

Wavy Nozzle Benefit : Milling Test

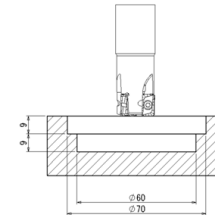
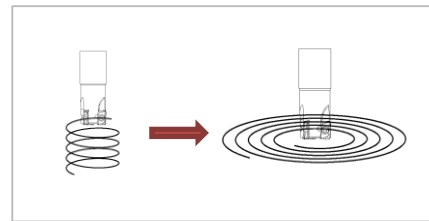
Test Condition

- Machine : Vertical type M/C
- Coolant : Synthetic soluble type
- Coolant pump :
 460W
 96 L/min
 6.5m(60Hz)
- Material : SS400
 (Steel for general structure)
- Tool :
 Diameter 20mm Length10mm
- Processing
 1. Helical machining to the blank
 2. Pocket machining spread on the tool diameter direction

- Condition

Size : 1st stage $\phi 75\text{mm}$ depth 9mm / 2nd stage $\phi 60\text{mm}$ depth 9mm

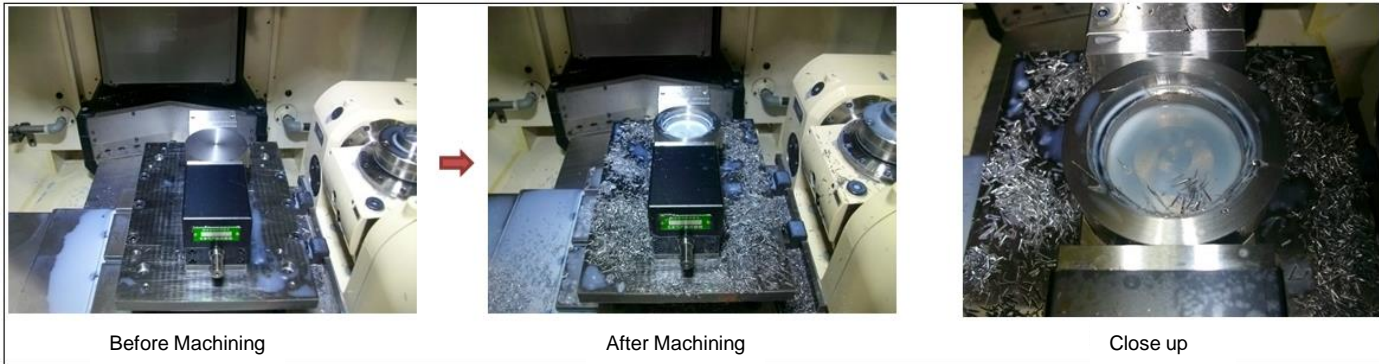
Helical Machining condition	Pocket Machining condition
Spindle Speed : 2390 min ⁻¹	Spindle Speed : 2390 min ⁻¹
Feed : 1434mm/min	Feed : 1434mm/min
Depth of cut : 0.5mm(ap)	Depth of cut : 9mm(ap)
Diameter : 40mm(d)	Diameter : 0.25mm(d)



- Case of Wavy Nozzle use
 Mode : SWEEP
 Swing Angle : 4 Count
 Nozzle Speed : 30 Count
- Case of fixed nozzle
 Two 1/2 inch Round nozzle are used.

Milling Test Result

Normal Coolant Nozzle --- Many cutting chips are left around table.



Wavy Nozzle --- There are only a few cutting chips left.

