

Press release

INDEX RatioLine G250

Turn-mill center with superb milling power

Esslingen. The G250, a turn-mill center based on the innovative modular system, has been completing successfully the INDEX RatioLine since 2003. This series represents the economical complete machining of simple to highly complex workpieces in small-to-large lot sizes.

With its powerful motorized milling spindle, the G250 turn-mill center has become firmly established in the world of heavy-duty milling. The up to three simultaneously working tool carriers make it possible to reduce the cycle times considerably especially in complete machining in a single clamping setup. The advantages of the G250 give the best results wherever maximum milling performance and flexibility are required.

The modular system typical of INDEX offers customized solutions for every metal-cutting job. A wide range of applications can be carried out, which far exceed those of the defined main variants.

- Production turning centers with up to three tool carriers
- Universal turn-mill centers including Y- and B-axes
- Turning centers for machining shafts using steady rests and tailstocks
- Flexible turn-mill centers equipped with tool magazines for operation with little setup work
- Productive turn-mill centers containing two multi-functional units and three turrets
- High-precision turn-grind centers

A particular highlight of the G250 is the heavy-duty milling spindle: a continuous power of 27.5 kW, a torque of 115 Nm and speeds of up to 18,000 rpm guarantee superb milling power. The extremely small distance between the tool mounting and the front spindle bearing in connection with the face gear coupling used (Hirth coupling) provide outstanding stability and precision. With these performance data, the liquid-cooled motor spindle outshines many a machining center.

Unique precision in every position: The Y-axis runs in a hydrostatic circular guide. This very rigid and precise guide is the basis of the 360° B-axis swiveling range for machining at any desired angle. In connection with the heavy-duty milling spindle, the rotary motion was accomplished by means of a torque motor as direct drive. This contributes to the high overall rigidity of the Y quill/B-axis system.

Moreover, the A-axis allows universal machining at the main and counter spindles. In addition, the Y travel, which is already quite large, is increased even further by the intelligent construction of the A-axis.

The absolute zero backlash achieved by this translates into practical advantages to the user in genuine five-axis milling work.

The combination of multifunctional unit and turret is still a highlight of the INDEX RatioLine. The multifunctional unit for turning, drilling and milling in connection with automatic tool change from the disc-type magazines provides functionality and flexibility. These advantages, when combined with the tool stock of the turrets, provide short non-productive times and ensure machining of a wide range of workpieces without changeovers.

The G250 is mounted on a highly robust machine bed made of heavily ribbed cast iron of tube-like cross-section and high torsional and bending stiffness. High-quality linear antifriction guideways provide precision in combination with a long service life. In case of collision, the machine is protected by friction-locked connections between headstock and machine bed and by overload clutches on all ball screws. Work spindles of high stiffness and large diameter in the front bearing guarantee uniform precision during the entire service life of the machine. The high maximum speeds ensure optimum and economical machining from the small to the large workpiece.

That's where the INDEX G250 sets standard

- Motorized milling spindle with 360° B-axis
- Main and counter spindles of identical design and power for complete machining
- Reduction of cycle times by simultaneous operation on main and counter spindles
- 5-axis interpolation for the machining of the most complex contours
- Eccentric cross 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)

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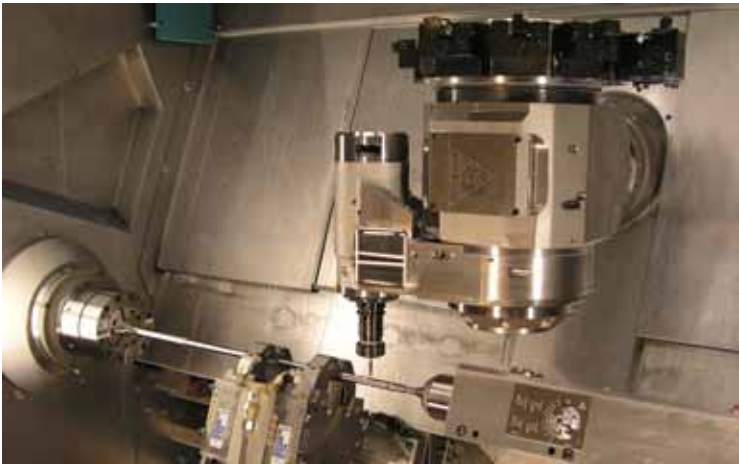
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Pic 1: INDEX G250



