



Customizable and High Precision
for Model and Mould Making Applications

HG 5-axis Universal Milling System P-S-F/M

Flexible machine design for customer-specific requirements



Type: P-S-F(15-13)/M
(illustration without cabin)

Well placed for the future

Excellent performance and shorter and shorter production cycles ensure global competitiveness of model makers. Short processing times, precision results and very cost-efficient production methods present daily challenges. The HG Universal Milling System provides a flexible and intelligent solution to deliver maximum productivity. Geared for the model making industry of the future, we have consistently improved the capabilities of the HG machines of the portal range.

Performance characteristics

The robust construction with reinforced portal and linear axes, in particular the Z-axis, ensures long lifespan and maximum torsional strength. The machine is equipped with a high-frequency milling spindle with 13 kW in continuous operation (S1). An extensive range of accessories offers the opportunity to customize the machine systematically for different materials (including aluminium) and a wide range of applications.

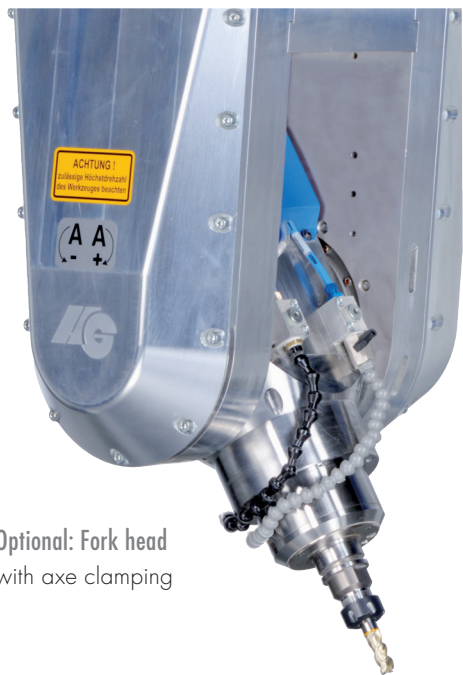
Materials

During dry machining, the machine is suitable for plastics like PU, ureol and composites such as CFRP, GFRP, and aluminium.

Because the machine will be customized and configured perfectly for all materials, there is no need for touch-ups of products. This guarantees an excellent surface finish.



Tool change magazine
12/24 positions
tool length up to 260 mm

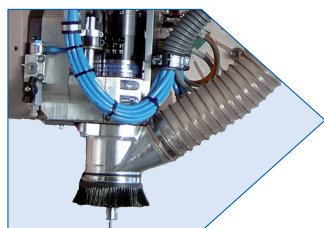


Optional: Fork head with axe clamping

Product benefits

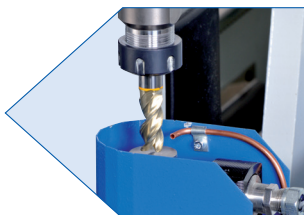
- ▶ 5-axis milling head with direct measuring system for perfect three-dimensional machining
- ▶ Clamping of the two rotary axes for heavy material removal
- ▶ Excellent contour accuracy, even with very rapid movements
- ▶ All components calculated and optimized by means of FEM method
- ▶ Easy operation, simple menu navigation with powerful CNC control Siemens Sinumerik 840D/SL
- ▶ Low maintenance costs thanks to low-maintenance components and mutually compatible mechanics and electronics
- ▶ More operating convenience by mobile desk
- ▶ Highly torsion-resistant cast iron design in rigid portal construction
- ▶ Small utility space due to compact design
- ▶ Safety cabin in sound-proof design with generously sized access area

Options

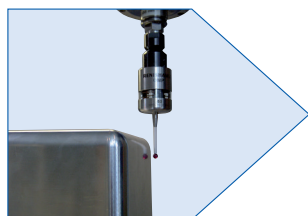


Head exhausting device

Tool measuring for tool length correction and for breakage control



3D tactile measuring system for machine calibration and measuring of components



Safety system Brankamp with recognition of vibration stops the machine and prevents crash drives



HG 5-axis Universal Milling System P-S-F(15-13)/M P-S-F(25-17)/M

The HG 5-axis universal milling system offers maximum process safety and productivity. Its performance characteristics can be optimized in line with your specific needs and requirements through extensive options, enhancement and customization.

Machining range in 5-axis mode	P-S-F(15-13)/M	P-S-F(25-17)/M
X-axis (table), mm	1,500	2,500
Y-axis (portal), mm	1,300	1,700
Z-axis		
at 90° clearance, mm	600 (800/1,000)	600 (800/1,000)
Table size, alu, mm	2,000 x 1,500	2,200 x 1,900
X-axis travel range, mm	2,000	3,000
Y-axis travel range, mm	1,800	2,200
Z-axis travel range, mm	900 (1,200/1,500)	900 (1,200/1,500)
Rotation axis C	max. 540°	max. 540°
Swivelling axis A	± 110°	± 110°

Speed of travel

Rapid traverse linear axes X/Y	50 m/min (110 m/min with linear drive option)
Rapid traverse rotary axes A/C	9,000°/min / 12,000°/min (15,000°/min / 25,000°/min with linear drive option)
Positioning accuracy	up to ± 0.030 mm
Repeatability	up to ± 0.025 mm

High-frequency milling spindle

Rotational speed	13 kW continuous operation (S1), 16 kW (S6) 26,000 / 29,000 rev/min
Tool holder	HSK 40 E or HSK 63 F
Optional	fork head (with direct measuring system and axe clamping)

CNC control

Siemens Sinumerik 840D/SL
advanced surface / look-ahead-function / VCS-rotary, Shop Mill

Tool change magazine

dust protected
12/24 position magazine

Drive, electrical

digital AC servo drives/multiturn system;
optional: linear drives in X/Y

Drive, mechanical

rack (X/Y) with ground helical teeth, ball screw (Z), induction-hardened and ground guides

General data

Machine weight	7,500 kg	8,400 kg
Connected load	approx. 15 kW to approx. 25 kW	
Construction	rigid, vibration dampening grey cast iron design	
Central lubrication	automatic	
Vacuum pump	100 m ³ /h with scrap filter and pressure control	
Referencing	not required because of digital multiturn drives	

Technical training

optional, on your choice whether in the HG technology training centre or on site at the customer's

We reserve the right to make changes due to technical improvements. Please note: This information refers to the standard version of the machine. **Of course, we specify our systems in accordance with your specific requirements.**

Options, enhancement, customization

The system is designed within a modular concept. Our flexible, compatible interfaces ensure we can always meet your specific requirements. With our cost-efficient construction customizations, we offer perfect value for money and real added value for your company: You will get a machine that suits exactly your specific requirements.

Your system partner HG GRIMME SysTech

Founded in 1987, we established ourselves globally as highly regarded machine manufacturer with an excellent track record. As your proficient system partner, we are able to offer complete one-stop solutions. Design and engineering in line with specific requirements and application-specific configuration of the machine with reliable equipment.

Our own customer support organization with domestic and worldwide support centres offers customer support by local service. On demand, we can provide a remote diagnostic link to your HG system. Our hotline service and quick response of our service teams ensure maximum system availability and close customer contact wherever you are.

Please contact us if you need any advice!



Technical training/Application technology



On-line diagnostics via internet



Project management/
Engineering department



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