

**HY(F)151/HY(F)151K 电液伺服阀**  
**HY(F)151/HY(F)151K electrohydraulic servo valve**



**动态特性图**

**Dynamic Characteristic Chart**

高频响动态性能实测

Measured Dynamic Performance of High Frequency Response

数据曲线 Data curve			
产品型号 Product model	HY151K	产品名称 Product name	阀 Valve
产品编号 Product no.	083033	额定流量(L/min) Rated flow (L/min)	100
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)	80	(合格) (Qualified)	
频率 Hz(90°) Frequency Hz (90°)	80		
备注 Remarks			
试验人员 Tested by	试验员 1 Tester 1		

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	HY151	产品名称 Product name	阀 Valve
产品编号 Product no.	081004	额定流量(L/min) Rated flow (L/min)	100
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)	50	(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		

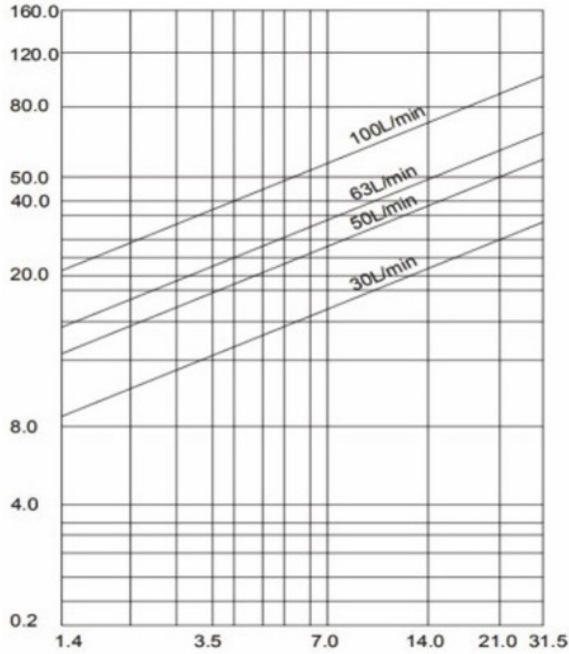
## 阀的负载流量图

### 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  $\Delta P$  (MPa)

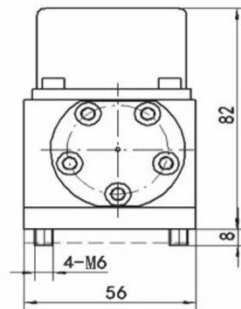
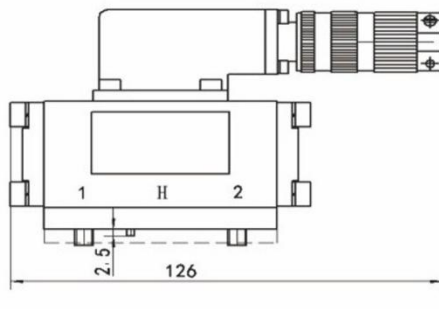
Valve pressure drop  $\Delta P$  (MPa)

电连接器 连接定义 表  Table of Connection Definitions of Electrical Connector	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 Green Red Yellow Blue

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-
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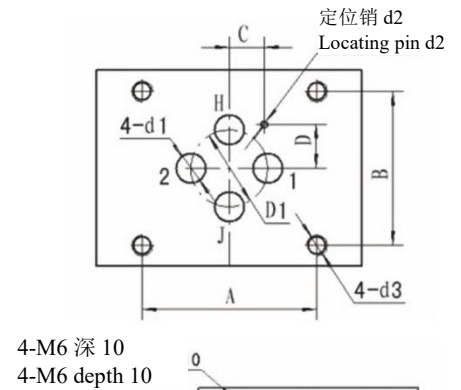
### 外形及安装尺寸图

### Outline and Installation Dimension Drawing

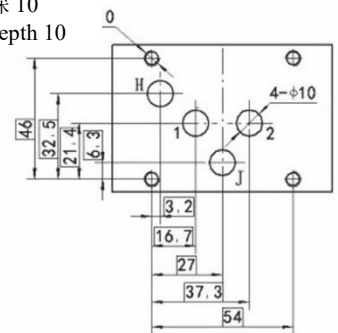


### 油口连接面尺寸

### Oil Port Connection Surface Dimensions



4-M6 深 10  
4-M6 depth 10



附图(代号 C)  
Attached Drawing (Designation C)

代号 Designation	D1	d1	d2	d3	A	B	C	D
N	Φ22	Φ8.5	Φ2.5	M6	50	44	9.9	12.7
A	Φ25	Φ9	Φ2.5	M6	50	44	18	15
B	Φ25	Φ9	Φ2.5	M6	50	44	18	15
C	见附图 See attached drawing							

- 进油腔 J,回油腔 H,负载腔 1、2  
Oil supply port J, oil return port H, load ports 1 & 2
- A、B、C、D、D1 理论值尺寸公差均为±0.1mm  
Theoretical dimension tolerances of A, B, C, D and D1 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 0 件) Specification of sealing ring for pilot-stage independent oil inlet (quantity: 0 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 Adapte r board	屏蔽线 Shielde d wire	SVC 伺 服阀控 制器 SVC servo valve controlle r
HY15 1	Φ10.3x2	/	Q14/XK1 1	HY151-10 1 护板 HY151-10 1 guard plate	GB70 M6x40	●	●	●	●

## 技术参数

### Technical Parameters

产品型号 Product model	HY151		HY151K	
供油压力 Oil supply pressure	2-31.5		2-31.5	
额定流量 Qn (L/min)	ρPN=21MPa	30、50、63、100	30、50、63、100	
Rated flow Qn (L/min)	ρPN=7MPa	17、29、36、58	17、29、36、58	
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 (%)		≤±2	≤±2
重叠 (%) Lap (%)		≤±2.5	≤±2.5
内漏(L/min) Internal leakage (L/min)		≤1.9-3.0	≤2.4~3.5
压力增益 (%Ps/1%In) Pressure gain (%Ps/1%In)		>30	>50
温度零漂 (ρT=40°C) (%) Temperature zero drift (ρT=40°C) (%)		≤±2	≤±2
供油压力零漂 (80%~100%)PN (%) Oil supply pressure zero drift (80%~100%)PN (%)		≤±2	≤±2
回油压力零漂(0~20%)PN (%) Return pressure zero drift (0~20%) PN (%)		≤±2	≤±2
加速度零漂Δa=10g (%) Acceleration zero drift Δa=10g (%)		≤±2	≤±2
频率特性 Frequency characteristic	幅频宽(-3dB)(Hz) Amplitude bandwidth (-3dB) (Hz)	≥50(30~63L/min) ≥40(100L/min)	≥80(30~63L/min) ≥60(WOL/min)
	相频宽 (-90°) (Hz) Phase bandwidth (-90°) (Hz)	≥50(30~63L/min) ≥40(100L/min)	≥80(30~63L/min) ≥60(100L/min)
温度范围 (°C) Temperature range (°C)		-25-105	-25-105
质量 (Kg) Mass (kg)		≤1.3	≤1.3

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

