

HY(F)160/HY(F)160K 电液伺服阀

HY(F)160/HY(F)160K electrohydraulic servo valve



动态特性图

Dynamic Characteristic Chart

标准频响动态性能实测

Measured Dynamic Performance of Standard Frequency Response

数据曲线 Data curve			
产品型号 Product model	HY160	产品名称 Product name	阀 Valve
产品编号 Product no.	101001	额定流量(L/min) Rated flow (L/min)	400
额定电流(mA) Rated current (mA)	40	额定压力(MPa) Rated pressure (MPa)	21
油液温度(°C) Oil temperature (°C)	40		
动态特性曲线 Dynamic Characteristic Curve			
项目名称 Item name	性能参数 Performance parameter	试验结论 Test conclusion	
频率 Hz(-3db) Frequency Hz (-3db)	30	(合格) (Qualified)	
频率 Hz(90°) Frequency Hz (90°)	50		
备注 Remarks			
试验人员 Tested by	试验员 1 Tester 1		

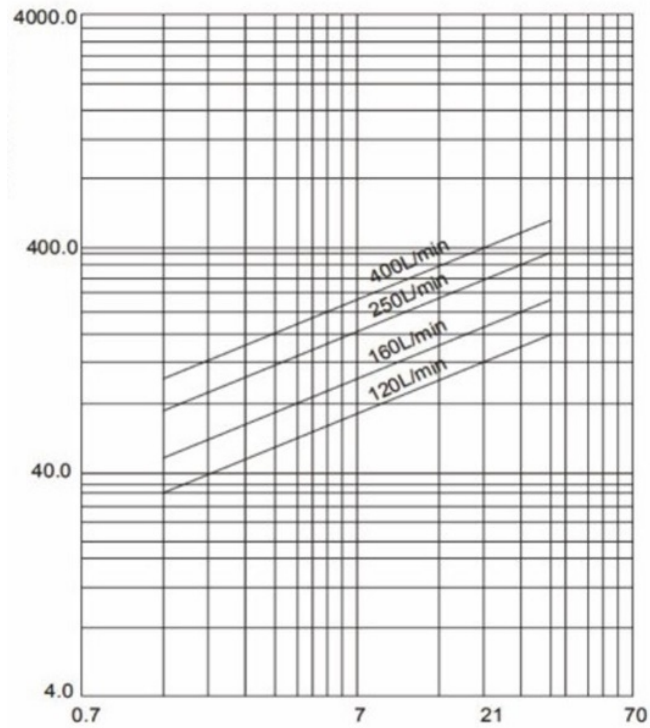
阀的负载流量图

Load Flow Diagram of Valve

阀口全开(100%给定指令信号)时阀的流量与阀压降的关系

Relationship between Valve Flow and Valve Pressure Drop with Fully-open Valve Port (100% Given Command Signal)

负载流量 (L/min)
Load flow (L/min)



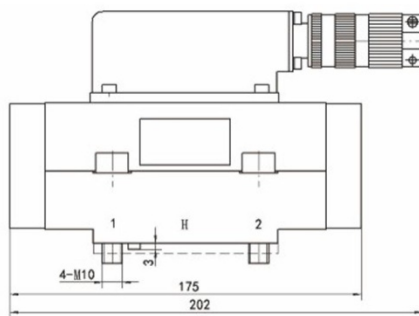
阀压降 ρP (MPa)

Valve pressure drop ρP (MPa)

Table of Connection Definitions of Electrical Connector 电连接器连接定义表	线圈连接方式 Coil connection mode	单线圈、串联、并联、差动 Single-coil, series connection, parallel connection and differential
	插座针号 Socket pin number	
	外引出导线颜色 Color of external lead wire	绿 红 黄 蓝
	控制电流的极性 Polarity of control current	单线圈: 2+, 1-或 4+, 3-; 串联线圈: 1 与 4 相连, 2+, 3- Single coil: 2+, 1-, or 4+, 3-; Series coil: 1 and 4 connected, 2+, 3- 并联线圈: 1 与 3、2 与 4 相连, (2, 4) +, (1, 3) - Parallel coil: 1 and 3 connected, 2 and 4 connected, (2, 4) +, (1, 3) - 差动联接: 当 1+时, 1 到 2 < 1 到 3; 当 1-时, 2 到 1 > 3 到 1; 用于串联时, 2+, 3- Differential connection: For 1+, 1 to 2 < 1 to 3; For 1-, 2 to 1 > 3 to 1; For series connection, 2+, 3-

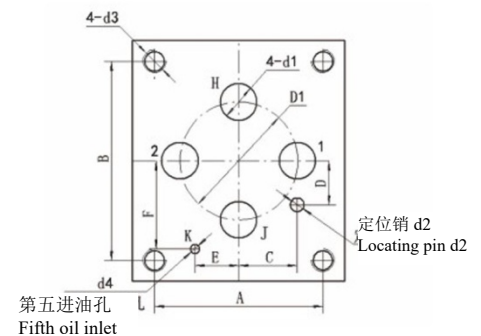
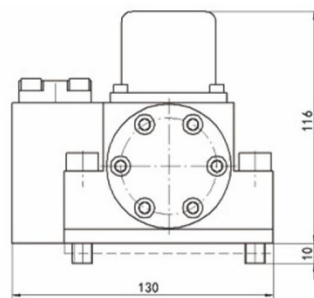
外形及安装尺寸图

