品质源于
1956
Since 1956 成都工具研究所有限公司
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深孔加工刀具

DEEP HOLE MACHINING TOOLS

 成都工具研究所有限公司
CHENGDU TOOL RESEARCH INSTITUTE CO.,LTD

Company Brief

公司简介

成都工具研究所有限公司（以下简称“工研所”）1956年创建于北京，是原国家机械工业部直属的我国机械行业唯一的综合性工具科研开发机构，1965年内迁至成都。1998年经国家科技部批准，成为“国家精密工具工程技术研究中心”和“国家工具生产力促进中心”的依托组建单位。1999年转制为科技型企业，进入中国机械工业集团有限公司。

Chengdu Tool Research Institute Co.,Ltd (hereafter CTRI) is founded in 1956 and formally under the direction of China's Machinery Ministry as the sole comprehensive tool researching and scientific developing institution of China's Machinery industry. CTRI moved to Chengdu in 1965. Approved by Ministry of Science and Technology, CTRI became the supporting institution of State Precision Tool Engineering Technology Research Center in 1998. It was later approved into China National Machinery Industry Corporation (SINOMACH) and transformed to a scientific and technological enterprise in 1999.

工研所主要从事精密切削刀具、精密测量仪器和表面改性技术三大类机械产品共性技术研究及其高新技术产品的开发与生产。已形成了以硬质合金石油管螺纹梳刀为主导并逐步发展了轴承刀具、超硬刀具、数控刀具、深孔加工刀具、汽车刀具、型线刀具、配套刀具、主动量仪、激光干涉仪以及PVD、CVD、PCVD涂层技术服务、QPQ盐浴复合处理技术与装备等多种产品并存的产业结构。

CTRI is mainly engaged in precise cutting tools, measuring instruments, surface modified technique and advanced technological products. With the leading development of carbide chasers for oil pipe, CTRI extends products varieties for more industry structures, including bearing inserts, PCD/CBN cutting tools, CNC cutting tools, deep hole machining tools, automobile cutting tools, profile cutting tools, coupling tools, gear tester, in process gauge, and PVD, CVD, PCVD coating technical service, QPQ salt bath treatment technology and equipment.

行业地位

Industry Status

成都工具研究所是我国工具行业科研、技术的领头羊、行业归口所，以下组织挂靠在我所：

Chengdu Tool Research Institute Co., Ltd is the bellwether and centralized R&D institution in China's Tool industry. These following organizations are subordinate to CTRI:

- 中国机械工业金属切削刀具技术协会
China Metal Cutting Tool Engineering Association (CMCTEA)
- 中国机床工具工业协会工具分会
Branch of China Machine Tool & Tool Builder's Association
- 中国仪器仪表学会机械量测试仪器学会
China Instrument and Control Society for Mechanical Measuring Instruments
- 国家刀具质量监督检验中心
National Cutting Tool Quantity Supervision Inspection Center
- 机械工业量具量仪产品质量监督检测中心
Supervision & Inspection Center for Measuring Instrument in Mechanical Industry
- 国家进出口商品检验局(刀具)认可实验室
Laboratory of National Import and Export Commodity Inspection Bureau (Cutting Tools)
- 国家进出口商品检验局(量具量仪)认可实验室
Laboratory of National Import and Export Commodity Inspection Bureau (Measuring Instruments)

- 科技成果检测鉴定国家级检验机构(刀具)
China National Inspection and Testing Agency of Scientific and Technological Achievements(Cutting Tools)
- 科技成果检测鉴定部级检验机构(量具量仪)
China National Inspection and Testing Agency of Scientific and Technological Achievements(Measuring Gauges)
- 全国刀具标准化技术委员会秘书处 (TC 91)
National Cutting Tools Standardization Technology Committee Secretariat
- 全国量具量仪标准化技术委员会秘书处 (TC 132)
National Measures Standardization Technology Committee Secretariat
- ISO/TC 29 (工具) P成员国内归口单位
China Domestic Focal Point of ISO/TC29(Tool) P member
- ISO/TC213 (产品的几何和几何技术规范及检验) P成员国内归口单位
ISO/TC213(criterion and inspection for production's geometry and geometrical technology) P member internal perform unite
- CNAS 国家认可实验室
CNAS National Accreditation Laboratory
- 《工具技术》杂志社
Tool Engineering
- 国家精密工具工程技术研究中心
National Precision Tools Engineering Technology Research Center
- 国家工具生产力促进中心
National Tools Productivity Promotion Center
- 中国机械工程学会生产工程分会切削专业委员会
China Profession Committee, Production Engineering Branch
- 中国机械工程师学会
China Mechanical Engineering Society
- 四川省机械工程学会机加工专业委员会
Machining Profession Committee, Sichuan Mechanical Engineering Society

深孔加工刀具
DEEP HOLE
MACHINING TOOLS



科研成果

Scientific Achievements

自成都工具研究所成立以来，主要取得以下科研成果：

Followings are main scientific achievements since the foundation of CTRI:

一、国家发明奖三项：

Three National Invention Awards

齿轮整体误差测量新技术 发明二等奖

The second prize in new technology of integrated error measuring gear Invention

单晶金刚石钎焊工艺及焊料 发明二等奖

The second prize in mono-crystalline diamond brazing technology and solder Invention

无钴易磨高性能高速钢 发明三等奖

The third prize in Wuxi easy grinding high speed steel

二、国家科技进步奖八项

Eight "the national science and technology progress awards"

量具刀具产品标准的制定和贯彻 二等奖

The second prize in The formulation and implementation of measuring tool products standard

中模数硬质合金齿轮滚刀 三等奖

The third prize in the module of carbide gear hob

立方氮化硼聚晶机理及其应用 三等奖

The third prize in PCBN mechanism and application

涂层硬质合金刀片成套技术及装备研究 三等奖

The third prize in researching coated carbide inserts integrated technology and equipment

QPQ盐浴复合处理技术及成套设备 二等奖

The second prize in composite treatment technology for QPQ salt bath and complete sets of equipment

机电一体化发展预测与综合分析（合作项目） 三等奖

The third prize in Electromechanical integration development prediction and comprehensive analysis (cooperated projects)

材料动态断裂性能研究及其在典型机械零部件上的应用（合作项目） 三等奖

Research on dynamic fracture properties of materials and its application in the typical mechanical parts on the (cooperated project) the Third prize

机械工业共性数据库（合作项目） 二等奖

The second prize in Machinery industry common database (cooperated projects)

三、省部科技进步奖

The Provincial Department of science and Technology Progress Award

121项（略）

121 items (omission)



人力资源

Human Resources

全所共有职工500余人，其中科技人员320人，有突出贡献的国家级专家3人，享受国家政府津贴26人，省部级专家15人，研究员级高级工程师27人，高级工程师103人，高级会计师、高级经济师10人、中级技术人员140人，硕士研究生14人，大中专生146人，专业涉及机械、金属材料、电子、计算机、机电一体化等专业。

CTRI presently has almost 500 employees, 320 of whom are technical staff, 3 state-level experts with outstanding contribution, 26 recipients of government special allowance, 15 ministerial level experts, 27 professor level senior engineers, 103 senior engineers, 10 senior accountants and senior economists, 140 intermediate technical staff, 14 with master degree, 146 with college diploma and employees are widely involved in machinery, metal materials, electronic, computer, electromechanical integration specialty.

核心竞争力

Competitive Advantages

目前成都工具研究所已在刀具材料、精密复杂成形刀具与数控刀具设计及加工技术、刀具表面强化改性技术与装备、大型精密量仪设计制造、激光测量及光电传感器技术以及计算机软件等技术领域，形成了独特的整体、核心成套技术优势，初步构成了以硬质合金石油管螺纹梳刀、硬质合金精密异形刀具、超硬刀具、刀具表面强化技术及装备、激光测量仪等五项主导产品，包含30多项核心、高新技术产品的产品结构，这些产品和技术大都处于国内领先或国际先进水平。

Chengdu Tool Research Institute has formed a completed and unique technical competitive advantages in tool material, precise and complex shaped cutter and NC tool design and processing technology, cutting tool surface modification and strengthening technology and equipment, large-scale design precision instrument manufacturing, laser and photoelectric sensor technology and computer software technology. It initially formed six leading products including carbide treading tools for oil pipe, carbide precision special-shaped inserts, super hard cutting tools, tool surface strengthening technology and equipment, gear measuring instrument, laser measuring instrument. Those products are supported by more than 30 core, high-tech products technology structure and most of these products and technology are leading technologies in the domestic and international advanced level.



质量环境控制

Quality & Environmental Control

质量环境认证: ISO9001:2015 ISO14001:2015
Quality & Environmental Certification: ISO9001:2015 ISO14001:2015

质量环境方针:
以技术创新为先导, 以质量管理为保证, 以持续改进为核心, 以顾客满意为目标。

Quality & Environmental Policy:
To make technical innovation as the guide, the quality of management as the guarantee, continuous improvement as the core and take customer satisfaction as the goal.

质量环境目标:
★ 贯彻 ISO9001:2015 标准, 通过 ISO9001:2015 质量管理体系认证, 并保持体系有效运行。
★ 技术创新不断, 每年设计开发新产品或新项目2项以上。
★ 以质量管理为保证, 加强过程控制, 实施持续改进, 产品质量精益求精, 确保产品出厂合格率达100%。三年内使主导产品合格率提高到95%以上, 成品交检批次合格率达到95%。
★ 以顾客为关注焦点, 增进顾客满意, 三年内使顾客满意率达98%以上, 顾客投诉解决率达到100%。
★ 顾客重大投诉为零, 重大质量事故为零, 重大设备安全事故为零。

Quality & Environmental Objectives:
★ In carrying out the standard of ISO9001:2015, through the ISO9001:2015 quality management system certification, and keep the system running effectively.
★ Technology innovation, design and develop more than 2 new products or new projects each year
★ To guarantee the quality management, strengthen the process control, carry out continuous improvement, refine on product quality, to ensure 100% products manufactured pass rate. Increase leading products pass rate to 95% in three years and the finished product inspection pass rate to 95%.
★ Customer focus, improve customer satisfaction, three years to make customer satisfaction rate reaches above 98%, to solve customer complaint rate reached 100%.
★ Customer major complaints to zero, a major quality accidents to zero, zero accident of major equipment.



服务管理

Service Management

服务宗旨:
全心全意为用户服务

服务承诺:
尽可能满足用户的合理需求

服务标准:
快速、及时、有效, 向用户提供一流产品和一流服务

Service Aim : put one's heart and soul into service for the user

Service Commitment: to meet the reasonable needs of users as far as possible

Service standards: rapid, timely, effective, provide first-class products and first-class service to users

企业合作

Business Cooperation

- 与联合国合作建立中国量仪基地
- 与德国Klingelberg公司合作, 锥齿轮测量技术出口德国
- 广范与国外公司进行技术交流与合作
- 与国内大专院校、大型企业进行广范的技术交流与合作
- 与英国普华永道咨询公司合作, 全面提升企业形象和管理能力

- Cooperation with the United Nations to establish Chinese instrument base
- Cooperation with Klingelberg (Germany), bevel gear measurement technology exported to Germany
- Technological exchanges and cooperation with foreign companies
- A wide range of cooperation and technological exchanges with colleges, universities and large domestic enterprises
- Cooperation with British consulting company to improve corporate image and management ability

深孔加工刀具

DEEP HOLE MACHINING TOOLS

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接受用户定制非标深孔加工刀具及配件

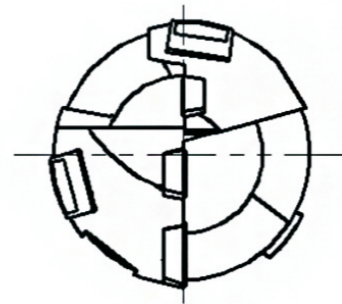
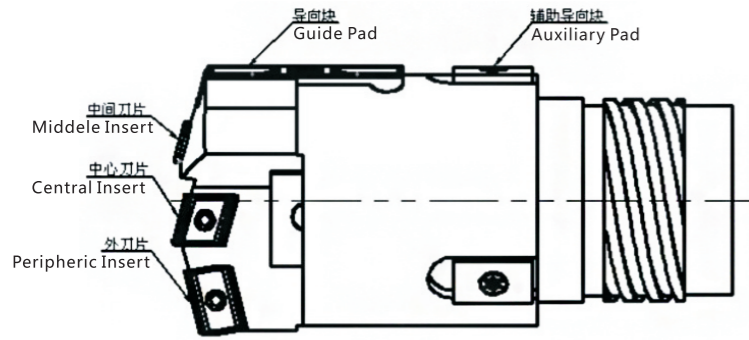
Special deep hole drilling tools and accessories are available for customers.

