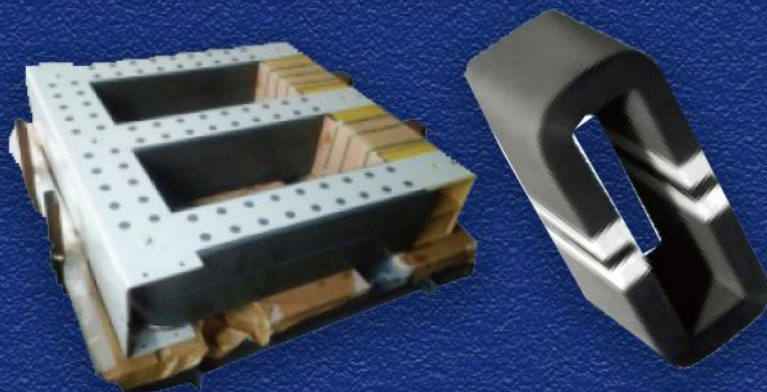


# AMORPHOUS RIBBONS/CORES



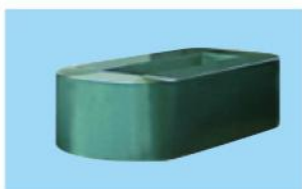
## AMORPHOUS ALLOY IRON CORES

### ◆ Classification of amorphous alloy iron cores

- Three-phase oil-immersed amorphous alloy distribution transformer core
- Single-phase oil-immersed amorphous alloy distribution transformer core
- Three coherence is the core of amorphous alloy distribution transformer

### ◆ Product characteristics

- Small lightweight transformer to reduce direct material cost
- The equipment is simple and fast, and the production capacity is greatly improved.
- Low noise effect
- Compared with the silicon steel sheet transformer of the same capacity voltage grade, the no-load loss is reduced by 70% and the no-load current is reduced by about 75%. The energy saving effect is obvious.



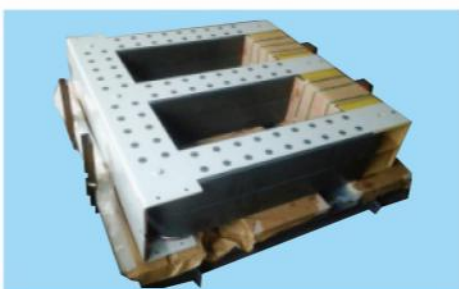
oil-immersed amorphous alloy



distribution transformer core



reactor amorphous iron core



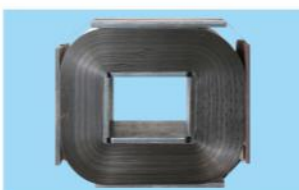
Three-phase three-column integral pouring amorphous iron core



Three-phase five-column amorphous iron core



oil-immersed amorphous alloy



distribution transformer core

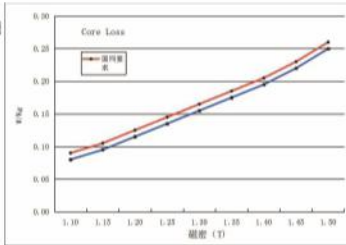


Dry amorphous iron core

## curve graph for iron cores (142mm/170m/213mm)

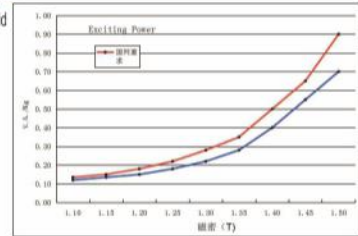
### Core Loss (W/Kg)

(T)	State Grid Requirements	Requirements of Southern Power Grid
1.10	0.090	0.080
1.15	0.105	0.095
1.20	0.125	0.115
1.25	0.145	0.135
1.30	0.165	0.155
1.35	0.185	0.175
1.40	0.205	0.195
1.45	0.230	0.220
1.50	0.260	0.250



### Exciting Power (V.A./Kg)

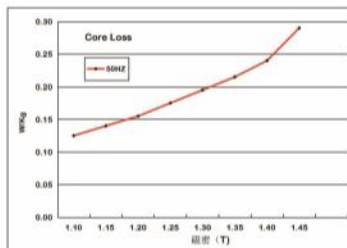
(T)	State Grid Requirements	Requirements of Southern Power Grid
1.10	0.135	0.120
1.15	0.150	0.135
1.20	0.180	0.150
1.25	0.220	0.180
1.30	0.280	0.220
1.35	0.350	0.280
1.40	0.500	0.400
1.45	0.650	0.550
1.50	0.900	0.700



## curve graph for dry type cores(142mm/170m/213mm)

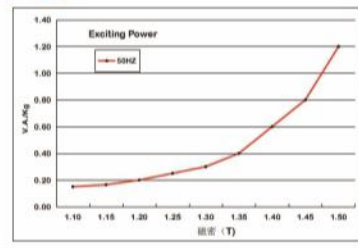
### Core Loss (W/Kg)

(T)	50HZ
1.10	0.125
1.15	0.140
1.20	0.155
1.25	0.175
1.30	0.195
1.35	0.215
1.40	0.240
1.45	0.290



### Exciting Power (V.A./Kg)

(T)	50HZ
1.10	0.150
1.15	0.165
1.20	0.200
1.25	0.250
1.30	0.300
1.35	0.400
1.40	0.600
1.45	0.800
1.50	1.200



## ◆Iron-based amorphous alloy compared with other manufacturers

Performance index	Iron-based amorphous alloy(Guoneng)	other domestic manufacturers
saturation flux density(T)	1.6	1.56
Coercive force(A/ m)	≤3.8	≤4
Maximun permeability(μ)	>20×10 <sup>4</sup>	>20×10 <sup>4</sup>
Iron loss 50Hz 1.35T(W/ kg)	< 0.14	< 0.16
Exciting power 50Hz 1.35T(VA/ kg)	< 0.16	< 0.18
Lamination factor	≥0.88	≥0.86
Magnetostrictive coefficient	27 x 10 <sup>-6</sup>	27 x 10 <sup>-6</sup>
Resistivity(μΩ-cm)	114	130
Density(g/ cm3)	7.25	7.18
Crystallization temperature(°C)	478	550
Curie temperature(°C)	394	415
Strength of extension(MPa)	1500~2000	1500~2000
Vickers hardness(HV)	980	980
Thickness(μm)	24~26	≤30