Outline and Installation Dimension Drawing



油口连接面尺寸

Oil Port Connection Surface Dimensions



代号 Designation	D1	d1	d2	d3	d4	A	B	C	D	E	F
N	Φ50.8	Φ19.5	Φ6	M10	Φ4	73	86	25.4	19	19	38
A	Φ50.8	Φ15.8	Φ6	M10	Φ4	73	86	25.4	19	19	38

- 进油腔 J,回油腔 H,负载腔 1、2,第五进油孔可按需提供
Oil supply port J, oil return port H, load ports 1 & 2, and the fifth oil inlet may be provided as required.
- A、B、C、D、D1、E、F 理论值尺寸公差均为±0.1mm
Theoretical dimension tolerances of A, B, C, D, D1, E and F are all ±0.1mm.
- 定位销可根据用户需要选配
Locating pin is optional depending on user demand

电液伺服阀配件及附件清单

List of Parts and Accessories of Electrohydraulic Servo Valve

必要配件 Necessary parts						可选附件 Optional accessories			
型号 Model	J、H、1、2 口 密封圈规格(数量 4 件) Specification of sealing ring for ports J, H, 1 and 2 (quantity: 4 pieces)	先导级独立进油口 密封圈规格 (数量 1 件) Specification of sealing ring for pilot-stage independent oil inlet (quantity: 1 piece)	电连接器插头 (数量 1 件) Electrical connector plug (quantity : 1 piece)	护板 Guard plate (数量 1 件) (quantity: 1 piece)	安装螺钉 规格 Specification of mounting screw (数量 4 件) (quantity: 4 pieces)	冲洗板 Flushing plate	转接板 Adapter board	屏蔽线 Shielded wire	SVC 伺 服阀控 制器 SVC servo valve controlle r
HY160	120-250L:Φ20x2 400L:Φ21.5x2	Φ9x1.8	P20	HY160-11 2 护板 HY160-11 2 guard plate	GB70 M10x45	●	●	●	●

技术参数

Technical Parameters

产品型号 Product model	HY160		HY160K	
供油压力 Oil supply pressure	2-31.5		2-31.5	
额定流量 Qn (L/min) Rated flow Qn (L/min)	$\rho P_N=21\text{MPa}$	120、160、250、400		120、160、250、400
	$\rho P_N=7\text{MPa}$	75、95、150、230		75、95、150、230
额定流量容差 (%) Rated flow tolerance (%)	± 10		± 10	
额定电流 In (mA) Rated current In (mA)	15	40	15	40
线圈电阻 (Ω) Coil resistance (Ω)	200	80	200	80
滞环 (%) Hysteresis (%)	≤ 4		≤ 2	
分辨率 (%) Resolution (%)	≤ 1		≤ 0.5	
非线性度 (%) Nonlinearity (%)	≤ 7.5		≤ 3	
不对称度 (%) Asymmetry (%)	≤ 10		≤ 10	
零偏 (%) Zero bias (%)	$\leq \pm 2$		$\leq \pm 2$	
重叠 (%) Lap (%)	$\leq \pm 2.5$		$\leq \pm 2.5$	
内漏(L/min) Internal leakage (L/min)	$\leq 4\sim 6$		$\leq 4.5\sim 6.5$	
压力增益 (%Ps/1%In) Pressure gain (%Ps/1%In)	> 30		> 50	
温度零漂 ($\rho T=40^\circ\text{C}$) (%) Temperature zero drift ($\rho T=40^\circ\text{C}$) (%)	$\leq \pm 2$		$\leq \pm 2$	
供油压力零漂 (80%~100%) P_N (%) Oil supply pressure zero drift (80%~100%) P_N (%)	$\leq \pm 2$		$\leq \pm 2$	

回油压力零漂(0~20%)P _N (%) Return pressure zero drift (0~20%) P _N (%)		≤±2	≤±2
加速度零漂△a=10g (%) Acceleration zero drift △a=10g (%)		≤±2	≤±2
频率特性 Frequency characteristic	幅 频 宽 (-3dB)(Hz) Amplitude bandwidth (-3dB) (Hz)	>35(120~160L/min) >30(250L/min) >20(400L/min)	>50(120~160L/min) >40(250L/min) >20(400L/min)
	相 频 宽 (-90°) (Hz) Phase bandwidth (-90°) (Hz)	>35(120~160L/min) >30(250L/min) >20(400L/min)	>50(120~160L/min) >40(250L/min) >20(400L/min)
温度范围 (°C) Temperature range (°C)		-25~105	-25-105
质量 (Kg) Mass (kg)		≤3.8	≤3.8

测试油温 40±6°C；测试供油压力 21MPa

Oil temperature under test: 40±6°C; Oil supply pressure under test: 21MPa