

| Item | Specification |
|------------------------------------|--------------------------------|
| Controlled axes | Simultaneous 2 axes control |
| Interpolation | Straight, Spiral, Round |
| Data input | Key |
| Automatic recognition | EIA / ISO |
| Decimal point setting | Standard |
| Least command | 0.001 m/m 0.0001 inch |
| Lease increment | X/Z-axes 0.001 m/m 0.0001 inch |
| Max. programmable dimension | 99999.999 m/m |
| Cutting feed override | 0.001-999.999 mm/rev |
| Tool offset memory | 6 digits 64 pairs |
| Compensation (M.S.T) | Standard |
| Dwell | 0-99999.999 sec |
| Canned cycle | G90;G92;G93 |
| Part program storage capacity | 640 M |
| Backlash compensation | 0-0.255 mm |
| Dry run | Standard |
| Optional block skip | Standard |
| Single block | Standard |
| Machine block | Standard |
| Program number search | Standard |
| Spindle orientation | Standard |
| Stroke restriction | Standard |
| Inch / metric conversion | Standard |
| Spindle speed | Standard |
| Multiple repetitive cycle | G70-G76 |
| Tool breakage compensation | Standard |
| Cutter compensation | G40-G42 |
| Run hour display | Standard |
| Graphic display | Standard |
| Drawing dimension input | Standard |
| Program of compensation data input | Standard |

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Standard Accessories

- Work light
- Totally enclosed guard
- Coolant system
- Hydraulic unit
- O.D. tool holder base × 2 sets
- O.D. tool gasket × 6 sets
- I.D. tool holder base × 4 pcs
- Bo bar sleeve × 5 pcs
- Drill sleeve × 3 pcs
- Rotating center × 1 pc
- Soft jaws × 1 set
- Side chip conveyor

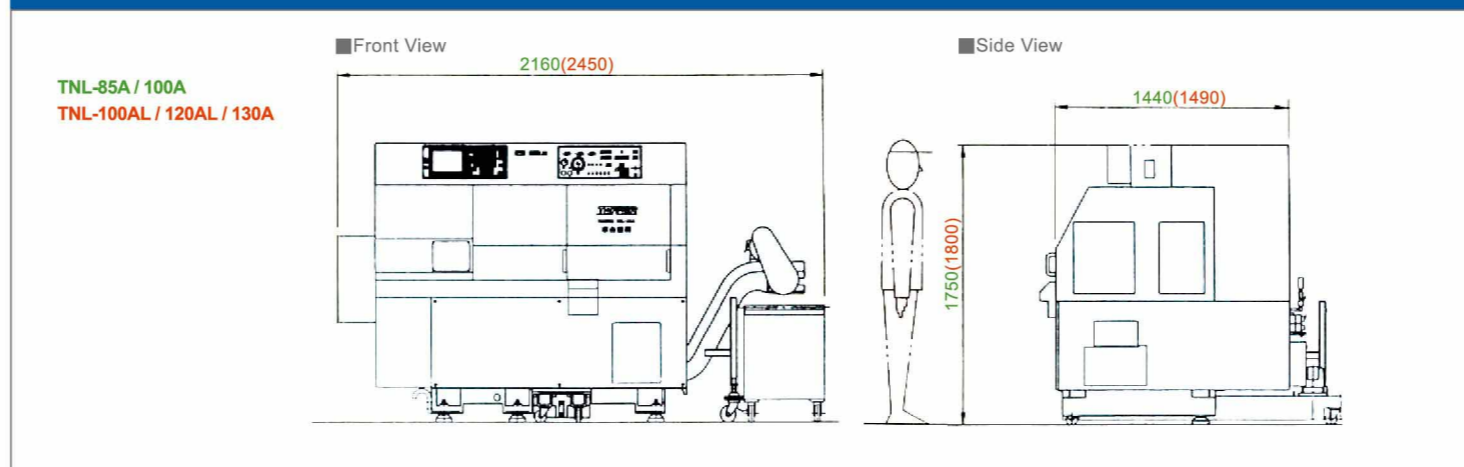
Option Accessories

- Auto door
- Auto bar feeder
- Tool presetter
- Parts catcher
- Bar puller
- Air blow unit
- Transformer
- Robot auto loading and unloading unit
- Spindle orientation function
- Direct panel programming with graphic function (10.4 LCD)
- Oil mist collector
- Bar feeder interface
- Voltage stabilizer
- Rear chip conveyor
- Workpiece conveyor
- Customer setting program
- Oil skimmer

