

# ULTRA HARD TOOLS

## PCD CUTTING TOOLS

A breakthrough in traditional cutting tool design, the number of flute can reach up to 100.  
Achieving different surface roughness when used on materials of various hardness.



### Introduction

PCD (Polycrystalline Diamond) cutting tools are known for their extremely high hardness and wear resistance, possess outstanding heat conduction and low thermal expansion coefficient.

During the machining process, PCD cutting tools generate less chips due to their excellent hardness and low affinity with metals, significantly extending tool life. Capable of machining thousands to tens of thousands of workpieces, enhancing production efficiency.

### Characteristics

The diamond granularity, as well as the cobalt and other component contents, can be adjusted to adapt the required wear resistance, impact resistance, electrical conductivity, and thermal conductivity for different application scenarios.

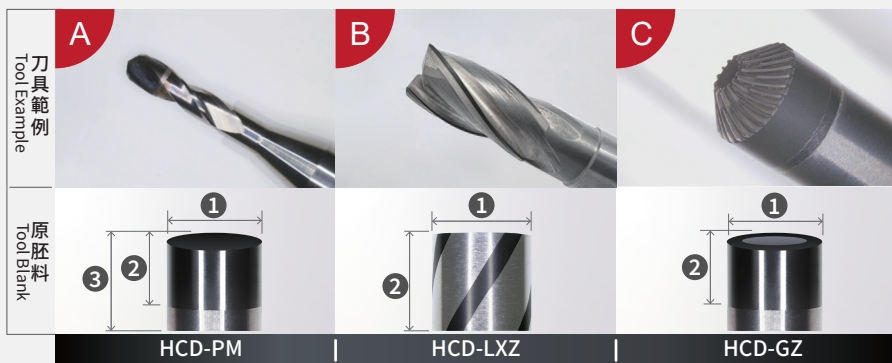
### Application Industries

Ultra-precision molds, aerospace, semiconductor, new energy vehicles, geological exploration, high-pressure physics, computer, communication, and consumer electronics, woodworking and other fields.

#### PCD 刀具 (CUTTING TOOLS)

- 車刀 (TURNING TOOL) · 鉸刀 (REAMER) · 銑刀 (END MILL) · 鑽頭 (DRILL) · 刀片 (INSERT) · 原坯料 (TOOL BLANK)
- 一體成形/管狀/螺旋狀圓柱 (CYLINDRICAL PCDINTEGRALLY FORMED / TUBULAR/ HELICAL FORMED PCD)

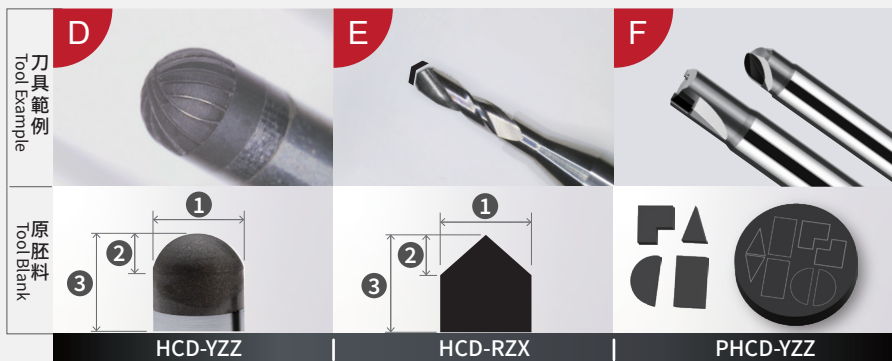




- A 圓柱型PCD刀具 Cylindrical PCD Cutter**  
 適用領域 (Application fields):  
 電子(Electronics)、航空(Aerospace)  
 醫療(Medical)、半導體行業(Semiconductor industries)
- B 螺旋型PCD刀具 Spiral PCD Cutter**  
 適用領域 (Application fields):  
 精密機械加工(Precision machining)  
 模具製造(Mold manufacturing)
- C 管狀PCD刀具 Tubular PCD Cutter**  
 適用領域 (Application fields):  
 半導體(Semiconductor)  
 精密儀器製造(Precision instrument manufacturing)

