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Spindles for machining with robots

September 2019

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Robot

The MAX 150 Professional is a specialist for machining tasks in milling. With its accuracy, operating speed and load capacity, the MABI robot is ideally suited to the challenges of milling.

The MAX150 series achieves the highest possible absolute and path accuracies by integrating unique sensors and extensive compensation algorithms.

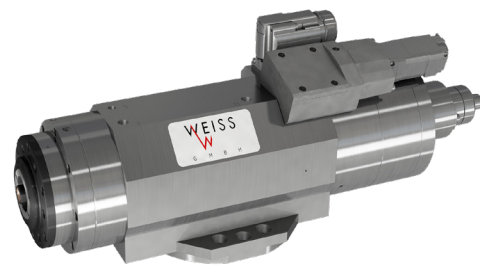
The robot control is carried out by the CNC SINUMERIK 840D sl from Siemens, which as a model of the premium class assures maximum dynamics and accuracy. The technological high-quality equipment provides flexibility and opens up alternative applications in milling. For this purpose, WEISS offers high-precision milling spindles.

Spindle unit

Weiss Spindeltechnologie GmbH specialized in the development and production of high-precision motor spindle units. The company supplies a complete spectrum of standardized as well as individual solutions and realizes their embedding in complete electromechanical systems.

For use on robots, the spindles are designed especially for the high demands on the weight and on

the smallest possible number of different operating media. The optional available equipment of the spindle with the ISO 9409-1 standardized interface to the robot is another advantage of WEISS spindles.



Motor cooling: water

Bearing lubrication: grease

Tool change: pneumatic/ manual

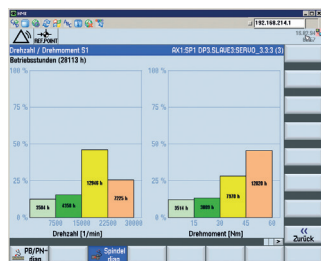
Connection spindle to robot: ISO9409-1

	A	B	C	D	E
Power [kW]	4.4	4.4	6.6	14.4	16.5
Weight [kg]	7.2	8.9	25.7	31	62
Speed [rpm]	30,000	30,000	18,000	18,000	24,000
Torque [Nm]	1.4	1.4	4.5	11.0	20.0
Rated current [A]	10	10	12	24	29
Interface	HSK-C32	HSK-E25	HSK-A32	HSK-A32	HSK-A50

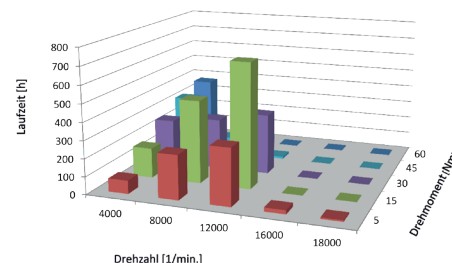
Digital interface (optional)

The WEISS spindle sensor module SMI24 simplifies the commissioning of the spindle, required hardware for integrating spindle signals into the controller and information about the spindle status displayed on the HMI.

With the SINUMERIK „Integrated Spindle Monitor“ ISM option, additional information on the spindle status and data on the use of the spindle can be called up via masks on the HMI.



Option SINUMERIK: Integrated Spindle Monitor ISM for example, display of speed and torque histograms



Individual evaluation of spindle data such as e.g. run-time-related speed and torque ranges provide information about the spindle data and the spindle insert. From this, the wear behavior of the spindle and planning for preventive maintenance measures can be derived in a more targeted manner.

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