| Item | Specification | Unit | TNL-85A | TNL-100A | TNL-100AL | TNL-120AL | TNL-130A | |
|---------------------|---------------------------------|---------------|----------------|--------------|------------------------------|---------------|----------|--|
| Turning capacity | Max. swing diameter | mm | Ø520 | | Ø530 | | | |
| | Max. swing diameter over saddle | mm | Ø320 | | Ø320 | | | |
| | Max. turning diameter | mm | Ø264 | | Ø300(Opt. power turret Ø285) | | | |
| | Max. turning length | mm | 400 | | 600 | | | |
| Spindle | Spindle nose | | A2-6 | | A2-6 | A2-8 | | |
| | Spindle speed | rpm | 4800 | 3000 | 3000 | 2500 | | |
| | | | (Opt. 3500) | (Opt. 4500) | (Opt. 4500) | (Opt. 3500) | | |
| | Chuck O.D. | inch | 8" | 8"(Opt. 10") | 8"(Opt. 10") | 10"(Opt. 12") | | |
| | Through-spindle hole diameter | mm | Ø56 | Ø62 | Ø62 | Ø76 | Ø86 | |
| | Bar capacity | mm | Ø44 | Ø51 | Ø51 | Ø64 | Ø74 | |
| | Spindle bearing diameter | mm | Ø85 | Ø100 | Ø100 | Ø120 | Ø130 | |
| | Turret | Tool capacity | pc | 12(Opt. 8) | | 12(Opt. 8) | | |
| | | O.D. tool | mm | 25×25 | | 25×25 | | |
| | | I.D. tool | mm | Ø32 | | Ø32 | | |
| Power turret (Opt.) | Tool capacity | pc | 12(VDI-30) | | 12(VDI-40) | | | |
| | Motor | kw | 3.7/2.2 | | 5.5/3.7 | | | |
| | O.D. tool | mm | 25 | | 25 | | | |
| | I.D. tool | mm | Ø32 | | Ø40 | | | |
| | Max. speed | rpm | 6000 | | 6000 | | | |
| Stroke | X/Z axis stroke | mm | 150/400 | | 170/600 | | | |
| Feed | X/Z axis rapid traverse | m/min | 20/24 | | 24/30 | | | |
| | Cutting feedrate | mm/rev | 0.001-500 | | 0.001-500 | | | |
| Tailstock | Tailstock/Hydraulic stroke | mm | 275/100 | | 500/100 | | | |
| | Tailstock taper | | MT#5 | | MT#5 | | | |
| | Center diameter | mm | Ø75 | | Ø75 | | | |
| | Driving system | | Manual | | Manual | | | |
| Hydraulic unit | Hydraulic tank capacity | L | 30 | | 30 | | | |
| | Hydraulic motor | kw | 1.5 | | 1.5 | | | |
| Coolant unit | Coolant tank capacity | L | 140 | | 140 | | | |
| | Coolant motor | kw | 0.37 | | 0.37 | | | |
| Motor | Spindle motor (50% ED) | kw | 9/7.5 | 15/11 | 15/11 | | | |
| | X/Z axis servo motor | kw | 1.6/1.6 | | 1.6/3.0 | | | |
| Machine size | L×W×H | mm | 2160×1440×1750 | | 2450×1490×1800 | | | |
| | Weight | kg | 3200 | 3500 | 4200 | 4300 | 4400 | |

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Machine Dimensions



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ISO 9001 ISO 14001 CE
A Worldwide Tradition of Quality Products and Customer Service

CNC Lathe
TNL-85A/100A/
100AL/120AL/130A

High ■Quality ■Precision ■Efficiency ■Economy



Tongtai Machine & Tool Co., Ltd.

