NGS SERIES

NAKANISHI

Upgrade your existing rotary tool to 4.3 times the speed!

Speed-Increasing Spindle for CNC Automatic Lathes

NGS-3140-CTZ01

Tool clamping diameter: ϕ0.5 to ϕ6.35 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.

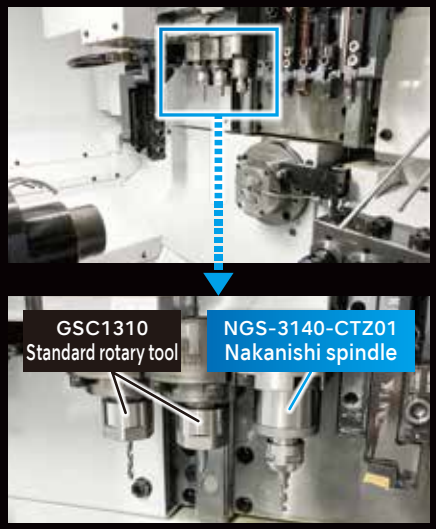
High-Rigidity

Spindle Accuracy Within 1 μm

High-Durability

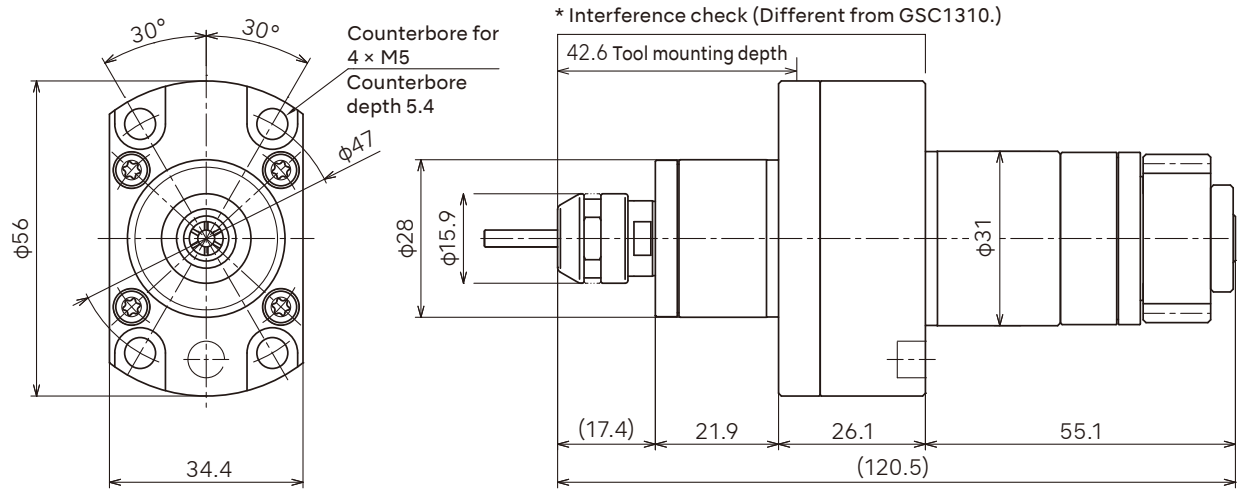
Machining data

ϕ3 × 6.4 mm Through-hole drilling		ϕ4 end mill Side cutting	
Workpiece	A6061 (Aluminum alloy)	Workpiece	A6061 (Aluminum alloy)
Tool	Mitsubishi Materials Corp MVE0300X03S030	Tool	NS Tool Co., Ltd. ALZ345 ϕ4.0 × 12 mmL
Hole depth	6.4 mm through-hole	Depth of cut (Ap × Ae)	5 mm × 0.8 mm
Cutting speed	94 m/min	Cutting speed	251 m/min
Rotational speed	10,000 min-1	Rotational speed	20,000 min-1
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^{-1} : 43,000 min^{-1}	Within 1 μm	582 g

Standard equipment and accessories	Collet nut (K-265) / Wrench (12 × 14): 2 pcs. Hexagon socket bolt (M5 x 30): 4 pcs. / Grease dispenser / Grease nipple *Collet is sold separately.
Replaceable rotary tool	GSC1310 (manufactured by Citizen Machinery Co., Ltd.)
Applicable CNC Lathes	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^{-1}]	Feed per rev. [mm/rev]	Feed rate [mm/min]
Convetional 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	**600**

Feed rate improved by **150%!**

■ ϕ3.0 end mill machining

Processing method	Workpiece	Tool	Cutting speed [m/min]	Rotational speed [min^{-1}]	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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