

TOOLING

16-2024

MAY 2024

METRIC/IMPERIAL

Productivity SCAR Metalworking Automation MILLING Machi
Automation New Threading NEW Met Systems
Grooving to 65 NPA ISCAR Smart Machine
NEW NPA Smart Machine
Innovation DRILLING
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New Product Announcement



Anti-Vibration



Longer Tool Life



High Productivity



WHISPERLINE
ANTI-VIBRATION MILLING

Anti-Vibration Shell Mill Holders

NPA

New Product Announcement

NEW PREVIEW

WHISPER LINE-Anti Vibration Milling
Anti-Vibration Shell Mill Holders

Highlights

Introducing a New Line of Vibration-Dampening Camfix SEM Holders Designed for Long Overhangs In Milling Operations.

In many cases, the vibration of the cutting tool is the limiting factor in the machining process, which necessitates reducing speed, feed, or depth of cut.

By implementing WHISPERLINE shell mill holders, better machining conditions can be achieved, resulting in faster cutting, longer tool life, and a more profitable cost per part to achieve better productivity.

Based on the successful line of WHISPERLINE Boring Bars, holders for milling applications were developed to take advantage of our state-of-the-art milling cutters and superior inserts. These holders are specifically designed for applications that require a long overhang.

Advantages

- Patented vibration damping mechanism.
- Oil-free.
- Maintenance free.
- Coolant-through.
- Modularity by Camfix C5, C6 adaptations to fit all machine interfaces.
- Applications: face milling, deep shoulder and side milling, cavity milling, slot milling, and profiling.

Anti-vibration basics

The holder contains unique tuned mass damper configuration, to prevent vibrations that may develop due to axial, bending, and torsional machining forces. For long overhang holders, it is recommended to use a machine spindle with Face Contact (such as CAMFIX, HSK, BT-FC, SK-FC, CAT-FC). It is important to consider the limitations of the holder's operation, such as maximum coolant pressure and maximum temperature, as excessive heat can affect or damage the rubber support elements of the dampening mechanism.

The technical recommendations are laser marked on each holder, please read before use.

1. Max. RPM 5000 – 7000 RPM
2. Max. coolant pressure 70 BAR
3. Max. temperature 100° C

To achieve the best results when working with rotating holders, there are a few basic rules that can also be implemented for new anti-vibration shell mill holders:

- Rigid clamping.
- Shortest possible assembly length.
- Largest possible assembly diameter.
- Minimum cutter weight to reduce potential for vibration.
- Avoid using extensions or reductions.

Suggested holder-cutter diameter combinations

- For holder diameter BD = 48 mm, it is preferred to use cutters with DC = 50 mm
- For holder diameter BD = 61 mm, it is preferred to use cutters with DC = 63 mm

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Major guidelines for successful milling

- Reducing radial forces by choosing cutter – insert combination which provide best machining forces distribution in a particular application. The rule is – the bigger the KAPR angle is – the bigger the radial forces become.
- The most recommended insert geometry for successful vibration dampening is an insert with a positive rake angle, as this shape exerts lower cutting force when machining.
- A cutter with a coarse or variable pitch angle provides better performance.
- A smaller cutter diameter will reduce the bending forces acting on the holder.
- High temperature can affect the proper functioning of the damping mechanism, so it is recommended to use air or coolant through if possible.
- High RPM may reduce the vibration dampening effect