CNC Lathe

TNL-85A/100A/100AL/120AL/130A

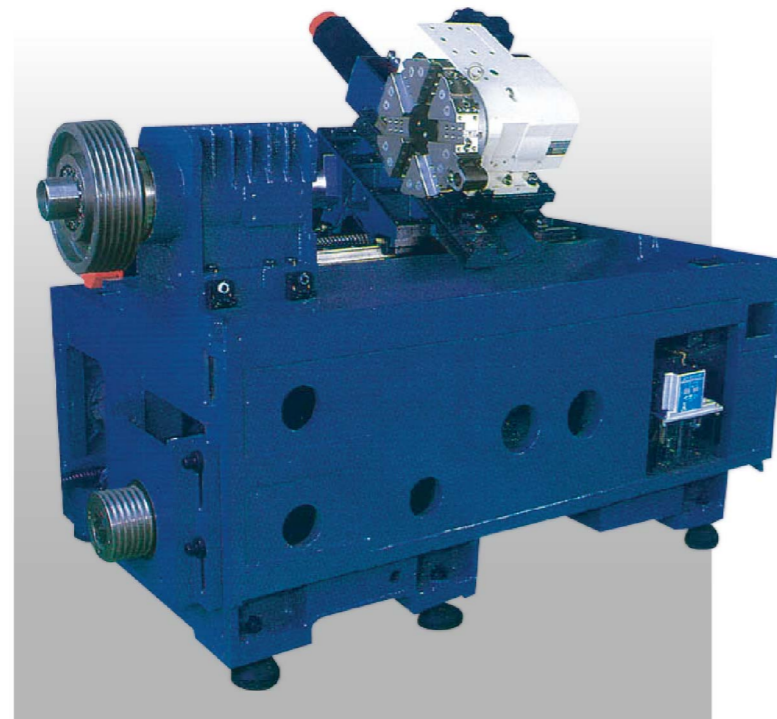
Ultra high speed **30m/min** rapid traverse

High Rigidity Machine Bed Structure Design

- The lathe bed is one of the best types casted. It was designed and analyzed many times by CAD method to assure that it absorb vibration. It is a proof of high precision metal cutting.

High Efficiency Cutting Ability

- High torque spindle motor:
TNL-85A 9kw, TNL-100A 15 kw
- P class LMT (Linear Motion Transducer)
- Big diameter size of precision ball screw.
- 8" hydraulic chuck, max. cutting diameter is 264 mm (TNL-85A/100A)
- 8" hydraulic chuck, max. cutting diameter is 300 mm (TNL-100AL/120AL/130A).



High Speed Rapid Traverse Minimizes The Non Cutting Time

- Rapid traverse TNL-85A/100A
X-axis= 20 m/min. Z-axis= 24 m/min.
- Rapid traverse TNL-100A/120AL/130A
X-axis= 24 m/min. Z-axis= 30 m/min.

Lubrication System

- Good quality high-pressure lube pump provides 15kg/cm² pressure and pressure control type distributors to assure every point is lubed to reduce the blockage of pipeline.

Design For Minimal Floor Space

- The floor space is 3.02M x 1.40M.(TNL-85A/100A)
Chip conveyor can be installed at the rear side or right hand side. It reduces the floor spaces in production lines arrangement and daily production.

The ABS (Absolute Pulse Coder) Servo System

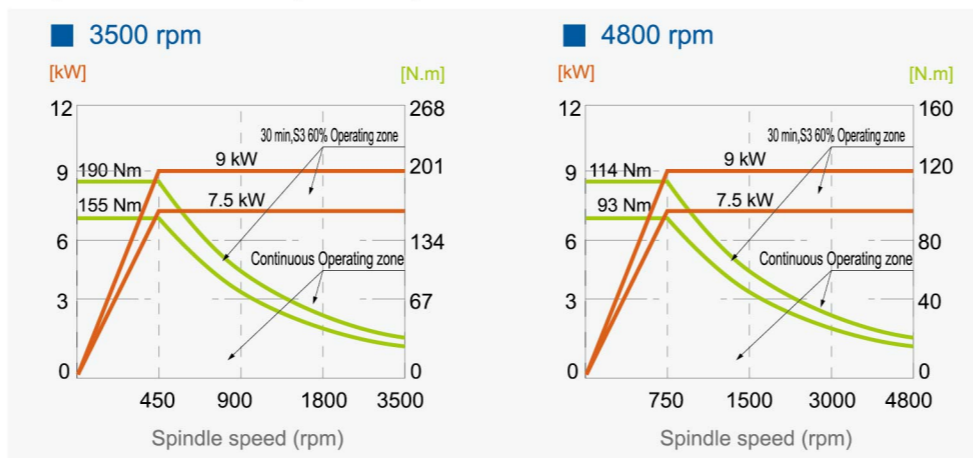
- The ABS system never needs "Zero Return"
- Eliminates troublesome limit switches.

