

高能电阻(High Power Wire Wound Resistors)HDRU/HDY/HDR/HDB 150W-6KW

大功率、小体积、散热快,HDB可做多抽头,做测试负载场合的优选产品。

High Power,Small Size & Fast Heat Dissipation,multi-tap and non-inductive winding are available. Can be combined to be arranged in the load banks.HDB can be used as multiple-taps,preferred products for test load occasions.



■ 产品介绍(Introduction)

高能电阻包括HDRU金属合金电阻、HDR弹簧式高能电阻,产品结构坚固、体积小、功率大,是高冲击和长期负载环境中的理想产品,也可适用于电阻箱解决方案。正阳兴高能电阻能为您提供个性化设计,更好的满足您的需求,从而大大的节省空间和成本。

High power resistors includes HDRU metal alloy resistors and HDR spring type high power resistors.The product has the characteristic with solid structure,small volume and high power.The product has the characteristic with solid structure,small volume and high power.It is an ideal product in high impact and long-term load environment & also be applied to the solution of load banks.

■ 适用范围 (Application)

深圳市正阳兴电子的系列高能电阻生产周期为2-3周,广泛用于工控、伺服及高要求高恶劣环境。

Production Time : 2-3 weeks .Widely used in industrial control, servo and harsh environment .

■ 结构 (Structure)

1.高能电阻的电阻丝材料选用耐高温、电气性能稳定、温漂系数小的铁铬铝、镍铬丝或康铜丝制作。

The resistance wire of high power resistors select iron chromium aluminum nickel chromium wire or constantan wire with high temperature resistance, stable electrical performance and small temperature drift coefficient.

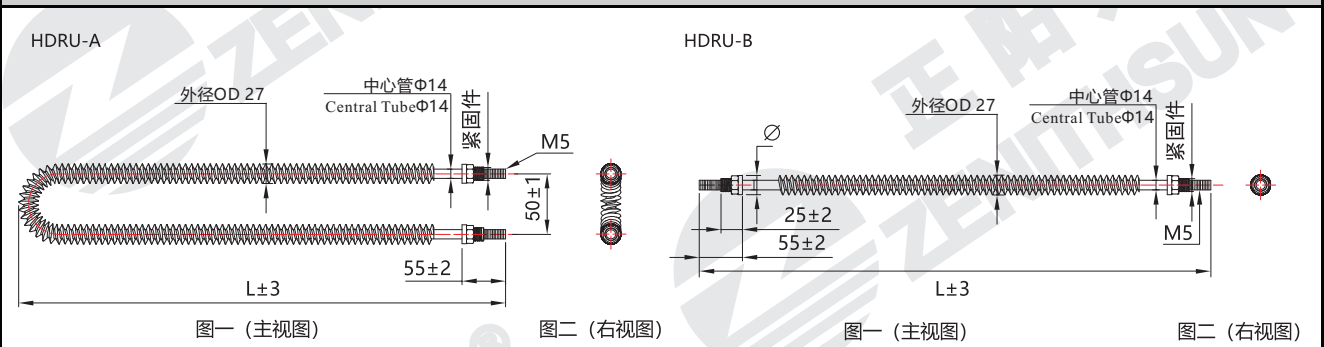
2.HDR,HDB,DHZ弹簧式高能电阻选用耐高温陶瓷管为基体,将电阻丝加工成弹簧形状缠绕在固定的线槽内,引出端采用不锈钢端片引出。

HDR, HDB and DHZ spring shape high-power resistors are made of high temperature resistant ceramic tube as the matrix,the resistance wire is processed into a spring shape and wound in a fixed wire slot,and the leading out is stainless steel end piece

3.HDRU金属合金电阻的管体采用伸展性及抗氧化高的不锈钢201或304,填充材料为电工结晶氧化镁粉,接线螺丝及固定螺丝柱采用黄铜或不锈钢304,散热片采用高度为6.5mm±1,厚度为0.4mm±0.2的不锈钢201或304材质,散热片绕制间隔小于或等于5mm±0.5。

The tube body of HDRU metal alloy resistor adopts stainless steel 201 or 304 with high extensibility and oxidation resistance,the filling material is electrical crystalline magnesia powder,the wiring screw and fixing screw column adopt brass or stainless steel 304 ,the heat sink adopts stainless steel 201 or 304 with height of 6.5mm ± 1 and thickness of 0.4mm ± 0.2,and the winding interval of heat sink is less than or equal to 5mm ± 0.5 .

