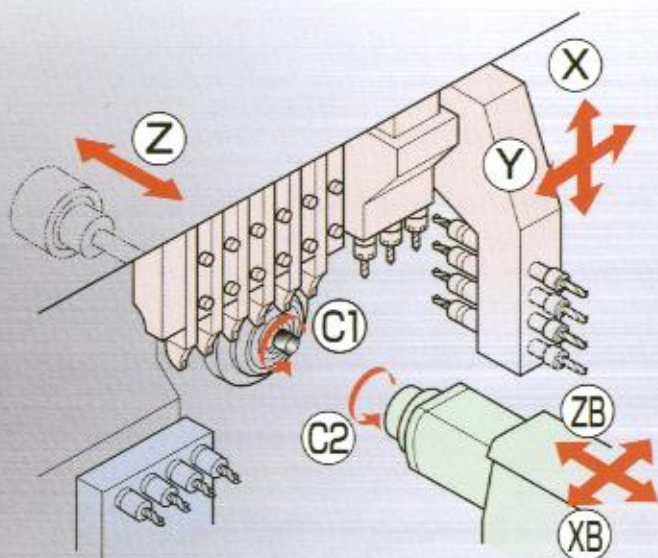


SWISS TYPE CNC AUTOMATIC LATHE

# SB-20 Series



Tool post illustration : SB-20 type E



## The Long-Awaited 20mm-Class Model!

Upgraded unit with a high-power motor, additional power-driven tools, and much more.



### Highest Machining Performance in the Series

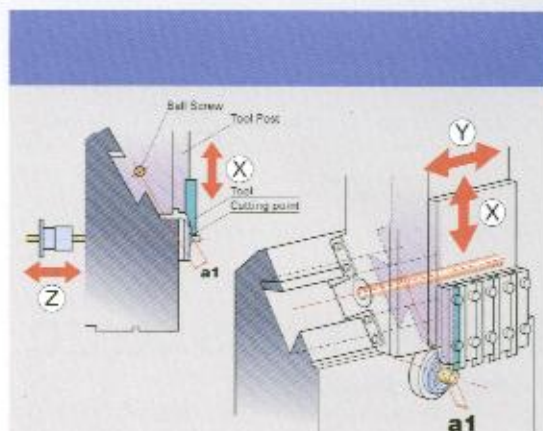
- Ⓜ Power-driven tool motor with increased power to 1.0kw for achieving M6 tapping.
- Ⓜ Main spindle with C-axis control as a standard function for a broader range of machining.
- Ⓜ Secondary machining capacity improved by additional power-driven tools. (3 tools, or optionally 4 tools)
- Rigid tool post with a slant-type sliding guideway suited for heavy-duty cutting and handling of hard-to-cut materials.

### Contribution to a Major Reduction in Production Cost

- Ⓜ Further reduced length of remaining bar material (by 25mm compared to other Star models) contributing to material cost cutting.

### Improved Productivity and Operability

- Idle time shortened by high-speed rapid traverse. (for X, Y, Z, XB and ZB axes)
- Large-capacity chip bucket and coolant tank allows continuous operation for long periods.
- Ⓜ The latest control unit with an 8.4-inch color LCD for enhanced visibility.



The Y-axis slideway of the tool post incorporates a slanted dovetail structure. Because of this, the X- and Y-axis slideways can be arranged in a pattern close to the cutting point, increasing machine rigidity. In addition, a straight line passing through the ball screw center which is parallel to the Y-axis slideway and the cutting point are close to each other (a1), reducing the moment load caused by cutting resistance and thereby improving rigidity.

## Standard Machine Specifications

| Item                            | SB-20 type A   | SB-20 type C        | SB-20 type E |
|---------------------------------|--|---------------------|--------------|
| Max. machining diameter         | φ20mm (25/32in)  |                     |              |
| Max. headstock stroke           | Stationary GB 183mm (7-13/64in)<br>Revolving GB 155mm (6-3/32in)                 |                     |              |
| Tool                            | 6 tools (□12mm)  |                     |              |
| 4-spindle sleeve holder         | Front 4 tools  |                     |              |
|                                 | Rear 2 tools (Max.4 tools)   |                     |              |
|                                 | Max. drilling capability φ10mm (25/64in)   |                     |              |
| Power-driven att.               | Max. tapping capability M8×P1.25   |                     |              |
|                                 | Number of tools Standard: 3 tools (ER16)/OP: 4 tools (ER16×2 tools+ER11×2 tools) |                     |              |
|                                 | Max. drilling capability φ7mm (9/32in)(ER16)/φ5mm (13/64in)(ER11)                |                     |              |
| Main spindle indexing angle     | Max. tapping capability M8×P1.0 (ER16)/M5×P0.8 (ER11)                            |                     |              |
|                                 | C-axis control   |                     |              |
|                                 | Max.10,000min <sup>-1</sup>  |                     |              |
| Main spindle motor              | 2.2kw(continuous)/3.7kw(15min/60%ED)   |                     |              |
| Rapid feed rate                 | 35m/min (X,Y,Z,XB,ZB)  |                     |              |
| Power-driven att. spindle speed | Max.6,000min <sup>-1</sup> (ER16)/Max.8,000min <sup>-1</sup> (ER11)              |                     |              |
| Power-driven att. drive motor   | 1.0kw(continuous)/1.2kw(5min/30%ED)  |                     |              |
| Coolant tank capacity           | 160ℓ   |                     |              |
| Dimensions (W×D×H)              | 1,875×1,133×1,750mm  | 1,895×1,133×1,750mm |              |
| Center height                   | 1,060mm (3.48ft)   |                     |              |
| Weight                          | 1,530kg  | 1,650kg             | 1,700kg      |
| Power consumption               | 2.5KVA   | 3.0KVA              | 3.0KVA       |

