More Flexible and Use-Friendly for Large-Diameter Workpiece Machining

TOOLING SYSTEM

- Tool holder: Turning tool 6 tools
- 4-spindle sleeve holder: Front-end stationary tool 4 tools
- Rear-end stationary tool 4 tools
- Power-driven tool: Cross machining tool only: 3 tools. Cartridge type: 1 Pos. / 2 Pos.
- Back 4-spindle unit: 4 tools
High-Precision and High-Productivity Machining of Large-Diameter Workpieces with Maximum Rigidity and Powerful Drive

The SR-32J tool post employs a slant-type slide guideway structure. This enables the construction of the X and Y axes guideways radially around the cutting point to improve machine rigidity. The construction also allows a linear line which passes the ball screw center and forms to be close to the cutting point (Fig. 1 on the right), and reduces the moment load by cutting resistance improves the tool post rigidity in the Y and Z axes directions. The star original rigid tool post structure allows for an extended tool life and stable accuracy even in continuous machining over time.

Comparison of moment load by cutting force

The moment load applied to the guideway surface by cutting force is the combined radial and axial load My. The My of the slant type is the smallest when compared to that of the vertical type and horizontal type.

Comparison of moment load by feed force

As for the feed force Fz, the moment load Mz of the slant type is the smallest when compared to that of the vertical type and horizontal type.
TOOLING SYSTEM

5-Spindle Cross Drill Unit

Standard type
POS.
1. Power cross drill
2. Power cross drill
3. Cross drill unit
4. Cross drill unit
5. Cartridge position
6. Cartridge position

VARIATION 01

VARIATION 04

Tool Unit

3-spindle opposing front drill unit
Diversity of Tooling Layouts by Cartridge System

**Variation 02**
- Standard type
- 3-spindle opposing drill unit
- 3-spindle opposing drill unit

**Variation 03**
- Standard type
- Cross drill unit
- 3-spindle opposing drill unit

**Variation 05**
- Standard type
- 3-spindle opposing drill unit
- Polygon machining unit

**Variation 06**
- Standard type
- - Slotting unit
- - Slotting unit

Diagram showing different tooling layouts with labels for each component.
Machining Variations to Cover Many Needs

Front-end working

- Front/rear-end simultaneous drilling
- Cross drilling

Rear-end working

- Off-center drilling
- Overlapped machining of main end back machining

Overlapped machining of main end back machining
Reduction of Remnant Bar Length to 70mm in Response to the Need for Cost Reduction

**SR-32J type N**

CNC AUTOMATIC LATHE [Non-Guide-Bush Type]

Elimination of a guide bush allows the effective use of materials for short-bar machining.

With the ordinary CNC Swiss type automatic lathe, a material equivalent to a length of passing through the guide bush from the material rear end becomes a remnant to be discarded. With the non-guide bush type, however, the material is clamped close to the machining position so that the remnant bar length is reduced by one third compared to that of the Swiss type. The latest N series reduces the remnant bar length to 70mm.

* Remnant bar length when the bar feeder used is a forward discharge type  
  SR-32J type N : Min. 40mm

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**High rigidity head stock for Type N**

- Ordinary non-guide bush type
- For Type N series

Type N incorporates a spindle sleeve slide way structure. This slide way supports the cutting force to realize highly rigid head stock.