I型机夹式硬质合金内排屑深孔钻

Indexable Carbide Deep Hole Drill (Type I)

I型机夹式硬质合金内排屑深孔钻通用配置表

Products List for Deep Hole Drill (Type I)



配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	Jφ25.00-Jφ28.70	1		
外刀片 Peripheric Insert	P060308-G	1	M2.2JK	T7
中间刀片 Middle Insert	I050308-G	1	M2.2JK	T7
中心刀片 Central Insert	C050308-G	1	M2.2JK	T7
导向块 Guide Pad	DQ0625	2	M2.5	T8
刀体 Drill Head	Jφ28.71-Jφ30.70	1		
外刀片 Peripheric Insert	P060308-G	1	M2.2JK	T7
中间刀片 Middle Insert	I050308-G	1	M2.2JK	T7
中心刀片 Central Insert	C06T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0625	2	M2.5	T8
刀体 Drill Head	Jφ30.71-Jφ34.90	1		
外刀片 Peripheric Insert	P08T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I06T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C06T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0625	2	M2.5	T8
刀体 Drill Head	Jφ34.91-Jφ35.50	1		
外刀片 Peripheric Insert	P08T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C08T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0825-H4	2	M3	T10
刀体 Drill Head	Jφ35.51-Jφ38.90	1		
外刀片 Peripheric Insert	P08T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C08T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0825	2	M3	T10

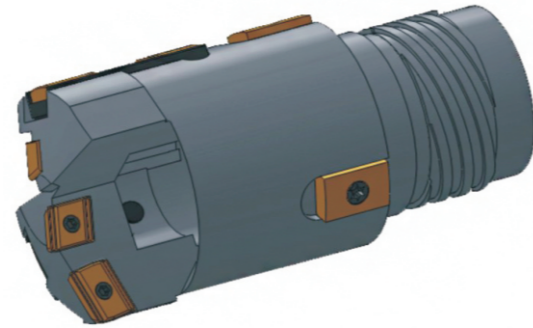
配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	Jφ38.91-Jφ42.90	1		
外刀片 Peripheric Insert	P09T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C08T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0825	2	M3	T10
刀体 Drill Head	Jφ42.91-Jφ47.90	1		
外刀片 Peripheric Insert	P09T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C10T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0825	2	M3	T10
刀体 Drill Head	Jφ47.91-Jφ49.40	1		
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C10T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ1030	2	M3	T10
刀体 Drill Head	Jφ49.41-Jφ52.50	1		
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C10T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ12H	2	M5	T20
刀体 Drill Head	Jφ52.51-Jφ54.90	1		
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C12T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ12H	2	M5	T20
刀体 Drill Head	Jφ54.91-Jφ58.30	1		
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I12T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C10T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ12H	2	M5	T20
刀体 Drill Head	Jφ58.31-Jφ64.50	1		
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I12T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C12T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ12H	2	M5	T20

导向块 Guide Pad	型号 Order No.	直径范围 Dia Range	配用数量 Quantity Required	备注 Remarks
	DQ06A	φ25.00~φ31.00	2	用户定制 As per customer request
	DQ07A	φ31.01~φ39.60	2	用户定制 As per customer request
	DQ08A	φ39.61~φ47.00	2	用户定制 As per customer request
	DQ10A	φ47.01~φ54.99	2	用户定制 As per customer request
	DQ12A	φ55.00~φ65.00	2	用户定制 As per customer request

辅助导向块 Auxiliary Pad	型号 Order No.	直径范围 Dia Range	配用数量 Quantity Required	备注 Remarks
	FDQ0616	φ25.00~φ28.70	1	用户选配 Optional
	FDQ0618	φ28.71~φ34.90	1	用户选配 Optional
	FDQ0812	φ34.91~φ47.90	3	用户选配 Optional
	FDQ1015	φ47.91~φ64.50	3	用户选配 Optional

通用槽型刀片

Insert with universal chip breaker



外刀片 Peripheral Insert	型号 Order No.	直径范围 Dia Range
	P060308-G	φ25.00~φ28.70 φ28.71~φ30.70
	P08T308-G	φ30.71~φ34.90 φ34.91~φ38.90
	P09T308-G	φ38.91~φ42.90 φ42.91~φ47.90
	P11T308-G	φ47.91~φ52.50 φ52.51~φ54.90
		φ54.91~φ58.30 φ58.31~φ64.50

中间刀片 Central Insert	型号 Order No.	直径范围 Dia Range
	I050308-G	φ25.00~φ28.70 φ28.71~φ30.70
	I06T308-G	φ30.71~φ34.90 φ34.91~φ38.90
		φ38.91~φ42.90 φ42.91~φ47.90
	I08T308-G	φ47.91~φ52.50 φ52.51~φ54.90
		I12T308-G

中心刀片 Middle Insert	型号 Order No.	直径范围 Dia Range
	C050308-G	φ25.00~φ28.70
	C06T308-G	φ28.71~φ30.70 φ30.71~φ34.90
		φ34.91~φ38.90 φ38.91~φ42.90
	C10T308-G	φ42.91~φ47.90 φ47.91~φ52.50
		C12T308-G
	C10T308-G	φ54.91~φ58.30
	C12T308-G	φ58.31~φ64.50

特殊槽型刀片 适用于难断屑加工情况

Insert with special chip breaker (suitable for hard chip-breaking)

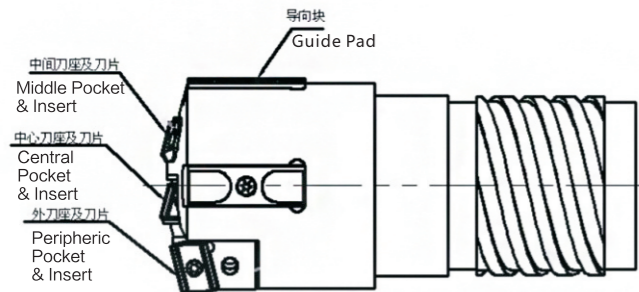
中心刀片 Middle Insert	型号 Order No.	直径范围 Dia Range
	C050308-G	φ25~φ28.7
	C06T308-G	φ28.71~φ30.7 φ30.71~φ34.9
		φ34.91~φ38.9 φ38.91~φ42.9
	C10T308-G	φ42.91~φ47.9 φ47.91~φ52.5
		C12T308-G
	C10T308-G	φ54.91~φ58.3
	C12T308-G	φ58.31~φ64.5

外刀片 Peripheral Insert	型号 Order No.	直径范围 Dia Range
	P060308-L	φ25~φ28.7 φ28.71~φ30.7
	P08T308-L	φ30.71~φ34.9 φ34.91~φ38.9
		φ38.91~φ42.9 φ42.91~φ47.9
	P11T308-L	φ47.91~φ52.5 φ52.51~φ54.9
		φ54.91~φ58.1 φ58.11~φ64.5

中间刀片 Central Insert	型号 Order No.	直径范围 Dia Range
	I050308-L	φ25~φ28.7 φ28.71~φ30.7
	I06T308-L	φ30.71~φ34.9 φ34.91~φ38.9
		φ38.91~φ42.9 φ42.91~φ47.9
	I08T308-L	φ47.91~φ52.5 φ52.51~φ54.9
		I12T308-L

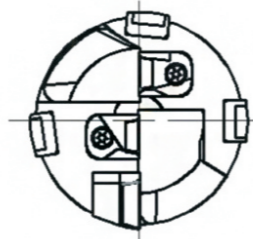
I型刀座式

With Insert Pockets (Type I)



I型刀座式通用配置表 定制产品

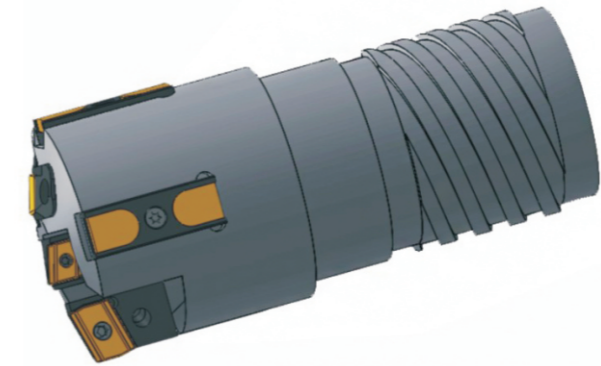
Product List for Deep Hole Drill (Type I)



配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	Jφ49.50DZ-Jφ52.50DZ	1		
外刀座 Peripheric Pocket	DZP11	1	M4-N	HG-3
中间刀座 Middle Pocket	DZM08	1	M4	T15
中心刀座 Central Pocket	DZC10	1	M4	T15
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C10T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ10LH	3	M4	T15
刀体 Drill Head	Jφ52.51DZ-Jφ54.90DZ	1		
外刀座 Peripheric Pocket	DZP11	1	M4-N	HG-3
中间刀座 Middle Pocket	DZM08	1	M4	T15
中心刀座 Central Pocket	DZC12	1	M4	T15
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I08T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C12T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ10LH	3	M4	T15
刀体 Drill Head	Jφ54.91DZ-Jφ58.30DZ	1		
外刀座 Peripheric Pocket	DZP11	1	M4-N	HG-3
中间刀座 Middle Pocket	DZM12	1	M4	T15
中心刀座 Central Pocket	DZC10	1	M4	T15
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I12T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C10T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ10LH	3	M4	T15
刀体 Drill Head	Jφ58.31DZ-Jφ64.50DZ	1		
外刀座 Peripheric Pocket	DZP11	1	M4-N	HG-3
中间刀座 Middle Pocket	DZM12	1	M4	T15
中心刀座 Central Pocket	DZC12	1	M4	T15
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
中间刀片 Middle Insert	I12T308-G	1	M2.5JK	T7
中心刀片 Central Insert	C12T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ10LH	3	M4	T15

通用槽型

Insert with universal chip breaker

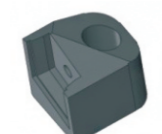
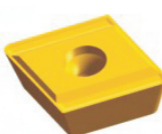


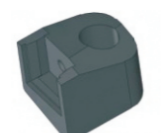
外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZP11		P11T308-G
中心刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZC10		C10T308-G
	DZC12		C12T308-G
中间刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZM08		I08T308-G
	DZM12		I12T308-G

特殊槽型 适用于难断屑加工情况

Insert with special chip breaker(suitable for hard chip-breaking)

外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZP11		P11T308-L

中心刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZC10		C10T308-G
	DZC12		C12T308-G

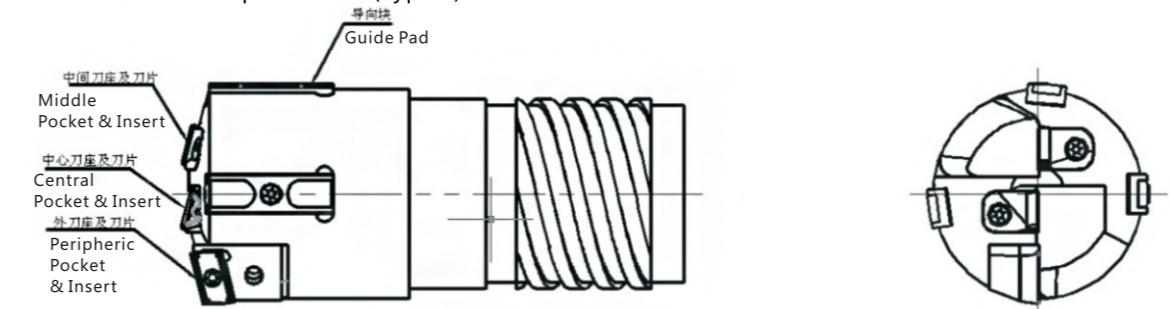
中间刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZM08		I08T308-L
	DZM12		I12T308-L

II型机夹式硬质合金内排屑深孔钻

Indexable Carbide Deep Hole Drill (TypeII)

II型机夹式硬质合金内排屑深孔钻通用配置表

Products List for Deep Hole Drill (TypeII)

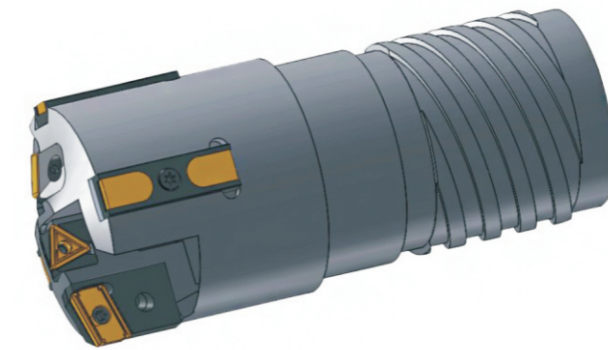



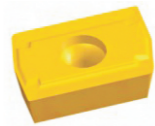
配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	SJ φ65.00-SJ φ65.59	1		
外刀座 Peripheric Pocket	DZP18	1	M5-N	HG-4
中间刀座 Middle Pocket	DZM15	1	M5	T20
中心刀座 Central Pocket	DZC15	1	M5	T20
外刀片 Peripheric Insert	P13T308-G	1	M3	T10
中间刀片 Middle Insert	TPMT16T312-G	1	M3	T10
中心刀片 Central Insert	TPMT16T312-G	1	M3	T10
导向块 Guide Pad	DQ12H-H6	3	M5	T20
刀体 Drill Head	SJ φ65.60-SJ φ68.39	1		
外刀座 Peripheric Pocket	DZP18	1	M5-N	HG-4
中间刀座 Middle Pocket	DZM15	1	M5	T20
中心刀座 Central Pocket	DZC15	1	M5	T20
外刀片 Peripheric Insert	P13T308-G	1	M3	T10
中间刀片 Middle Insert	TPMT16T312-G	1	M3	T10
中心刀片 Central Insert	TPMT16T312-G	1	M3	T10
导向块 Guide Pad	DQ12H	3	M5	T20
刀体 Drill Head	SJ φ68.40-SJ φ73.49	1		
外刀座 Peripheric Pocket	DZP18	1	M5-N	HG-4
中间刀座 Middle Pocket	DZM15	1	M5	T20
中心刀座 Central Pocket	DZC15	1	M5	T20
外刀片 Peripheric Insert	P13T308-G	1	M3	T10
中间刀片 Middle Insert	TPMT16T312-G	1	M3	T10
中心刀片 Central Insert	TPMT16T312-G	1	M3	T10
导向块 Guide Pad	DQ14H	3	M5	T20
刀体 Drill Head	SJ φ73.50-SJ φ79.99	1		
外刀座 Peripheric Pocket	DZP22	1	M6-N	HG-5
中间刀座 Middle Pocket	DZM15	1	M5	T20
中心刀座 Central Pocket	DZC15	1	M5	T20

