



Spindles for machining with robots

WEISS Spindeltechnologie
July 2025

Spindles for machining with robots

Robot

The Autonox robot is a specialist for machining tasks in the milling sector.

The robot mechanics in this area were specially developed for applications requiring maximum rigidity, excellent vibration damping, and maximum precision. The 6-axis kinematics (6DoF) are characterized by a particularly robust design: Axes 2, 3, and 5 are generally supported on both sides, which significantly increases structural rigidity.

For use in demanding environments, selected models are additionally protected against abrasive dust, liquids, and other influences. They can be pressurized with sealing air to further

increase their service life. Media lines for the end effector can be routed safely and space-savingly within the robot structure. Optionally, secondary encoders can be installed directly on the gears – for even more precise position feedback.

Of particular note is the articulated-arm robot articc.mtr6-2407-100kg (AT_00033-SE01): Developed in close collaboration with Fraunhofer IFAM and Siemens, this model sets new standards in rigidity and machining quality. The robot even masters milling tempered steel with impressive precision – regardless of the tool position (TCP). The result: consistently high machining quality, maximum process reliability, and maximum efficiency.

Spindle unit

Weiss Spindeltechnologie 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]	40,000	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