



IMPEDER CORE

THE PRESENT QUALITY IS SUBSEQUENT MARKET

01 COMPANY PROFILE

企业简介

Shijiazhuang Tengdi Machinery Co., Ltd. integrates R&D, production, sales and service.

Factory area: 8000 square meters;
Company personnel: 50 people;
Engineer team: 10 engineers, 3 senior engineers;
Sales and operations Team: 10 people;
A total of 30 workers, two joint ventures.

Following the concept of independent innovation, the Tengdi team has designed a series of production lines that are easy to operate and maintain.

This is just a small part of the reasons why customers trust Tengdi.

石家庄腾迪机械设备有限公司集研发、生产、销售、服务于一体。

厂房面积:8000平方米;
公司人员:50人;
工程师团队:工程师10人,高级工程师3人;
销售和运营团队:10人;
共计30名工人,两家合资企业。

腾迪团队遵循自主创新的理念,设计了一系列易于操作和维护的生产线。

这只是客户信任腾迪的一小部分原因。



02 ENTERPRISE QUALIFICATION 资质荣誉



Honor comes from hard work.

Every recognized qualification certificate is the crystallization of our hard work, every honor is a signpost, a journey.

We will also take every honor as a starting point, keep forging ahead and surpass ourselves.

The team has obtained more than 20 patents through independent research and development, and passed ISO9001 quality management system certification, SGS certification and environmental management system certification.



荣誉源于用心。

每一份认可的资质证书都是凝聚我们奋力拼搏的结晶，每一份荣誉都是一个路标，一次历程。

我们也将以每次荣誉为起点，不断锐意进取，超越自我。

团队自主研发获得20多项专利，通过ISO9001质量管理体系认证、SGS认证和环境管理体系认证等。

IMPEDER CORES EMIHM-S SERIES
FOR HIGH FREQUENCY WELDING

03 PRODUCT INTRODUCTION
产品介绍

Impeder Core price list

| OD | QTY For one box | Price (CN) | OD | QTY For one box | Price (CN) |
|----|-----------------|------------|-----|-----------------|------------|
| 3 | 350 | 6.00 | 35 | 20 | 110.80 |
| 4 | 350 | 6.50 | 36 | 20 | 118.80 |
| 5 | 350 | 7.20 | 37 | 20 | 126.30 |
| 6 | 350 | 7.50 | 38 | 20 | 134.70 |
| 7 | 170 | 8.80 | 39 | 20 | 139.50 |
| 8 | 170 | 9.80 | 40 | 20 | 146.50 |
| 9 | 153 | 11.00 | 42 | 12 | 153.30 |
| 10 | 153 | 12.70 | 44 | 12 | 164.80 |
| 11 | 136 | 14.00 | 45 | 12 | 168.70 |
| 12 | 96 | 15.70 | 46 | 12 | 184.00 |
| 13 | 96 | 19.20 | 48 | 12 | 195.50 |
| 14 | 96 | 21.30 | 49 | 12 | 203.20 |
| 15 | 84 | 23.30 | 50 | 12 | 210.80 |
| 16 | 84 | 26.20 | 51 | 9 | 226.20 |
| 17 | 60 | 27.50 | 54 | 9 | 242.70 |
| 18 | 60 | 30.50 | 55 | 9 | 251.80 |
| 19 | 60 | 31.70 | 56 | 9 | 261.00 |
| 20 | 48 | 34.50 | 57 | 9 | 270.50 |
| 21 | 48 | 36.00 | 58 | 9 | 279.80 |
| 22 | 40 | 38.70 | 60 | 9 | 293.20 |
| 23 | 40 | 41.20 | 62 | 6 | 313.00 |
| 24 | 40 | 44.30 | 65 | 6 | 344.20 |
| 25 | 35 | 48.20 | 69 | 6 | 387.80 |
| 26 | 35 | 52.70 | 70 | 6 | 399.00 |
| 27 | 35 | 61.70 | 73 | 6 | 434.00 |
| 28 | 24 | 65.80 | 75 | 6 | 458.20 |
| 29 | 24 | 70.20 | 80 | 6 | 521.20 |
| 30 | 24 | 80.80 | 85 | 6 | 588.30 |
| 31 | 20 | 87.50 | 90 | 6 | 659.70 |
| 32 | 20 | 92.70 | 95 | 6 | 735.00 |
| 33 | 20 | 98.70 | 100 | 6 | 814.30 |
| 34 | 20 | 104.70 | 102 | 6 | 847.20 |

Note: 1. The exchange rate is based on the real-time exchange rate;

IMPEDER CORES APPLICATION IN HIGH FREQUENCY WELDING

When high frequency induction heating is used for metal welding, the induction electromotive force and welding power can be greatly increased by using magnetic rods. The magnetic flux in the induction coil is concentrated in the magnetic rod, and the flux between the induction coil and the welded pipe is relatively reduced, thus improving the welding efficiency. Therefore, in high frequency welding, the performance of magnetic rod greatly affects the welding efficiency, quality and stability of welded pipe, at the same time affect the energy consumption of steel pipe welding.