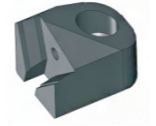

配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
外刀片 Peripheric Insert	P180608-G	1	M4	T15
中间刀片 Middle Insert	TPMT16T312-G	1	M3	T10
中心刀片 Central Insert	TPMT16T312-G	1	M3	T10
导向块 Guide Pad	DQ14H	3	M5	T20
刀体 Drill Head	SJφ80.00-SJφ82.69	1		
外刀座 Peripheric Pocket	DZP22	1	M6-N	HG-5
中间刀座 Middle Pocket	DZM15	1	M5	T20
中心刀座 Central Pocket	DZC15	1	M5	T20
外刀片 Peripheric Insert	P180608-G	1	M4	T15
中间刀片 Middle Insert	TPMT16T312-G	1	M3	T10
中心刀片 Central Insert	TPMT16T312-G	1	M3	T10
导向块 Guide Pad	DQ16H	3	M5	T20
刀体 Drill Head	SJφ82.70-SJφ90.49	1		
外刀座 Peripheric Pocket	DZP22	1	M6-N	HG-5
中间刀座 Middle Pocket	DZM15	1	M5	T20
中心刀座 Central Pocket	DZC20	1	M5	T20
外刀片 Peripheric Insert	P180608-G	1	M4	T15
中间刀片 Middle Insert	TPMT16T312-G	1	M3	T10
中心刀片 Central Insert	TPMT220612-G	1	M4	T15
导向块 Guide Pad	DQ16H	3	M5	T20
刀体 Drill Head	SJφ90.50-SJφ106.99	1		
外刀座 Peripheric Pocket	DZP22	1	M6-N	HG-5
中间刀座 Middle Pocket	DZM20	1	M5	T20
中心刀座 Central Pocket	DZC20	1	M5	T20
外刀片 Peripheric Insert	P180608-G	1	M4	T15
中间刀片 Middle Insert	TPMT220612-G	1	M4	T15
中心刀片 Central Insert	TPMT220612-G	1	M4	T15
导向块 Guide Pad	DQ16H	3	M5	T20
刀体 Drill Head	SJφ107.00-SJφ120.00	1		
外刀座 Peripheric Pocket	DZP18	1	M5-N	HG-4
中间刀座 Middle Pocket	DZM15	3	M5	T20
中心刀座 Central Pocket	DZC15	1	M5	T20
外刀片 Peripheric Insert	P13T308-G	1	M3	T10
中间刀片 Middle Insert	TPMT16T312-G	3	M3	T10
中心刀片 Central Insert	TPMT16T312-G	1	M3	T10
导向块 Guide Pad	DQ14H	4	M5	T20
刀体 Drill Head	SJφ120.01-SJφ125.00	1		
外刀座 Peripheric Pocket	DZP22	1	M6-N	HG-5
中间刀座 Middle Pocket	DZM15	3	M5	T20
中心刀座 Central Pocket	DZC15	1	M5	T20
外刀片 Peripheric Insert	P180608-G	1	M4	T15
中间刀片 Middle Insert	TPMT16T312-G	3	M3	T10
中心刀片 Central Insert	TPMT16T312-G	1	M3	T10
导向块 Guide Pad	DQ16H	4	M5	T20

通用槽型刀片

Insert with universal chip breaker



外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZP18		P13T308-G
	DZP22		P180608-G

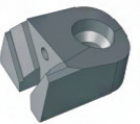

中心刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZC15		TPMT16T312-G
	DZC20		TPMT220612-G

中间刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZM15		TPMT16T312-G
	DZM20		TPMT220612-G

特殊槽型刀片 适用于难断屑加工情况

Insert with special chip breaker(suitable for hard chip-breaking)

外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZP18		P13T308-S
	DZP22		P180608-S

中间刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZM15		TPMT16T312-S
	DZM20		TPMT220612-S

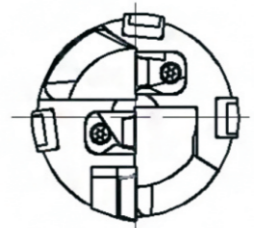
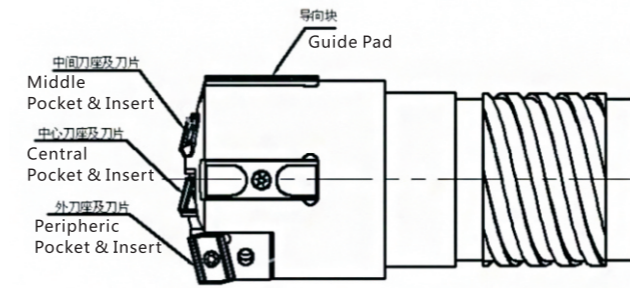
中心刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZC15		TPMT16T312-S
	DZC20		TPMT220612-S

Ⅲ型机夹式硬质合金内排屑深孔钻

Indexable Carbide Deep Hole Drill (TypeⅢ)

Ⅲ型机夹式硬质合金内排屑深孔钻通用配置表

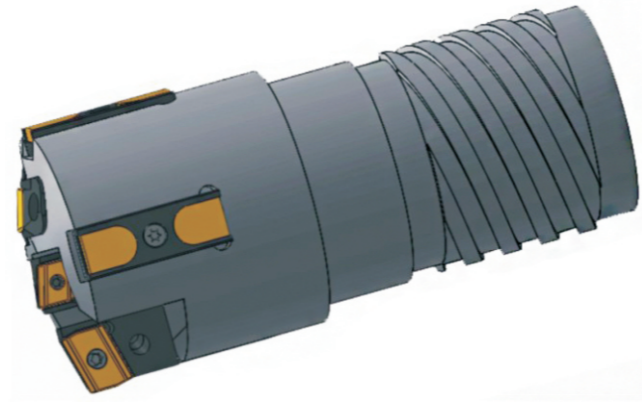
Products List for Deep Hole Drill (TypeⅢ)



配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	Jφ64.51-Jφ65.59	1		
外刀座 Peripheric Pocket	DZP19	1	M5-N	HG-4
中间刀座 Middle Pocket	DZM17-13	1	M5	T20
中心刀座 Central Pocket	DZC17-13	1	M5	T20
外刀片 Peripheric Insert	P14T308-G1	1	M3	T10
中间刀片 Middle Insert	I13T308-G1	1	M3	T10
中心刀片 Central Insert	C13T308-G1	1	M3	T10
导向块 Guide Pad	DQ12H-H6	3	M5	T20
刀体 Drill Head	Jφ65.60-Jφ68.39	1		
外刀座 Peripheric Pocket	DZP19	1	M5-N	HG-4
中间刀座 Middle Pocket	DZM17-13	1	M5	T20
中心刀座 Central Pocket	DZC17-13	1	M5	T20
外刀片 Peripheric Insert	P14T308-G1	1	M3	T10
中间刀片 Middle Insert	I13T308-G1	1	M3	T10
中心刀片 Central Insert	C13T308-G1	1	M3	T10
导向块 Guide Pad	DQ12H	3	M5	T20
刀体 Drill Head	Jφ68.40-Jφ72.99	1		
外刀座 Peripheric Pocket	DZP19	1	M5-N	HG-4
中间刀座 Middle Pocket	DZM17-13	1	M5	T20
中心刀座 Central Pocket	DZC17-13	1	M5	T20
外刀片 Peripheric Insert	P14T308-G1	1	M3	T10
中间刀片 Middle Insert	I13T308-G1	1	M3	T10
中心刀片 Central Insert	C13T308-G1	1	M3	T10
导向块 Guide Pad	DQ14H	3	M5	T20
刀体 Drill Head	Jφ73.00-Jφ79.99	1		
外刀座 Peripheric Pocket	DZP23	1	M6-N	HG-5
中间刀座 Middle Pocket	DZM17-13	1	M5	T20

通用槽型刀片

Insert with universal chip breaker



外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZP19		P14T308-G1
	DZP23		P190608-G1(GS)

中心刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZC17-13		C13T308-G1
	DZC24-19		C190608-G1

中间刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZM17-13		I13T308-G1
	DZM24-19		I190608-G1

高效加工槽型刀片

Efficient processing groove insert

外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZP19		P14T308-G
	DZP23		P190608-G1(GS)

中间刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZC17-13		C13T308-G
	DZC24-19		C190608-G

中心刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZM17-13		I13T308-G
	DZM24-19		I190608-G(G1)

特殊槽型刀片 适用于难断屑加工情况

Insert with special chip breaker(suitable for hard chip-breaking)

外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZP19		P14T308-L1
	DZP23		P190608-L1

中心刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZC17-13		C13T308-L1
	DZC24-19		C190608-L1

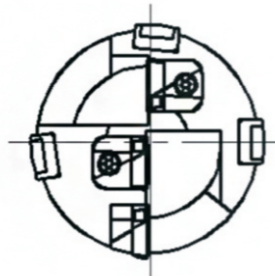
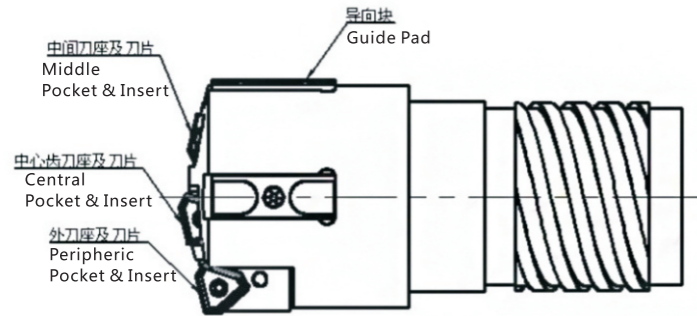
中间刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZM17-13		I13T308-L1
	DZM24-19		I190608-L1

IV型机夹式硬质合金内排屑深孔钻

Indexable Carbide Deep Hole Drill (TypeIV)

IV型机夹式硬质合金内排屑深孔钻通用配置表

Products List for Deep Hole Drill (TypeIV)



配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	IJ φ48.00-IJ φ51.99	1		
外刀座 Peripheric Pocket	DZIP14	1	M3.5-N	HG-2.5
中间刀座 Middle Pocket	DZIC14	1	M4	T15
中心刀座 Central Pocket	DZIC14	1	M4	T15
外刀片 Peripheric Insert	TPMX14T308	1	M2.5	T7
中间刀片 Middle Insert	TPMX14T308	1	M2.5	T7
中心刀片 Central Insert	TPMX14T308	1	M2.5	T7
导向块 Guide Pad	DQ10LH	3	M4	T15
刀体 Drill Head	IJ φ52.00-IJ φ54.99	1		
外刀座 Peripheric Pocket	DZIP17	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC14	1	M4	T15
中心刀座 Central Pocket	DZIC14	1	M4	T15
外刀片 Peripheric Insert	TPMX17T408	1	M3.5	T15
中间刀片 Middle Insert	TPMX14T308	1	M2.5	T7
中心刀片 Central Insert	TPMX14T308	1	M2.5	T7
导向块 Guide Pad	DQ10LH	3	M4	T15
刀体 Drill Head	IJ φ55.00-IJ φ57.99	1		
外刀座 Peripheric Pocket	DZIP17	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC14	1	M4	T15
中心刀座 Central Pocket	DZIC17	1	M4	T15
外刀片 Peripheric Insert	TPMX17T408	1	M3.5	T15
中间刀片 Middle Insert	TPMX14T308	1	M2.5	T7
中心刀片 Central Insert	TPMX17T408	1	M3.5	T15
导向块 Guide Pad	DQ10LH	3	M4	T15
刀体 Drill Head	IJ φ58.00-IJ φ63.99	1		
外刀座 Peripheric Pocket	DZIP17	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC17	1	M4	T15

