

## ISCAR's Solutions for the Miniature Parts Industries



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ISCAR Productivity Team  
for *Fast Metal Removal*

# Compact Tools



## **SWISSCUT**

A compact tool design for Swiss-type automatics and CNC lathes, providing reduced setup time and easy indexing without having to remove the toolholder from the machine. Clamping and releasing the insert can be accomplished from either side of the toolholder. The inserts are equipped with chip deflectors that were specially designed for machining small parts.

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# Miniature Industry



## **SWISSTURN**

ISCAR features a variety of ISO standard inserts, with small shank sizes. Also available are many standard geometry inserts with precision ground cutting edges and small radii for manufacturing small and thin parts.

Toolholders with a unique clamping device for solving the main problems related to insert clamping and replacement on Swiss-type machines.



# Parting



## **PENTACUT**

### *PARTING GROOVING LINE*

The **PENTACUT** insert has 5 cutting edges, useful for multifunction applications including grooving, parting, recessing and chamfering. This cost-effective insert is designed to perform shallow grooving operations and parting of small solid bars up to 12.5 mm in diameter. Each cutting edge on the pentagonal shaped insert is equipped with a unique J-type positive chipformer that provides excellent chip control in grooving, parting and recessing (light side turning) applications. The insert is clamped by a side torx screw, which can be tightened or released from either side of the holder. This enables insert indexing (rotation) without having to remove the holder from the machine turret. **PENTACUT** tools can be mounted on any type of lathe.



## **DO-GRIP**

ISCAR's short head, small shank holders (8-12 mm) use **DO-GRIP's** economical, double-ended twisted inserts in widths of 1-3 mm. These inserts, featuring advanced PVD coatings, are capable of parting small diameter and thin walled parts while saving workpiece material. The new shank design features a very short clamping head and a slanted screw for convenient indexing - essential features for operating in the very limited space of Swiss-type automatic and small CNC machines.

# Threading

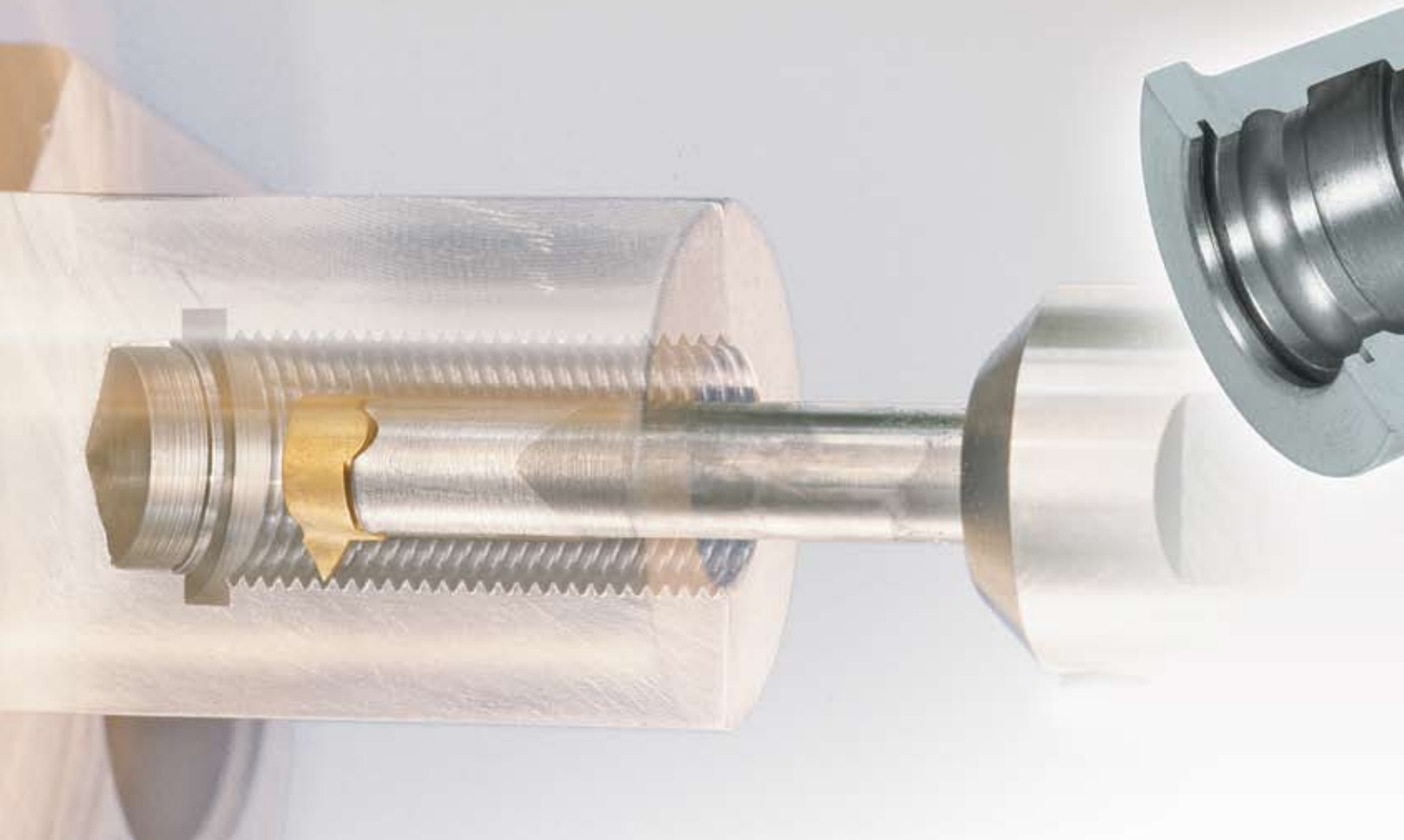
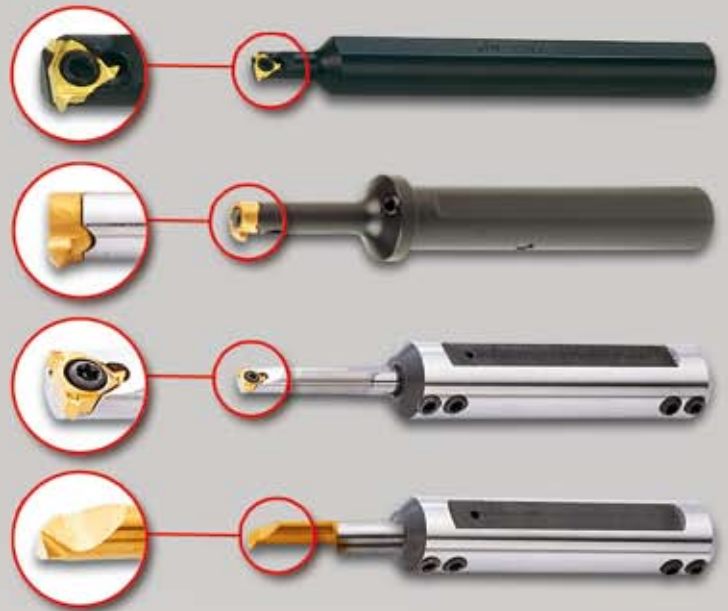
## **ISCAR**THREAD