Simple Operation Hydraulic Tailstock

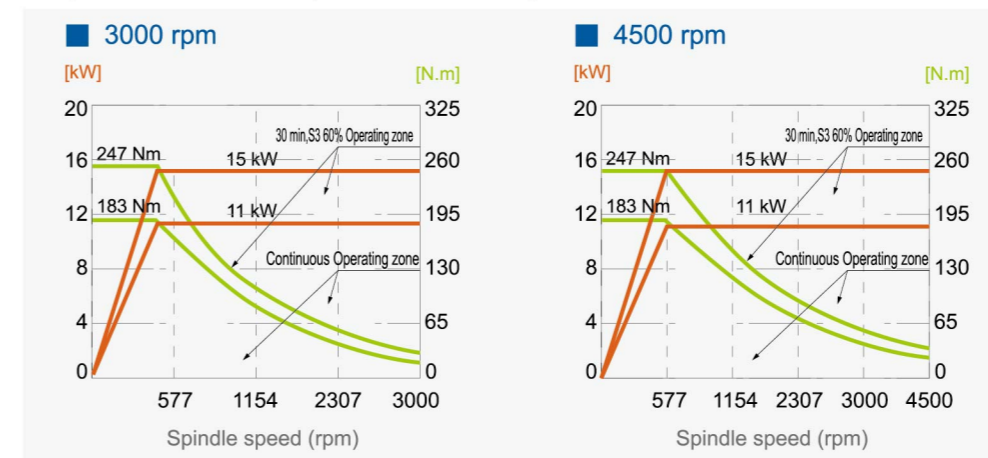
- Easy to adjust. Accurate motion.
- Simple structure. Easy maintenance.

Spindle Output Diagram

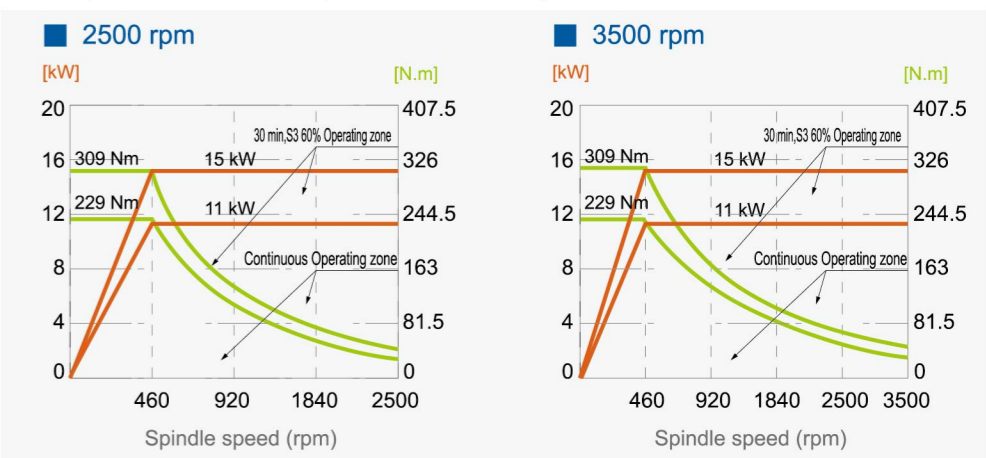
Spindle motor αP15 (TNL-85A)