■ 产品尺寸图表HDRU-A/HDRU-B 200W-2KW (Dimension Chart)

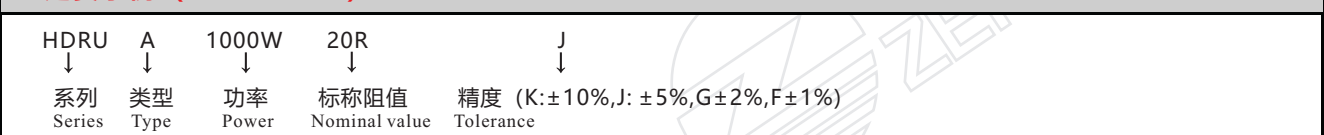


系列 Series	功率 Power	阻值范围 Resistance Range	精度 Tolerance	尺寸 Dimensions(mm)		净重(kg) N.W		温度系数 T.C.R
				类型(Type) HDRU-A L±3	类型(Type) HDRU-B L±5	HDRU-A	HDRU-B	
HDRU	200W	0.1Ω-500Ω	K(±10%) J(±5%) G(±2%) F(±1%)	200	400	0.35	0.35	±200PPM ~ ±400PPM
HDRU	300W	0.1Ω-500Ω		250	500	0.45	0.45	
HDRU	400W	0.5Ω-500Ω		300	600	0.51	0.51	
HDRU	500W	0.5Ω-500Ω		350	700	0.62	0.62	
HDRU	600W	0.5Ω-500Ω		400	800	0.70	0.70	
HDRU	800W	0.5Ω-500Ω		500	1000	0.89	0.89	
HDRU	1000W	0.5Ω-500Ω		600	1200	1.05	1.05	
HDRU	1200W	0.5Ω-500Ω		700	1400	1.23	1.23	
HDRU	1500W	0.5Ω-500Ω		850	/	1.50	/	
HDRU	2000W	0.5Ω-500Ω		1100	/	2.00	/	

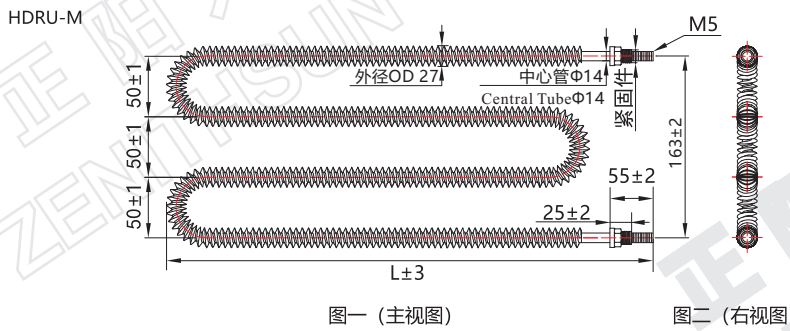
备注 (Note) :

1.中心管尺寸可按客户要求实行定制,中心管尺寸改变则外径也会改变,长度也会改变。
Central tube size can be customized,Central Tube & O.D size should be changed simultaneously,length also can be changed.