ISCAR offers a wide range of threading standards for both external and internal operations. The smallest triangular laydown insert is the 061RM which can be used for internal threading in a minimum bore size of 7 mm.

Other ISCAR threading systems include:

- **PICCO CUT** – solid carbide bars for minimum bore diameters of 4 mm.
- **MINICHAM** – miniature inserts for minimum bore diameters of 6 mm.
- **CUT-GRIP** and **CHAMGROOVE** – for a variety of innovative internal and external threading applications.

**D<sub>min.</sub> 4 mm**



# Miniature Industry



## **CUT-GRIP**

ISCAR's **CUT-GRIP** line has new bars and inserts for internal grooving and turning applications. Double-ended inserts are clamped in fully supported seats. The seats can be mounted on new integral bars or adapter toolholders with coolant holes through the shank. Two new inserts are included in this **CUT-GRIP** line:  
GEMI – a 3 mm wide insert with an M-type chipformer for a wide range of machining conditions and workpiece materials.  
GEPI – available in a range of 1-3 mm.

These precision ground inserts are designed for grooving, undercutting and threading applications.

**Dmin. 16 mm**







## **PASSPORT**

The **PASSPORT** is a single holder-bar that is capable of clamping a variety of solid carbide shanks – the VISAS – that carry various inserts. The holder-bar accommodates 2 different diameters, one on each end, as well as both right- and left-hand shanks. This system allows the user to adjust the shank's extension for maximum rigidity. The **PASSPORT** system is designed for boring, grooving, profiling, back turning, threading and undercutting. This system provides endless economical tooling combinations.

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# Versatile System

## **MINICHAM**

Applications inside bores as small as 4 mm can now be performed by using ISCAR's **MINICHAM**. This system features secure, self-clamping inserts with no spare parts. The unique cartridge is used for mounting and indexing the inserts. ISCAR's **MINICHAM**, a part of the versatile **PASSPORT** system, has eliminated many of the problems associated with very small inserts.

**Dmin. 4 mm**



## **CHAMGROOVE**

The same shank can carry either right- or left-hand inserts for turning, threading and grooving in bores as small as 8 mm. This system features easy mounting and indexing.