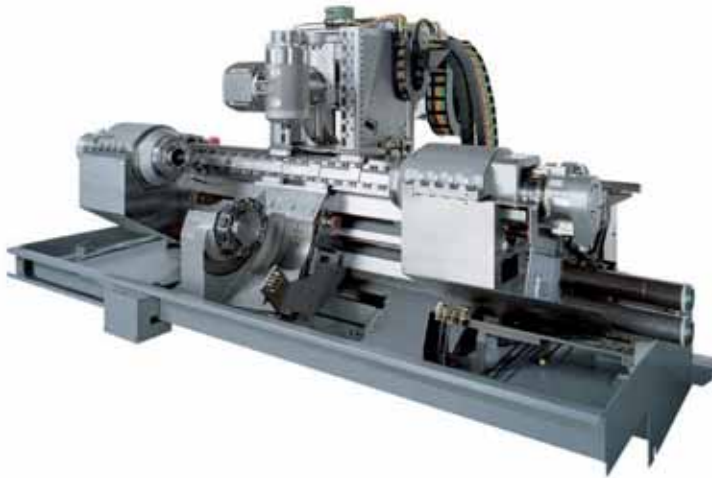
Pic 2: Heavy-duty milling spindle



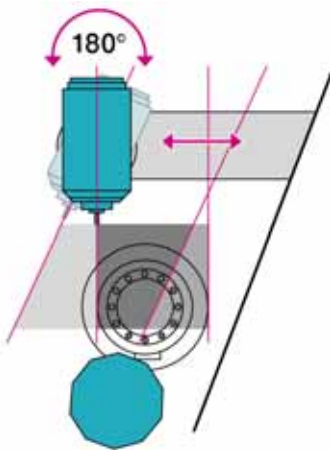
Pic 3: Multifunctional unit, tailstock and tandem steady rest for shaft machining

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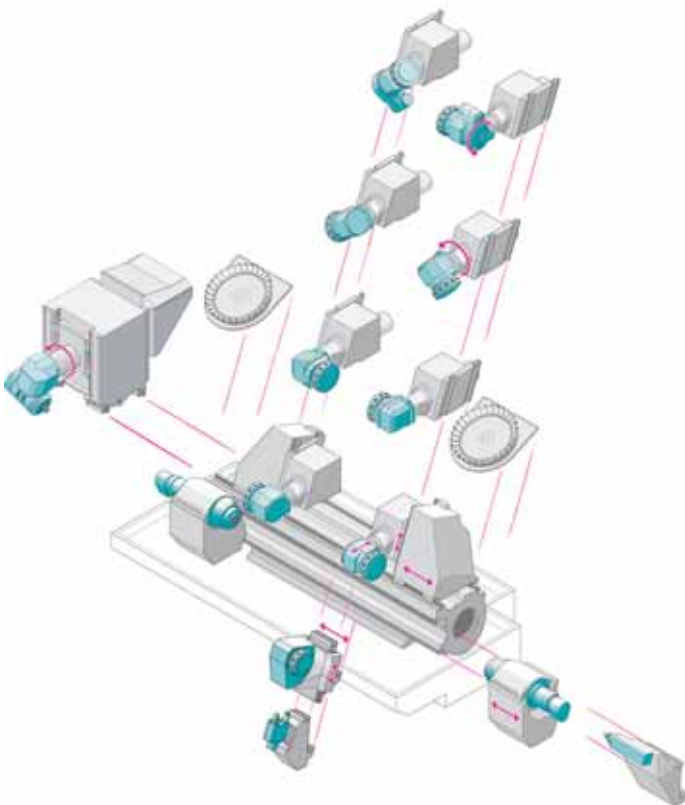
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Pic 4: Impressive mechanical engineering – stable machine bed