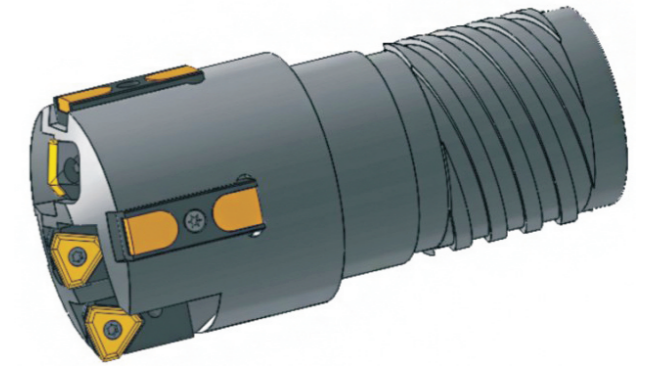
配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
中心刀座 Central Pocket	DZIC17	1	M4	T15
外刀片 Peripheric Insert	TPMX17T408	1	M3.5	T15
中间刀片 Middle Insert	TPMX17T408	1	M3.5	T15
中心刀片 Central Insert	TPMX17T408	1	M3.5	T15
导向块 Guide Pad	DQ10LH	3	M4	T15
刀体 Drill Head	IJ φ64.00-IJ φ67.99	1		
外刀座 Peripheric Pocket	DZIP24	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC17	1	M4	T15
中心刀座 Central Pocket	DZIC17	1	M4	T15
外刀片 Peripheric Insert	TPMX240512	1	M4	T15
中间刀片 Middle Insert	TPMX17T408	1	M3.5	T15
中心刀片 Central Insert	TPMX17T408	1	M3.5	T15
导向块 Guide Pad	DQ12H	3	M5	T20
刀体 Drill Head	IJ φ68.00-IJ φ77.99	1		
外刀座 Peripheric Pocket	DZIP17	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC24	1	M5	T20
中心刀座 Central Pocket	DZIC24	1	M5	T20
外刀片 Peripheric Insert	TPMX17T408	1	M3.5	T15
中间刀片 Middle Insert	TPMX240512	1	M4	T15
中心刀片 Central Insert	TPMX240512	1	M4	T15
导向块 Guide Pad	DQ14IH	3	M5	T20
刀体 Drill Head	IJ φ78.00-IJ φ84.99	1		
外刀座 Peripheric Pocket	DZIP24	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC24	1	M5	T20
中心刀座 Central Pocket	DZIC24	1	M5	T20
外刀片 Peripheric Insert	TPMX240512	1	M4	T15
中间刀片 Middle Insert	TPMX240512	1	M4	T15
中心刀片 Central Insert	TPMX240512	1	M4	T15
导向块 Guide Pad	DQ16H	3	M5	T20
刀体 Drill Head	IJ φ85.00-IJ φ91.99	1		
外刀座 Peripheric Pocket	DZIP28	1	M6-N	HG-5
中间刀座 Middle Pocket	DZIC24	1	M5	T20
中心刀座 Central Pocket	DZIC24	1	M5	T20
外刀片 Peripheric Insert	TPMX280716	1	M5	T20
中间刀片 Middle Insert	TPMX240512	1	M4	T15
中心刀片 Central Insert	TPMX240512	1	M4	T15
导向块 Guide Pad	DQ16H	3	M5	T20
刀体 Drill Head	IJ φ92.00-IJ φ98.99	1		
外刀座 Peripheric Pocket	DZIP24	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC28	1	M5	T20
中心刀座 Central Pocket	DZIC28	1	M5	T20
外刀片 Peripheric Insert	TPMX240512	1	M4	T15
中间刀片 Middle Insert	TPMX280716	1	M5	T20
中心刀片 Central Insert	TPMX280716	1	M5	T20
导向块 Guide Pad	DQ16H	3	M5	T20

配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	IJφ99.00-IJφ106.99	1		
外刀座 Peripheric Pocket	DZIP28	1	M6-N	HG-5
中间刀座 Middle Pocket	DZIC28	1	M5	T20
中心刀座 Central Pocket	DZIC28	1	M5	T20
外刀片 Peripheric Insert	TPMX280716	1	M5	T20
中间刀片 Middle Insert	TPMX280716	1	M5	T20
中心刀片 Central Insert	TPMX280716	1	M5	T20
导向块 Guide Pad	DQ16H	3	M5	T20
刀体 Drill Head	IJφ107.00-IJφ117.99	1		
外刀座 Peripheric Pocket	DZIP24	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC17	3	M4	T15
中心刀座 Central Pocket	DZIC24	1	M5	T20
外刀片 Peripheric Insert	TPMX240512	1	M4	T15
中间刀片 Middle Insert	TPMX17T408	3	M3.5	T15
中心刀片 Central Insert	TPMX240512	1	M4	T15
导向块 Guide Pad	DQ14IH	4	M5	T20
刀体 Drill Head	IJφ118.00-IJφ125.00	1		
外刀座 Peripheric Pocket	DZIP24	1	M5-N	HG-4
中间刀座 Middle Pocket	DZIC24	3	M5	T20
中心刀座 Central Pocket	DZIC24	1	M5	T20
外刀片 Peripheric Insert	TPMX240512	1	M4	T15
中间刀片 Middle Insert	TPMX240512	3	M4	T15
中心刀片 Central Insert	TPMX240512	1	M4	T15
导向块 Guide Pad	DQ14IH	4	M5	T20

通用槽型刀片

Insert with universal chip breaker

外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZIP14		TPMX14T308
	DZIP17		TPMX17T408
	DZIP24		TPMX240512
	DZIP28		TPMX280716



中心刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZIC14		TPMX14T308
	DZIC17		TPMX17T408
	DZIC24		TPMX240512
	DZIC28		TPMX280716

中间刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZIC14		TPMX14T308
	DZIC17		TPMX17T408
	DZIC24		TPMX240512
	DZIC28		TPMX280716

特殊槽型刀片 适用于难断屑加工情况

Insert with special chip breaker(suitable for hard chip-breaking)

外刀座 Peripheric Pocket	型号 Order No.	刀片 Peripheric Insert	型号 Order No.
	DZIP14		TPMX14T308-L
	DZIP17		TPMX17T408-L
	DZIP24		TPMX240512-L
	DZIP28		TPMX280716-L

中间刀座 Middle Pocket	型号 Order No.	刀片 Middle Insert	型号 Order No.
	DZIC14		TPMX14T308-L
	DZIC17		TPMX17T408-L
	DZIC24		TPMX240512-L
	DZIC28		TPMX280716-L

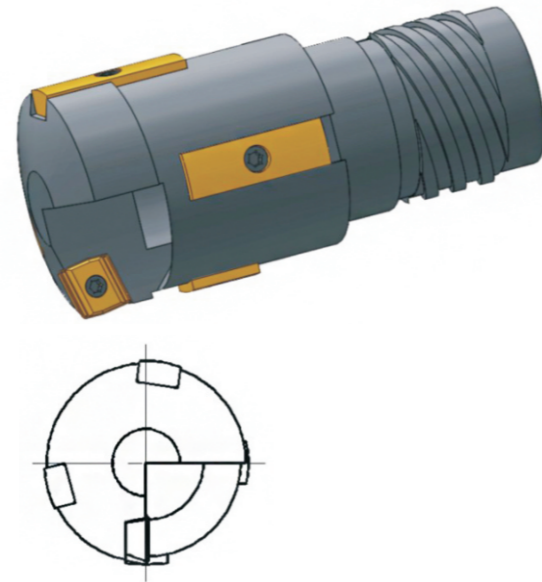
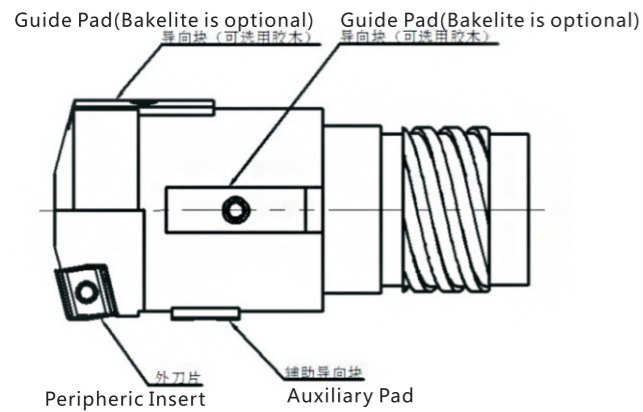
中心刀座 Central Pocket	型号 Order No.	刀片 Central Insert	型号 Order No.
	DZIC14		TPMX14T308-L
	DZIC17		TPMX17T408-L
	DZIC24		TPMX240512-L
	DZIC28		TPMX280716-L

机夹式扩孔钻 粗加工/半精加工用

Indexable Counterbore (for rough and semi-finish machining)

刀片式机夹式扩孔钻

Indexable Counterbore with Insert Only
As Per Request



配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	JKφ25.00-JKφ28.70	1		
外刀片 Peripheric Insert	P060308-G	1	M2.2JK	T7
导向块 Guide Pad	DQ0625	2	M2.5	T8
辅助导向块 Auxiliary Pad	FDQ0616	1	M2.5	T8
胶木导向块 Bakelite guide pad	DQ0625JM	1	M2.5	T8
刀体 Drill Head	JKφ28.71-JKφ30.70	1		
外刀片 Peripheric Insert	P060308-G	1	M2.2JK	T7
导向块 Guide Pad	DQ0625	2	M2.5	T8
辅助导向块 Auxiliary Pad	FDQ0618	1	M2.5	T8
胶木导向块 Bakelite guide pad	DQ0625JM	1	M2.5	T8
刀体 Drill Head	JKφ30.71-JKφ34.90	1		
外刀片 Peripheric Insert	P08T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0625	2	M2.5	T8
辅助导向块 Auxiliary Pad	FDQ0618	1	M2.5	T8
胶木导向块 Bakelite guide pad	DQ0625JM	1	M2.5	T8
刀体 Drill Head	JKφ34.91-JKφ38.90	1		
外刀片 Peripheric Insert	P08T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0825	2	M3	T10
辅助导向块 Auxiliary Pad	FDQ0812	1	M3	T10
胶木导向块 Bakelite guide pad	DQ0825JM	1	M3	T10

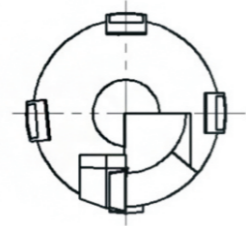
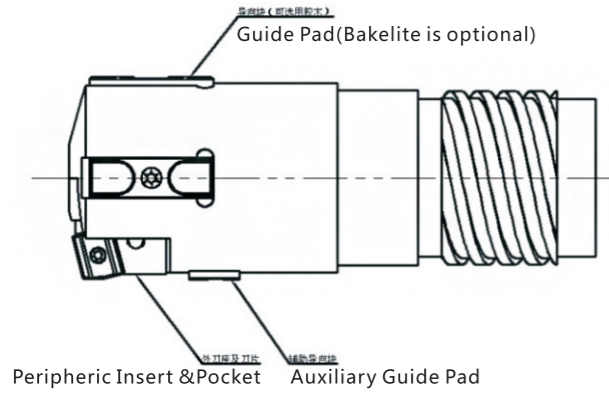
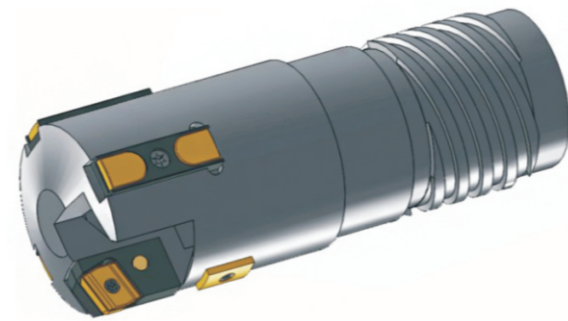
刀片槽型选用参考深孔钻, 可根据用户要求特别定制, 辅助导向块及胶木导向块由用户选配。
Refer to deep drills for inserts chip breaker; Special design as per customer's request is available
Auxiliary guide pad and bakelite guide pad are optional as per customer's request.

配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	JKφ38.91-JKφ47.90	1		
外刀片 Peripheric Insert	P09T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0825	2	M3	T10
辅助导向块 Auxiliary Pad	FDQ0812	1	M3	T10
胶木导向块 Bakelite Pad	DQ0825JM	1	M3	T10
刀体 Drill Head	JKφ47.91-JKφ49.40	1		
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ1030	2	M3	T10
辅助导向块 Auxiliary Pad	FDQ1015	1	M3	T10
胶木导向块 Bakelite Pad	DQ1030JM	1	M3	T10
刀体 Drill Head	JKφ49.41-JKφ65.00	1		
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ12H	2	M5	T20
辅助导向块 Auxiliary Pad	FDQ1015	1	M3	T10
胶木导向块 Bakelite Pad	DQ12JM	1	M5	T20

刀片槽型选用参考深孔钻, 可根据用户要求特别定制, 辅助导向块及胶木导向块由用户选配。
Refer to deep drills for inserts chip breaker; Special design as per customer's request is available
Auxiliary guide pad and bakelite guide pad are optional as per customer's request.

