NEW PRODUCTS | GF AgieCharmilles

NEW MIKRON HPM – WHEN PERFORMANCE COUNTS

MIKRON HPM 600 HD. Whether for prototype construction, mold making or fully automated small series production, or for output intensive HPC (High Performance Cutting) milling roughing operations or for dynamic surface finishing, the MIKRON HPM 600 HD takes care of almost every requirement.

NOT JUST FOR VOLUME CUTTING

The new vector controlled 15 000 min^{-1} and 20 000 min^{-1} motor spindles are designed with high torque capacity for removing large chip volumes. With peak capacity of 39 kW (S6, 40 %, ts = 2 min) remarkable metal removal rates can be achieved with steel and aluminum. At the same time, the combination of high spindle speeds and dynamic feed rates of up to 7 m/s^2 and 40 m/min enable extensive and uncompromising 3D surface finishing.

HPM 600 HD MACHINE BASE

The low-vibration movement control of all the axes not only forms the basis for output intensive roughing machining, but also for dynamically precise path guidance during surface finishing. The computer-assisted optimized GGG-slides are supported by a solid mineral composite machine base with a net weight of 5700 kg. The enormous static mass is one of the success factors of each MIKRON HPM machine.

REDUCING NON-PRODUCTIVE TIME

There is a choice of several automation possibilities for the MIKRON HPM 600 HD – from the proven MIKRON pallet magazine to robot assembly by well-known manufacturers. The automation solutions optionally available from MIKRON enable efficient machine use around the clock. The result is a significant reduction in down time and non-productive time and consequently high cost effectiveness of the capital investment.

NOT ONLY FAST FOR MILLING

Due to the double arm gripper system, exceptionally fast tool change times of barely more than a second can be achieved. The customer can choose between two tool magazines integrated into the machine. The standard version has 30 tool places and can be extended to 60 places.

CHIPS SAFELY DISPOSED OF

Since with HPC milling, chip volumes can take on considerable dimensions, any accumulation of chips in the working area must be avoided. Due to sophisticated detailed engineering, chip build-ups are reliably removed from the machine area, separated from the coolant and disposed of. There are various construction variations available for chip management.

TOTAL COST OF OWNERSHIP

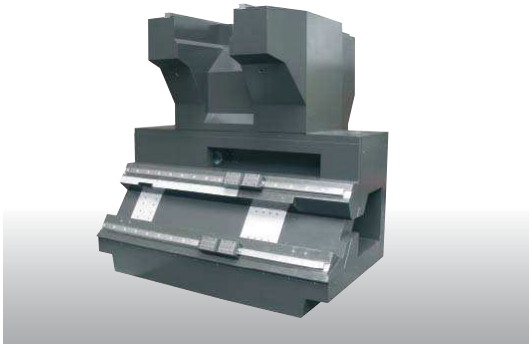
The new 15 000 min^{-1} and 20 000 min^{-1} Step-Tec inline spindles stand out due to their easy-to-maintain design. Inline motor spindle means that the drive assembly and spindle module are separate assembly groups. Therefore, the spindle module can be replaced separately and inexpensively. The drive assembly is unaffected by this replacement. Continuous oil-air lubrication of the ceramic hybrid bearing system ensures a long life span of the spindle module.

OPERATION OF THE HPM 600 HD

The two light doors that close above the corner can be opened at a distance by the operator and enable free access to the work table. Large panes of glass provide a good view of the working area. Regardless of which options the Mikron HPM 600 HD is equipped with, perfect accessibility can always be taken for granted. The established «smart machine» modules help the machine operator to simply and efficiently manager machining accuracy, economic efficiency and the work process, also with the new HPM 600 HD.

VARIOUS INSTALLATION SIZES

The three-axes HPM series is available in three machine sizes. Whilst for the HPM 600 HD, the smallest machine of its type, the starting signal for series production has already been given, its large sister machines, the HPM 900 and 1200 HD, will be available to customers in the fourth quarter 2008. The machines differ primarily in their X working range. This increases from 650 to 900 to 1200 millimeters depending on the model. The maximum workpiece weight is 1200 kilograms on the largest machine. All three machine sizes have a Y working range of 600 millimeters and a working range in the Z direction of 500 millimeters. Consequently, large workpieces can be machined without a problem.



Machine name			MIKRON HPM 600 HD	MIKRON HPM 900 HD	MIKRON HPM 1200 HD
Process routes					
Longitudinal	X	mm	650	900	1200
Lateral	Y	mm	600	600	600
Vertically	Z	mm	500	500	500
Work table					
Slot table		mm	800 x 600	1100 x 600	1400 x 600
Max. work piece weight		kg	500	800	1200
Spindle					
15 000 min^{-1}	Inline motor spindle			SK40 or BT40-CAT40	
20 000 min^{-1}	Inline motor spindle			HSK-A63	
30 000 min^{-1}	Motor spindle			HSK-A63 or HSK-E40	
Tool magazine	Number of tools			30 / 60 / 120 / 170 / 220	
Control system				Heidenhain iTNC 530	