

# VARI-HELIX SLOTTING & KEYWAY CUTTERS

ACHIEVE GOOD FINISH, LOWER TOOLING COST AND IMPROVED PRODUCTIVITY

## APPLICATION

- Slot milling operations with good finish requirements.
  - Keyway cutting operations at high parameters with good finish.
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- Conventional keyway cutters and slot milling cutters are slow fed often employing rough and finish cutters/ passes to meet with the end quality parameters. This results in added cycle time, Cpc increase and tool maintenance costs. The conventional cutters are provided with a straight constant radial and axial rake or staggered tooth cutters with alternating helices with varying radial and axial rake.
    - Staggered cutters tend to have excess positive radial rake (leading to a poor backed cutting edge) in the end or low positive radial rake (leading to poor cutting action) in the start based on the alternating helix angle. This can be avoided by slow increase in the starting point, peak in the middle and back to nominal value in the end point, i.e. at point of low axial rake there is high radial rake to compensate the cutting action and vice versa.



- Optimal cutting action is brought by continuously and uniformly varying the axial and radial rake of the cutters as opposed to conventional cutters in which the rake is constant.
- This varied cutting action enhances cutting and increases chip-breaking action.



UNDERSTANDING THE DIFFERENCE IN GEOMETRY

TO UNDERSTAND BETTER LET US VISUALISE A SINGLE TEETH PROFILE AS VIEWED FROM THE TOP

