



Nano Core
Amorphous Core
Nano Equipment
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Macros Zhang: 0086 13213263322
Email: info@bidragon.com
Skype: hwbzzm
Whatsapp & Wechat: 0086 13213263322
Address: Hi-tech Development Zone, Anyang City, China.
Tel: 0086-372-2190222 Fax: 0086-372-2190333
Headquarters: No.2-1803 Soubao Business Center, Beijing, China.
Tel: 0086-010-56072116 Fax: 0086-010-67577757
Web: <http://www.cnamorphous.com>

Business Card, Please Scan

Activity



Certificate

CE for Equipment



Business License:
NO.:91110112699646998D

Why Choose Bidragon ?



Good service : 24hours online service, professional training team and experienced after-sale service department.

Good quality: Strict inspection: material inspection, production inspection and test before shipping;**CE Certificate** from Italy ISET company;**Double package** to ensure the goods more safety when shipping.

Good R&D Ability: Customized cores, CT, and machine are available, 5 patents make our products more competitive.



About Us

Beijing Bidragon is a group company, amorphous and nano cores are one of our main products.

BIDRAGON is a leading manufacturer and supplier of amorphous&nano strips, toroidal amorphous &nano cores and automatic amorphous & nano equipments.

As a group company founded in 2009, BIDRAGON has its own design research and development department, product department and sales department. 5 engineers, 15 technicians, hundreds of workers,30 international sales in BIDRAGON. We have two factories, one is for machine. And another is for cores, in our core factory, 5 million cores will be produced in our factory every month.

Our main products:

Ribbon: amorphous slitted ribbon, amorphous casted ribbon, nano slitted ribbon, nano casted ribbon

Cores: Precision Current Transformer Cores, Instrument Transformer Cores, Toroidal Core for Switched Mode Power Supply, PFC Choke Cores, Cores for Electro-Magnetic Earth Leakage Circuit Breakers, Power Transformer Cores, Rectangular Cut Cores, Medium Frequency Power Transformer cores and other cores.

Machine: Ribbon Making Machine, Slitting Machine, Core Winding Machine, Automatic Core Testing Machine, Welder Machine, and Vacuum Annealing Furnace.

Company culture: Honest, Responsibility , Innovation, Development.



Factory

As a group company founded in 2009, BIDRAGON has its own design research and development department, product department and sales department. 5 engineers, 15 technicians, more than 100 workers.30 international sales. We have two factories, one is for machine and another is for cores, in our core factory , 5 million cores will be produced in our factory every month.

Factory Address : Hi-tech Development Zone, Anyang City, China.



Ribbon

Amorphous Ribbon

Main Ingredients: Fe, Si, B

Ribbon Characters

High saturation magnetic induction, high permeability—reduce the size of the device

Fe-based amorphous ribbon have high saturation induction (1.5T) and high permeability (>10000)

Low core loss --- reducing the temperature rise of the device

Amorphous core loss equivalent to 20% of the silicon steel core, on the situation of 10KHz 500 mT, the amorphous core loss can reach 100W/KG.

Low coercivity --- improve the device efficiency

The coercivity is less than 5.0A/m under static state.

Low magnetostrictive---reduce the working noise

Saturation magnetostriction coefficient close to zero, so the working noise is very low.

High stability in high temperature

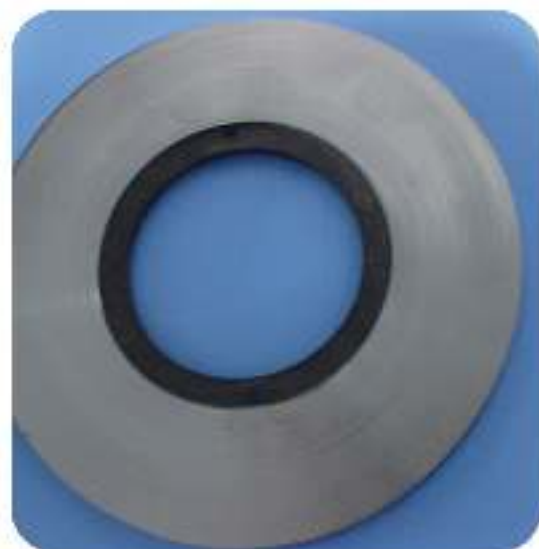
When the temperature between -50℃~150℃, Rate of change of material performance <10%.

Excellent frequency characteristics

The ribbon has excellent permeability and low loss characteristics over a wide frequency range.