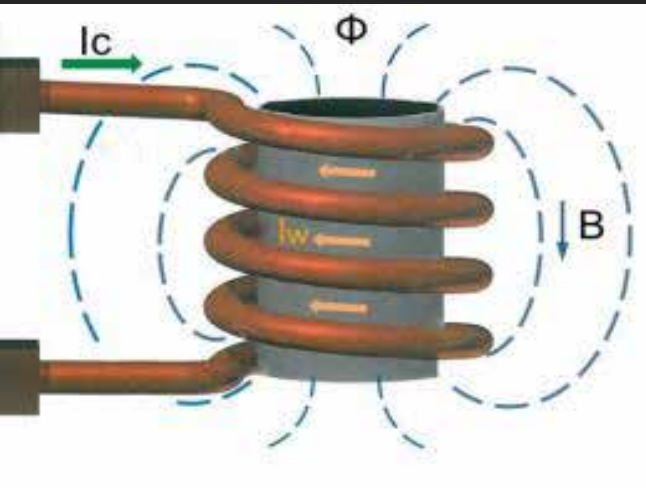


Fig. 1 Principle of electromagnetic induction

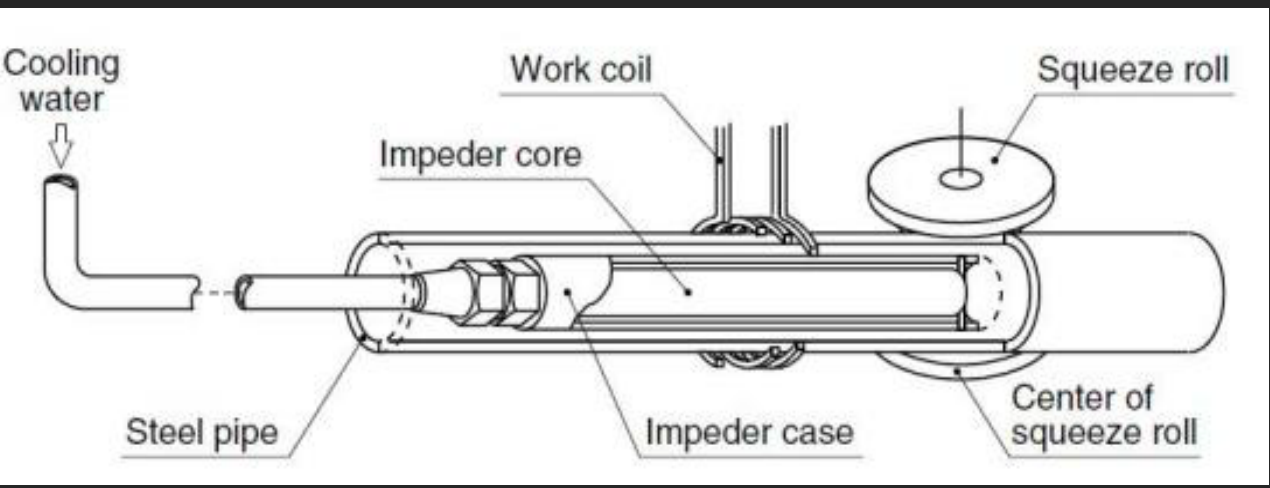
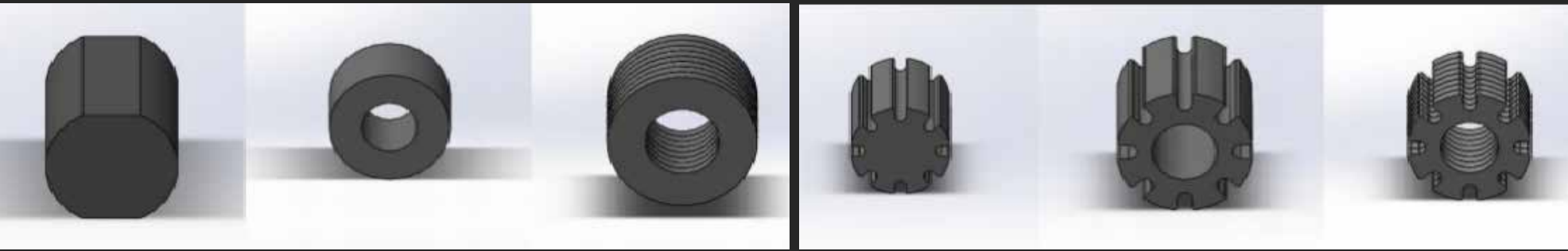