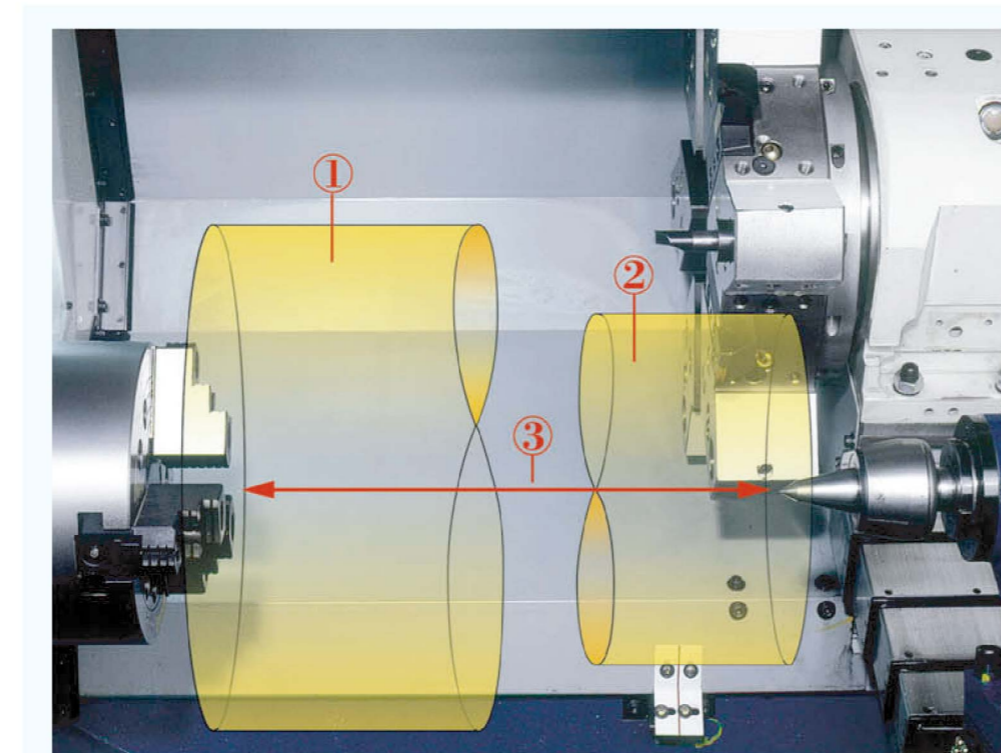
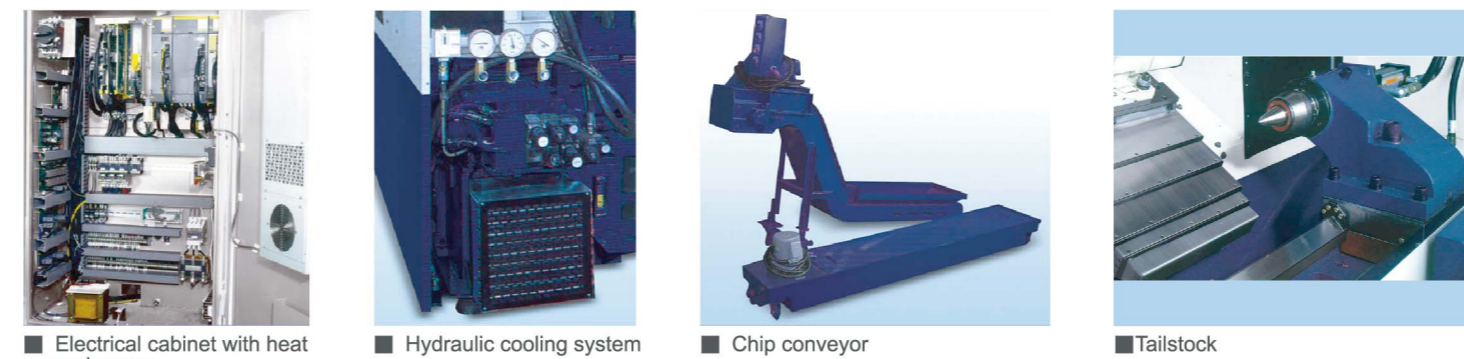
Spindle motor αP22 (TNL-100A/100AL)



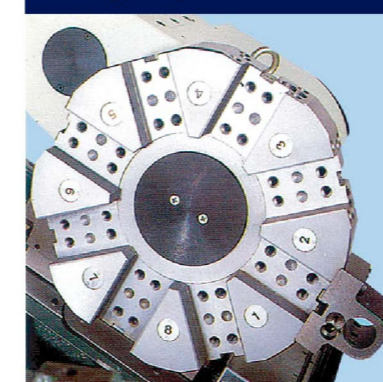
Spindle motor αP22 (TNL-120AL/130A)



