SAMPUTENSILI

G 160

generating gear grinding machine

New G 160
generating gear grinding machine

Machine highlights

+ Chip-to-chip time less than 2 sec.
+ Innovative and patent-pending machine architecture
+ New virtual Y-axis configuration for high dynamic stiffness
+ High thermal and mechanical stability

The challenge

In the automotive industry the manufacturing of high-precision gears and transmission components is an element of crucial importance. In recent years an increasing demand for the performance requirements of automotive drivetrains has put a considerable pressure on gear manufacturers. The automotive industry is constantly searching for new production solutions that ensure the greatest efficiency, low maintenance, reliability and the fastest possible production times in gear manufacturing.

A typical feature of current gear grinding machines are the 2 workpiece spindles for shortening the non-productive time when changing parts.

Despite this, the non-productive time has never gone under 5 seconds because the spindles are located on a rotary table which is hydraulically locked in position but is inaccurately floating while moving. The unlocking, the settling after moving and the locking in the new position take more time than the motion itself and cannot be any faster by design.

Our solution

The new G 160 splits the X-axis of current machines into two linear slides (X1, X2), each of which carries one workpiece-spindle (Figure 5). So both work-spindles are under full position control anytime. Being driven by high dynamic 30 m/s linear motors changing spindles comes down to 2 seconds including simultaneous repositioning of the tools with the Y-Z-A axes.

Your advantage

The new machine architecture is a breakthrough and ensures the best production times on the market.
The increasing demand on efficiency and noise emission of the gears pushes the grinding process to its limits. The stiffness and stability of a grinding machine is the main design target for such a high dynamic process, and the G 160 presents a unique design to optimize the dynamic stiffness compared to current standard machine architectures.

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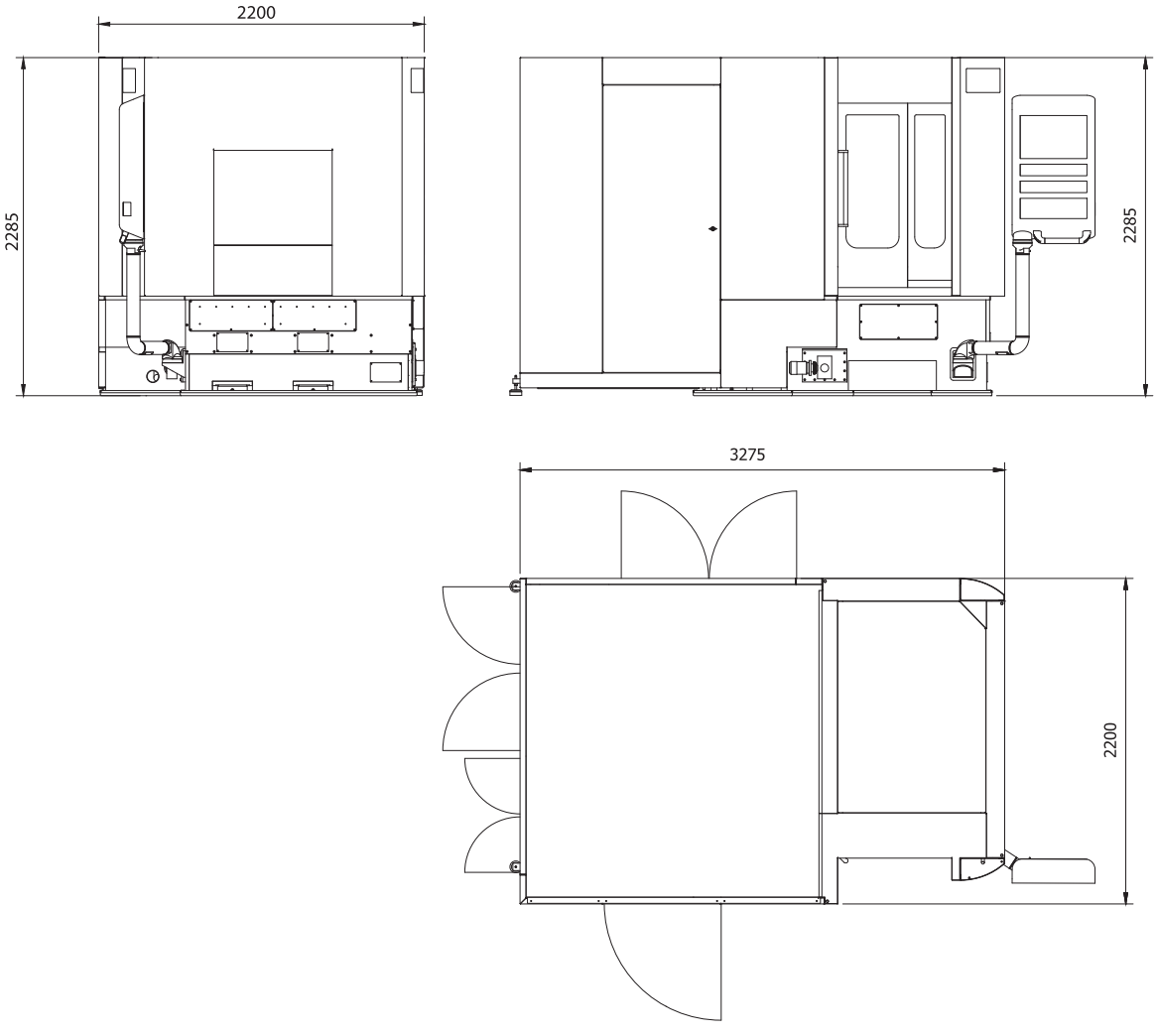
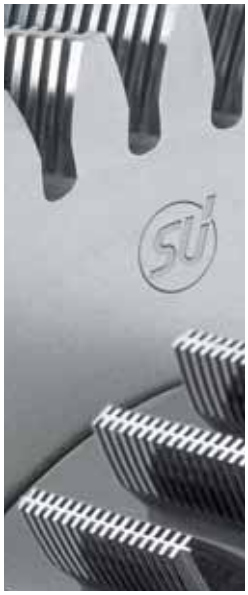
Technical data

Workpiece diameter, max.	mm	160
Module range	m_n	1.0 - 3.0
Workpiece length, max.	mm	300
Face width, max.	mm	180
Helix angle degree		+95°/ -45°
Grinding wheel dia.	mm	275 max 210 min
Grinding wheel width	mm	100
Grinding speed, max.	m/s	80
Dressing tool dia.	mm	123
Machine dimensions L x W x H	mm	3,275 x 2,200 x 2,285
Controls Siemens		Sinumerik 840 D sl





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