Fig.2 Schematic diagram of high frequency welding principle



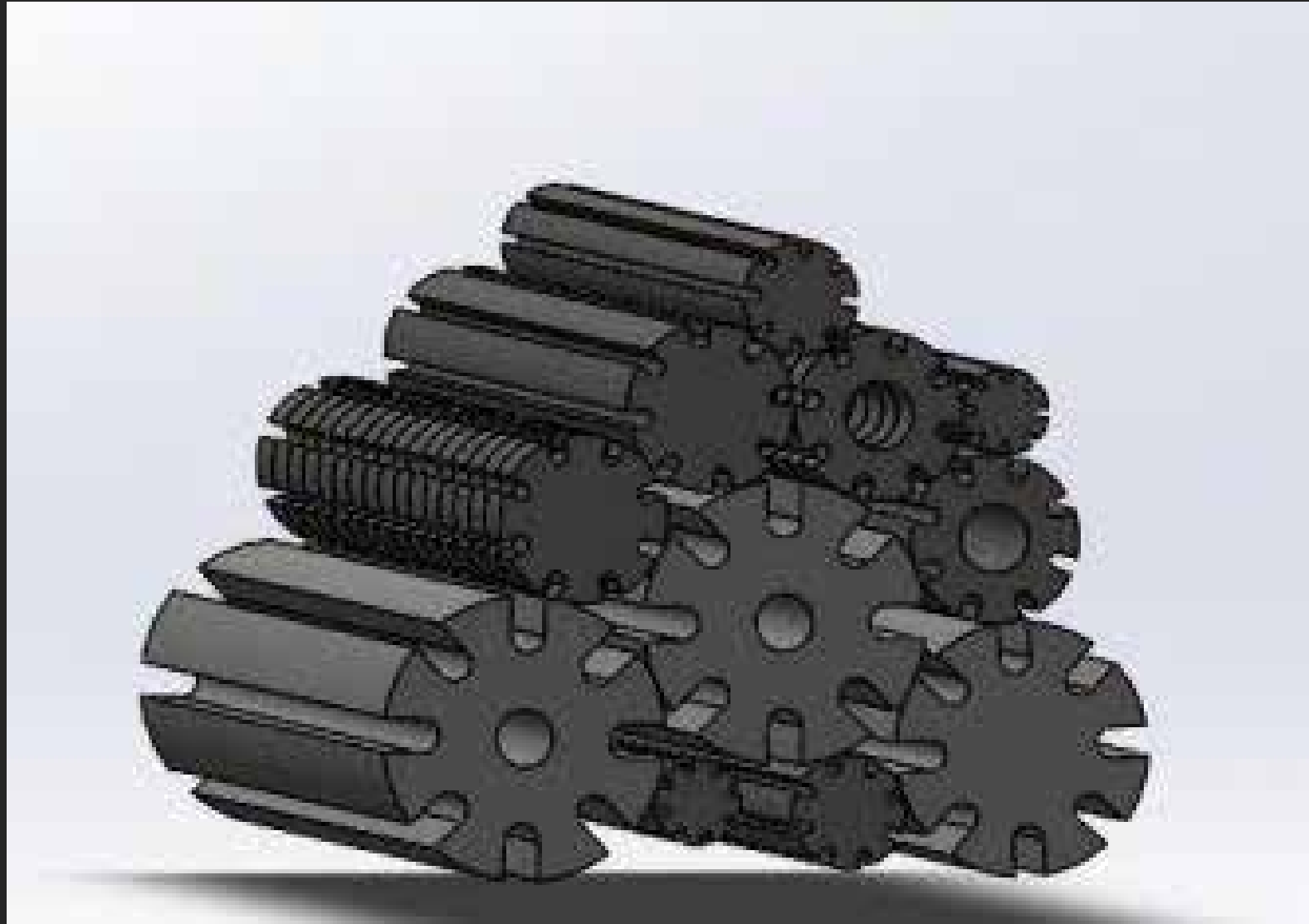


Fig.3 product diagram

In order to meet the diversified, personalized and high-end development needs of the high-frequency welded pipe industry, we has developed new soft ferrite material, and developed advanced magnetic rod forming and sintering processes. The rod has good compactness, high strength and good thermal stability, which can effectively improve welding efficiency, reduce power loss, and improve weld quality.