Standard Accessories

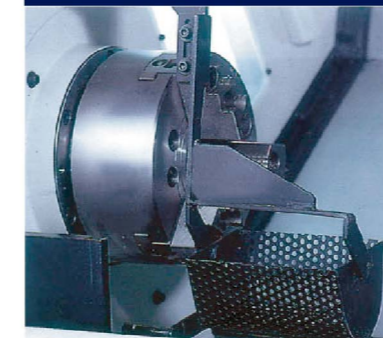


High Speed Precision Cam Type Hydraulic Turret



- ▶ Station to Station time is 0.7 sec.
- ▶ Curvic-coupling for location indexing.
- ▶ Repeatability is 0.003 mm(0.0001")

Part Catcher(Optional)

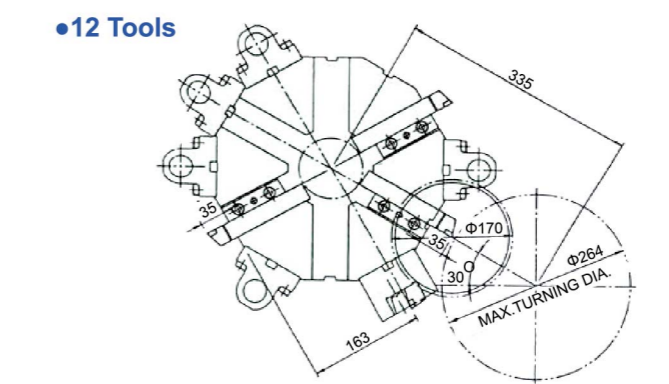


- ▶ To be worked with auto bar feeder.
- ▶ Auto unloading without door opening.

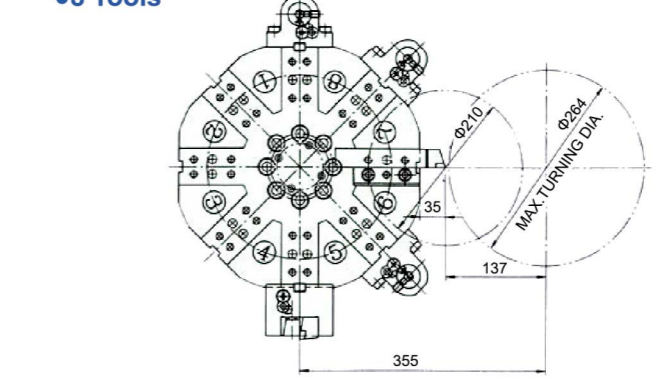
| | TNL-85A/100A | TNL-100AL/120AL/130A |
|-------------------------------|--------------|------------------------------------|
| ① Max. Swing Dia. | Ø520 mm | Ø530 mm |
| ② Max. Turning Dia. | Ø264 mm | Ø300 mm (Opt. power turret Ø285mm) |
| ③ Max. Turning Length | Ø400 mm | Ø600 mm |
| ④ Max. Swing Over Saddle Dia. | Ø320 mm | Ø320 mm |

Tool Interference

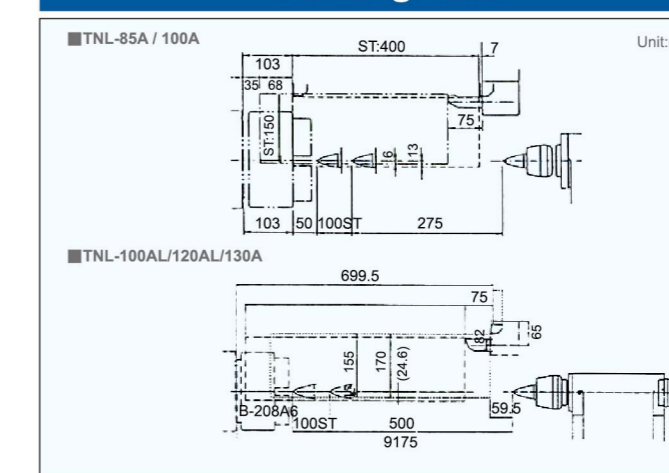
85A / 100A



100AL / 120AL / 130A



Working Area



Tooling System