刀座式扩孔钻通用配置表 定制产品

Indexable Counterbore with Insert and Pockets
As Per Request



配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	JKφ45.00DZ-JKφ47.99DZ	1		
外刀座 Peripheric Pocket	DZP11	1	M4-N	HG-3
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ0825	3	M3	T10
辅助导向块 Auxiliary Guide Pad	FDQ0812	1	M3	T10
胶木导向块 Bakelite Pad	DQ0825JM	1	M3	T10
刀体 Drill Head	JKφ48.00DZ-JKφ49.49DZ	1		
外刀座 Peripheric Pocket	DZP11	1	M4-N	HG-3
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ1030	3	M3	T10
辅助导向块 Auxiliary Guide Pad	FDQ1015	1	M3	T10
胶木导向块 Bakelite Pad	DQ1030JM	1	M3	T10
刀体 Drill Head	JKφ49.50DZ-JKφ64.99DZ	1		
外刀座 Peripheric Pocket	DZP11	1	M4-N	HG-3
外刀片 Peripheric Insert	P11T308-G	1	M2.5JK	T7
导向块 Guide Pad	DQ12H	3	M5	T20
辅助导向块 Auxiliary Guide Pad	FDQ1015	1	M3	T10
胶木导向块 Bakelite Pad	DQ12JM	1	M5	T20
刀体 Drill Head	JKφ65.00DZ-JKφ72.99DZ	1		
外刀座 Peripheric Pocket	DZP19	1	M5-N	HG-4
外刀片 Peripheric Insert	P14T308-G1	1	M3	T10
导向块 Guide Pad	DQ14H	3	M5	T20
辅助导向块 Auxiliary Guide Pad	FDQ1015	1	M3	T10
胶木导向块 Bakelite Pad	DQ14JM	1	M5	T20

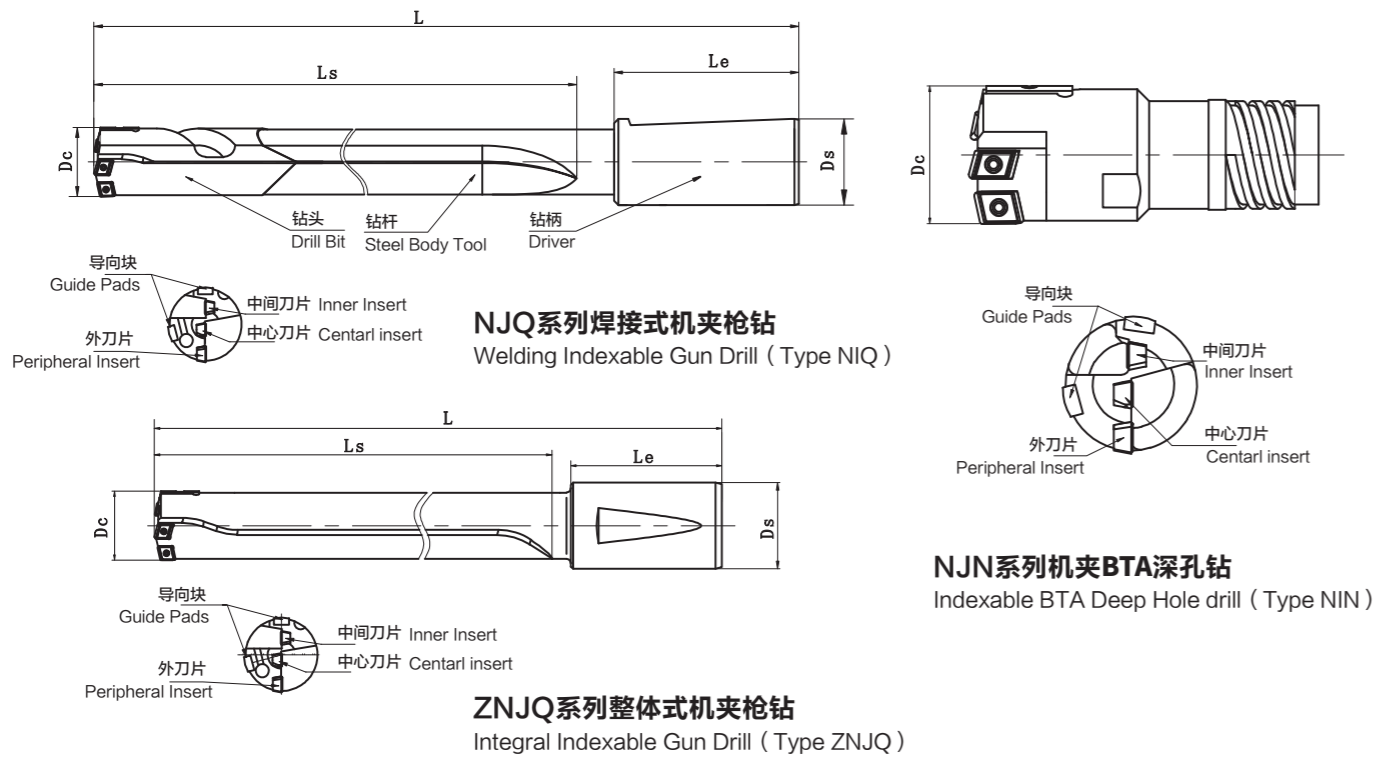
刀片槽型选用参考深孔钻，可根据用户要求特别定制，辅助导向块及胶木导向块由用户选配。
Refer to deep drills for inserts chip breaker;Special design as per customer's request is available
Auxiliary guide pad and bakelite guide pad are optional as per customer's request.

配件名称 Product Code	配件型号 Order No.	配用数量 Quantity Required	螺钉 Screw	扳手 Wrench
刀体 Drill Head	JKφ73.00DZ-Jφ79.99DZ	1		
外刀座 Peripheric Pocket	DZP23	1	M6-N	HG-5
外刀片 Peripheric Insert	P190608-G1	1	M4	T15
导向块 Guide Pad	DQ14H	3	M5	T20
辅助导向块 Auxiliary Pad	FDQ1015	1	M3	T10
胶木导向块 Bakelite Pad	DQ14JM	1	M5	T20
刀体 Drill Head	JKφ80.00DZ-JKφ106.99DZ	1		
外刀座 Peripheric Pocket	DZP23	1	M6-N	HG-5
外刀片 Peripheric Insert	P190608-G1	1	M4	T15
导向块 Guide Pad	DQ16H	3	M5	T20
辅助导向块 Auxiliary Pad	FDQ1015	1	M3	T10
胶木导向块 Bakelite Pad	DQ16JM	1	M5	T20
刀体 Drill Head	JKφ107.00DZ-JKφ180.00DZ	1		
外刀座 Peripheric Pocket	DZP23	1	M6-N	HG-5
外刀片 Peripheric Insert	P190608-G1	1	M4	T15
导向块 Guide Pad	DQ16H	5	M5	T20
辅助导向块 Auxiliary Pad	FDQ1015	1	M3	T10
胶木导向块 Bakelite Pad	DQ16JM	1	M5	T20

刀片槽型选用参考深孔钻，可根据用户要求特别定制，辅助导向块及胶木导向块由用户选配。
Refer to deep drills for inserts chip breaker;Special design as per customer's request is available
Auxiliary guide pad and bakelite guide pad are optional as per customer's request.

N/ZN型机夹式深孔钻

Indexable Deep Hole Drill (Type N/ZN)



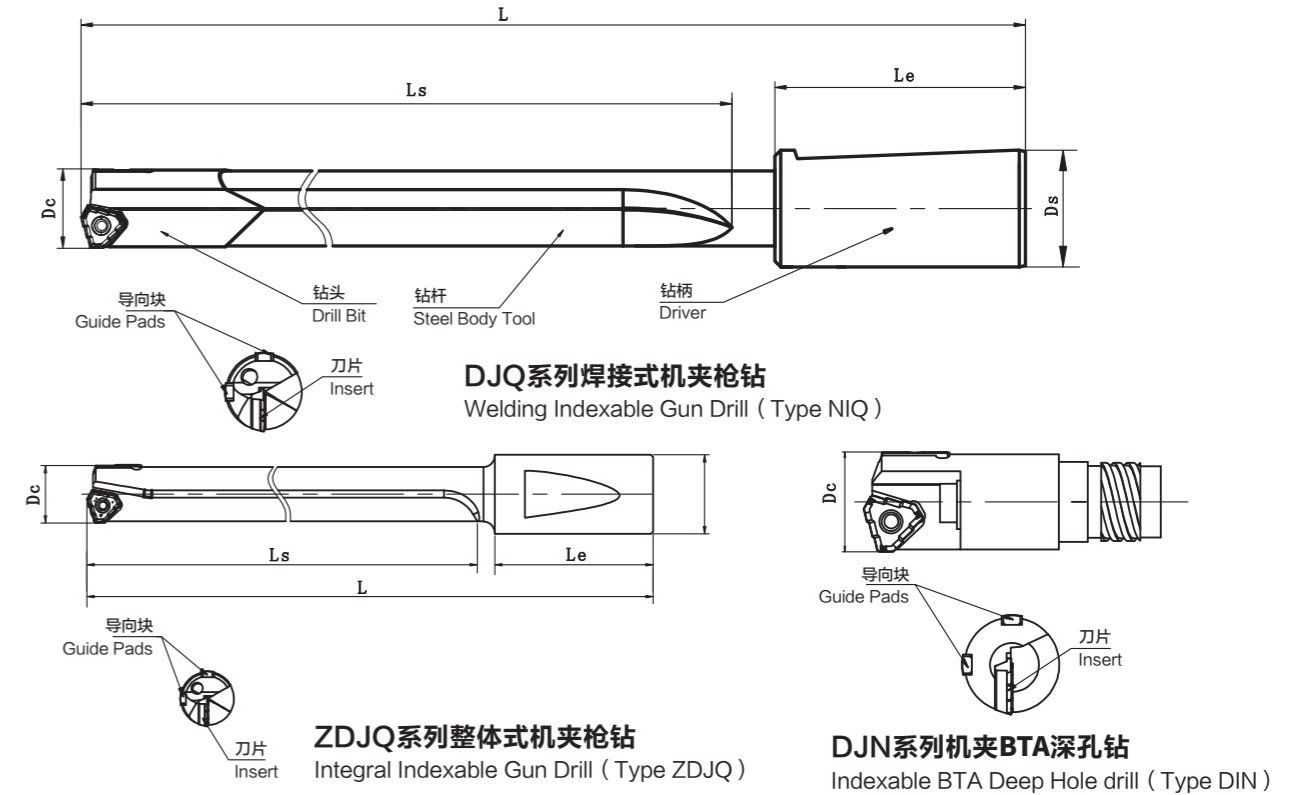
可定制 (Can Be customized according to customer requirements)

N/ZN型机夹式深孔钻通用配置表 Products List For Indexable Deep Hole Drill (Type D/ZD)

加工范围 Drill Diameter	刀片 Insert									导向块 Guide Pads	螺钉 Screw	扳手 Wrench
	外刀片 Peripheral Insert	螺钉 Screw	扳手 Wrench	中间刀片 Inner Insert	螺钉 Screw	扳手 Wrench	中心刀片 Center Insert	螺钉 Screw	扳手 Wrench			
25.00-28.00	N4P060	M2.2x6.3	T7	N4I055	M2.2x6.3	T7	N4C055	M2.2x6.3	T7	N4DQ06-D24	M2.5x5.5	T8
28.01-29.99	N4P060	M2.2x6.3	T7	N4I055	M2.2x6.3	T7	N4C065	M2.5x6	T7	N4DQ06-D24	M2.5x5.5	T8
30.00-35.00	N4P075	M2.5x6	T8	N4I065	M2.5x6	T8	N4C065	M2.5x6	T8	N4DQ07	M3x6	T10
35.01-38.00	N4P075	M2.5x6	T8	N4I065	M2.5x6	T8	N4C080	M2.5x6	T8	N4DQ07	M3x6	T10
38.01-39.00	N4P090	M2.5x6	T8	N4I065	M2.5x6	T8	N4C080	M2.5x6	T8	N4DQ07	M3x6	T10
39.01-41.00	N4P090	M2.5x6	T8	N4I065	M2.5x6	T8	N4C080	M2.5x6	T8	N4DQ08	M3x8	T15
41.01-44.00	N4P090	M2.5x6	T8	N4I080	M2.5x6	T8	N4C080	M2.5x6	T8	N4DQ08	M3x8	T15
44.01-45.00	N4P090	M2.5x6	T8	N4I080	M2.5x6	T8	N4C095	M2.5x6	T8	N4DQ08	M3x8	T15
45.01-47.00	N4P090	M2.5x6	T8	N4I080	M2.5x6	T8	N4C095	M2.5x6	T8	N4DQ10	M3.5x9	T15
47.01-51.00	N4P110	M2.5x6	T8	N4I080	M2.5x6	T8	N4C095	M2.5x6	T8	N4DQ10	M3.5x9	T15

D/ZD型 机夹式深孔钻

Indexable Deep Hole Drill (Type D/ZD)



可定制 (Can Be customized according to customer requirements)

N/ZN型机夹式深孔钻通用配置表 Products List For Indexable Deep Hole Drill (Type D/ZD)