In addition, due to high-frequency welding, a part of the power is consumed in the magnetic rod, and cooling with a coolant is required. Otherwise, the magnetic rod is overheated, and the magnetic properties are reduced or disappeared, which reduces the welding efficiency. When the magnetic rod is exposed, the welding heat directly acts on the magnetic rod, and the foam is easily generated when the cooling liquid is cooled, which reduces the cooling efficiency of the magnetic rod. Therefore, the company has developed components and accessories such as a magnetic rod outer casing and a resistor. In this way, the magnetic rod is always covered by the cooling liquid during operation, which not only keeps the low temperature, but also avoids the generation of foam, can effectively improve the cooling effect of the magnetic rod, and improve the welding efficiency and the quality of the weld.

Basic characteristics of materials

| Material properties | | | Value |
|---|------|-------------------------------|-------------------------|
| Initial permeability(ui)(f ≦ 10k,H=1200A/m) | | | 2400±25% |
| Saturation density(Ms) | flux | (f=10k, H= 1200A/m, T=23C) | 500 mT |
| | | (f=10k,H= 1200A/m, T= 100C) | 430 mT |
| Core loss(Pcv) | | (f=400kHz, B=200mT, T= 100C) | ≦ 4500kW/m ³ |
| | | (f=500kHz, B= 100mT, T= 100C) | ≦ 1200kW/m ³ |
| Curie temperature | | | ≥220°C |
| Resistivity | | | 8Ω/m |
| Material density | | | 4.85 g/cm ³ |

※Measured value of the ring standardured value of the ring standard

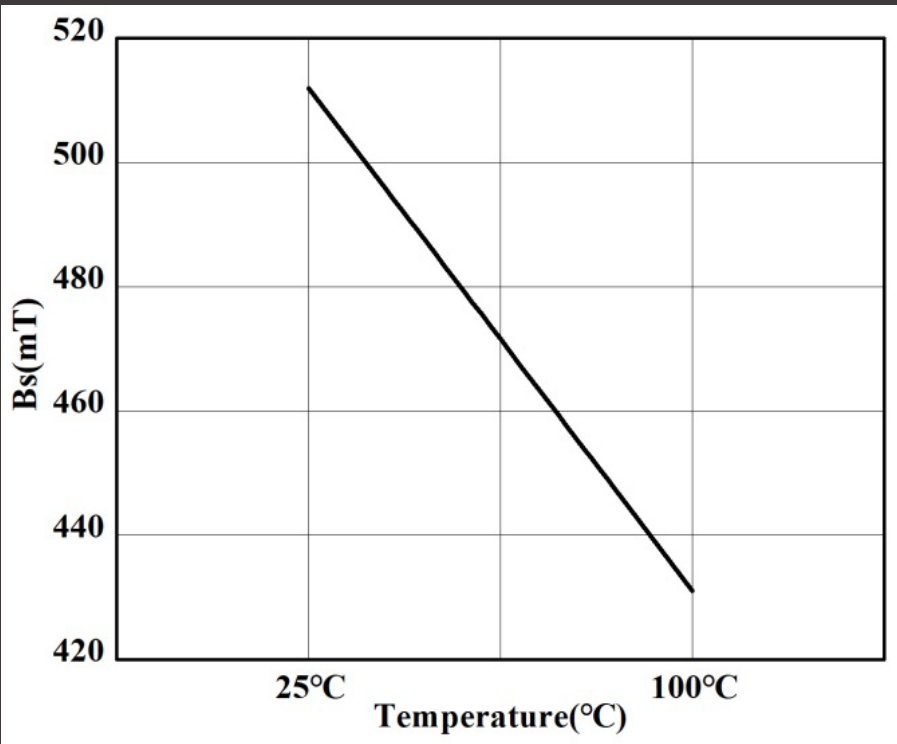
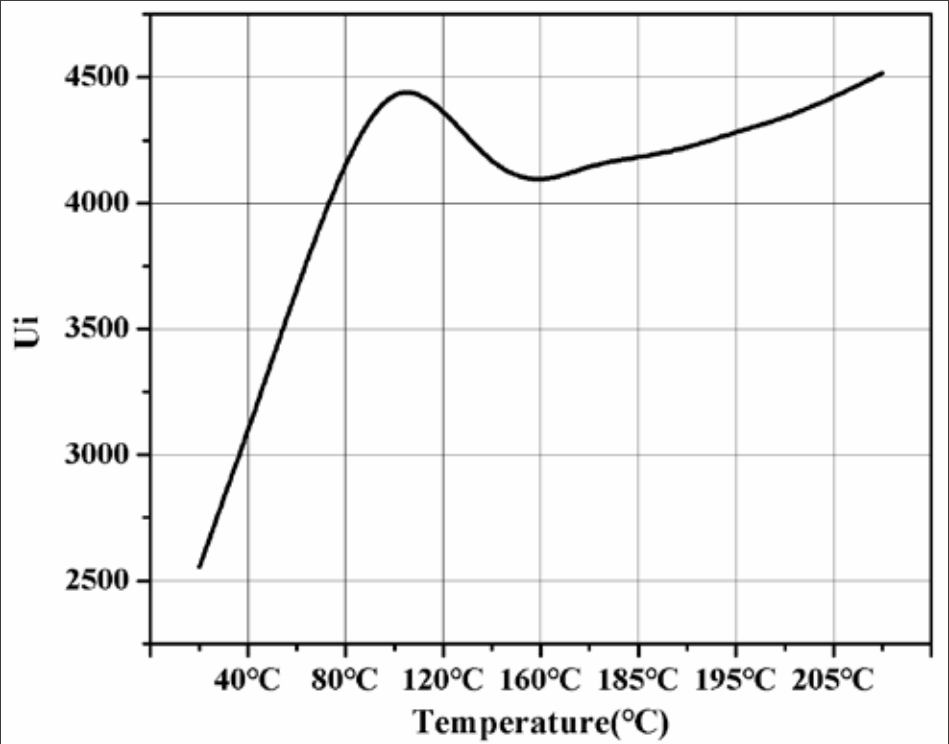
Basic characteristics of TDK product materials

