



常州市博得工具有限公司

CHANGZHOU BODE TOOLS CO., LTD



www.bodetools.com



公司简介

Brief introduction of company

常州博得工具有限公司始建于 2004 年，是一家集研发、制造、销售为一体的科技型企业。旗下品牌“Unbar 优霸”系列高速钢油冷钻、钢板钻及其相关产品，经过各个技术优化，不断创新，以过硬的品质广泛应用于机械加工、钢结构、桥梁、造船、钢轨、风电等行业。

公司拥有车铣复合中心，数控磨床，五轴磨床，三坐标检测仪等先进的生产设备和检测仪器，经过多年的发展与实践，有着成熟的生产管理经验，出色的设计能力及科学的检测手段。基本实现了生产自动化、管理数字化、品质追溯全程化的发展战略。

常州博得工具力求制造更高效、更可靠、更专业、性价比更高的产品。

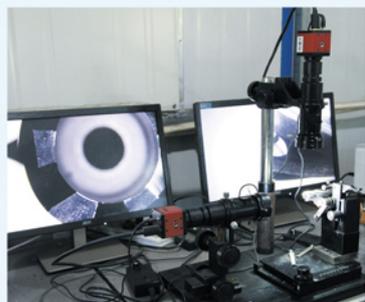
CHANGZHOU BODE TOOLS CO.,LTD established in 2004, is a scientific and technological enterprise incorporating researching, manufacturing and sales. Unbar, as its sub-brand, covers cold oil drill, core drill with HSS and other related products. Through various technological optimization and continuous innovation, Unbar products are extensively applied to such industries as machining, steel structure, bridge, shipbuilding, steel rail and wind electricity with their supreme quality.

The company owns turn-mill combination center, CNC grinding machine, five-axis grinding machine, three-dimensional detector and other advanced production equipment and detecting instruments. Years of development and practice gives us mature production management experience, outstanding design capability and scientific detecting methods, with which we have basically realized the development strategy of production automation, management digitization and whole-process quality traceability.

Changzhou Bode tools strives to manufacture more efficient, reliable and professional products with higher cost performance.



生产制造
Manufacturing





钢板钻

Annular cutter

钢板钻又称为空心钻，磁力钻头，是一种主要用于磁力钻机上钻头，主要用于对钢构件的钻孔加工，如钢结构工程、轨道交通、桥梁、船舶、机械制造、航空航天等孔加工领域，其钻孔性能明显优于传统的二刃麻花钻，具有钻孔效率高、钻削轻快省力的特点，多刃钢板钻与磁座钻机配套可以对大型工件进行多方位钻孔，操作方便灵活，有效缩短工程施工时间，成为现代钢构件钻孔及环形槽加工的首选刀具。

Annular Cutter also known as core drill, magnetic drill is mainly used for magnetic drill bit. The product is used to process the hole of steel component, such as steel structure, railway traffic, bridging, shipbuilding, machine manufacture, aviation and spaceflight. The hole drilling performance of annular cutter is much better than the traditional twist drill with two edges. The annular cutter possesses high-efficient drilling performance and labor-saving character. If it is matched with magnet-seat drilling machine, it can drill large workplace with multi-direction. The operation is very easy, so it can efficiently reduce the construction period of the project. The annular cutter is the first choice for hole drilling of the contemporary steel components.



钢板钻从材质上分为两大类：

Annular cutter is divided into two categories according to the material

◆高速钢钢板钻(HSS Annular cutter)

选用高性能高速钢，真空淬火回火工艺，有效提高切削刃的耐磨性。多层分组切削，进给轻快，改善定心与排屑效果。

Selection of good quality high speed steel with vacuum quenching and tempering process, effectively improve the wear resistance of the cutting edge, multilayer cutting geometry, improve the centering and chip removal, many types of product performance can drill to meet the needs of the different materials.

