

SAMAG WBM

PRODUCTION DEEP-HOLE DRILLING MACHINES

The efficient chipping solution
for axially-symmetric components



SAMAG
GROUP

www.samag.de

Expertise in _____ _____ Deep-hole Drilling Technology

The WBM guarantees extreme precision and optimized unit costs for round parts.



Through the use of technical updates and optimization of modules and software the machines are equipped for the future.



- Universally usable
- Machine with modular design – Available with 1 to 6 Spindle configuration
- Optimum precision plus high productivity
- Handles wide range of steel, cast iron and non-ferrous metal parts

Expertise in _____ _____ Deep-hole Drilling Technology

● The advantages of the SAMAG WBM series

- Extremely sturdy for long-term use
- Ecologically, economically and ergonomically optimized design
- Highly compact and extreme rigid thanks to optimization via FEM
- Low emissions
- Optimized accessibility to all components for service and maintenance
- Transport made easy via lifting hooks

SAMAG
WBM 2



SAMAG
WBM 1

SAMAG
WBM 3



● Chip removal

- Chip conveyor with dirty tank and chip centrifuge for separation of the drilling chips from the deep-drilling oil
- user-specific installation of the removal system on right or left



● Media routing

- Energy and hydraulic supply from above, hence optimum accessibility for maintenance and service
- Two separate energy channels for different media

● Tool steady rests

- Guidance of gun drills (ELB) with chain retraction system
- Up to 3 steady rests, depending on the bore diameter/drilling depth-ratio
- Optimized quick change system for tool change

● Filter units

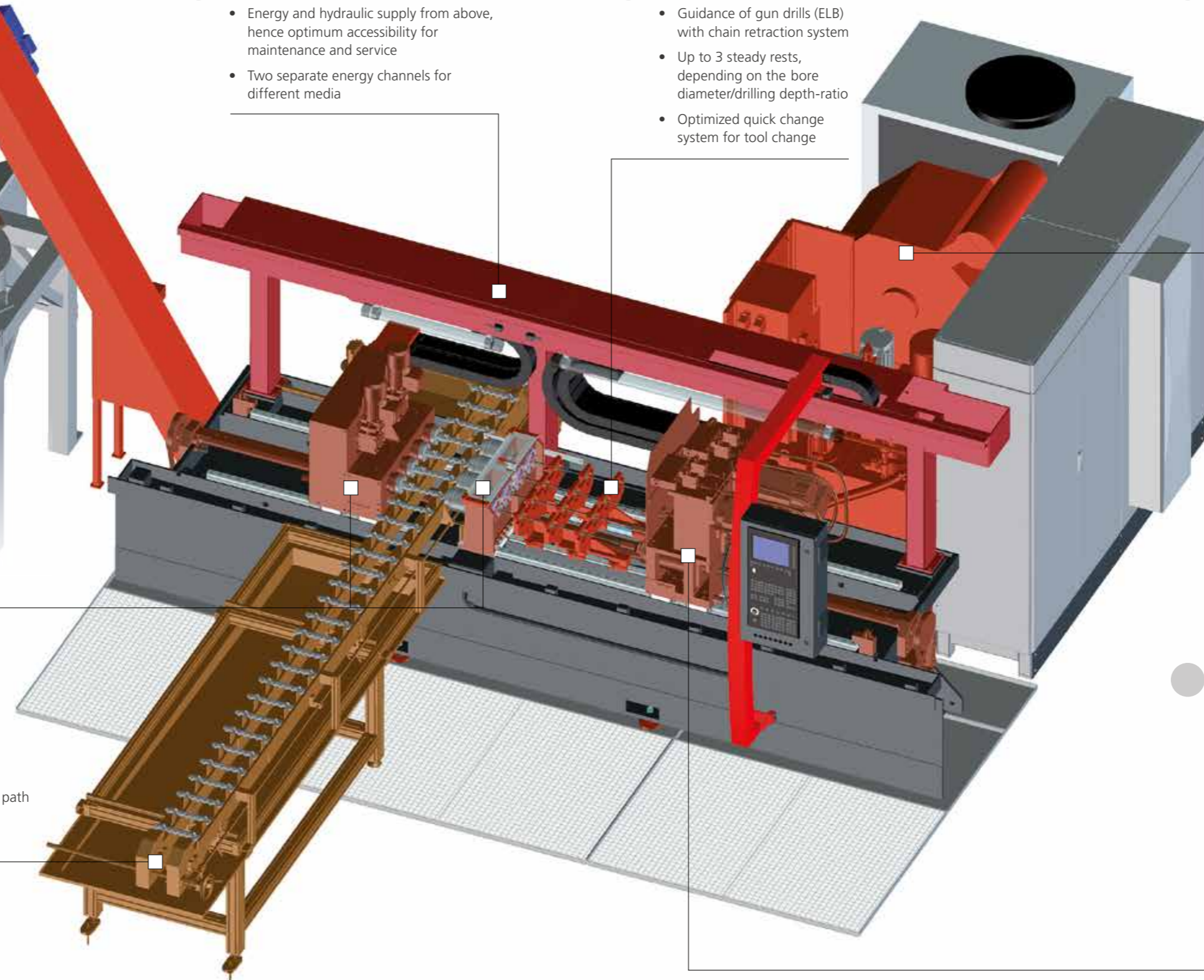
- Optional oil cooler, generously dimensioned tank system, separate dirty and clean tanks
- Adjustable flow rate (high-pressure radial piston pumps) for process optimization
- Secure, low-maintenance filtration by means of band filters
- Noise reduction and swarf protection through screening of the high-pressure area of the cooling lubricant system