| Material properties | | | Value |
|---|------|-------------------------------|-------------------------|
| Initial permeability(ui)(f ≦ 10k,H=1200A/m) | | | 2300±25% |
| Saturation density(Ms) | flux | (f=10k, H=1200A/m,T=23℃) | 510 mT |
| | | (f=10k,H=1200A/m,T=100℃) | |
| Core loss(Pcv) | | (f=400kHz, B=200mT, T=100℃) | ≦ 8500kW/m ³ |
| | | (f=500kHz, B=100mT, T=100℃) | ≦ 3500kW/m ³ |
| Curie temperature | | | ≥230℃ |
| Resistivity | | | 8Ω/m |
| Material density | | | 4.85 g/cm ³ |

※Measured value of the ring standardured value of the ring standard

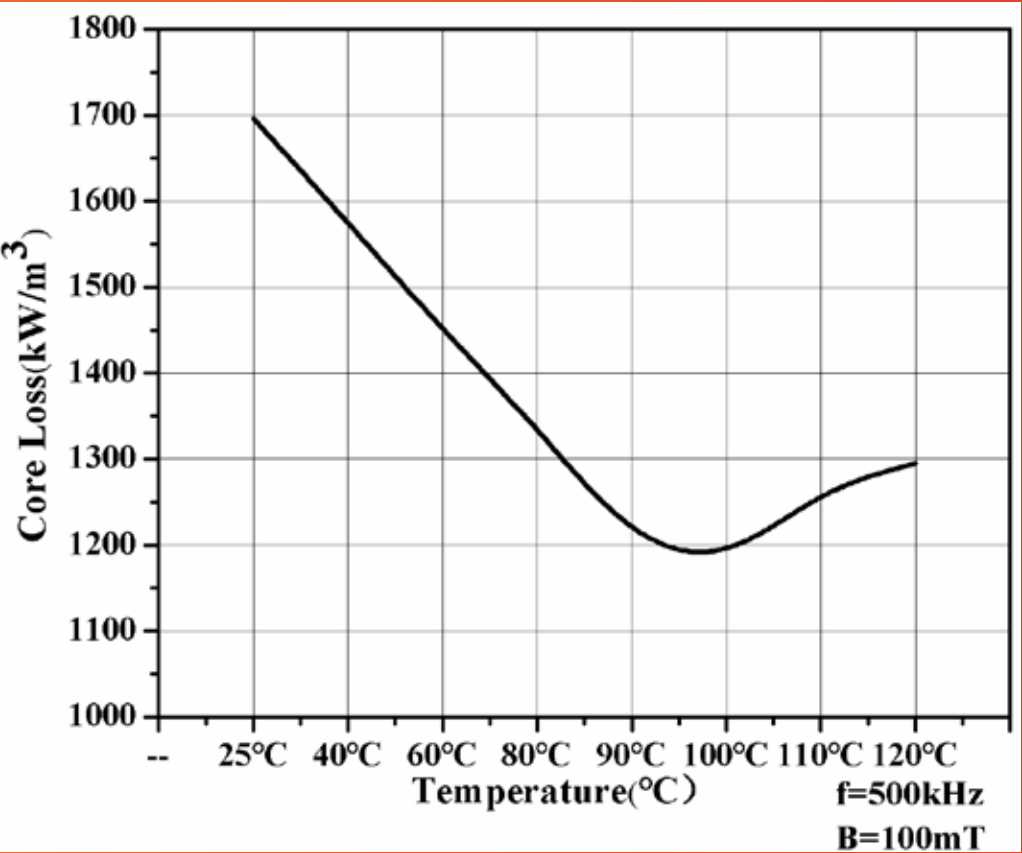
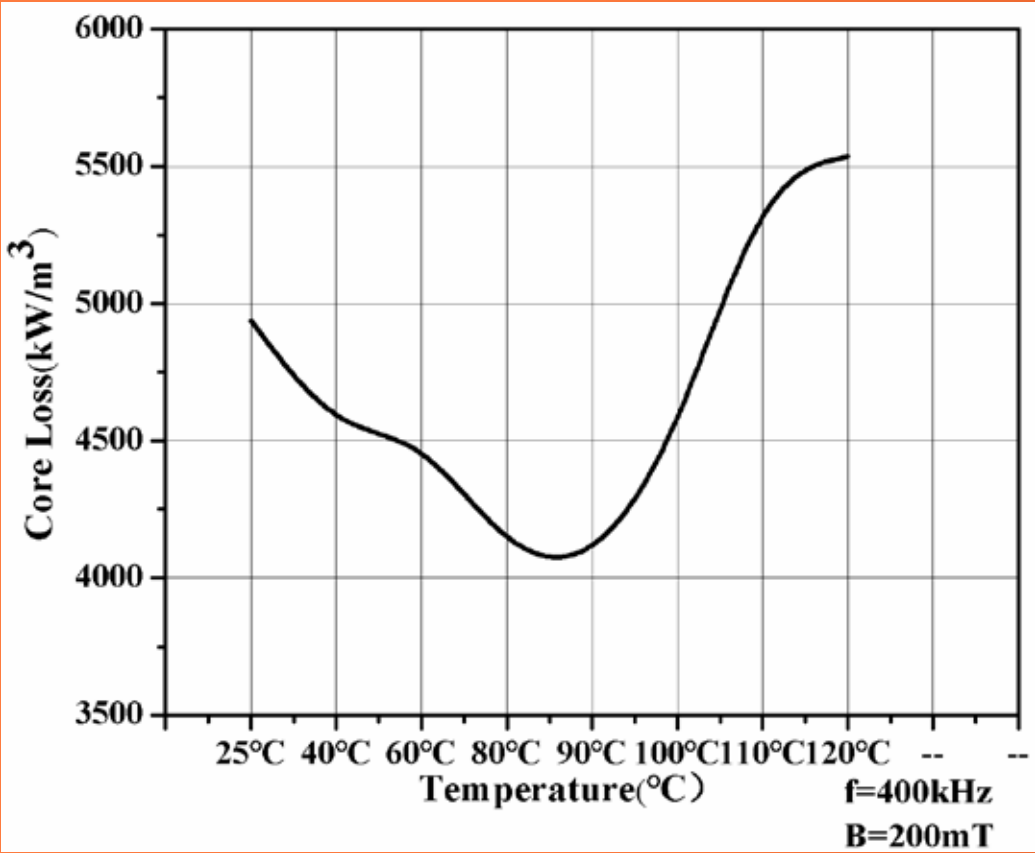
The overall performance of the material of our magnetic rod is better than that of TDK's magnetic rod, and the price is more than one-third lower than the price of TDK's magnetic rod.