加工范围 Drill Diameter	刀片 Insert	螺钉 Screw	扳手 Wrench	导向块 Guide Pads	螺钉 Screw	扳手 Wrench
	11.00-13.99	NPMT06	M2.5x5	T8	N4DQ04	M2x4
14.00-15.99	TOGT07	M2.5x6	T8	N4DQ05-D12	M2.2x5	T7
16.00-18.00	TOGT08	M2.5x6	T8	N4DQ05-D15	M2.2x5	T7
18.01-20.00	TOGT09	M2.5x6	T8	N4DQ06-D17	M2.2x5.5	T8
20.01-21.00	TOGT10	M3x7	T10	N4DQ06-D17	M2.2x5.5	T8
21.01-21.99	TOGT10	M3x7	T10	N4DQ06-D20	M2.2x5.5	T8
22.00-25.00	TOGT11	M3.5x9	T15	N4DQ06-D20	M2.2x5.5	T8
25.01-28.99	TOGT12	M4x10	T15	N4DQ06-D24	M2.2x5.5	T8
28.01-30.00	TOGT13	M5x11	T20	N4DQ06-D24	M2.2x5.5	T8
30.01-32.00	TOGT13	M5x11	T20	N4DQ07	M3x6	T10

管板深孔钻

Deep Hole Drill for Tube Sheet

应用于发电、化工等行业热交换版加工
Applied on Heat Exchanger Machining in Power Generation and Chemical Industry

管板广泛应用于化工容器、压力容器、发电设备、锅炉、冷凝器、中央空调、蒸发器、海水淡化等行业，其主要特征为：在钢板上钻孔，且孔数多、孔径小、孔密集、孔的精度和光洁度要求高。综合生产效率和钻孔质量来看内排屑深孔钻更加适合于高要求管板的深孔加工，这也是管板钻孔刀具选用的一种趋势，无论采用什么样的机床和刀具管板孔群的质量都将极大地影响着设备的组装和使用性能。

Tube sheet is widely used in chemical container, pressure vessel, power generation equipment, boiler, condenser, central air conditioning, evaporator, seawater desalination and other industries with main features of multiple holes, small apertures, dense holes, high accuracy and surface finish requirements in the sheet. BTA drilling tools are more suitable for tube sheet drilling considering production efficiency and holes quality. It is also a trend for selecting drillbits of tube sheet. Both machines and tube sheet quality will significantly influence equipment assembly and performance.

我公司推出的管板加工用内排屑深孔钻根据制作工艺的不同分为6型和5型两大类。

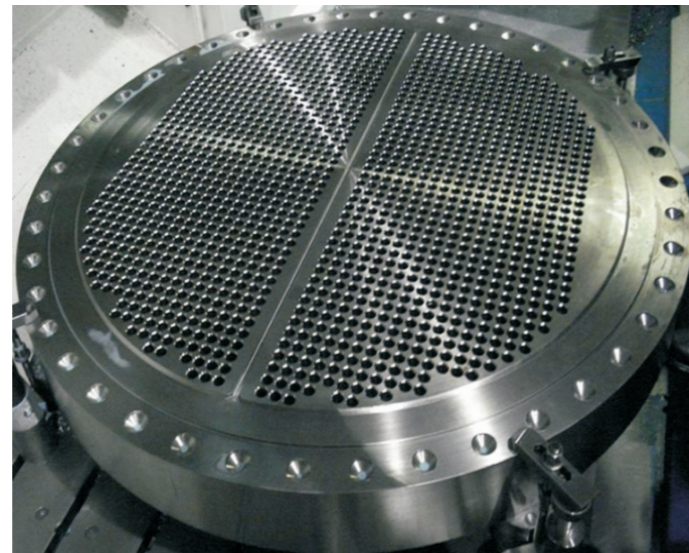
管板钻6型 为管板加工专用深孔钻，适用于高端管板深孔加工；

管板钻5型 适用于低端管板深孔加工。

CTRI introduces two types of BTA deep hole drilling Type 5 and Type 6 based on different processing.

Type 6 is a special deep hole drilling for tube sheet, applicable for advanced tube sheet deep hole processing.

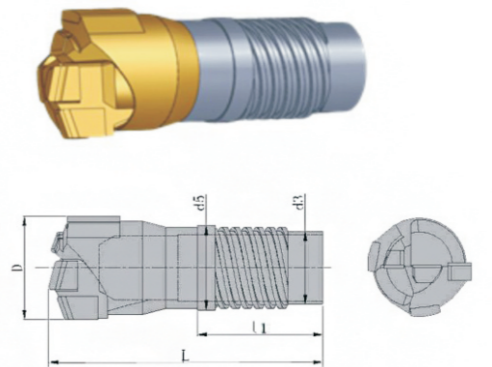
Type 5 is for less advanced tube sheet deep hole drilling.



管板钻6型

Type6

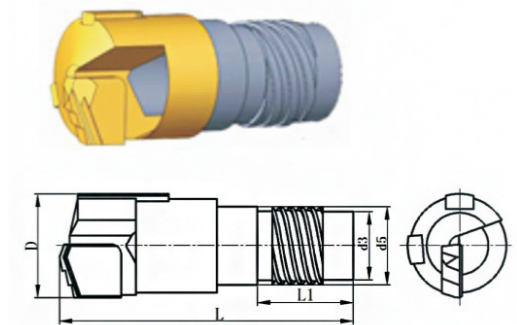
型号 Order No.	直径D Diameter	基本尺寸 Dimension			
		L	d3	d5	L1
GB6-Dxx.xx-SK	φ15.60-φ16.20	43	10.8	12.6	20
GB6-Dxx.xx-SK	φ16.21-φ16.70	43	10.8	12.6	20
GB6-Dxx.xx-SK	φ16.71-φ17.20	43	11.8	13.6	20
GB6-Dxx.xx-SK	φ17.21-φ17.70	43	11.8	13.6	20
GB6-Dxx.xx-SK	φ17.71-φ18.40	47	12.5	14.5	21.5
GB6-Dxx.xx-SK	φ18.41-φ18.90	47	12.5	14.5	21.5
GB6-Dxx.xx-SK	φ18.91-φ19.20	47	13.5	15.5	21.5
GB6-Dxx.xx-SK	φ19.21-φ20.00	47	13.5	15.5	21.5
GB6-Dxx.xx-SK	φ20.01-φ20.90	52.5	14	16	21.5
GB6-Dxx.xx-SK	φ20.91-φ21.80	52.5	14	16	21.5
GB6-Dxx.xx-SK	φ21.81-φ22.90	56	16	18	21.5
GB6-Dxx.xx-SK	φ22.91-φ24.10	56	16	18	21.5
GB6-Dxx.xx-SK	φ24.11-φ25.20	57.5	17.5	19.5	21.5
GB6-Dxx.xx-SK	φ25.21-φ26.40	57.5	17.5	19.5	21.5



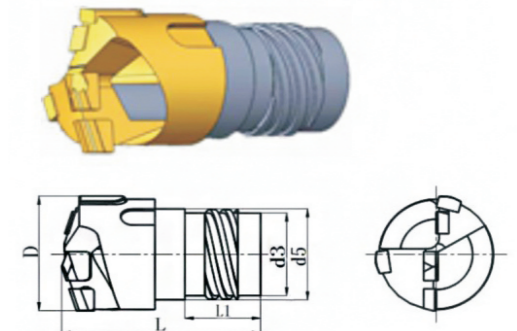
管板钻5型

Type5

型号 Order No.	直径D Diameter	基本尺寸 Dimension			
		L	d3	d5	L1
GB5-Dxx.xx-DK	φ15.60-φ16.20	43	10.8	12.6	20
GB5-Dxx.xx-DK	φ16.21-φ16.70	43	10.8	12.6	20
GB5-Dxx.xx-DK	φ16.71-φ17.20	43	11.8	13.6	20
GB5-Dxx.xx-DK	φ17.21-φ17.70	43	11.8	13.6	20
GB5-Dxx.xx-DK	φ17.71-φ18.40	47	12.5	14.5	21.5
GB5-Dxx.xx-DK	φ18.41-φ18.90	47	12.5	14.5	21.5
GB5-Dxx.xx-DK	φ18.91-φ19.20	47	13.5	15.5	21.5
GB5-Dxx.xx-DK	φ19.21-φ20.00	47	13.5	15.5	21.5
GB5-Dxx.xx-DK	φ20.01-φ20.90	52.5	14	16	21.5



型号 Order No.	直径D Diameter	基本尺寸 Dimension			
		L	d3	d5	L1
GB5-Dxx.xx-SK	φ20.91-φ21.80	52.5	14	16	21.5
GB5-Dxx.xx-SK	φ21.81-φ22.90	56	16	18	21.5
GB5-Dxx.xx-SK	φ22.91-φ24.10	56	16	18	21.5
GB5-Dxx.xx-SK	φ24.11-φ25.20	57.5	17.5	19.5	21.5
GB5-Dxx.xx-SK	φ25.21-φ26.40	57.5	17.5	19.5	21.5

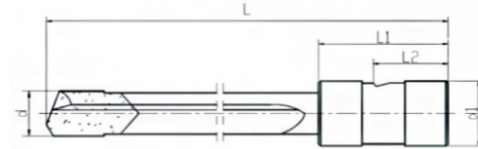


硬质合金枪钻

Carbide Gundrill

硬质合金枪钻适用于钻削精度为IT6-IT10,长径比可达100以上,表面粗糙度值Ra小于3微米的深孔
Carbide gundrill is applicable for deee holes that maintain drilling accuracy at IT6-IT10, length/dia ration over 100 and Ra < 3 micron

直径范围 d Dia Range	d1	L1	L2	L
φ4.50-φ9.99	16	45	31	按需 As per request
φ10.00-φ13.99	20	63	34	按需 As per request
φ14.00-φ20.00	25	70	34	按需 As per request
φ20.01-φ30.00	32	70	34	按需 As per request



硬质合金枪钻推荐切削参数

Carbide Gundrill Recomend Cutting Parameter

材料 Material	布氏硬度 HB	切削速度 Cutting Speed V _c m/min	钻头直径 Drill Diameter mm		
			4.50-6.30	6.00-12.50	12.50-40.50
			进给量 Feed f(mm/r)		
碳钢 Carbon Steel	90-200	60-120	0.005-0.030	0.015--0.055	0.020-0.110
	125-225	50-120	0.005-0.030	0.015--0.055	0.020-0.110
	150-250	40-100	0.004-0.025	0.010--0.050	0.020-0.100
低合金 Low Alloy	150-260	40-120	0.004-0.030	0.010--0.055	0.020-0.110
	220-450	40-120	0.004-0.025	0.010--0.050	0.020-0.100
高合金 High Alloy	150-250	40-100	0.004-0.025	0.010--0.050	0.020-0.100
	250-350	50-100	0.005-0.025	0.010--0.050	0.030-0.100
铸钢 Cast Steel	90-225	50-120	0.005-0.030	0.010--0.055	0.020-0.110
	150-250	40-100	0.004-0.025	0.010--0.050	0.020-0.100
铁素体不锈钢 Femitic Stainless steel 马氏体不锈钢 Martensitic Stainless Steel	150-270	40-90	0.004-0.025	0.010--0.040	0.020-0.100
	150-275	40-90	0.004-0.025	0.010--0.040	0.020-0.100
奥氏体不锈钢 Austenitic Stainless Steel	110-145	70-90	0.008-0.030	0.020--0.070	0.050-0.190
	150-270	60-90	0.005-0.030	0.010--0.070	0.030-0.190
可锻铸铁 Mallezble Cast Iron	150-220	60-90	0.005-0.030	0.010--0.070	0.030-0.190
	200-330	15-90	0.003-0.030	0.005--0.070	0.010-0.190
灰口铸铁 Gary Cast Iron	125-230	70-90	0.008-0.030	0.020--0.070	0.050-0.190
	200-300	60-90	0.005-0.030	0.010--0.070	0.030-0.190
球墨铸铁 Milling Cast Iron	40-100	65-300	0.005-0.040	0.020--0.070	0.030-0.150
	70-160	65-300	0.005-0.040	0.020--0.070	0.030-0.150
铝合金 Aluminium Alloy	50-200	65-300	0.005-0.040	0.020--0.070	0.030-0.150

焊接式硬质合金内排屑深孔钻

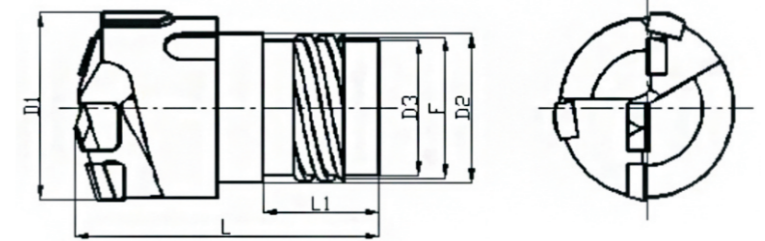
Brazed Carbide Deep Hole Drill

硬质合金内排屑深孔钻用于钻削精度IT8~IT9,钻削长度与直径之比小于100,表面粗糙度值Ra小于3.2微米的深孔。内排屑深孔钻分为三类:BTA深孔钻、喷吸钻和DF系统深孔钻,常用拼音字母的字头B、P、D表示。常用类型有B型和P型钻头。

Carbide deep hole drill is applied deep holes with drillig accuracy at IT8-IT9,drilling length /diameter < 100, surface roughness Ra < 3.2um. There are 3 types of deep hole drills,BTA,Ejector Drilling head,showed with B,P,D.B and P type drilling heads are commonly used.