**CHAMGROOVE** is a part of the versatile **PASSPORT** system.

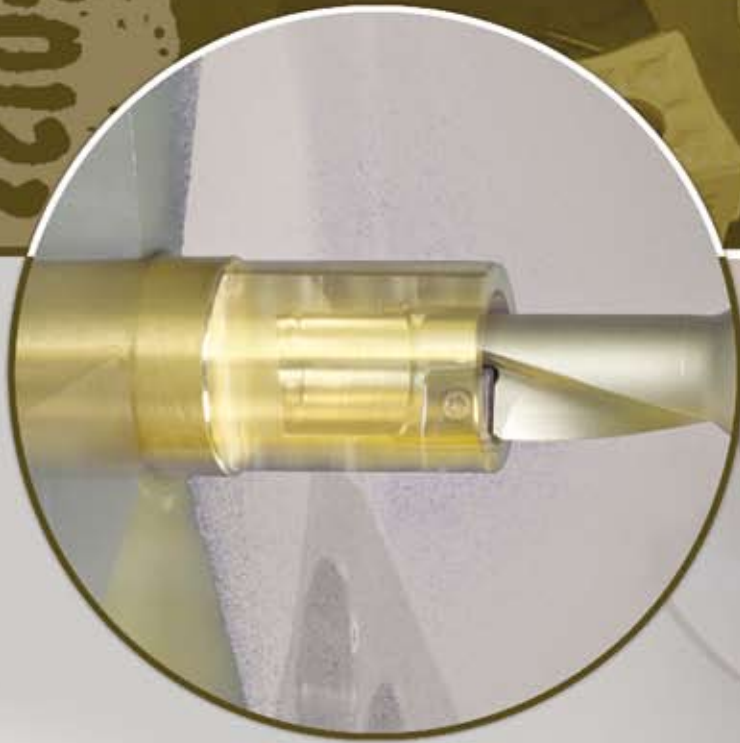
**Dmin. 8 mm**



## **DR-MF**

ISCAR introduces the **DR-MF**, a multifunction tool. The new tool can be used for manufacturing small sized components. It reduces production time and the number of tools needed.





The new **PICCO MF/MFT** was designed in particular for use on Swiss-type and all other machines that produce miniature parts. This family of tools provides a unique cutting geometry and machining abilities that combine the work of a few tools into one.

**PICCO MF/MFT** is a part of the versatile **PASSPORT** system.

## **PICCOMF**

The Drilling, Turning and Boring Combination Tool

**Dmin. 3 mm**



### **MF** (Multifunction)

The **MF** tools are designed for all of the following applications:

- Drilling
- Face Turning
- Internal Chamfering
- Internal Turning/Boring
- Internal Profiling
- External Chamfering
- External Turning

## **PICCOMFT**

The Drilling, Turning, Boring and Threading Combination Tool

**Dmin. 4 mm**



### **MFT** (Multifunction & Threading)

The **MFT** tools perform all of the following applications:

- Drilling
- Face Turning
- Internal Chamfering
- Internal Turning/Boring
- Internal Profiling
- Internal 60° Threading (right- and left-hand)
- External Chamfering
- External Turning
- External 60° Threading (right- and left-hand)

# Milling Innovations



## **SOLIDMILL**

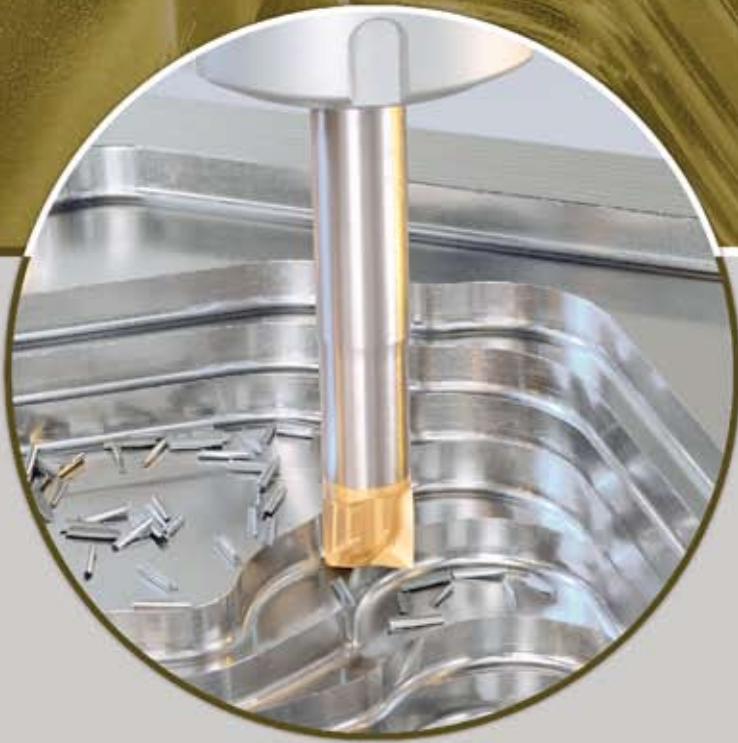
Micrograin solid carbide endmills with extended tool life are a part of the **ISCARMILL** family. These endmills have an improved design and are available with the most advanced TiCN or TiAlN PVD coatings, in a range of 2-20 mm. Ball nose endmills are available in a diameter range of 3-20 mm.