Initial permeability temperature characteristics



Saturation magnetization temperature characteristic

Magnetic rod loss temperature characteristics



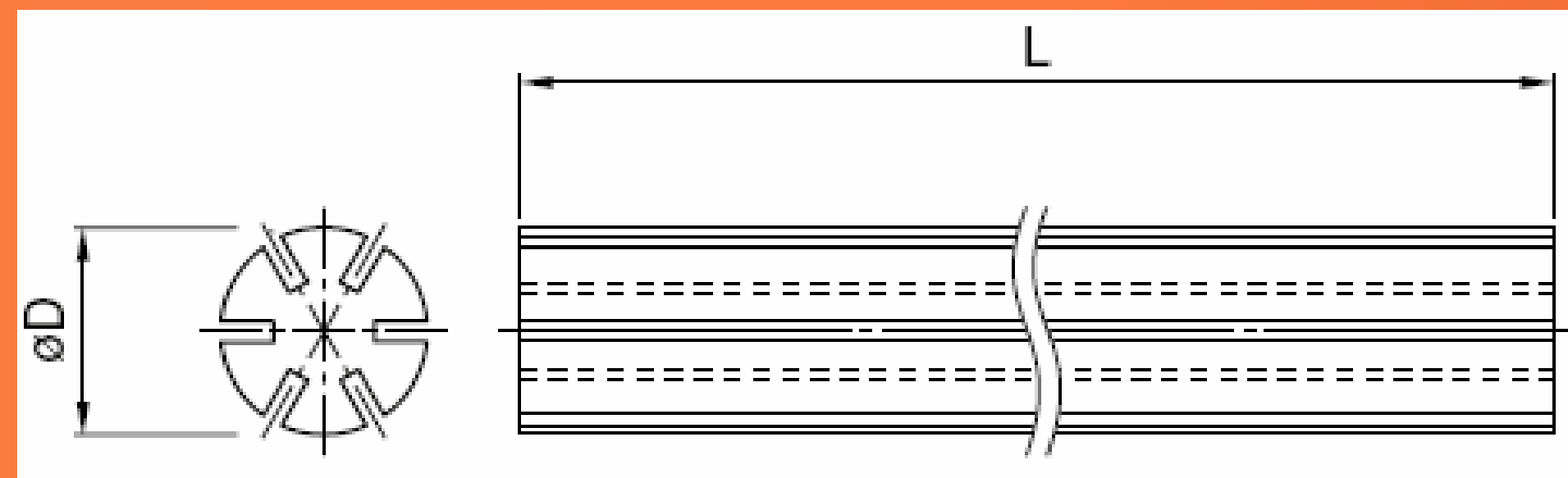
04 PRODUCTION TYPE

产品类型

IRS series

Features:

It has a radial groove shape, which can effectively cool the entire magnet bar.

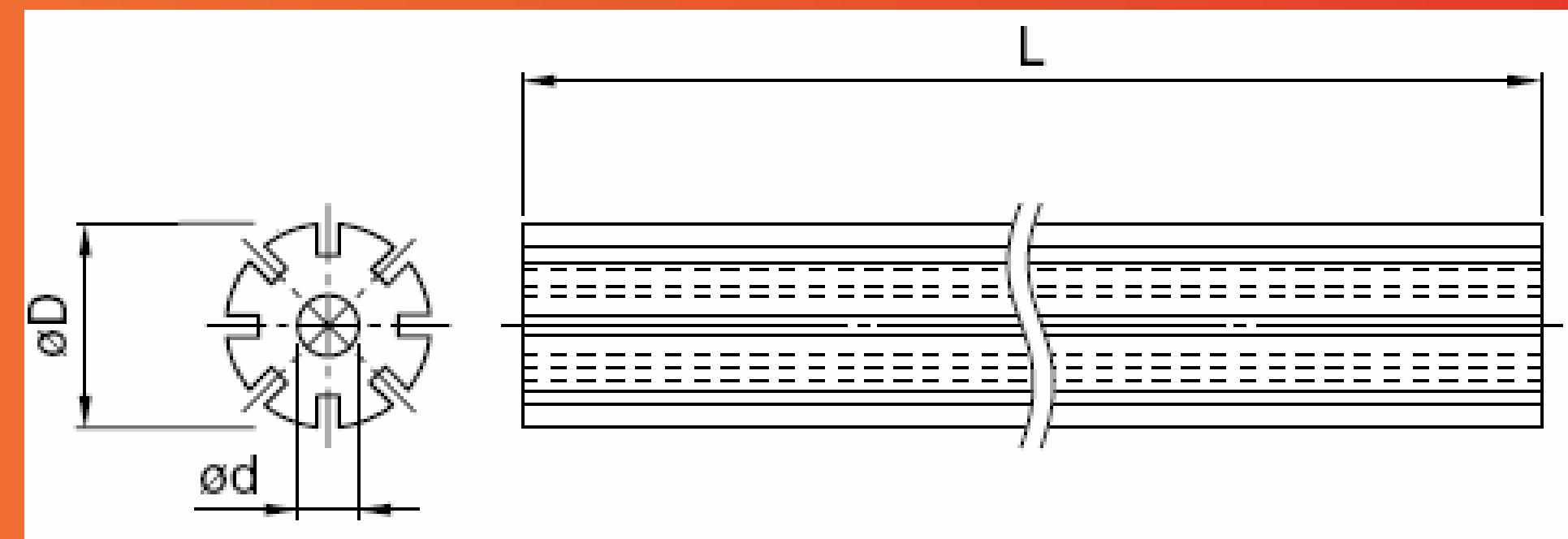


Unit: mm

IRSH series

Features:

It is a radial groove type with a central hole, and cooling water can be injected into the inner diameter part, which can effectively cool the entire magnetic core. In addition, the holder rod can be inserted into the inner diameter.



