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INDEX G320: turn-mill center for medium-sized components

**The new INDEX G300 and G320 turn-mill centers are a new addition to the INDEX product range. With a turning length of 1,400 mm, this size now completes our range for high-performance turning and milling of medium-size components.**

Complete machining is rapidly gaining popularity, especially on turn-mill centers that handle both technologies equally well. For the INDEX development department, this was one of the key reasons for launching the G420, a turn-mill center with a completely new design that was in a class of its own. That was in 2018, and it was not long before its success became evident. INDEX expanded the series the following year with the larger, more powerful INDEX G520 variant and, as the logical next step, has now added the smaller INDEX G320 version.

The successful machine design remains unchanged. Based on a rigid, vibration-damping machine bed in mineral cast block design and generously dimensioned linear guides in the X and Z axes, the new G320 offers ideal stability and damping properties, as well as dynamic values, thus guaranteeing top machining results combined with high levels of productivity.

As with the INDEX G420 and G520 models, the motorized milling spindle arranged above the axis of rotation with a hydrodynamically mounted Y/B axis is a key element of the machine. Its powerful drives facilitate a wide range of drilling and milling operations, including five-axis machining. Alternatively, 16.6 kW, 72 Nm, 12,000 rpm (100% DC) or 16 kW, 45 Nm, 18,000 rpm (100% DC) are available. The motorized milling spindle uses a tool magazine with space for up to 115 tools (HSK-T63 or Capto C6) during machining.

On the INDEX G320, the two tool turrets arranged at the bottom also help to ensure efficient machining. Each of their twelve stations can be continuously equipped with live tools. The turrets are not only able to move in the X and Z directions, but also in the Y direction.

The maximum turning length on the INDEX G320 is 1,400 mm. The two identical work spindles (main and counter spindles) are fluid-cooled and provide a spindle clearance of 102 mm at 4,000 rpm. They are powerful and highly dynamic (44 kW; torque 525 Nm at 100% DC).

Thanks to the large working area and the distance between the main and counter spindles, simultaneous machining is possible with the motorized milling spindle and the lower turrets at the main and counter spindles with no risk of collision. The lower turrets are also capable of travelling beneath the main and counter spindles to avoid collisions.

The turn-mill center offers several automation options including a integrated 2-axis handling unit and/or the iXcenter robot cell. Our user-friendly INDEX iXpanel cockpit solutions features a modified version of the Siemens S 840D SL platform.

**Key features of the INDEX G320:**

* Sophisticated working area concept for turning lengths up to 1,400 mm and variable machining options
* Identical main and counter spindles with 102 mm spindle clearance, 525/715 Nm torque (100%/40% DC) at 4,000 rpm
* Max. chuck diameter 315 mm
* Powerful motorized milling spindle with proven Y/B quill kinematics for complex 5-axis milling operations
* Two lower tool carriers, each with 12 stations VDI40 or 15 stations VDI30
* High thermal and mechanical stability

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Figure 1:

The new INDEX G320 turn-mill center with 2 tool turrets and a powerful motor milling spindle. In addition to a gantry loader with double gripper (Fig.), workpiece handling can also be carried out via the modular iXcenter.



Figure 2:

With a turning length of 1400 mm, the INDEX G320 now also completes the range for high-performance turning and milling of medium-sized components.