

NPA

New Product Announcement

MILLING

08-2024

MARCH 2024

METRIC/IMPERIAL



Extremely Robust
Cutter Structure



Cost Effective
Tool Lines



For Steel, Stainless
steel and Titanium



QUICKXFLUTE

**A New Family
of Indexable Extended Flute
Cutters for High Efficiency
and Cost-Effectiveness**

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NEW PREVIEW

Quick X FLUTE

A New Family of Indexable Extended Flute Cutters for High Efficiency and Cost-Effectiveness.

Highlights

A New Family of Cost-Effective Indexable Extended Flute Cutters has Been Developed for Achieving High Metal Removal Rates in Rough Milling of Challenging Engineering Materials.

ISCAR introduces an innovative family of 90-degree extended flute cutters featuring double-sided indexable square inserts sized 13. These cutters are specifically optimized for high-efficiency rough milling of the following engineering materials:

- Steel (ISO P group of application)
- Stainless steel (ISO M)
- High temperature superalloys and titanium (ISO S)

- The new family of cutters provides manufacturers with a productive and cost-effective solution, ensuring high-quality machining parameters.

These cutters enable significantly increased productivity and are primarily intended for milling hard-to-cut materials when producing high-value components, particularly critical-duty loaded parts in the Aerospace and Heavy Industries. The versatile cutting geometry of the new extended flute cutters (EFC) ensure efficient milling of a wide range of engineering materials.

- The indexable inserts are made from various carbide grades to optimize machining for a specific material type.
- The EFC are available with one-body shell mill with a central bore design configurations.
- The cutter is designed with an optimized flute geometry to improve the cutter's dynamic behavior. The shape and volume of the flutes are determined to find a compromise between cutter rigidity and the necessity to provide effective chip flow when milling at high metal removal rate (MRR) with substantial radial engagement.
- The new cutters feature an inner coolant supply option.



Insert Features

- Double-sided square inserts with 8 indexable right-hand cutting edges.
- The new inserts feature a High Positive (HP) chip-former with special edge preparation, ensure versatile cutting geometry for productive milling of steel, stainless steel, high temperature superalloys and titanium.

- The new inserts are available in ISCAR's advantageous MT CVD coated IC5820 and PVD coated IC830, IC840, and IC882 carbide grades, featuring a postcoating treatment. Additionally, there are inserts that are made from the latest PVD coated IC716 carbide grade, which has been developed specifically for high-performance machining titanium and titanium alloys.

- The inserts are available with corner radii of 0.8 (.0315"), 3.2 (.126") and 4 mm (.1575")

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Extended Flute Cutters Body's Features

- A unique flute geometry improves vibration resistance, especially during the entry and exit of the workpiece, providing better milling stability and enabling increased cutting data to enhance productivity.
- The use of high-pressure pinpointed coolant, with replaceable nozzles and face frontal outlets, facilitates the direct supply of coolant to the cutting zone. This increases the cooling and lubrication effect, contributing to effective chip control.

Tool Diameter Range

Metric sizes:
63 and 80 mm
Imperial sizes:
2.5" and 3.0"

Applications

- The new indexable extended flute cutters (EFC) are optimized for rapid stock removal when roughing, especially when machining challenging high-strength steel, stainless steel, and aerospace materials like high-temperature superalloys and titanium.
- Typical applications of the EFC are milling deep square shoulders and wide edges in manufacturing aircraft structural components like airframes, landing gear elements, engine parts etc.
- Also, the EFC are suitable for rough machining large-sized slots by trochoidal milling method.

Benefits

- Superior Metal Removal Rates: ISCAR's new indexable extended flute cutters (EFC) are engineered to deliver the highest metal removal rates, maximizing machining efficiency.
- Cost-Effectiveness: ISCAR is committed to providing cost-effective solutions without compromising performance. The new line features a cost-beneficial insert design with 8 indexable cutting edges, offering a compelling cost-peredge ratio. This allows achieving high metal removal rates while optimizing production costs.
- High Standards and Quality: The new family is specifically designed to meet the rigorous requirements of the aerospace industry. Achieve impeccable quality to meet the highest standards demanded for airframe structural parts and critical components. ISCAR's tools set new industry benchmarks for machining high-strength steel, stainless steel, high-temperature superalloys and titanium.
- Durability: The EFC design concept ensures maximum stability even under heavy cutting forces when machining challenging materials. This results in enhanced tool life, even under aggressive machining conditions.
- Versatility: The new family offers a wide selection of insert carbide grades, it provides highly efficient milling solutions for various applications.



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