■ 定货示例 (How to order)



■ 产品尺寸图表HDRU-M 2500W-6KW (Dimension Chart)

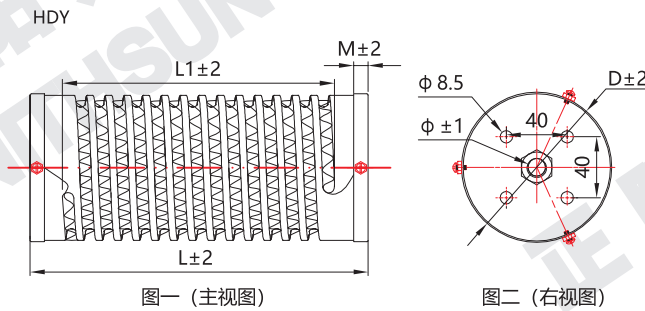


系列 Series	功率 Power	阻值范围 Resistance Range	精度 Tolerance	尺寸 Dimensions(mm)			净重(kg) N.W	温度系数 T.C.R	备注 Note
				L±3					
HDRU-M	2500W	0.1Ω-500Ω	K(±10%)	850			3.00	±200PPM ~	
HDRU-M	3000W	0.1Ω-500Ω	J(±5%)	1000			3.50		
HDRU-M	4000W	0.5Ω-500Ω	G(±2%)	1200			4.20		
HDRU-M	5000W	0.5Ω-500Ω	F(±1%)	1500			5.25	±400PPM	
HDRU-M	6000W	0.5Ω-500Ω	F(±1%)	1800			6.30		

备注 (Note) :

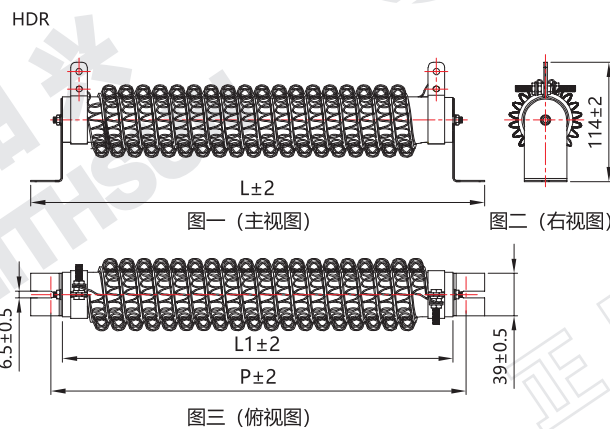
- 1.中心管尺寸可按客户要求实行定制，中心管尺寸改变则外径也会改变，长度也会改变。
Central tube size can be customized, Central Tube & O.D size should be changed simultaneously, length also can be changed.

■ 产品尺寸图表HDY 500W-3KW (Dimension Chart)



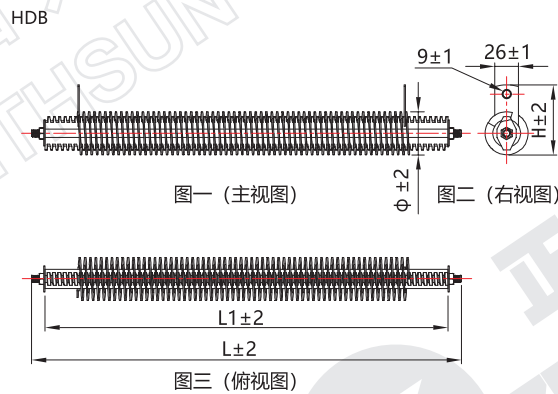
系列 Series	功率 Power	阻值范围 Resistance Range	精度 Tolerance	尺寸 Dimensions(mm)					净重(kg) N.W	温度系数 T.C.R	备注 Note
				D±2	L±2	L1±2	φ±1	M±2			
HDY	500W-1500W	0.5Ω-500Ω	J(±5%) G(±2%)	103	232	190	12/16	10	2.55	±200PPM ~	
HDY	2KW-3KW	0.5Ω-500Ω	F(±1%)	103	392	350	12/16	10	4.30		

■ 产品尺寸图表HDR 150W-5KW (Dimension Chart)