◆硬质合金钢板钻(T.C.T Annular cutter)

能适合较复杂的材质钻孔，可选择较高的切削速度，精选专用钢板钻高性能合金刀片，有效减少崩刃与保持良好的耐磨性，多层切削端刃几何，提高排屑性能与保持较小的切削阻力。

Suitable for hole drill with more complex material, high cutting speed, selection of special core drill with high performance alloy blade, effectively reduce the chipping and keep good abrasion resistance and multilayer cutting edge geometry to improve chip removal performance and reduce the cutting resistance.





高速钢系列——削平柄钢板钻

HSS-E Annular cutter with Weldon shank

削平柄 柄径 $\Phi 19.05\text{mm}$, 适用于两颗螺钉紧固定位装夹的接口。有着较大夹持力及通用性, 主要适用于 Hougen, Jancy, Nitto, Alfra, BDS, Ruko, Rotabroach 等各种磁座钻机。

HSS Annular cutter with Weldon shank, the diameter of shank is $\Phi 19.05\text{mm}$, which is suitable for two-point perpendicular positioning loading and unloading. It has a large clamping force and generality, Weldon shank, suitable for all types of magnetic drills like Hougen, Jancy, Nitto, Alfra, BDS, Ruko, Rotabroach...

1. 表面处理 : 本色 (bright surface)

| 钻孔直径 Cutting Dia(mm) | 钻孔深度 Cutting Depth(mm) |
|----------------------|------------------------|
| 12-100mm | 30mm |
| 12-100mm | 55mm |
| 16-60mm | 75mm |
| 16-60mm | 100mm |



2. 表面处理：氮化铝钛 (TiAlN)

| 钻孔直径 Cutting Dia(mm) | 钻孔深度 Cutting Depth(mm) |
|----------------------|------------------------|
| 12-65mm | 30mm |
| 12-65mm | 55mm |



3. 表面处理：氮化钛 (TiN)

| 钻孔直径 Cutting Dia(mm) | 钻孔深度 Cutting Depth(mm) |
|----------------------|------------------------|
| 12-65mm | 30mm |
| 12-65mm | 55mm |



4. 表面处理：烤黄 (Cobalt)

| 钻孔直径 Cutting Dia(mm) | 钻孔深度 Cutting Depth(mm) |
|----------------------|------------------------|
| 12-65mm | 30mm |
| 12-65mm | 55mm |





高速钢系列——快换柄钢板钻

HSS-E Annular cutter with one-touch shank

快换柄,柄径 $\Phi 19.05\text{mm}$,三点定位快速装卸夹头也可用螺钉紧固定位装夹的接口。主要适用 Hougen, Jancy, Nitto, Alfra, BDS, Ruko, Rotabroach 等各种磁座钻机。

HSS annular cutter with one-touch shank, the diameter of shank is $\Phi 19.05\text{mm}$, which is suitable for Quick-change arbor connector with 120° three-point positioning and arbor connector with 90° two-point perpendicular positioning. One-touch shank, suitable for all types of magnetic drills like Hougen, Jancy, Nitto, Alfra, BDS, Ruko, Rotabroach...

1. 表面处理：本色（bright surface）

| 钻孔直径 Cutting Dia(mm) | 钻孔深度 Cutting Depth(mm) |
|----------------------|------------------------|
| 12-65mm | 30mm |
| 12-65mm | 55mm |
| 18-50mm | 75mm |
| 18-50mm | 100mm |



2. 表面处理：烤黄 (Cobalt) 氮化钛 (TiN) 氮化铝钛 (TiAlN)



高速钢系列——四孔柄系列

HSS-E Annular cutter with FEIN Quick-in shank



四孔柄系列 柄径 Φ 18.0mm, 特征在于90度分布4点定位孔。适合用于FEIN系列磁座钻机。HSS annular cutter with FEIN Quick-in Shank, the diameter of shank is Φ 18.0mm, which is suitable for 90° distribution at 4 locating holes. FEIN Quick-in Shank, suitable for FEIN magnetic drills.