Technical parameter

Saturate induction Bs(T)	1.56	Hardness Hv (kg/mm ²)	960
Curie Temperature Tc(℃)	415	Density(g/cm ³)	7.2
Crystallization Temperature Tx(℃)	540	Resistivity ρ(μΩ·cm)	130
Saturation magnetostriction coefficient (λs)	27×10 ⁻⁶	Strip Thickness (mm)	0.025-0.035
Initial magnetic permeability ui(Gs/Oe)	>8×10 ³	Working temperature (℃)	-50~130
Max. permeability um(Gs/Oe)	>20×10 ⁴	Loss variation (-55- +125℃)	<15%
Remanence Br(T)	0.8	Core loss (5kHz, 0.5T)	<15
Coercivity Hc(A/M)	<4	Core loss(400Hz, 1.0T)	<1.5



Nano Ribbon

Main Ingredients: Fe, Si, B, Cu, Nb

Ribbon Characters

High saturation magnetic induction, high permeability—reduce the size of the device

Fe-based amorphous ribbon have high saturation induction (1.25T) and high permeability (>80000)

Low core loss --- reducing the temperature rise of the device

Amorphous core loss equivalent to 20% of the silicon steel core, on the situation of 100KHz 300 mT, the amorphous core loss can reach 70W/KG

Low coercivity --- improve the device efficiency

The coercivity is less than 1.0A/m under static state.

Low magnetostrictive---reduce the working noise

Saturation magnetostriction coefficient close to zero, so the working noise is very low.

High stability in high temperature

When the temperature between -50℃-200℃, Rate of change of material performance <10%.

Excellent frequency characteristics

The ribbon has excellent permeability and low loss characteristics over a wide frequency range.

Application

Low-power high-frequency transformer

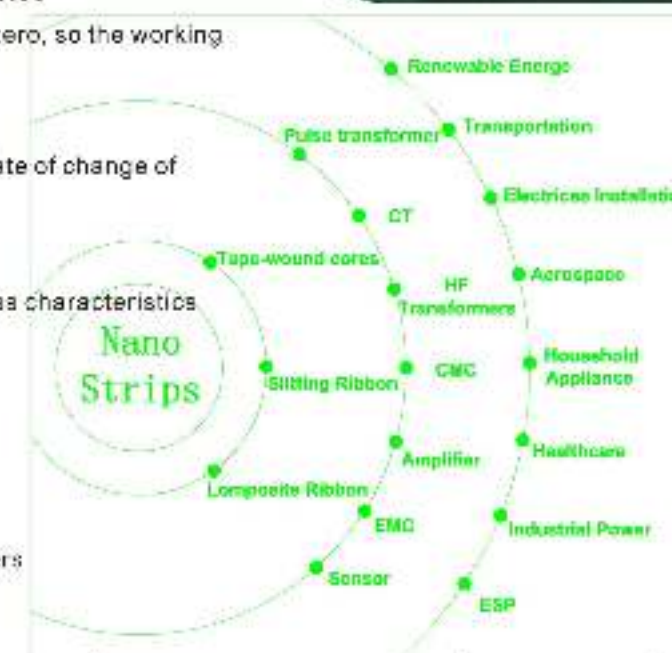
EMC, Current Sensor, HF transformers,

Current transformer, Common mode choke

Leakage Circuit Breakers, AC current transformers

Technical parameter

Saturate induction Bs(T)	1.25	Hardness Hv (kg/mm ²)	880
Curie Temperature Tc(℃)	560	Density (g/cm ³)	7.2
Crystallization Temperature Tx(℃)	510	Resistivity ρ(μΩ·cm)	130
Saturate magnetostriction λs	2×10 ⁻⁶	Strip Thickness (mm)	0.023-0.030
Initial magnetic permeability ui(Gs/Oe)	>8×10 ³	Working temperature (℃)	-50~200
Max. permeability um(Gs/Oe)	>20×10 ⁴	Loss variation(-55- +125℃)	<15%
Remanence Br(T)	0.6-0.7	Core loss(100kHz, 0.3T)	<150
Coercivity Hc(A/M)	<0.8	Core loss(20kHz, 0.5T)	<25