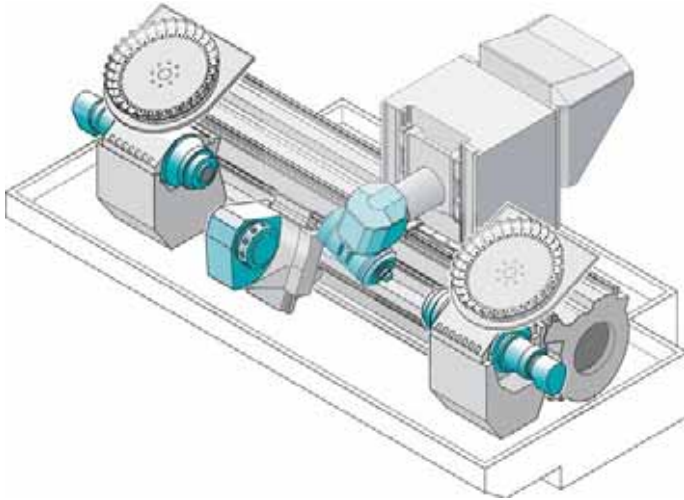
Pic 5: Flexible use of the working area in the Y direction made possible by the A-axis



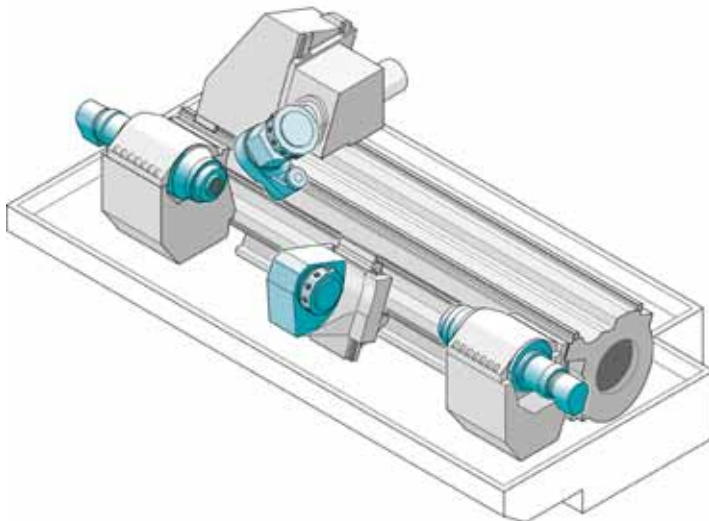
Pic 6: Modular system

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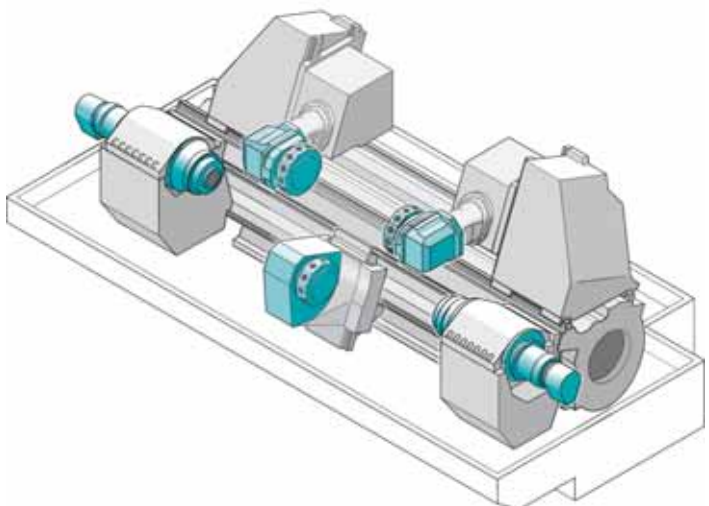
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Pic 7: INDEX G250 shown with heavy-duty milling spindle



Pic 8: INDEX G250 shown with multifunctional unit



Pic 9: INDEX G250 as universal turn-mill center