

### Vacuum Clamping Systems – getting a good grip of things



#### Project information

<b>Branch</b>	Woodworking
<b>Area</b>	CNC woodworking centres
<b>Customer</b>	Kaiser Möbelwerkstätten GmbH, Untergrösbach
<b>Application</b>	Clamping of workpieces on CNC woodworking centres
<b>Schmalz products</b>	Vacuum clamping system Innospann Steel-Plate-T, suction blocks Quad-Base-T
<b>Customer benefits</b>	- Reduced set-up times - Improved productivity - 12-month amortisation period

#### The problem

An existing CNC woodworking centre was to be equipped with a new vacuum clamping system. Previously, the workpieces were handled manually and this was the reason for most of idle times of the machine. The original clamping

system provided by the machine manufacturer was not flexible enough with respect to positioning of the suction blocks. The blocks were also too heavy and unwieldy, and their holding force was insufficient.

#### Requirements

- Reduction of the set-up times by means of flexible and time-optimised conversion
- A clamping system which is flexible in use and construction, suitable for optimal production of small series and one-off jobs with varying machine loading depending on orders and batch sizes
- Free positioning of the suction blocks

#### The solution

Replacement of the original clamping system on the CNC woodworking centre with the Schmalz vacuum clamping system Innospann.

The basis for this upgrade was the so-called Steel-Plate-T, which can be mounted easily on the machine. The use of two separate steel plates permits workpieces to be changed on one side while another workpiece is being machined on the other side, or even conversion of

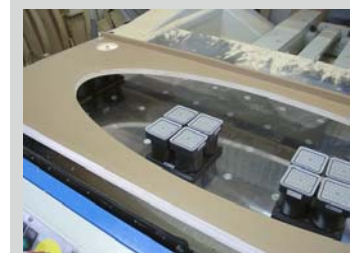
one side for a different workpiece, without interrupting operations. The suction blocks can be placed directly on the Steel-Plate-T and can be positioned freely within the area with outlet valves for the vacuum, without the need for vacuum hoses or other connecting elements which could get in the way. The suction blocks are held in position by magnets, while the workpiece is clamped with the aid of the vacuum.

#### Customer benefits

- Major reductions in the times needed for setting up, changing workpieces and handling the workpieces
- No reduction in the usable Z height
- Rational and productive machining
- Maximal utilisation of the machine performance
- Amortisation of the investment in vacuum clamping technology in just over 12 months
- No need for templates



Clamping of a narrow workpiece with a quadruple suction block Quad-Base-T.



Clamping situation after machining of a workpiece which was clamped with Quad-Base-T and various suction cups.



Martin Kaiser cleaning the CNC machining centre after machining of a workpiece.