B型钻头 (单管钻)

B type Drilling Head(Single Tube)



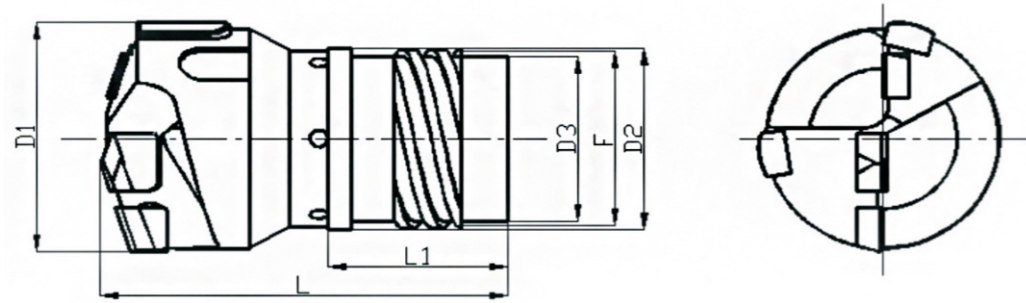
B型钻头系列表

B type Drilling Head List

钻削孔径范围 D1 Drilling Dia	D2	D3	L1	F
6.0-6.59	4.6	4	15	4.5×2.0/单头(Single Corner)
6.6-7.29	5.1	4.5	15	5.0×2.0/单头(Single Corner)
7.3-7.79	5.6	5	15	5.5×2.0/单头(Single Corner)
7.8-8.59	6.1	5.5	20	6.0×3.0/单头(Single Corner)
8.6-9.49	6.6	6	20	6.5×3.0/单头(Single Corner)
9.5-10.49	7.1	6.4	20	7.0×3.0/单头(Single Corner)
10.5-11.49	7.6	6.8	20	7.5×4.0/单头(Single Corner)
11.5-12.5	8.1	7.2	20	8.0×4.0/单头(Single Corner)
12.51-13.5	9	7.5	23	8.5×4.0/单头(Single Corner)
13.51-14.5	11	10	23	11.0×5.0/双头(Double Corner)
14.51-15.5	12	11	23	12.0×5.0/双头(Double Corner)
15.51-16.5	12.5	10.5	22	12.0×2.0/四头(Four Corners)
16.51-17.5	13.5	11.5	23	13.0×2.0/四头(Four Corners)
17.51-18.4	14.5	12.5	24	14.0×2.0/四头(Four Corners)
18.41-20.0	15	13.5	30	14.5×2.5/四头(Four Corners)
20.01-21.8	16	14	26	15.5×2.5/四头(Four Corners)
21.81-24.1	18	16	27	17.5×3.0/四头(Four Corners)
24.11-26.4	19.5	17.5	27	19.0×3.0/四头(Four Corners)
26.41-28.7	21	19	27	20.5×3.0/四头(Four Corners)
28.71-31.0	23.5	21	30	23.0×4.0/四头(Four Corners)
31.01-33.3	25.5	23	30	25.0×4.0/四头(Four Corners)
33.31-36.2	28	25.5	30	27.5×4.0/四头(Four Corners)
36.21-39.6	30	27	37	29.4×5.0/四头(Four Corners)
39.61-43.0	33	30	37	32.4×5.0/四头(Four Corners)
43.01-47.0	36	33	37	35.4×5.0/四头(Four Corners)
47.01-51.7	39	36	37	38.4×5.0/四头(Four Corners)
51.71-56.2	43	39.5	41	42.4×6.0/四头(Four Corners)
56.21-65.99	47	43.5	41	46.4×6.0/四头(Four Corners)
66.0-72.99	58	53	77	57.5×8.0/四头(Four Corners)
73.0-79.99	63	58	77	62.5×8.0/四头(Four Corners)
80.0-86.99	69	64	100	68.5×12.0/四头(Four Corners)
87.0-100.0	76	71	100	75.5×12.0/四头(Four Corners)

P型钻头 (双管钻 喷吸钻)

P Type Drill(Double Tube)



P型钻头系列表

P Type Drills List

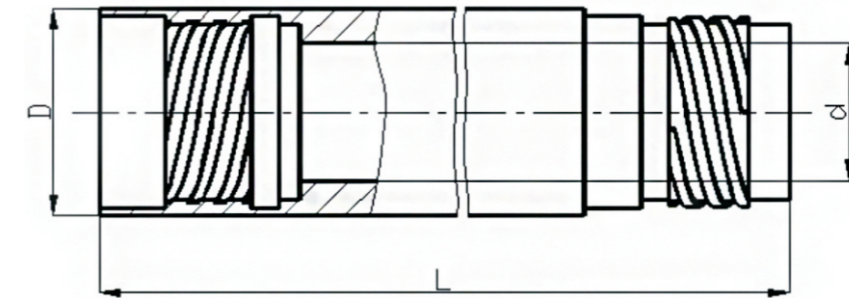
钻削孔径范围 D1 Drill Diameter	D2	D3	L1	F
18.41-20.0	16	14	21.5	15.5×2.5/四头(Four Corners)
20.01-21.8	18	16	21.5	17.5×3.0/四头(Four Corners)
21.81-24.1	19.5	17.5	21.5	19.0×3.0/四头(Four Corners)
24.11-26.4	21	19	21.5	20.5×3.0/四头(Four Corners)
26.41-28.7	23.5	21	24.5	23.0×4.0/四头(Four Corners)
28.71-31.0	25.5	23	24.5	25.0×4.0/四头(Four Corners)
31.01-33.3	28	25.5	24.5	27.5×4.0/四头(Four Corners)
33.31-36.2	30	27	30.5	29.4×5.0/四头(Four Corners)
36.21-39.6	33	30	30.5	32.4×5.0/四头(Four Corners)
39.61-43.0	36	33	30.5	35.4×5.0/四头(Four Corners)
43.01-47.0	39	36	30.5	39.4×5.0/四头(Four Corners)
47.01-51.7	43	39.5	34.5	42.4×6.0/四头(Four Corners)
51.71-56.2	47	43.5	34.5	46.4×6.0/四头(Four Corners)
56.21-65.0	51	47.5	34.5	50.4×6.0/四头(Four Corners)

钻杆

Drilling Rod

B型深孔钻专用钻杆 (只有一根钻杆)

Coupling drilling rod for B Type Deep Hole Drill (One is required)



B型钻杆常规配置表单

B type Drilling List

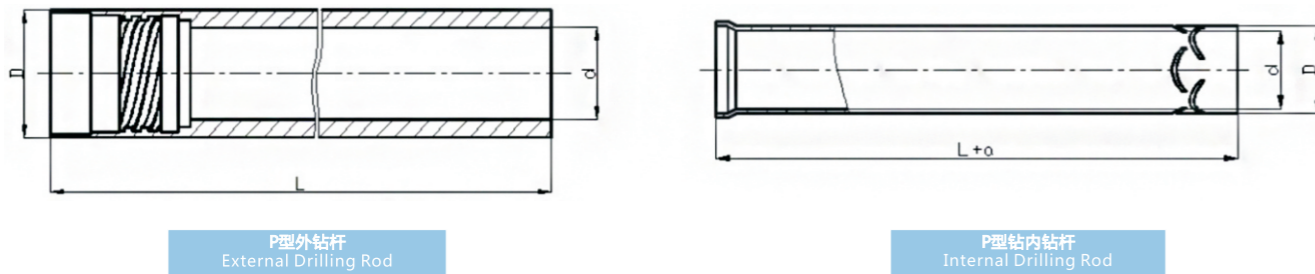
钻削范围 D1 Drilling Diameter	B型钻杆 Drilling Rod(B Type)	
	D	d
18.41-20.0	17.0	11.5
20.01-21.8	18.0	12.0
21.81-24.1	20.0	13.0
24.11-26.4	22.0	14.0
26.41-28.7	24.0	15.5
28.71-31.0	26.0	17.0
31.01-33.3	28.0	18.5
33.31-36.2	30.0	20.0
36.21-39.6	33.0	23.0
39.61-43.0	36.0	25.5
43.01-47.0	39.0	28.0
47.01-51.7	43.0	31.0
51.71-56.2	47.0	35.0
56.21-64.5	51.0	36.0
64.51-65.5	56.0	39.0
65.51-72.8	62.0	45.0
72.81-79.8	68.0	48.0
79.81-86.8	75.0	55.0
86.81-101.6	82.0	60.0
101.61-111.6	94.0	72.0
111.61-125.0	106.0	82.0

钻杆长度：除考虑加工零件长度外，还附加导向支座，中间支座的宽度和进入连接器部分的长度，再加上一定的长度。

P Type Deep Hole Drill Matching Connecting Rod (External and Internal Rod)length of connecting rod: guide supporting pocket, central supporting pocket's width and length inside connecting parts plus component's length should all be considered

钻杆

P型深孔钻配套钻杆 (外钻杆和内钻杆)
Coupling Drilling Rod for P Type Deep Hole Drills



P型钻杆常规配置表单

Product List for P Type Drilling Rod

钻削范围 D1 Drilling Ranges	P型外杆 External Drilling Rod P Type		P型内杆 Internal Drilling Rod P Type	
	D	d	D	d
18.41-20.0	18.0	12.0	10.0	9.0
20.01-21.8	19.5	14.0	12.0	11.0
21.81-24.1	21.5	15.0	13.0	12.0
24.11-26.4	23.5	16.0	14.0	13.0
26.41-28.7	26.0	18.0	16.0	14.0
28.71-31.0	28.0	20.0	18.0	16.0
31.01-33.3	30.5	22.0	20.0	18.0
33.31-36.2	33.0	24.0	22.0	20.0
36.21-39.6	35.5	26.0	24.0	22.0
39.61-43.0	39.0	29.0	27.0	25.0
43.01-47.0	42.5	32.0	30.0	28.0
47.01-51.7	46.5	35.0	32.0	30.0
51.71-56.2	51.0	39.0	36.0	34.0
56.21-65.0	55.5	43.0	40.0	38.0

钻杆长度：除考虑加工零件长度外，还附加导向支座，中间支座的宽度和进入连接器部分的长度，再加上一定的长度。
P Type Deep Hole Drill Matching Connecting Rod (External and Internal Rod) length of connecting rod: guide supporting pocket, central supporting pocket's width and length inside connecting parts plus component's length should all be considered

P型内钻杆长度 = 外钻杆长度 + a
P type internal connecting rod length = external connecting rod's length + a

a值由连接器结构而定。
a is up to connecting parts

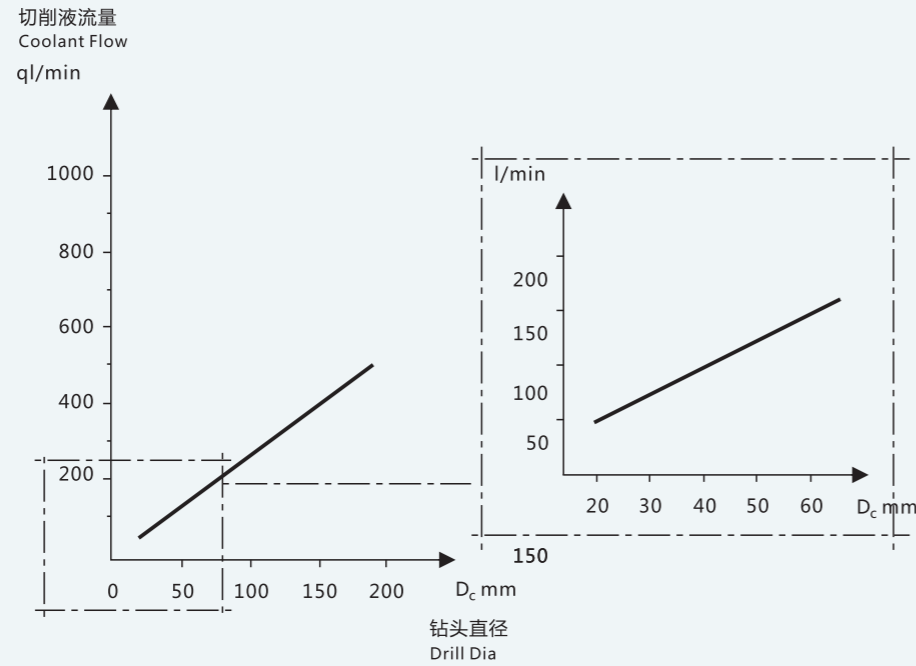
深孔钻推荐切削参数

Recommended Cutting Parameter for Deep Hole Drilling

材料 Material	硬度 HB	切削速度 Vc (m/min)	进给 Feed f (mm/rev)				
			12-25	25-43	43.1-65	65-85	> 85
碳钢 Carbon steel	125	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	190	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	250	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	220	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	300	50-120	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
低碳合金钢 Low carbon alloy steel	200	50-110	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
	275	50-110	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
	300	50-110	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
	350	50-110	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
高碳合金钢 High carbon alloy steel	200	50-120	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
	325	50-120	0.05-0.15	0.08-0.25	0.12-0.30	0.15-0.25	0.18-0.3
不锈钢 Stainless steel	200	40-110	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	240	40-110	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
	180	40-110	0.05-0.15	0.08-0.25	0.12-0.35	0.15-0.25	0.18-0.3
可锻铸铁 Malleable cast iron	130	60-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
	230	60-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
灰铸铁 Gray cast iron	160	60-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
	250	60-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
球墨铸铁 Nodular cast iron	180	50-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
	260	50-110	0.05-0.15	0.08-0.2	0.12-0.35	0.15-0.2	0.18-0.23
精炼铝合金 Refined Aluminum alloy	60	60-130	0.05-0.15	0.08-0.2	0.12-0.35	0.1-0.3	0.1-0.3
	100	60-130	0.05-0.15	0.08-0.2	0.12-0.35	0.1-0.3	0.1-0.3
铸造铝合金 Cast aluminum alloy	75	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
	90	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
	130	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
铜合金 Copper alloy	110	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
	90	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
	100	60-130	0.05-0.15	0.08-0.2	0.12-0.28	0.1-0.3	0.1-0.3
铁基合金 Fe-based alloy	200	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.1-0.3	0.1-0.3
	280	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
镍基合金 Ni-based alloy	250	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
	350	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
钴基合金 Co-based alloy	320	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
	350	20-65	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3
钛合金 Titanium alloy		30-60	0.05-0.15	0.08-0.18	0.12-0.28	0.15-0.25	0.1-0.3

