

Press information

NDEX G160 turning-milling center

The big swivel to the 5-axis interpolation

With the RatioLine, INDEX Werke GmbH & Co. KG, Esslingen are offering a broadly based modular system of high-performance turning-milling centers. At the AMB 2008 the G160 is equipped with a powerful motor milling spindle and two tool magazines, with a total of 64 stations. The most prominent feature, however, is the motor milling spindle which is designed as a swiveling unit. This means that, in addition to the standard tool carriers with X-, Y- and 360°-B-axis, the G160 is now equipped with an A-axis in the Y direction.

The functional principle of the turn/mill center is based on well-tested technology. The working spindle is designed as an air-cooled hollow shaft motor. The counter spindle, which is identical to the main spindle, moves on the lower guide. But it is also possible to add a compound slide or a slide unit with steady to the same guide. This unit can then be moved on the Z-guide or with a separate drive in X-direction. Of course, it is also possible to use an NC tailstock instead of the counter spindle. The thrust is determined via the NC program.

With the basic machine being supplemented to include a motor milling spindle with A-axis, the Esslingen-based engineers were able to expand the Y machining in a measurable way. Even off-center machining outside the Y-travel of the machine can now be achieved due to the inclination of the system. The technical details of the motor milling spindle are designed with 20,000 rpm, 48 Nm torque and high rapid traverses for maximum cutting performance and productivity. It is expandable by one lower turret with Z and X axis. Thus two tools can be in the intervention independently and simultaneously at the main and/or counter-spindle.

The tool storage is formed by two discs magazines arranged over the main and counter spindle, each with 32 tools. If the 12 optionally driven or fixed tools of the turret are added to these 64 tool places (HSK A-40), this results in substantial possibilities for sophisticated turning/milling contours.

That's where the G160 sets the standards:

- Main and counter spindle with the same design and power
- 5-axis interpolation for the machining of the most complex contours
- Eccentric drilling and machining of large workpieces at the circumference made possible by extending the Y travel/inclined position of the motorized milling spindle (A-axis)
- simultaneous intervention of two tools
- Motor milling spindle with 360° B-axis

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Fig. 1: INDEX turn-mill center RatioLine G160

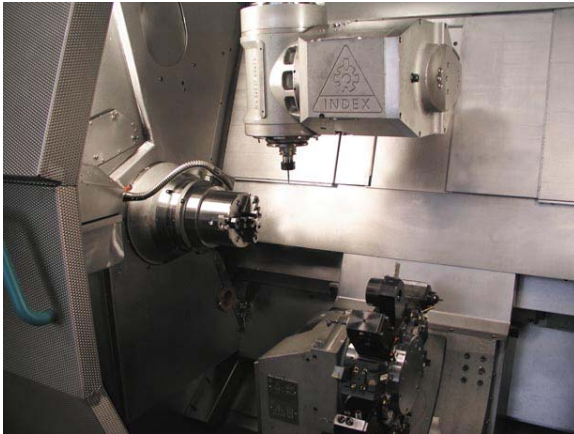


Fig. 2: work space of the turn-mill center G160 with motor milling spindle

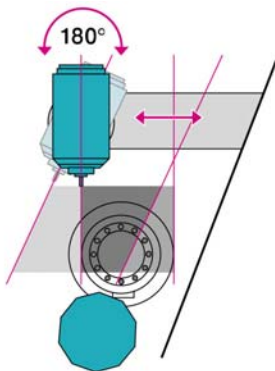


Fig. 3: Flexible use of the work space in Y direction made possible by the A-axis



Fig. 4: Programming, Simulating and Optimizing directly with the Virtual Machine (extendable display) next to the control panel