● Workpiece clamping

- Servo-driven axis with absolute value encoder
- Fixed drill bushing holder with large chip box and CNC controlled tailstock with individual length compensation
- Clamping cones, optional jaw chuck and collet holders
- Counter-rotating chuck for reduction of the drilling path
- Stable, maintenance-free tailstock spindle

● Workpiece feeding

- Adaptable to the specific workpiece
- Workpiece handling by Manual Loading, Conveyor, Gantry, Robot, Workpiece Storage System and Pallet Transport System
- Machines can be connected via Automation



● Main spindle unit

- 1 to 6-spindle version
- Servo-driven axis with absolute value encoder
- Standard HSK holders (hollow shaft)
- Special deep-hole drilling spindle with large constant internal diameter
- Stable headstock design
- Each spindle separately driven, hence torque monitoring is possible for each spindle
- Monitoring of coolant flow rate and coolant pressure for each spindle

Efficient for axially-symmetric components

- Economical solutions for the most diverse deep hole drilling machining tasks
- Can be utilized as a stand-alone machine or in an automated system
- Space-saving, flexible and user specific installation
- Manual or automatic loading



TECHNICAL DATA	WBM 1	WBM 2	WBM 3
• Standard equipment			
Drilling method	Gun drill	Gun drill	Gun drill
Bore diameter min./max.	1 – 6 mm	2.5 – 18 mm	4 – 25 mm
Number of drilling spindles	1 – 4 / 6*	1 – 4	1 – 4
Drilling depth	400 mm	800 / 1,200 mm*	800/1,200/1,600 mm*
Spindle holder	HSK 25 (10x60)	HSK 80 (25x100)	HSK 80 (25x100)
Spindle distance	160 mm	160 mm	160 mm
Spindle drive power			
(S 1) 100 % duty cycle	3.7 KW	5.5 KW	7 KW
(S 6) 40 % duty cycle	5.5 KW	7.7 KW	10 KW
Spindle speed			
stepless	0 ... 30,000 rpm	0 ... 10,000 rpm	0 ... 6,000 rpm
Rapid traverse	10 m/min	10 m/min	10 m/min
Coolant supply per spindle	150 bar / 14 l/min	105 bar / 45 l/min	105 bar / 58 l/min
Filter unit	✓	✓	✓
Chip conveyor	✓	✓	✓
Full machine cladding (with integrated oil return)	✓	✓	✓
CNC controller Siemens 840 D (mobile control panel)	✓	✓	✓
Process monitoring			
Torque monitoring	✓	✓	✓
Tool breakage monitoring	✓	✓	✓
Axis monitoring	✓	✓	✓
Coolant pressure and flow monitoring	✓	✓	✓
• Options			
Follow rest	2	3	3
Chip centrifuge	✓	✓	✓
Oil mist extraction	✓	✓	✓
Automatic protective doors	✓	✓	✓
Oil sumps, oil sumps with step grids	✓	✓	✓
Power extension 9/13 KW			
Drill diameter			up to 32 mm
Spindle holder HSK 50 (16x80)			
Spindle speed		0 ... 15,000 rpm	
Increased coolant supply per spindle		140 bar / 45 l/min	
• Additional modules			
Conveyor with manual or automated loading	✓	✓	✓
Workpiece dripping fixture	✓	✓	✓
Gantry loading	✓	✓	✓
Robot loading	✓	✓	✓
Workpiece storage system	✓	✓	✓
Pallet transport system	✓	✓	✓
Cross-machine linkages	✓	✓	✓
Workpiece steady rests only with manual loading	✓	✓	✓
Transverse drilling unit	✓	✓	✓
Face drilling unit	✓	✓	✓