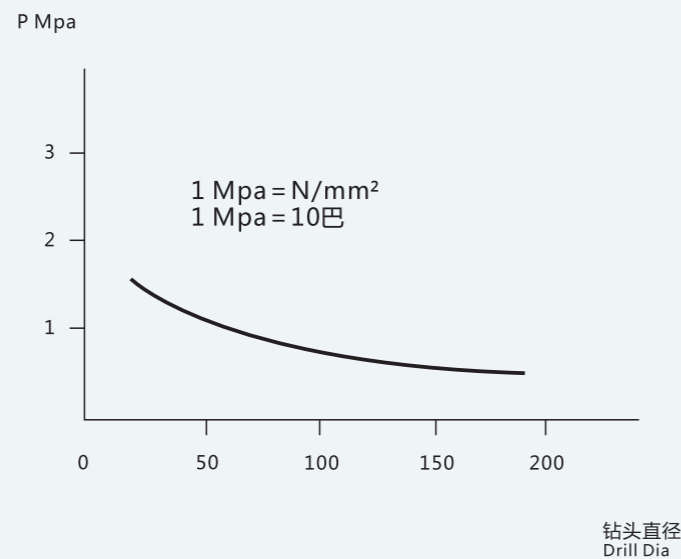
推荐冷却液流量

Recommended Coolant Flow



推荐冷却液压力

Recommended Coolant Pressure



切削参数仅供参考、根据实际加工条件调整。
Cutting parameter is for reference only and should be adjusted based on actual cutting conditions

疑难解析

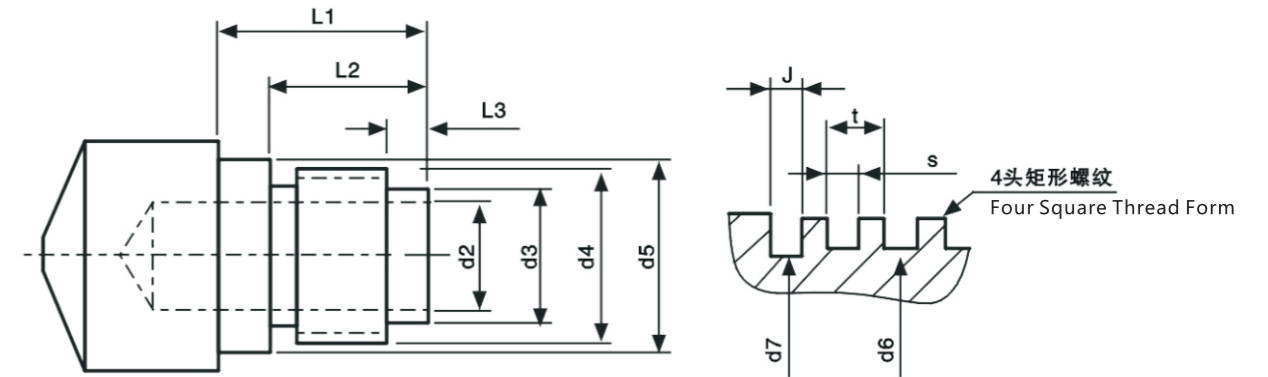
Trouble Shooting

序号 Line #	问题 Issues	原因 Reason	解决方案 Solution
1	断屑太小 Too short chips	错误的切削参数 Incorrect cutting parameter 断屑槽型错误, 槽圆角过小或过深 Incorrect chip breaker, fillet angle too small or too deep 工件材料不稳定 Unstable component material 初始切削不良 (工件未定心) Inappropriate initial cutting (component is not centered)	调整速度和进给 Adjust Speed and Feed 改变断屑槽型 Change chip breaker 调整至合适的速度和进给 Adjust to appropriate Speed and Feed 工件定心 Adjust component with central height
2	断屑太大 Too long chips	错误的切削参数 Incorrect cutting parameter 断屑槽型错误, 槽圆角过小或过浅 Incorrect chip breaker, fillet angle too small or too deep	调整速度和进给 Adjust Speed and Feed 改变断屑槽型 Change chip breaker
3	断屑不稳定 Unstable chips	工件材料不稳定 Unstable component material 错误的进给装置 (如使用液压进给装置) Incorrect feeding device (for example use hydrolinder as feeding device) 冷却不充分导致排屑堵塞 Not enough coolant resulting in chip congestion 工件和刀具的刚性不够引起的强烈振动 Component and tools are not rigid resulting in vibration	调整速度和进给, 改变断屑槽型 Adjust to appropriate Speed and Feed 咨询设备厂商或销售工程师 Consult equipment supplier or sales engineer 增大冷却 Increase coolant 咨询设备厂商或销售工程师 Consult equipment supplier or sales engineer
4	纤维状断屑 fibrous chips	工件材质不稳定 Unstable component material 错误的进给装置 (如使用液压进给装置) Incorrect feeding device (for example use hydrolinder as feeding device) 冷却液污染 Contaminated coolant 工件和硬质合金刀具发生化学亲和反应 Chemical reaction between component and carbide cutting tools 切屑刃崩刃 Cutting edge chips off 进给过低 Low feed	调整速度和进给, 改变断屑槽型 Adjust to appropriate Speed and Feed 咨询设备厂商或销售工程师 Consult equipment supplier or sales engineer 清洁冷却液 Clean the coolant 查阅并更换刀具牌号 Check and change cutting tools grade 更换钻头 Change the drill 提高进给 Increase the feed
5	硬质合金崩刃 Carbide cutting edge Chip off	刀具过钝 Cutting tools are not sharp enough 冷却不充分 Not enough coolant 冷却液污染 Contaminated coolant 导套公差过小 Small guide bushing tolerance 刀柄与主轴偏小 Eccentricity between shank and spindle 错误的刀尖参数 Incorrect cutting edge parameter 工件材质不稳定 Unstable component material	必要时精磨切削刃 Resharp and grind the cutting edge 检查流量和压力 Check flow and pressure 检查冷却液 Clean the coolant 必要时换为较小尺寸钻头 Change smaller dia drill if necessary 修正偏心 Adjust eccentricity 改变刀尖参数 Change cutting edge parameter 调整至合适的速度和进给 Adjust to appropriate Speed and Feed

序号 Line #	问题 Issues	原因 Reason	解决方案 Solution
6	刀具寿命缩短 Short cutting life	进给或速度选择不合适 Inappropriate feed or speed 不合适的硬质合金牌号或涂层 Inappropriate carbide grade or coating 冷却不足 Not enough coolant 错误的切削液 Incorrect coolant 刀柄与主轴偏心 Eccentricity between shank and spindle 错误的刀尖参数 Incorrect cutting edge parameter 工件材质不稳定 Unstable component material	调整速度和进给 Adjust feed and speed 针对材质选合适的牌号 Change grade according to materials 检查冷却液温度和冷却系统 Check coolant temperature and coolant system 必要时更换 Incorrect coolant 修正偏心 Adjust eccentricity 选用正确的刀尖参数 Change cutting edge parameter 调整至合适的速度和进给 Adjust to appropriate Speed and Feed
7	表面粗糙度差 Rough surface	偏心 Eccentricity 断屑槽过大或低于中心线 Chip breaker too big or lower than central height 错误的刀具或导条尺寸 Incorrect cutting tool or guide bar dimensions 工件和钻头间有偏心 Eccentricity between component and drills 强烈振动 Vibration 错误的刀尖参数 Incorrect cutting edge parameter 切削速度过低 Low cutting speed 硬质材料加工时进给过低 Low feed while cutting carbide material 进给不稳定 Unstable feed	检查并调整 Check and adjust 选用正确的断屑槽 Check correct chip breaker 选用正确的刀具 Select correct cutting tools 修正偏心 Adjust eccentricity 联系设备厂商或刀具工程师 Consult equipment supplier or cutting tools engineer 使用正确刀尖参数 Change cutting edge parameter 提供切削速度 Provide cutting speed 提高进给 Increase feed 改进进给机构 Improve feed
8	偏心 Eccentricity	机床及工件对中偏差过大 Deviation between machine and component 钻杆过长、直线度过差 Too long drill rod or poor straightness 刀片及导向块磨损 Too long drill rod or poor straightness 工件材料（材质特性、硬度、杂质） Component material (features, hardness, impurity)	重新调整 Adjust 调整较直 Adjust 更换新刀具或配件 Change cutting tools or parts 选择合适的刀具和切削参数 Select correct cutting tools and cutting parameter
9	螺旋孔 Spiral holes	外刀片刀夹崩刃 Chip off on peripheric inserts clamp 导向块磨损或支撑不足 Wear on guide pad resulting in less support 机床及工件对中偏差过大 Deviation between machine and component 冷却润滑不足 Less coolant and lubrication	更换 Change 更换调整 Change and adjust 重新调整 Adjust 调整冷却液和冷却机构 Adjust coolant
10	切削振动大 Too much cutting vibration	切削刃过钝 Cutting tools are not sharp enough 错误的切削参数 Incorrect cutting parameter 机床刚性和进给力不足 Machine is not rigid with less feed	重新选择刀片 Select correct cutting tools 调整切削参数 Adjust cutting parameter 调整机床或减小钻孔直径 Adjust machine or decrease drill diameter

机夹式硬质合金内排屑深孔钻螺纹尺寸

Indexable Carbide Deep Hole Drill Thread Diagram



钻头直径 Drill Dia	d2	d3	d4	d5	d6	d7	L1	L2	L3	J	T	S
25~26.4	13	17.5	19	19.5	18	17.7	27	18.5	6	3	3	1.7
26.41~28.7	15	19	20.5	21	19.5	19.2	27	18.5	6	3	3	1.7
28.71~31.8	16	21	23	23.5	21.5	21.2	30	21.5	6	4	4	2.2
31.81~33.3	17.5	23	25	25.5	23.5	23.2	30	21.5	6	4	4	2.2
33.31~36.2	19	25.5	27.5	28	26	25.7	30	21.5	6	4	4	2.2
36.21~39.6	22	27	29.4	30	27.5	27.2	37	26.5	7	4	5	2.7
39.61~43	24.5	30	32.4	33	30.5	30.2	37	26.5	7	4	5	2.7
43.01~47	27	33	35.4	36	33.5	33.2	37	26.5	7	4	5	2.7
47.01~52.5	30	36	38.4	39	36.5	36.2	37	26.5	7	4	5	2.7
52.51~56.2	34	39.5	42.4	43	40	39.7	41	30.5	7	5	6	3.2
56.21~64.5	36	43.5	46.4	47	44	43.7	41	30.5	7	5	6	3.2
64.51~65.5	39	47	51.5	52	47.5	47	77	53	11.5	7	8	4.5
65.51~72.8	45	53	57.5	58	53.5	53	77	53	11.5	7	8	4.5
72.81~79.8	48	58	62.5	63	58.5	58	77	53	11.5	7	8	4.5
79.81~86.8	55	64	68.5	69	64.5	64	100	72	12	11	12	6.5
86.81~101.6	60	71	75.5	76	71.5	71	100	72	12	11	12	6.5
101.61~111.6	72	83	88	89	84	83.2	100	73	13	10	11	6
111.61~125	82	95	100	101	96	95.2	100	73	13	11	12	6.5

刀体接受用户来图来样定制螺纹

Customized threading for drill head is available according to client's drawing and samples.