Cores



Core for CT



Current Transformer Cores



Car Audio Bead



Car Audio Magnetic Beads



Core for Common Mode Choke



Core for Common Mode Choke



Toroidal Cut Cores



Cut Cores



White DC Immune Core



DC Immune Cores



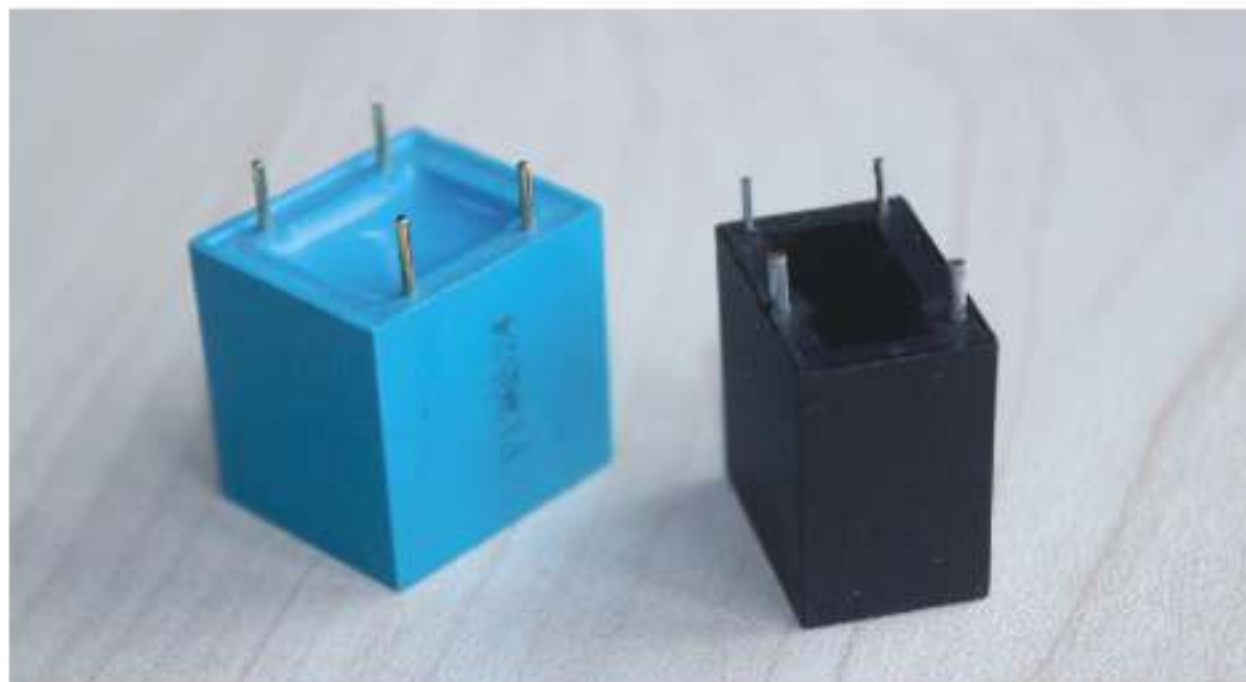
Transformer Core



Transformer Magnetic Beads

Current Transformer

Different performance current transformer can be customized according to customer's different requirement. We will produce the CT depends on customer's drawing with test conditions.



Vacuum annealing furnace

Main Feature

1. Vacuum part

Ultimate vacuum <math>< 10\text{pa}</math>

Pumping speed > 30L/s

Vacuum pump: 2x-70A

Leakage rate <math>< 0.1\text{pa}/\text{min}</math>, <math>< 6\text{pa}/\text{h}</math>

2. Heating part.

Resistance wire

When normal working, the furnace external temperature is below 60 °C.

It is small car model in heated body part, and the part could be out by electric.

3. Temperature control

The actual operating temperature inside the furnace is below 600 °C.

Temperature uniformity of the effective internal workspace inside internal furnace is below $\pm 3\%$.

Main Parameters

Power: 65KW

Max temperature: 650 °C

Voltage: 380V, 3PH, 50HZ

Vacuum degree: $\times 6 \times 10^2\text{Pa}$

Size: 2200mm x 700mm x 1050mm



Winding Machine

Automatic amorphous & nano core winding machine is one of our main product, the principle is that the servo motor directly contributing to the rolled needle through the gear drive, which is more accurate, reliable and efficient than the traditional machine. Thereby, ensuring that the amorphous strip dimensions keeps up with number of turns, which could improve the quality of the toroidal core.

The output of the production could reach 10-20 pcs/ min, it is more fast 3 times than manual work, and the rate of qualified products can reach 99.5%. At the same time, a workman can operate five or six machines, it greatly reduces the production management expenses and the product costs. Automatic alloy amorphous core winding machine is the best choice for the production of amorphous strip toroidal core and ultra-crystal strip toroidal core.

The winding, cutting, welding of inner and outer rings are done automatically, it uses the fixed size to produce. We are committed to promoting the amorphous strip toroidal core, ultra-crystal strip toroidal core.

Main characters

1. Unidirectional winding, automatic out off, automatic welded
2. Strip with continuous feeding, tension adjustable.
3. The trough using oriented feeding, easy to adjust the width of the range
4. Winding number according to the parameter settings
5. The thickness of the toroidal core is adjustable
6. The strip speed can be adjustable
7. Inner and outer toroidal core is automatic welding
8. The winding speed can be adjustable
9. Using the starting components to operate, easy to maintain

Main technical parameters

Item	Parameter
Strip width	3-25mm
Inner diameter	Φ4-40mm
Outer diameter	Φ5-56mm
Voltage and frequency	220V 50Hz
Power	0.6kw
Pressure	0.4Mpa
Size	1250mm X 850mm X 1650mm
Weight	150kg



Test-Sorting Machine

Main Characters

1. Considering the characteristics of nanocrystalline core is easy to damage, this machine use the belt to line, transport, sort the core, so the core can be sent off with a belt buffering., so that the sorted core do not result in surface damage.
2. The machine has set a piece number, it will automatically shutdown alarm to ensure the accuracy of the test if exceed requirements
3. This machine can test and sort different specification cores by adjusting the machine simply, only need to replace several parts.
4. Use the cylinder mechanism to sort the cores, so it can ensure reliable discharger of the cores.
5. All the parameters, sorting result statistics, fault alarm can display and operate on the LCD screen.