高速钢系列——螺纹柄钢板钻

HSS-E Annular cutter with thread shank



螺纹柄系列,内螺纹 M18*6P1.5, 适用于 FEIN/HITACHI 等的螺纹接口磁座钻机。HSS annular cutter with thread shank, cutter range with M18*6P1.5 thread. It is suitable for FEIN/HITACHI magnetic drills.

| 钻孔直径 (mm)Cutting Dia | 钻孔深度 (mm)Cutting Depth |
|----------------------|------------------------|
| 12-65mm | 35mm |
| 12-65mm | 55mm |

| 钻孔直径 (mm)Cutting Dia | 钻孔深度 (mm)Cutting Depth |
|----------------------|------------------------|
| 12-50mm | 55mm |



硬质合金系列——削平柄钢板钻

T.C.T Annular cutter with Weldon shank

削平柄 柄径 $\Phi 19.05\text{mm}$ 适用于两颗螺钉紧固定位装夹的接口。主要适用于 Hougen, Jancy, Nitto, Alfa, BDS, Ruko, Rotabroach 等各种磁座钻机。

T.C.T Annular cutter with Weldon shank, the diameter of shank is $\Phi 19.05\text{mm}$, which is suitable for two-point perpendicular positioning loading and unloading. Weldon shank, suitable for all types of magnetic drills like Hougen, Jancy, Nitto, Alfa, BDS, Ruko, Rotabroach...

| 钻孔直径 Cutting Dia(mm) | 钻孔深度 Cutting Depth(mm) |
|----------------------|------------------------|
| 12-150mm | 35mm |
| 12-150mm | 55mm |
| 18-135mm | 75mm |



硬质合金系列——快换柄钢板钻

T.C.T Annular cutter with one-touch shank

硬质合金快换柄系列 柄径 $\Phi 19.05\text{mm}$, 三点定位快速装卸夹头也可用螺钉紧固定位装夹的接口。主要适用

Hougen,Jancy,Nitto,Alfra,BDS,Ruko,Rot abroach 等各种磁座钻机。

T.C.T annular cutter with one-touch shank, the diameter of shank is $\Phi 19.05\text{mm}$, which is suitable for Quick-change arbor connector with 120° three-point positioning and arbor connector with 90° two-point perpendicular positioning. One-touch shank, suitable for all types of magnetic drills like Hougen,Jancy,Nitto,Alfra,BDS,Ruko,Rota broach...



硬质合金系列——四孔柄系列

T.C.T Annular cutter with FEIN Quick-in shank

四孔柄 柄径 $\Phi 18.0\text{mm}$, 特征在于 90° 度分布 4 点定位孔。适用于 FEIN 系列磁座钻机。

T.C.T annular cutter with FEIN Quick-in Shank, the diameter of shank is $\Phi 18.0\text{mm}$, which is suitable for 90° distribution at 4 locating holes. FEIN Quick-in Shank, suitable for FEIN magnetic drills.



硬质合金系列——螺纹柄钢板钻

T.C.T Annular cutter with thread shank

螺纹柄 内螺纹 $M18 \times 6P1.5$, 适用于 FEIN/HITACHI 等的螺纹接口磁座钻机。

T.C.T annular cutter with thread shank, cutter range with $M18 \times 6P1.5$ thread. It is suitable for FEIN/HITACHI magnetic drills.



钻孔直径 (mm)Cutting Dia 钻孔深度 (mm)Cutting Depth

12-65mm

35mm

12-65mm

55mm

钻孔直径 (mm)Cutting Dia 钻孔深度 (mm)Cutting Depth

12-50mm

55mm



钢板钻附件

Accessories of Annular cutter



钢板钻顶针 (Pilot pin)

钢板钻顶针用于钢板钻钻孔时定位于钻孔完成后弹出料芯作用

Center positioning pilot pin for annular cutter, it is used for positioning, cooling when cutting and popup material core after cutting.