Unit: mm

CAUTION

- 01 For the size of the casing used, please refer to the inner diameter of the applicable casing. When the inner diameter of the casing is smaller than the applicable casing inner diameter, the magnetic rod sometimes cannot be inserted.
- 02 The length of the Impeder Cores for High Frequency Welding $L = (200 \pm 3.0) \text{ mm}$ or $(100 \pm 1.5) \text{ mm}$;
- 03 The above models can be customized for any products with different diameters and inner hole sizes. For Impeder Cores with a diameter greater than 30 mm, a total length of 200mm or 100mm is achieved by bonding small segments of cores end to end. The number of longitudinal bonding parts is marked for each type in the size specification table.

05 PRODUCT DISPLAY

产品展示



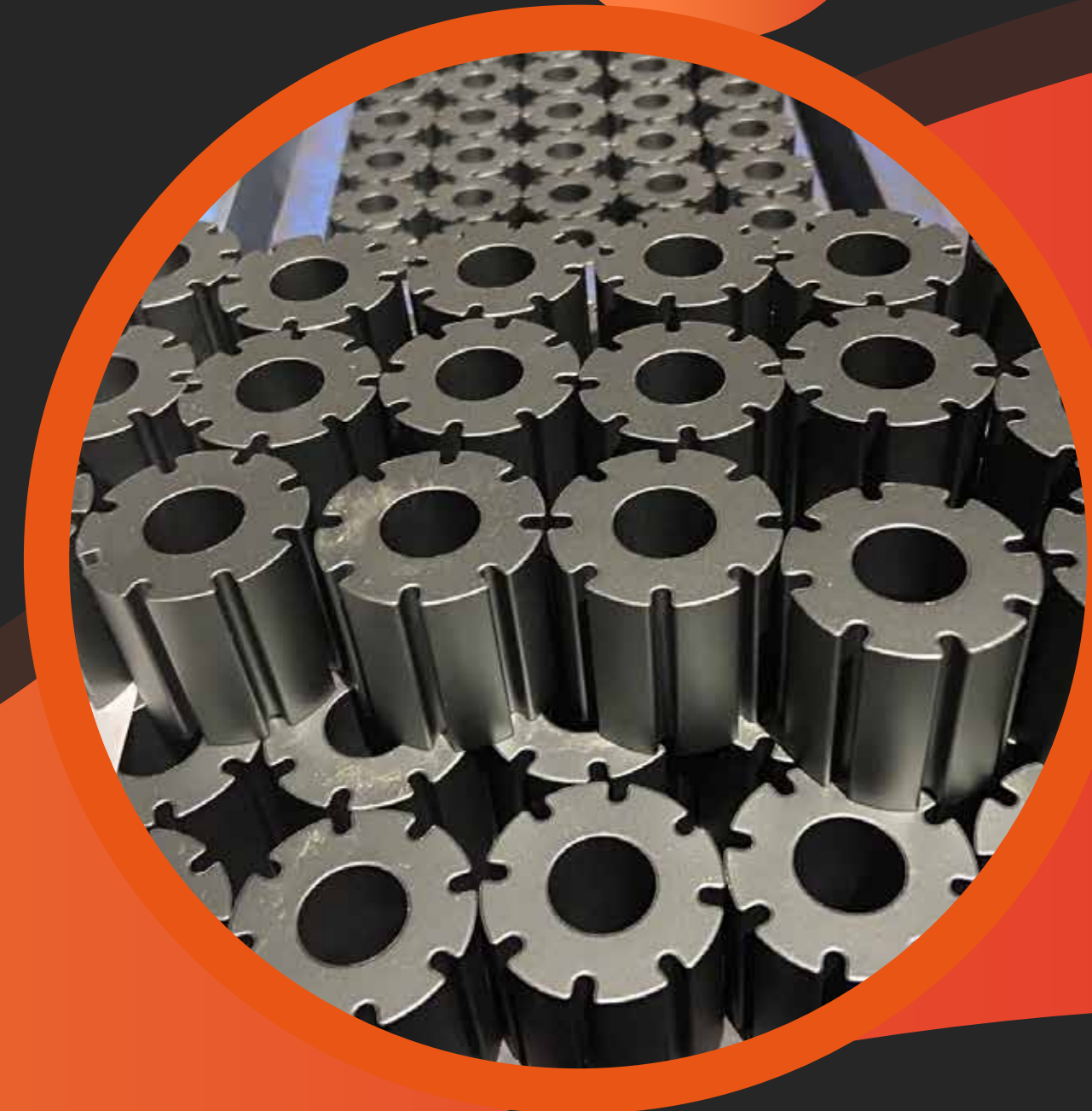
IMPEDER CORE



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THANKS

TENGDI IS LOOKING FORWARD TO YOU JOINING.