型號 (Model)	介紹 (Introduction)
HCD.PM	可調整鑽石顆粒大小及鈷等成分含量,以適應不同的耐磨性、抗衝擊性及熱導性。圓柱型PCD切削刀具特別適合微刀切削,滿足特殊要求。 Adjustable diamond particle size and cobalt content to match various wear resistance, impact resistance, and thermal conductivity. Cylindrical PCD cutters are ideal for micro-blade cutting with flexible designs to meet special requests.
HCD.LXZ	可根據加工材料調整鑽石的螺旋角度分布,易於加工的切屑空間提高切削效率。具有高硬度、快速排屑及良好熱導性,適用於高速切削。 Adjustable spiral angle distribution of diamonds based on processing materials, facilitating chip removal enhanced cutting efficiency. High hardness, fast chip removal, and good thermal conductivity, suitable for high-speed cutting.
HCD.GZ	獨特的管狀設計提供高韌性,適合長刀片且不易斷裂。特別適合微型或螺旋切削。 Unique tubular design provides high toughness, suitable for long blades and less prone to breakage. Especially suitable for micro or spiral cutting.

型號 (Model)	應用 (Application)	顆粒度 (Granularity)	螺旋角 (Helix Angle)	① 直徑 (Diameter)	② 刀片長度 (Blade Length)	③ 刀模長度 (matrix)
HCD.PM	銑削、鑽削 (Milling).(Drilling)	細 (Fine) 中 (Medium) 粗 (Coarse)	N/A	Blank: $\varnothing 1.5 \sim \varnothing 25$ Finished: $\varnothing 0.3 \sim \varnothing 25$	0.5~6	1~16
HCD.LXZ	高速銑削 (High-speed Milling)		30°	$\varnothing 6.5 \sim \varnothing 12.5$	6~20	N/A
HCD.GZ	高速銑削 (High-speed Milling)		30°	$\varnothing 6 \sim \varnothing 16$	6~12	N/A



- D 圓錐型PCD刀具 Conical PCD Cutter**  
 適用領域 (Application fields):  
 鑽孔(Drilling)  
 切削加工(Cutting processes)
- E 片狀PCD刀具 Flaky PCD Cutter**  
 適用領域 (Application fields):  
 建築(Construction)  
 石材加工(Stone processing)
- F PCD刀片 PCD Blade**  
 適用領域 (Application fields):  
 金屬複合材料(Metal composites material)  
 玻璃加工(Glass processing)

型號 (Model)	介紹 (Introduction)
HCD.YZZ	具超高硬度及優良耐磨性,錐角及大小可根據需求定制,提高加工效率。特別適合鑽頭及倒角銑刀的生產。 Ultra-high hardness and excellent wear resistance with customizable cone angles and sizes to enhance processing efficiency. Especially suitable for the production of drill bits and chamfer milling cutters.
HCD.RZX	調整鑽石微粉顆粒大小以提供優異的耐磨性和刀片強度,特別適合大直徑鑽頭,提高鑽削效率。 Adjusting diamond micropowder particle sizes provide excellent wear resistance and blade strength, especially suitable for large-diameter drill bits, enhancing drilling efficiency.
PHCD.YZZ	具高硬度、高熱導性及低摩擦係數,顯著減少切削力,降低切屑堆積風險。可廣泛應用於各類材料的加工。 High hardness, high thermal conductivity, and low friction coefficient, significantly reduce cutting force and minimize chip deposits. Widely applied in processing various materials.

型號 (Mark)	應用 (Application)	顆粒度 (Granularity)	螺旋角 (Helix Angle)	① 直徑 (Diameter)	② 刀片長度 (Blade Length)	③ 刀模長度 (matrix)
HCD.YZZ	銑削、鑽削 (Milling).(Drilling)	細 (Fine) 中 (Medium) 粗 (Coarse)	N/A	$\varnothing 1.5 \sim \varnothing 10.5$	0.5~6	1-16
HCD.RZX	鑽削 (Drilling)		30°	$\varnothing 6 \sim \varnothing 20$	10~25	N/A
PHCD.YZZ	鑽削、加工有色金屬及非金屬材料 (Drilling, Processing of non-ferrous and non-metallic materials)		30°	$\varnothing 1.5 \sim \varnothing 25$	0.3~1.5	3.5