

DMG MORI

BUILDING AND REPAIRING HIGH VALUE PARTS

LASERTEC 125 *3D hybrid*

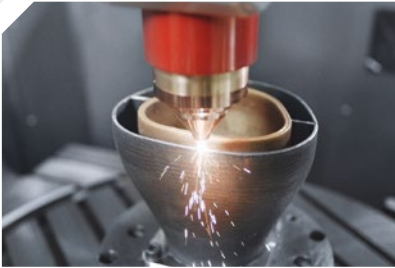
ADDITIVE MANUFACTURING



Laser Metal Deposition combined with 5-axis milling for building and repairing high value parts

MACHINE FEATURES

- + Parts up to 1,250 mm building diameter, 745 mm height and 2,000 kg weight
- + High metal building rate
- + Gradient and multi-material building
- + 5-axis simultaneous milling with coolant
- + New AM Assistant for best process reliability and comprehensive traceability



AREAS OF APPLICATIONS

- + Increasing part performance by using multi-materials
- + Creating new additive features on existing 3D parts
- + Done in one part repair
 - Repair preparation using milling
 - Welded repair
 - Finish mill
 - All in one set-up



Multi-Material Heat Exchanger | Engineering
Material: **Stainless + Bronze**
Dimensions: **ø 200 × 400 mm**
Building time: **22 h**
Machining time: **55 mins.**



Valve Body | Chemicals
Material: **Stainless**
Dimensions: **ø 400 × 300 mm**
Building time: **12 h**
Machining time: **15 mins.**

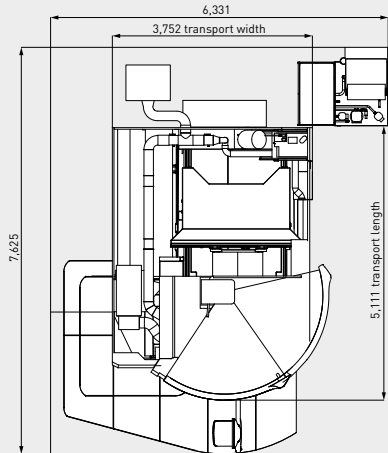
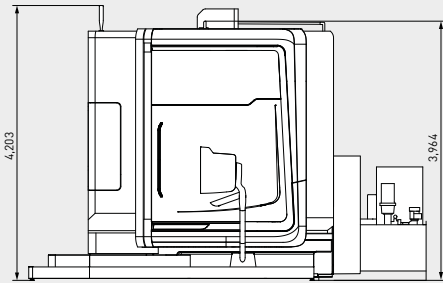


Cutting Knife | Automotive
Material: **HSS**
Dimensions: **ø 400 × 200 mm**
Building time: **1 h**
Machining time: **30 mins.**



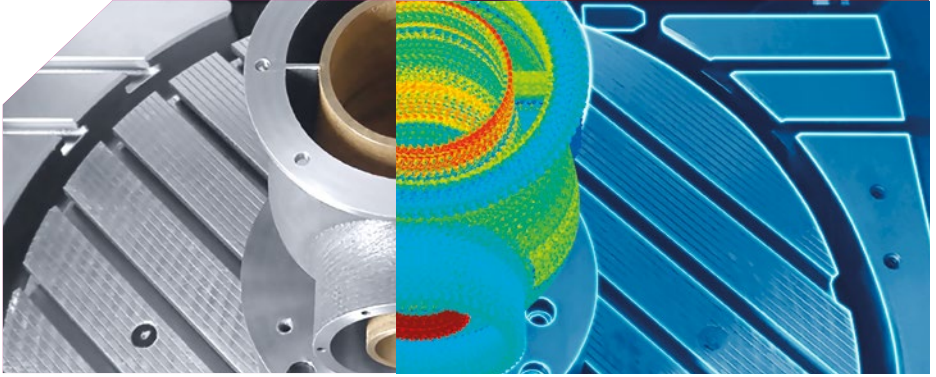
Forming Die (repair) | Die & Mold
Material: **Hardened Steel**
Dimensions: **ø 1,100 × 425 × 218 mm**
Building time: **50 mins.**
Machining time: **10 mins.**

Floor Plans



Technical Data

| | | |
|--|--------------------|-----------------------|
| Work area / Drives | | |
| Travel in X/Y/Z | mm | 1,335/1,250/900 |
| Work table / workpieces | | |
| Dimensions (NC swivel/rotary table) | mm | ∅ 1,250 |
| Max. workpiece dimensions (Additive Manufacturing) | mm | ∅ 1,250 × 745 |
| Max. workpiece weight (NC swivel/rotary table) | kg | 2,000 |
| Rotary axis (C-axis) | degrees | 360 |
| Swivel range (A-axis) | degrees | -120 to +120 |
| Milling spindle (HSK-A63) | | |
| Max. speed (standard/optional) | rpm | 14,000/20,000 |
| Output 40% DC / 100% DC (standard) | kW | 19/35 |
| Torque | Nm | 100/130 |
| Laser source | | |
| Fibre laser diode (standard) | Watt | 2,500 |
| Fibre laser diode (optional) | Watt | 3,000 |
| Laser spot diameter 1 | mm | 3 |
| Laser spot diameter 2 | mm | 1.6 |
| Linear axes (X/Y/Z) | | |
| Rapid traverse speed | mm | 40/40/40 |
| Max. acceleration X/Y/Z | m/sec ² | 6/6/6 |
| Pmax under VDI/DGQ 3441 | mm | 0.008 |
| Tool magazine change system | Number | 30/60 |
| Machine data | | |
| Width × depth × height (basic machine) | mm | 5,674 × 7,625 × 4,203 |
| Machine weight | kg | 27,000 |



LASER METAL DEPOSITION

AM-Evaluator



HIGHLIGHTS

- + Visualisation of the relevant process data (e. g. meltpool size, powder mass flow) as a digital 3D-model as well as in the chronological sequence
- + Detailed analysis of the process data
- + Comparison of processes for quality control
- + Creation of workpiece reports

CUSTOMER BENEFIT

- + Simplified process development
- + Assistance for quality control
- + Allows individual analysis and editing of the process relevant data
- + Easy integration of the software for existing machine with AM Analyser

SAUER GMBH – ADDITIVE MANUFACTURING WITH POWDER NOZZLE



- + 25 years of experience in building laser machine tools
- + Pioneer for additive hybrid solutions
- + Largest installed base of additive hybrid solutions

YOUR CONTACT PERSON

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