voltage (V)	(V)	DC	*AC	
		24	127,	220
Cycle time(ms)	Open		25~45	10~20
	Close		10~25	15~40
Max.switch frequency	(T/h)		15000	7200
Insulation grade			IP55	
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.			

Explosion isolation solenoid directional control valves

Specification			03	04	06	10
Max. working pressure	Oil ports P,A,B	GDFWH	28			
		HGDFWH	31.5			
	Oil ports T	Pilot oil drain,Yexternal	Port Y external drain 25			
		Pilot oil drain,Yexternal	Port Y external drain 10			
	Oil ports Y	Pilot oil drain,Yexternal	10			
Max. Flow	(L/min)		160	300	650	1080
Working fluid			Mineral oil;phosphate-ester			
Fluid temp	(℃)		-20~70			
Viscosity	(mm²/s)		2.8~380			
Minimum control pressure	(MPa)		1.0	1.4	1.3	1.0
Working voltage	(V)		DC		*AC	
			24		127,220	
Insulation grade			IP55			
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.					

Explosion isolation solenoid directional control valve



Specification			01	03
Max. working pressure (MPa)			Oil ports P,A,B	31.5	
			Oil ports T	10	
Max. Flow(L/min)			(L/min)	80	120
Working fluid			Mineral oil;phosphate-ester		
Fluid temp (℃)			-20~70		
Viscosity(mm²/s)			2.8~380		
Working voltage (V)	(V)	DC	*AC		
		24	127,	220	
Cycle time(ms)	Open		25~45	10~20	
	Close		10~25	15~40	
Max.switch frequency	(T/h)		15000	7200	
Insulation grade			IP55		
Cleanliness	The maximum allowable cleanliness of the oil should be according to 9th degree of Standard NAS 1638.It is suggested that the minimum filter rating should be β 10 ≥75.				

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