Main technical parameters

1. Core diameter: Φ3-Φ34mm, maximum thickness: 15mm
2. Sorting speed: 55-120 / min, bigger diameter will reduce speed.
3. It can take a single-turn, double-turns and several turns to test.
4. The test frequency: 100KHz.
5. Testing error: $\leq \pm 1\%$.
6. Voltage: AC220V 50Hz,
7. Power: 400W
8. The machine size: 1300*1200*1200mm



Slitting Machine

BDSJ20 Slitting Machine

The slitting machine can shear the amorphous ribbon and nano strip longitudinally, the wide ribbon will be cut into many narrow ribbons, then the narrow ribbons will be re-wound into a roll after shearing under a certain tension. It is easy to operate the machine with high utilization of materials. Besides, the shearing speed can be adjusted.

Technical parameter

Ribbon thickness: 0.02mm – 0.6mm

Maximum ribbon width: 200mm

Minimum width of sheared ribbon: 2mm

Hob diameter: $\Phi 120\text{mm}$

Cutter shaft diameter: $\Phi 60\text{mm}$

Shearing speed: 10-60m/min

The shearing number: ≤ 12

Inner diameter of winding: $\Phi 75\text{mm}$

Outer diameter of winding: $\Phi 320\text{mm}$.

Reducer : Cycloid reducer

Weight: 1500KG

Power: 2.2kw

Size: 2500x1200x1000mm

Notice: This amorphous&nano ribbon slitting machine doesn't include the unwinding part and cutter, if you need it , please notice it in the requirement.



BDSJ20C Slitting Machine

This strip slitting machine can not only cut the amorphous ribbon and nanocrystalline ribbon, but can also cut other metal ribbons. Three parts of this slitting machine which as follows:

The uncoller part: Unwinding spindle diameter is 75 mm, the unwinding roll has axial movement and longitudinal shift to ensure the strip into the slitting station without excursion.

The slitting part: The feeding guide table can be adjusted by up and down, left and right, front and back, which to ensure the position accuracy of the remove, besides, it is easy to operate.

The winding part: It adopts the biaxial winding mode, and it use the 100NM magnetic clutch to adjust the tension of the winding, which to ensure the strip re-winded in order.

Technical parameter

Ribbon thickness: 0.02mm – 0.6mm

Maximum ribbon width: 220mm

Maximum OD of material: $\phi 500\text{mm}$

ID of material material : $\phi 75\text{mm}$

Maximum weight of material coil: 300kg

Minimum width of slitted ribbon: 2mm

Knife diameter: $\phi 130\text{mm}$

Cutter shaft diameter: $\Phi 60\text{mm}$

Slitting speed: 10-90m/min

Slitting number: ≤ 12

Inner diameter of winding: $\Phi 75\text{mm}$

Max outer diameter of winding: $\Phi 350\text{mm}$.

Weight: 1500kg

Power: 2.2kw

Reducer: Gear reducer

Size: 1600x1100x1500mm

NOTICE: The machine itself don't include the cutter, the cutter need customized according to customer's demand or customer can also buy it in their local country.



Cutting Machine

1. Brief Introduction

The core cutting machine is used for cutting the amorphous and nanocrystalline C-type transformer core, and it also can be used for other ordinary C-type transformer core and toroidal transformer core.

2. Technical parameters

Max width of C-type core: 40mm

Max stroke of longitudinal feed: 380mm

Max stroke of lateral movement: 150mm (take off the cover)

Max stroke of longitudinal distance: 50mm

Max distance between wheel spindle center line and sucker: 300mm (take off the cover)

Distance from the wheel center to sucker: 150mm-190mm

Grinding wheel size: $\phi 250\text{mm} \times \phi 32\text{mm} \times 1.5\sim 2\text{mm}$

$\phi 300\text{mm} \times \phi 32\text{mm} \times 2.5\text{mm}$

Feeding speed of working table: variable speed 20~80mm/min

Quick return speed of working table: 30mm/sec

Magnechuck : JSPC1~200mm x 560mm

Machine size: 1380mm x 1228mm x 1550mm



Customer



French Customer



American customer



Indian customer



Spain Customer



Canadian customer



Taiwan Customer