顶针有 3 个重要性：

1. 位于钻洞的中心

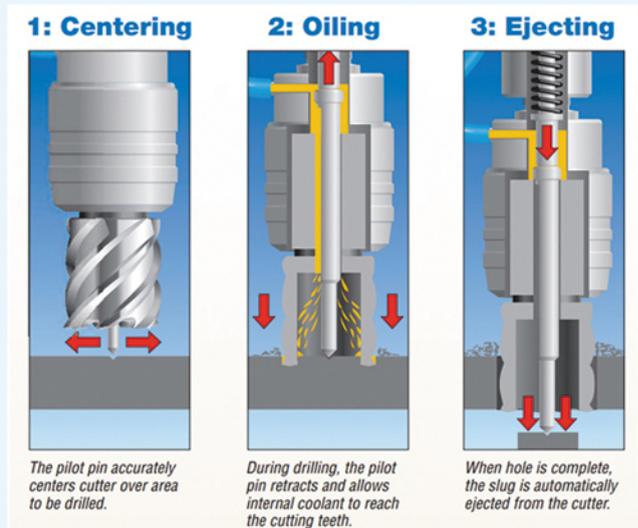
Locates the center of the hole

2. 为了让冷却剂沿着顶针引流到切削齿

Allows coolant to flow down around the slug and to the cutting teeth

3. 钻孔完成后弹出料芯

Ejects the slug at the end of the cut



钢板钻转换接头

Adaptor of Annular cutter

钢板钻转换接头,用于各种钢板钻不同柄型间的转换或延长,以及钻夹头与钻机的配合等等,满足市场中多样的装夹互换需求。

Adaptor used on annular cutter, suitable for adapting and extending different shanks of annular cutter, matching chuck and magnetic drill. Meeting various adaptor and clamping demand in the market.



| Tool holder | |
|---|---|
| 19mm Weldon shank/ Morse taper B16 |  |
| One-touch shank/ Morse taper B16 |  |
| FEIN Quick-IN shank/ Morse taper B16 |  |
| One-touch shank/ 19mm weldon |  |
| FEIN Quick-IN shank/ 19mm weldon |  |

| Tool holder | |
|---|---|
| 19mm Weldon shank/ Morse taper B16 |  |
| One-touch shank/ Morse taper B16 |  |
| FEIN Quick-IN shank/ Morse taper B16 |  |
| One-touch shank/ 19mm weldon |  |
| FEIN Quick-IN shank/ 19mm weldon |  |



