

# Upgrade your existing rotary tool to 4.3 times the speed!

## Speed-Increasing Spindle for CNC Automatic Lathes

# NGS-3140-CTZ01

Tool clamping diameter:  $\phi 0.5$  to  $\phi 6.35$  mm

This product can be mounted on the rotating tool unit of a CNC automatic lathe and rotates using the machine's power. Compared to conventional rotating tools, it can achieve a maximum of 4.3 times faster rotation.

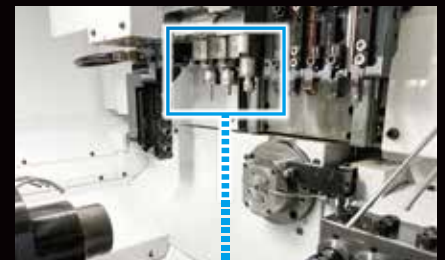
It maximizes the machining range of CNC automatic lathes.

This spindle incorporates Nakanishi's advanced motor spindle technology.



### Machining data

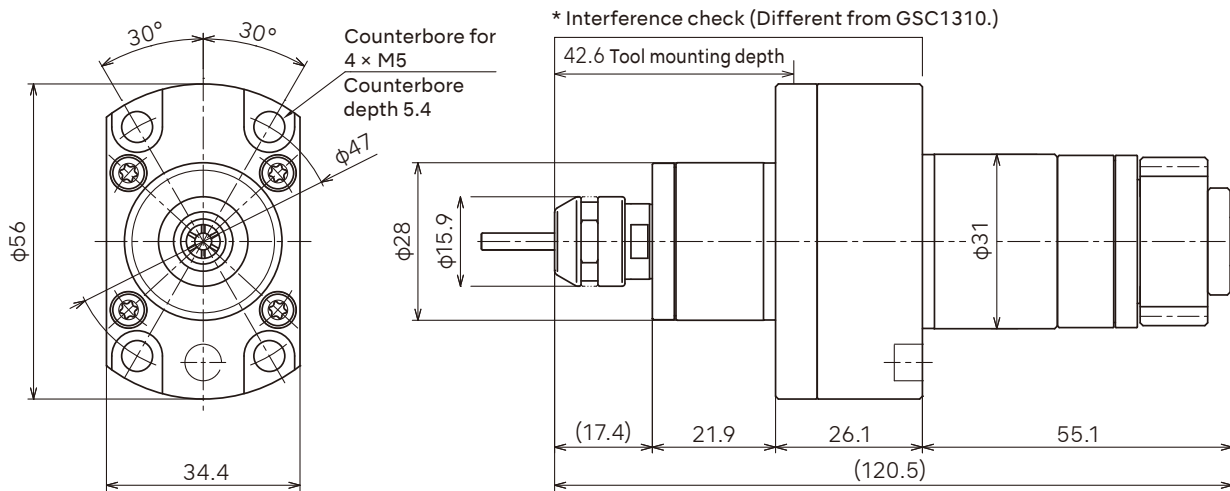
$\phi 3 \times 6.4$ mm Through-hole drilling	$\phi 4$ end mill Side cutting
Workpiece → A6061 (Aluminum alloy)	Workpiece → A6061 (Aluminum alloy)
Tool → Mitsubishi Materials Corp MVE0300X03S030	Tool → NS Tool Co., Ltd. ALZ345 $\phi 4.0 \times 12$ mmL
Hole depth → 6.4 mm through-hole	Depth of cut ( $A_p \times A_e$ ) → 5 mm $\times$ 0.8 mm
Cutting speed → 94 m/min	Cutting speed → 251 m/min
Rotational speed → 10,000 min <sup>-1</sup>	Rotational speed → 20,000 min <sup>-1</sup>
Feed per rev. → 0.16 mm/rev	Feed per blade → 0.017 mm/tooth
Feed rate → 1,600 mm/min	Feed rate → 1,000 mm/min



# Specifications

Code No.: 7915

Model: NGS-3140-CTZ01



O.D.	Allowable rotational speed	Spindle accuracy	Net weight
φ31 mm	Machine command speed 10,000 min <sup>-1</sup> : 43,000 min <sup>-1</sup>	Within 1 μm	582 g
<b>Standard equipment and accessories</b>	Collet nut (K-265) / Wrench (12 × 14): 2 pcs. Hexagon socket bolt (M5 × 30): 4 pcs. / Grease dispenser / Grease nipple *Collet is sold separately.		
<b>Replaceable rotary tool</b>	GSC1310 (manufactured by Citizen Machinery Co., Ltd.)		
<b>Applicable CNC Lathes</b>	A20, D25, L20, L32, M32, etc.		

## Combination example

Collet	Spindle	Applicable CNC Lathes
 CHK φ0.5-φ6.35 mm	 NGS-3140-CTZ01	Citizen Machinery Co., Ltd. A20, D25, L20, L32, M32, etc. (Replaceable rotary tool: GSC1310)

## Machining conditions

### ■ φ2.5 drilling

Processing method	Workpiece	Tool	Cutting speed [m/min]	Rotational speed [min <sup>-1</sup> ]	Feed per rev. [mm/rev]	Feed rate [mm/min]
Conventional drilling (Standard rotary tool)	S50C (Carbon steel)	Mitsubishi Materials DWAE0250X04S040 φ2.5	39	5,000	0.08	400
Nakanishi's proposed conditions			94	12,000	0.05	<b>600</b>

Feed rate improved by **150%**!

### ■ φ3.0 end mill machining

Processing method	Workpiece	Tool	Cutting speed [m/min]	Rotational speed [min <sup>-1</sup> ]	Feed per blade [mm/tooth]	Feed rate [mm/min]	Depth of cut Ap × Ae [mm]
Side cutting	S50C (Carbon steel)	Mitsubishi Materials MS2ES φ3.0	132	14,000	0.03	750	0.3 × 2.7



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