*optional; subject to technical changes; status as of August 2015

Always there for you anytime, anywhere in the world



● Top quality and absolute reliability equally define our customer service. Because our customer service naturally doesn't end with the handover of the machines. When you need us, we are there for you as quickly as possible – no matter whether it's a question of maintenance, repair or any issues with operation.

● **Among other things our services include:**

- Machine installation, commissioning and production launch support
- Customer service, maintenance and repair, including express service and rapid repairs
- Spare part supply and delivery of spare parts on short notice
- User-specific training programs
- Support for all technological issues
- Remote diagnosis via Ethernet interface (network)

● As part of our service contracts we offer a wide range of custom solutions for your SAMAG-machinery and for other makes. For example:



Our experienced service team is always looking for ways to minimize downtime.



SAMAG expertise in your vicinity: Our international service partner are trained by us.

- Maintenance, overhauling and retrofitting of SAMAG machines and other makes
- Machine relocations
- Retooling to other components
- Conversion to NC control

We will be happy to provide you with a personal service quotation.

MFZ TFZ
WBM



Whether TFZ, WBM or MFZ - the systems are adapted exactly to the requirements of the customer.



Diversity is _____ _____ our program

SAMAG machine tool engineering in Saalfeld, Thuringia, has a tradition which stretches back over 140 years. At the end of the 19th century the company started to manufacture the first drilling machines here. Since that time, SAMAG engineers have repeatedly contributed to the improvement of the quality and economy of production processes with innovative designs and outstanding technological achievements. Now SAMAG is one of the pioneers in the field of multi spindle process systems.



Our machine tools have a sophisticated safety concept and are extremely easy to service due to their good accessibility.

Today, SAMAG Saalfelder Werkzeugmaschinen GmbH is a leading manufacturer of

- Multi-spindle horizontal machining centers: MFZ series for individual workpiece machining for medium to large-scale series production
- Deep-hole drilling and milling centers: TFZ series for the 4-sided complete machining of cubic workpieces
- Multi-spindle production deep-hole drilling machines: WBM series for the machining of rotationally symmetrical workpieces
- Special purpose machines, for example for the interior machining of differential housings.

Bundled technological competency

The SAMAG GROUP unites four divisions under one roof. Along with machine tool engineering, they focus on the manufacture of components for the automotive and commercial vehicle industry.

In this division of the company, metal cutting, forming and joining processes are used to manufacture ultra-high quality components in small, medium and large series, primarily for vehicle chassis and drive trains. The SAMAG GROUP has access to state of the art production plants including laser cutting, stamping, forming, welding, bonding, cathodic dip-paint coating, powder coating and assembly equipment.

Customers value SAMAG GROUP products precisely for their high quality production and high delivery reliability.



Since 2001, we have introduced the environmental management system and participate voluntarily in the EC Eco-Audit according to the EMAS Regulation.

In order for Samag to receive and pass along their expertise and knowledge, the SAMAG GROUP educates their own employees from within with an apprentice program.



Head office in Saalfeld/Thuringia
Total no. of employees > 650

- The company**
SAMAG Saalfelder Werkzeugmaschinen GmbH in Saalfeld
 Divisions: Machine Tools and Automotive
 Machine tool manufacturing for the chipping industry;
 Machined component production for the automotive industry
- Subsidiaries:**
SAMAG Truck Components GmbH in Rottenbach
 Division: Truck Components
 Processing sheet, profile and tubing (forming) for the automotive industry (cars and commercial vehicles), electrical, medical and mechanical engineering
AGA Zerspanungstechnik Gera GmbH in Gera
 Division: Automotive
 Machined series production of turned, milled and broached parts for automotive and industrial clients

Sales & Service

partners worldwide

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Deep-hole drilling technology

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