

## S-191: Turn- and Mill Center

The innovative concept of the BUMOTEC S-191 with up to 7 axis and 3 spindles, for a high precision production of complex parts from bar or bank with fore- and backside machining. All spindles with direct drive, the linear axis optionally with linear motors for reduction of bi-times and better dynamics and finishes at higher speeds. The newest generation of CNC-technique with nano-interpolation.



**S-191 in watch-, medicinal- and micromechanical industries**  
Thanks to its axis-concept, the S-191 is able to turn and mill complex pieces in only one setting.

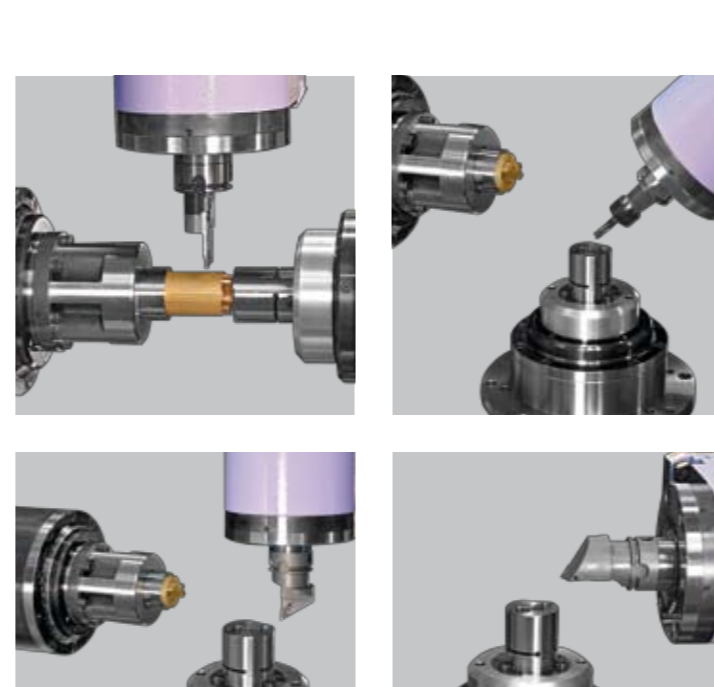


**Perfect surface finish because of linear motors**  
and the most modern CNC-technique with nano technology and short manufacturing times. This drive-technology follows the profile more precisely and with higher dynamic.

### The multi-purpose manufacturing-options



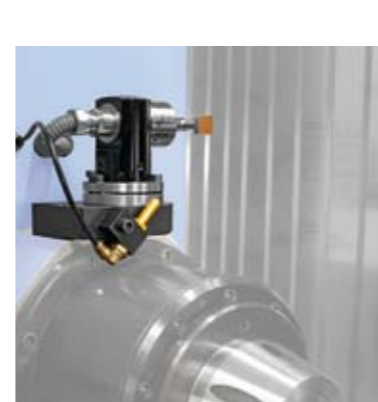
The milling head on the swivel-axe B allows with its swivel range of  $+120^{\circ}/-25^{\circ}$  multi-purpose combinations of turn- and mill machining. During the turn machinings the spindle is blocked, so the load on the ball bearings are eliminated.



The axis-concept allows a simultaneous 5-axis machining on 2 spindles. The tool transfer for the backside manufacturing effects in horizontal position. The turn- and mill manufacturing on the opposite spindle are able in horizontal or vertical position.

### S-191 Accessories

• A wide range of accessories are available to extend the S-191 machine capability



#### Tool Probe

A Renishaw contact probe is available as a tool setting option. Cutting tools are measured on 3 axis which are automatically introduced into the CNC machine control. The system also allows broken tool detection.



#### Workpiece measuring Probe

An ultra compact touch probe with wireless transmission provides a solution for workpiece inspection, part alignment and automatic off-set updates during the cycle.



#### Bar Feeder

A wide range of automatic bar feeders are available to meet your production needs and preferences.



#### Automation

Numerous automatic loading / unloading solutions are available to meet your application needs.



#### Paper Band Filtration

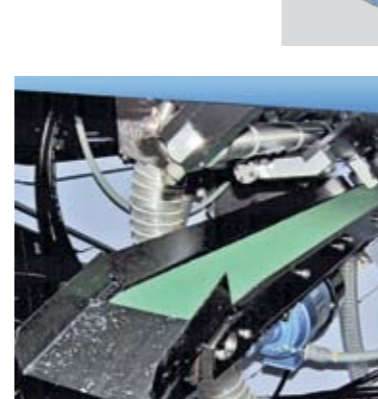
An ideal filtration method for machining precious metals.



