

**Strong Construction in Single or Double Table Version
to Increase Precision and Efficiency in Plastic Machining**

HG 5-axis Portal Milling System P-S-F/P-T-F

Spotlight on precision and flexibility

High-speed machining

HG Portal milling systems are designed for high-speed machining of medium and large parts. The flexible modular concept of this machine offers the opportunity of adapting the machine to your individual needs. By using our wide range of accessories and equipment, we build the machine that matches your specific needs starting with a standardized system. With its dynamic response, the system performs excellent surface qualities and highest precision.

Performance characteristics

The base construction of the machine is welded; the portal is of grey cast iron conferring high rigidity to the system. The milling system can be fully encapsulated together with the safety cabin. Vibrations are reduced by means of the rigid construction desensitizing the whole HG portal milling system to vibrations.

To obtain further increase of production output, the system can be equipped with two tables (tandem solution) working alternately. While one table is working, the second can be loaded and unloaded. In order to mill very large parts, the tables may be coupled.

Materials

The rigid construction of the machine allows machining of plastics, composites (CFRP, GFRP) and wood.

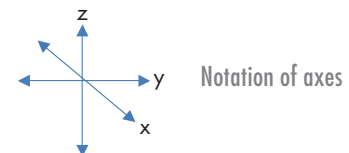
There is no need for touch-ups of products, because the machine will be adapted perfectly to all materials. This guarantees excellent surface finish on all materials.

Applications

The portal milling system is suitable for machining of medium to large parts, such as panelling of car interiors, fuselages and sanitary products (for example bathtubs) etc.



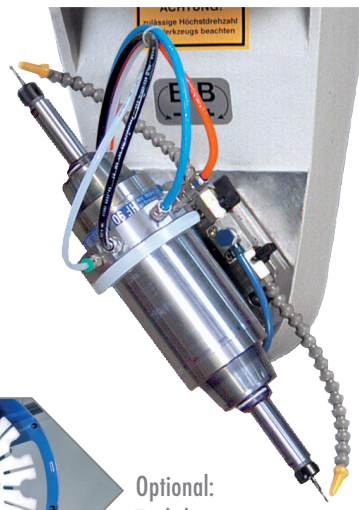
Type: P-S-F(10-20) Single-table system



Type: P-T-F(25-10) – Tandem system
with cabin and separation panel



Milling spindle with twin-shaft watercooled, up to 5 kW



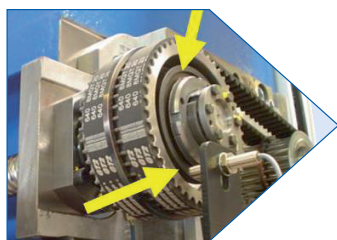
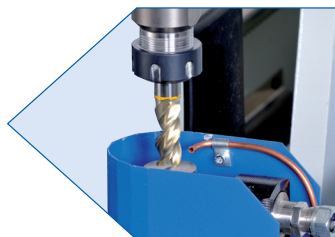
Optional:
Tool change magazine

Produkt benefits

- ▶ 5-axis milling head for perfect three-dimensional tooling of the most different materials
- ▶ Laser-calibrated linear axes
- ▶ Excellent production output and profitability through high contour speed, high cutting and feed rate as well as minimum set-up time
- ▶ Vibration dampening and extreme torsion-resistant portal in grey cast iron, all groups mounted on a floor rail
- ▶ Stretched ball screw
- ▶ Single-table version or tandem table version (synchronizable)
- ▶ High performance CNC control NUM Flexium or Siemens Sinumerik 840D/SL with PC and high-resolution graphics screen, simple menu navigation
- ▶ DNC integration in a process control computer is possible
- ▶ Safety cabin in sound-proof design with generously sized access area

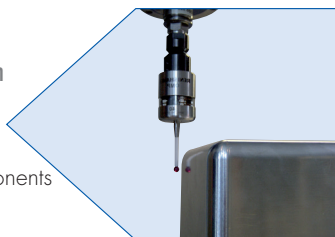
Options

Tool measurement
for tool length correction and for break control



Safety sliding clutch
(the air bag in your system)

3D tactile measuring system
with scaling software for machine calibration and measuring of components



HG 5-axis Portal Milling System P-S-F (Single-table system) P-T-F (Tandem system)

The HG 5-axis portal 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(10-10)	P-S-F(10-20)	P-S-F(25-10)
X-/Y-axis, mm	1,000 x 1,000	1,000 x 2,000	2,500 x 1,000
Z-axis, mm	600 to 1,000	600 to 1,000	600 to 1,000
Work table, mm	1,100 x 1,000	1,100 x 2,000	2,100 x 1,000
Travel ranges X/Y, mm	1,500 x 1,500	1,500 x 2,500	3,000 x 1,500
Travel range Z, mm	850 to 1,250	850 to 1,250	850 to 1,250
Rotary axes C/A	540°/360°	540°/360°	540°/360°

	P-T-F(10-10)	P-T-F(25-10)
X-/Y-axis, mm	1,000 x 1,000	2,500 x 1,000
Synchronous X/Y, mm	2,000 x 1,000	2,500 x 2,000
Z-axis, mm	600 to 1,000	600 to 1,000
Work tables, mm	1,100 x 1,000	2,100 x 1,000
Synchronous Y/Y, mm	1,100 x 2,000	2,100 x 2,000
Travel ranges X/Y, mm	1,500 x 2,500	3,000 x 2,500
Travel range Z, mm	850 to 1,250	850 to 1,250
Rotary axes C/A	540°/360°	540°/360°

Speed of travel

Rapid traverse linear axes X/Y	60 m/min (110 m/min with linear drive option)
Rapid traverse linear axis Z	30 m/min
Rapid traverse rotary axes A/C	12,000°/min (up to 25,000°/min with linear drive option)
Positioning accuracy	± 0.05 mm (± 0.03 with glass scale option)
Repeatability	± 0.05 mm (± 0.03 with glass scale option)

High-frequency milling spindle

Rotational speed	2.5 kW to 8.5 kW continuous operation (S1) 24,000 to 40,000 rev/min
Tool holder	WK 25/HSK 32 E/HSK 40 E/HSK 50 F

CNC control

Siemens Sinumerik 840D/SL or NUM Flexium

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

ball screw (X/Y) in stretched version, ball screw (Z),
induction-hardened and ground guides

General data

Machine weight	approx. 4,000 to approx. 6,500 kg
Max. load	approx. 300 kg per table
Construction	rigid and vibration dampening construction
Central lubrication	automatic
Vacuum pump	60 m³/h, optional 100 m³/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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