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**Dmin. 0.4 mm**

# Miniature

Industry



## **MULTI-MASTER**

**MULTI-MASTER** is a family of tools with shanks and interchangeable heads for a variety of milling applications including ball nose, straight shoulder and slitting and slotting applications. This system features ISCAR's unique threaded carbide heads for superior performance, short indexing time and improved economy. As there is no setup time for head replacement, **MULTI-MASTER** can reduce your production costs through increased production efficiency.

**Dmin. 6-8 mm**



# Hole Making



**CHAMDRILLJET**

Dmin. 6.8 mm

## **CHAMDRILL**

**CHAMDRILL** virtually eliminates setup time for indexing. This unique system uses a simple key to index drill heads, while the body remains clamped in the machine. **CHAMDRILL** DCM bodies can carry IDI self-clamping drill heads in a diameter range of 7.5 to 26 mm, with drilling depths of 3xD and 5xD.

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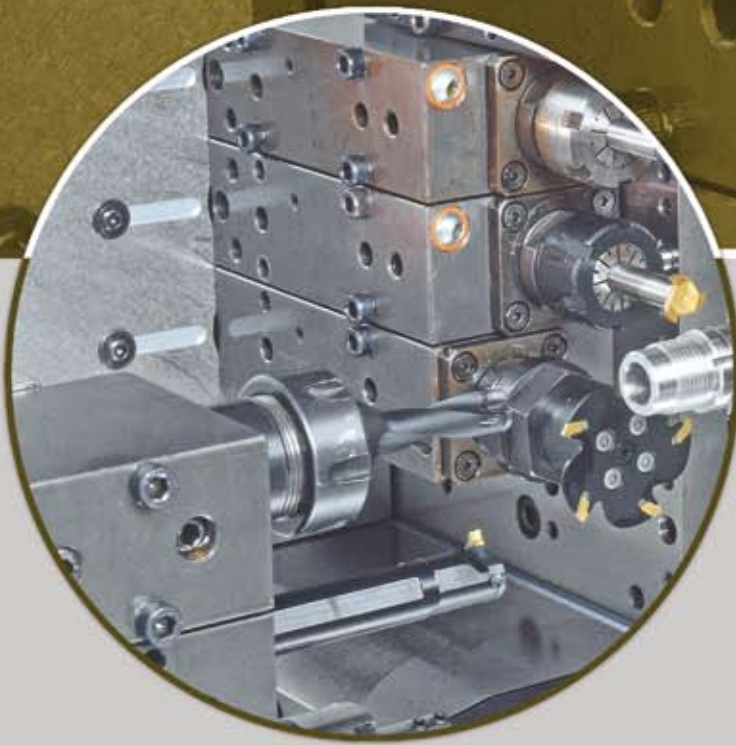
**SPECIALLY  
TAILORED**



## **ISCARDRILL**

The unique requirements of the mass production industries make specially tailored drills essential for optimal performance. ISCAR's trained design engineers maintain constant contact with their customers, ensuring that they have the finest multifunction drilling tools for their required profiles.

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## **SOLIDDRILL**

The unique requirements of the mass production industries make specially tailored drills essential for optimal performance. ISCAR's trained design engineers ensure that customers have the finest multifunction drilling tools for their required profiles.

**Dmin. 0.8 mm**



## **SOLIDH-REAM INDEXH-REAM BAYOT-REAM**

Solid carbide reamers for standard H7 reaming in the range of 3 to 40 mm are available in cylindrical or Morse cone shanks, with straight or helical flutes. Also available is an interchangeable, shell reaming head system with a unique quick-change mechanism, in IC08 submicron grade or IC908 PVD coating for high speed machining.

**Dmin. 3 mm**



# Deep Drilling



**Dmin. 1 mm**

## **ISCAR***GUNDRILLS*

ISCAR's gundrill consists of a single piece carbide head, a streamlined shank and a driver through which coolant flows to the working end where it is most needed. Chips are evacuated along the V-shaped external flute. Features:

- Drilling precision of IT7 to IT9 tolerances can be reached
- High precision hole center alignment
- Surface roughness of 0.4 to 1.6  $\mu\text{m}$  is easily obtained
- Reboring operations are often unnecessary

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**Miniature**  
Industry



**ISCAR's**  
Solutions for the  
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