系列 Series	功率 Power	阻值范围 Resistance Range	精度 Tolerance	尺寸 Dimensions(mm)			净重(kg) N.W	温度系数 T.C.R	备注 Note
				L±2	L1±2	P±2			
HDR	150W-800W	0.5Ω-100Ω	J(±5%)	243	182	200	0.75	±200PPM ~	
HDR	1000W-1500W	0.5Ω-100Ω	G(±2%)	243	182	200	0.75		
HDR	3000W-5000W	0.5Ω-100Ω	F(±1%)	422	365	385	1.42		

■ 产品尺寸图表HDB 1KW-3KW (Dimension Chart)



系列 Series	功率 Power	阻值范围 Resistance Range	精度 Tolerance	尺寸 Dimensions(mm)				净重(kg) N.W	温度系数 T.C.R	备注 Note
				Φ±5	L±2	H±2	L1±2			
HDB	1000W	0.05Ω-2.2Ω	J (±5%)	45	340	78	300	0.85	±200PPM	
HDB	1500W-2000W	0.05Ω-2.2Ω	G(±2%)	45	520	78	450	1.31	~	
HDB	2500W-3000W	0.05Ω-2.2Ω	F (±1%)	45	620	78	550	1.56	±400PPM	

■ 定货示例 (How to order)

HDB	1000W	20R	J
↓	↓	↓	↓
系列 Series	功率 Power	标称阻值 Nominal value	精度 (K:±10%,J: ±5%,G±2%,F±1%) Tolerance

■ 绕线电阻性能实验参数 (Performance Characteristics)		
项目 Test	试验条件 Conditions of Test	性能要求 Testing Results
电阻值容许误差 Resistance Tolerance	测试电压≤3V,环境温度25°C Testing Voltage ≤3V, Ambient Temperature 25°C	F--G--J--K
温度系数 T.C.R	$\frac{R1-R0}{R0(T1-T0)} \times 10^6$ (PPM/°C) R0:常温(T0)下阻值 R0:Room Temperature(T0)Resistance R1:常温T0+100°C(T1)下阻值 R1:Room Temperature T0+100°C(T1)Resistance	±200PPM~ ±400PPM
额定负荷 Rated Load	40°C额定电压, 1小时 40°C, rated voltage, 1 hour	$\Delta R \leq \pm(3\%R + 0.1\Omega)$
短时间过负荷 Short Time Overload	5倍额定功率, 10秒钟; 10倍额定功率 5秒; 25倍额定功率 1秒 5 times rated power for 10s; 10 times rated power for 5s; 25 times rated power for 1s	$\Delta R \leq \pm(2\%R + 0.1\Omega)$
引出端对地绝缘耐压 Dielectric Withstand Voltage	1KV-10KV Vac 60秒,漏电流2.5mA 1KV-10KV Vac 60s, leakage current 2.5mA	$\Delta R \leq \pm(0.1\%R + 0.05\Omega)$
绝缘电阻值 Insulation Resistance	1000Vdc	50~1000MΩ, 1Min
引出端强度 Terminal Tensile Strength	40N	无脱落 No off
耐振性 Vibration resistance	1.5mm, 10-55-10Hz, 分别2小时 1.5mm, 10-55-10Hz, each 2hours	无破损, 无脱落 No damage, No off
室温耐久性 Load Life	额定电压, 通电90分钟, 停30分钟, 共500小时 At rated voltage, 90 min "On", 30 min "Off", total 500hours	$\Delta R \leq \pm(3\%R + 0.1\Omega)$
耐低温试验 Low Temp. Resistance	产品在-55°C±2°C环境条件下储存16H Store at -55°C±2°C for 16h	$\Delta R \leq \pm(1\%R + 0.1\Omega)$
耐高温试验 High Temp. Resistance	产品在70°C±2°C环境条件下储存16H Store at 70°C±2°C for 16h	$\Delta R \leq \pm(1\%R + 0.1\Omega)$
不燃性 Non-flammability	10倍额定功率, 通电5分钟 10 times rated power, power on for 5Min	允许开路, 但不燃烧 Without combustion

■ 绕线电阻降功耗曲线图 (Derating Curve)

