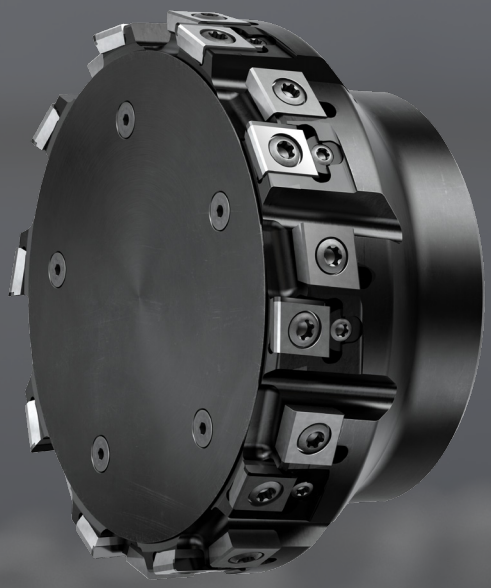
M5Q90

Roughing milling cutter

Developed for first-stage roughing operations

M5Q90 is a new concept roughing tangential milling cutter. It is designed to clean surfaces during the first machining stage of newly-casted aluminum parts in a single operation without burring.

PCD tangential inserts provide a smooth cutting action, which lowers power consumption and eliminates vibration. This ensures reliable performance, improved tool life, and an increased number of components machined per insert.



Features

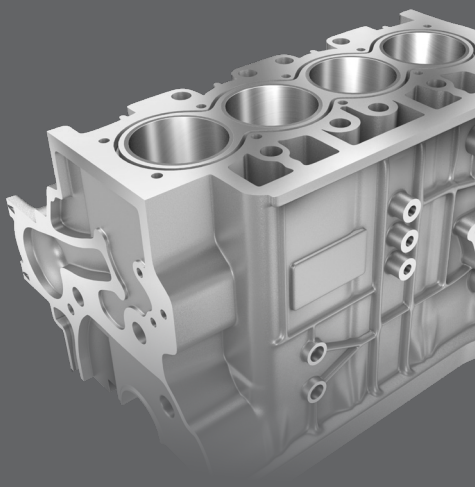
- Tangential insert position for better stability
- Dedicated PCD insert geometries
- Positive cutting angle to reduce cutting efforts
- Rotating prevention system with anti-ejection
- Precision coolant channels designed for emulsion and MQL
- One tip seat design used for all engineered tools
- Inserts and spare parts in stock
- Each tool designed according to requested specifications

Benefits

- Excellent tool life and exceptional surface quality
- Reduced burr formation and high stability
- Easy to set and easy to clamp (screw clamping)
- Reduced load on machined components
- Able to machine under high-speed conditions (over 20,000 rpm)
- High stability
- Easy adjustment device on the first insert row

Application

- Cubing, first stage, roughing operations
- Aluminum cylinder head, engine block, component first machining, or stage after casting
- Depth of cut with PCD insert in full engagement 2–4 mm (0.079–0.157 inch)
- Greater depth of cut can be obtained by using protective rows containing carbide inserts
- Face milling and shoulder milling



Customer case

Component: Cylinder head

Operation: Cubing

Machine: Makino milling center A61 12000 RPM max

Country: Italy

Stable process

One tool solution

	Competitor	Sandvik Coromant
Tool	Process 2 tools roughing Ø 63 mm and finishing Ø 80 mm	Process with 1 tool M5Q90 Ø 80 mm
Insert	Carbide & PCD	5Q90-120504H-ZR12-NR 009370R9 H13A
Cutting data	Roughing: S.9952 F.7000 Finishing: S.9952 F.8000	Roughing: S.9829 F.4000-7000 Finishing: S.11500 F10000
Outcome	Process control problems (burrs and roughing cutter with limited tool life). Rough: 80 pcs – Finish: 2,500 pcs	Excellent process control and cycle time. Tool life: 1,050–1,270 pcs

For more information, contact your local Sandvik Coromant representative, or visit www.sandvik.coromant.com

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