## Backworking Attachment Specifications (except type A)

| Item                         | SB-20 type C                           | SB-20 type E               |
|------------------------------|--|----------------------------|
| Max. chucking diameter       | φ20mm (25/32in)                        |                            |
| Max. part length for pick-up | 80mm (3-5/32in)                        |                            |
| Max. parts projection length | 30mm (1-3/16in)                        |                            |
| Back 4-spindle unit          | Number of tools — 4 tools              |                            |
|                              | Max. drilling capability φ8mm (5/16in) |                            |
| Sub spindle indexing angle   | Max. tapping capability — M6×P1.0      |                            |
|                              | C-axis control                         |                            |
| Sub spindle speed            | Max.6,000min <sup>-1</sup>             | Max.9,000min <sup>-1</sup> |
| Sub spindle speed control    | AC servo drive                         | AC spindle drive           |
| Sub spindle motor            | 1.0kw(continuous)                      | 0.55kw(continuous)         |
|                              | 1.7kw(5min/30%ED)                      | 1.1kw(15min/50%ED)         |

Note)

The machining capacities apply to SUS303 material. The machining capacities may differ from listed values depending on the machining conditions, such as the material to be machined or the tools to be used.

\*Design features, specifications and technical execution are subject to change without prior notice.

\*This product is an export control item subject to the foreign exchange and foreign trade laws. Thus, before exporting this product, or taking it overseas, contact your STAR MICRONICS dealer.

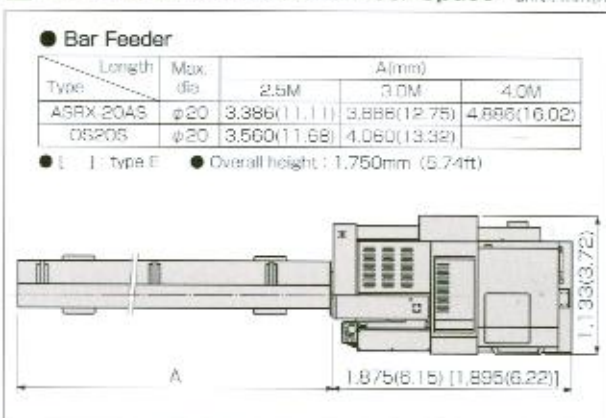
## Standard Accessories and Functions

- CNC unit FANUC Oi-TD
- Operation panel
- 8.4-inch color LCD display
- Pneumatic unit
- Coolant level detector
- Automatic centralized lubrication unit
- Main collet
- Sub collet (except type A)
- Main spindle C-axis control
- Sub spindle C-axis control (type F only)
- Sub spindle clamp unit (except type A)
- 6-station tool holder (□12mm)
- 3-spindle cross drilling unit
- 4-spindle sleeve holder
- Back 4-spindle unit (type E only)
- Drive unit for revolving guide bush
- Revolving guide bush unit
- Air purge for revolving guide bush
- Sub spindle air purge (except type A)
- Sub spindle air blow (except type A)
- Parts ejection detector (except type A)
- Parts separator(except type E)
- Broken cutoff tool detector
- Work light
- Earth leakage breaker

## Optional Accessories and Functions

- Parts conveyor
- Spindle 15° indexing unit
- Coolant flow detector
- Coolant unit 1.5MPa
- Coolant valve 1.5MPa
- Expanded I/O module unit
- Coolant piping
- Parts ejector/air cylinder type (except type A)
- Parts ejector with guide tube (except type A)
- Parts stopper unit (except type A)
- 4-spindle cross drilling unit
- Main spindle inner tube (6mm/12mm)
- Warning light

## External Dimensions and Floor Space unit : mm(ft)



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