#### High Pressure Coolant

The Hydro Fluid, high pressure coolant systems provides:

- Oil cooling
- Automatic filtration down to 5 microns
- Self-cleaning filters
- High pressure up to 80 bars



#### Parts Conveyor

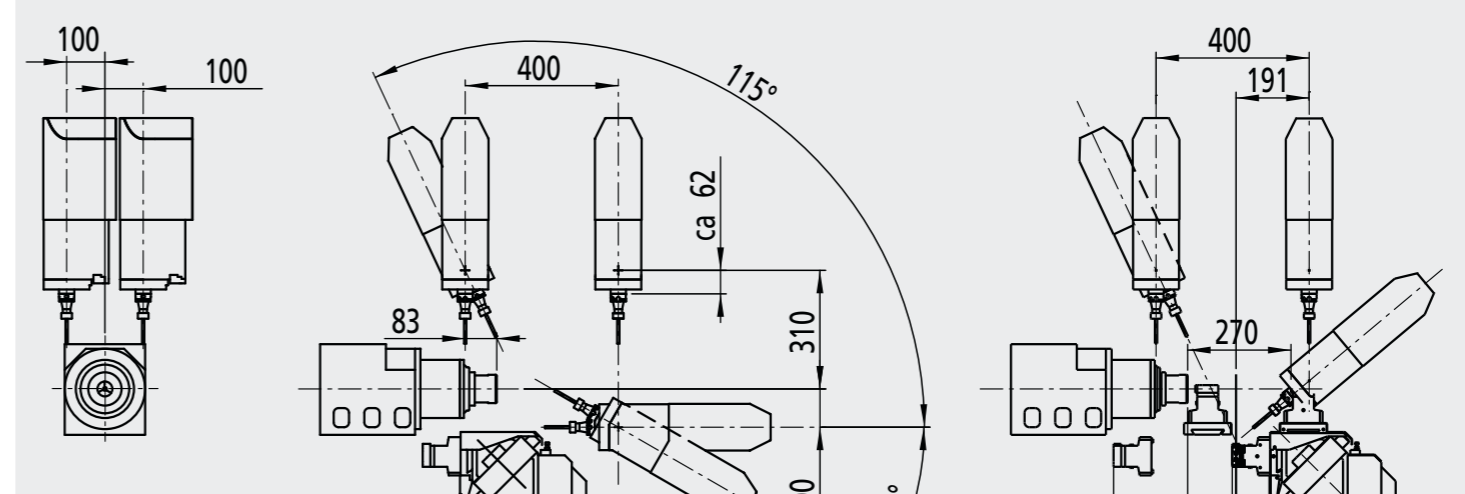
A conveyor belt provides part evacuation from the machining zone.



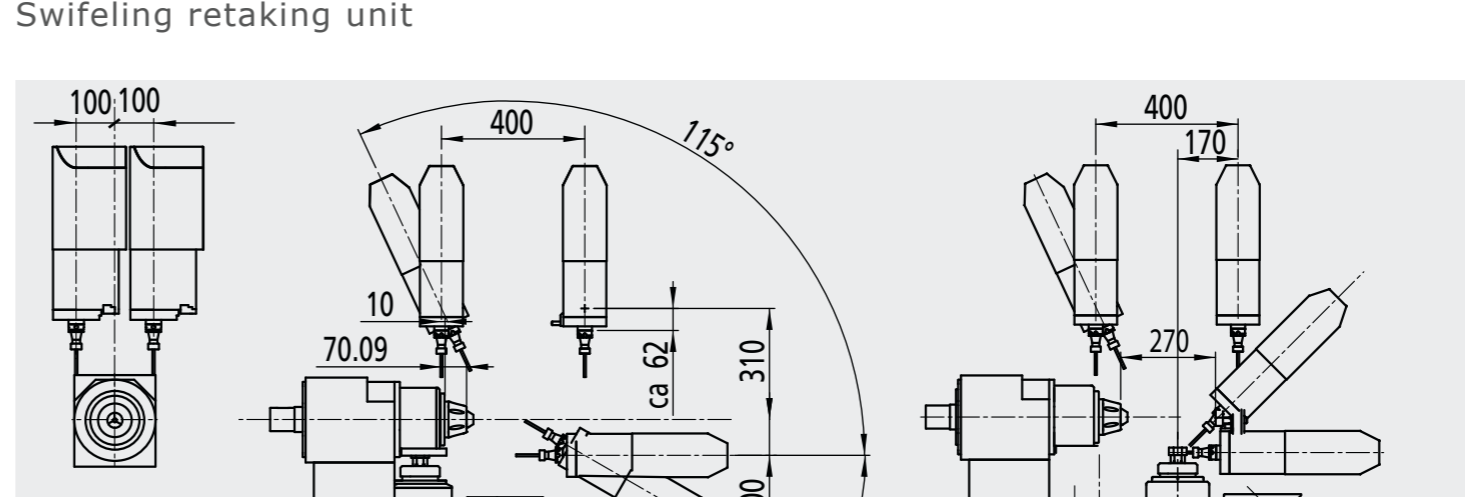
#### Chip and Coolant Management

Several chip and coolant system are available for all applications and materials.

### S-191 Dimensions of the machining area



Swifeling retaking unit



with counter spindle

### Main dimensions of S-191