钢板钻夹具

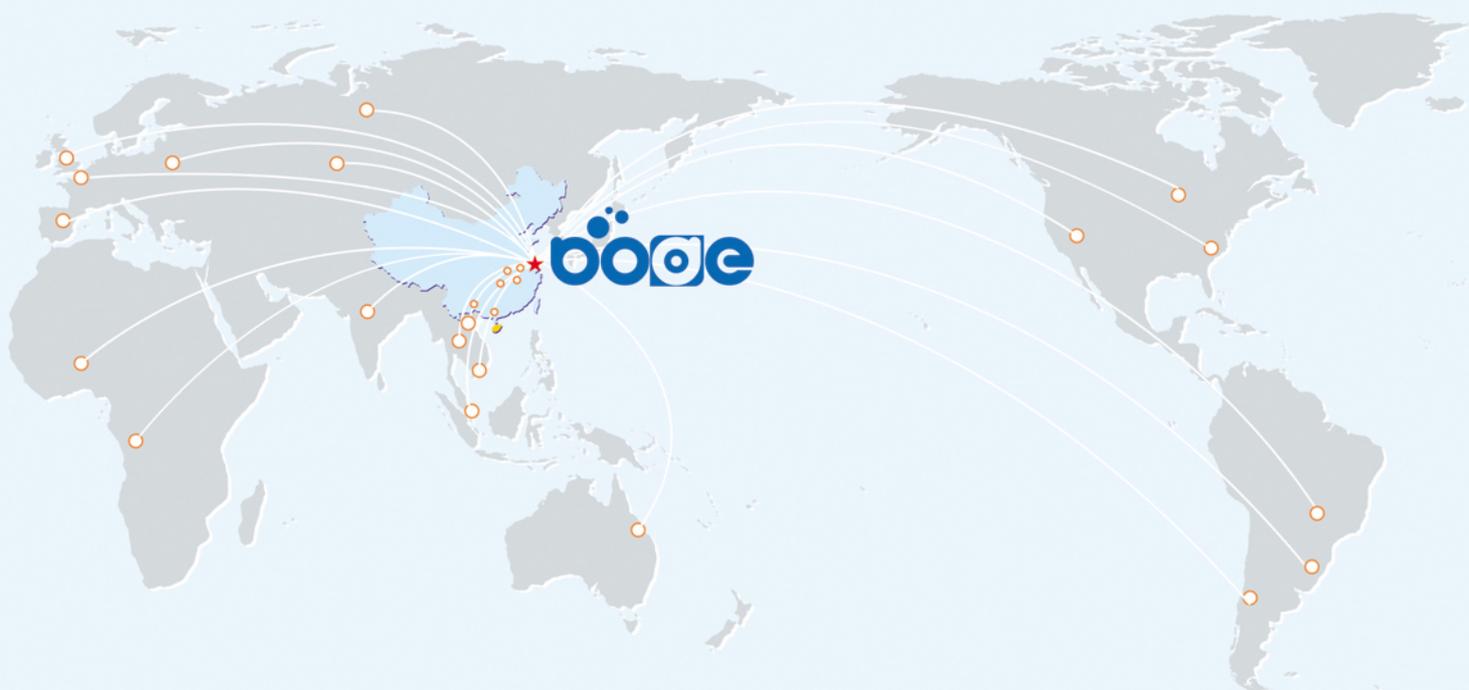
Arbor

莫氏锥度夹具 (Morse Taper Arbor)

莫氏钢板钻夹具 ,用于钢板钻与进口和国产的磁座钻机、钻床、数控平面钻等大型设备的连接。

Arbor with Morse taper for annular cutter, which is used for the connection of annular cutter with magnetic drills and other drilling facilities.

| Tool holder | Accessories |
|--|--|
| Morse taper No.5 19mm Weldon 100mm D.O.C. With internal cooling |  |
| Morse taper No.3 32mm Weldon 50mm D.O.C. With internal cooling |  |
| Morse taper No.4 32mm Weldon 50mm D.O.C. With internal cooling |  |
| Morse taper No.3 32mm Weldon 75mm D.O.C. With internal cooling |  |
| Morse taper No.4 32mm Weldon 75mm D.O.C. With internal cooling |  |
| Morse taper No.5 32mm Weldon 75mm D.O.C. With internal cooling |  |
| Morse taper No.3 32mm Weldon 100mm D.O.C. With internal cooling |  |
| Morse taper No.4 32mm Weldon 100mm D.O.C. With internal cooling |  |
| Morse taper No.5 32mm Weldon 100mm D.O.C. With internal cooling |  |
| Morse taper No.2 thread 50mm D.O.C. With internal cooling |  |
| Morse taper No.3 thread 50mm D.O.C. With internal cooling |  |



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常州市博得工具有限公司

CHANGZHOU BODE TOOLS CO., LTD

地址：中国江苏省常州金坛开发区河山环路 39 号

ADD: No.39 He Shan Huan Road Jintan Development Zone Changzhou City Jiangsu Province China
P.R.C, 213000

TEL: +86-519-83465789

FAX: +86-519-83465444

Web: www.bodetools.com

Email: bode@bodetools.com