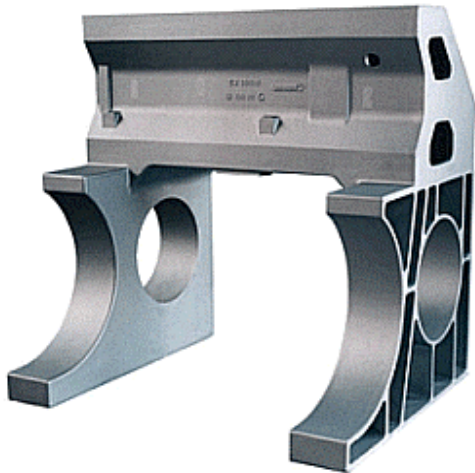


# Quality castings for machine tool industry



is a reliable partner for manufacturers of machine tools. We are certified

according to DIN EN ISO 9001 and work as development partner and supplier for this industry since many years.



**Abb. 1: Portal**

Material: EN-GJL-300; Weight: 1.220 kg;  
Dimensions: approx. 1.450x1.400x1.150 mm<sup>3</sup>  
Delivery type: Raw casting

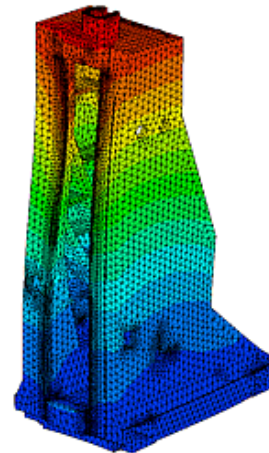
Comprehensive know-how has been collected in

- development and design,
- moulding of hand formed and machine formed castings,
- machining of castings according to the necessary tolerances,
- heat treatment and painting,

quality assurance with dye penetrant inspection, ultrasonic and X-ray testing.

:huh is a competent partner for machine tool manufacturers! In our development department feasibility studies, computer-aided design as well as deformation, modal or thermal analyses by means of finite element calculation are professionally performed. An example for this is the column of a large machining centre (fig. 2), which has been designed by

:huh for a customer.

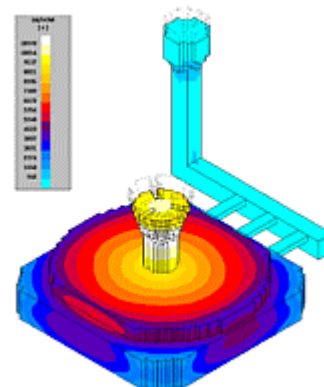


**Abb. 2: Column of large machining centre**

Material: EN-GJS-400-18; Weight: 4.500 kg;  
Dimensions: approx. 3.200x1.600x1.000 mm<sup>3</sup>  
Delivery type: Raw casting

At :huh the development is performed on state of the art 3D-CAD-systems. Out of this data we generate volume models for the computation of the tensions with finite elements method (FEM). If required, on basis of these tensions the strength check is conducted based on the FKM guideline.

Also the computation models for the solidification simulation, which already guarantees a process-safe manufacturing for the first sample, are derived from the CAD data.

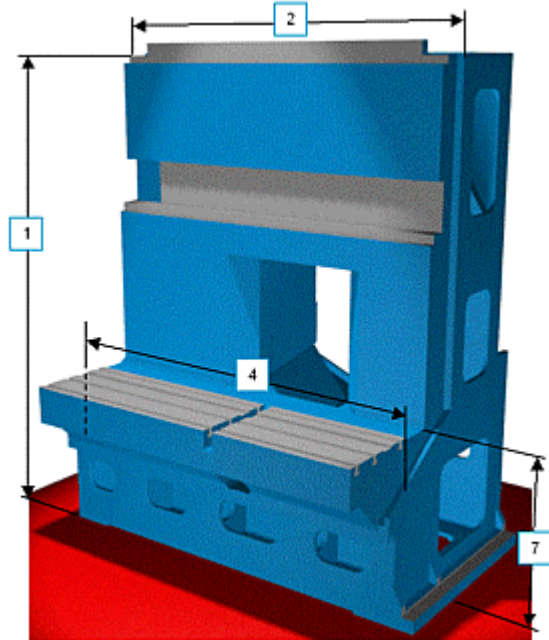


**Abb. 3: Simulation of solidification**

Material: EN-GJL-300; Weight: 162 kg;  
Dimensions: 500 x 500 x 110 mm<sup>3</sup>  
Delivery type: Completely machined ready to mount

# Quality castings for machine tool industry

:huh offers and carries out a restricting of the cost-driving tolerances of the raw casting for minimization of the machining operation costs.



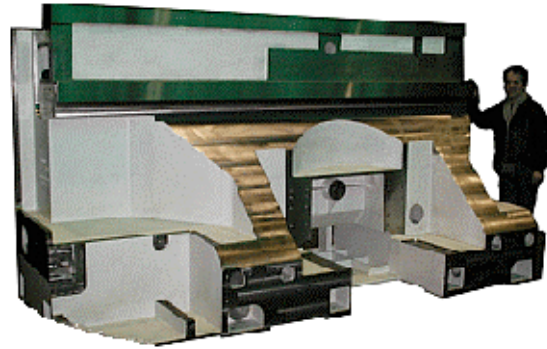
Position	Maß	GTB 17* :h.h	Grafischer Vergleich GTB 17 - :h.h								
			-4	-3	-2	-1	0	1	2	3	4
1	1930 mm	(± 5.0) ± 0.8	[Green bar from 0 to 4]								
2	1340 mm	(± 4.5) ± 0.3	[Red bar from -4 to 4]								
3	1340mm	(± 4.5) ± 0.8	[Green bar from 0 to 4]								
4	1340 mm	(± 4.5) ± 0.8	[Red bar from -4 to 4]								
5	913 mm	(± 4.0) ± 1.0	[Green bar from 0 to 4]								
6	913 mm	(± 4.0) ± 1.2	[Red bar from -4 to 4]								
7	642 mm	(± 4.0) ± 0.7	[Green bar from 0 to 4]								
Positionen 8 + 9 mit 8 mm Aufmaß für die mechanische Bearbeitung gegossen											
8	479 mm	(± 3.5) ± 0.8	[Green bar from 0 to 4]								
9	479 mm	(± 3.5) ± 1.1	[Red bar from -4 to 4]								

\* Toleranzbereich vergleichbar mit DIN ISO 8062 CT11

## Abb. 4: Reduced variability of raw casting dimensions for hand formed column

Material: EN-GJL-250; Weight: 2.100 kg;  
Dimensions: approx. 2.500 x 1.400 x 650 mm<sup>3</sup>  
Delivery type: Completely machined ready to mount

As a result of the combination of foundry and machining plant under one roof processes are simplified and shorter. The supply of pattern, casting and machining to the requested date does not have to be coordinated at large expenditure with *several* suppliers.



## Abb. 5: Machine housing of vertical lathe

Material: EN-GJL-250; Weight: 7.400 kg;  
Dimensions: approx. 3.600x1.960x1.430 mm<sup>3</sup>  
Delivery type: Completely machined ready to mount



## Abb. 6: Completely machined and assembled pallet

Material: EN-GJL-300; Weight: 234 kg;  
Dimensions: 630 x 630 x 150 mm<sup>3</sup>  
Delivery type: Machined and assembled with high precision requirements, ready to mount

The customer receives the casted, painted, machined and tested component ready to be installed out of *one* hand. In German we call it:

**Qualität**  
aus einem Guss!



For this quality stands the Logo of the AGQ