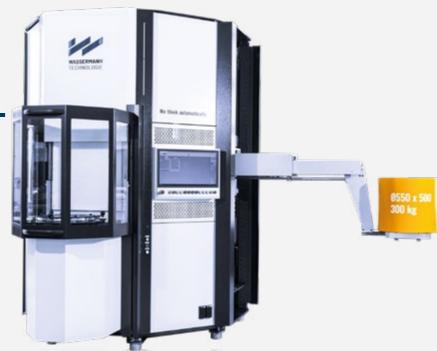


TERMINAL SERIES We think automatically



## THE TERMINALS THAT LAUNCH MARKET SUCCESSES

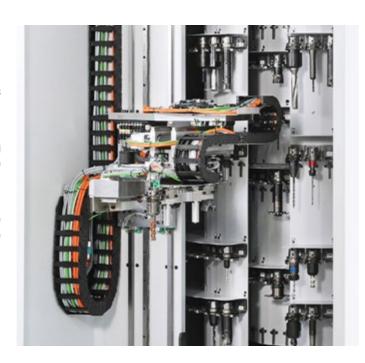


## TERMINAL TOOL SERIES YOUR SPINDLES WILL NEVER REST AGAIN

This is how to make your machines more profitable. The TERMINAL series from WASSERMANN introduces the most efficient way to store and automatically activate tools and workpieces. As a stand-alone solution, a single TERMINAL can store thousands of tools. Extended by transfer modules, it autonomously supplies machines with tools or workpieces – or both. Use automation to lay the foundations for more successful manufacturing processes. Configure your TERMINAL today.

#### **TOOL TERMINAL**

- TOOL-S: The Economical Entry-Level Model S as in shelf: the compact shelf system for up to 350 tools that can be combined with almost all machines.
- TOOL-D: The Space-Saver
  D as in drum: the standard version of this space-saving powerhouse with its patented multidrum can hold up to 552 tools or even more, if desired.
- T00L-L: The Linear Chain
   L as in linear: storage space for well over 500 tools, the maximum capacity depends primarily on the available space.



## TERMINAL WORK SERIES BOX SEATS FOR YOUR WORKPIECES

In WASSERMANN's pallet TERMINALs, workpieces take center stage in the production line. From here they automatically guide each individual workpiece into the machine's machining area and back again. A pallet TERMINAL ensures that machines with an internal tool magazine large enough for upcoming production runs are ready for unmanned production. Get the most out of your machines!



## SIX ARCHITECTURES FOR YOUR WORKPIECE STORAGE

- 1 WORK-S: The Standardized Shelf Magazine S as in shelf: the compact, economical shelf storage system for up to 44 pallets that can be combined with almost all machines.
- 2 WORK-D: The Magazine for Rapid Changes
  D as in drum: the drum magazine with the fastest provisioning times, high workpiece density, a small footprint, and outstanding compatibility.
- 3 WORK-L: The Linear Chain L as in linear: the high-capacity modular storage solution in a straight line that can chain together multiple ma-

- 4 WORK-B: The Pallet Depot
- B as in bulk: combines features from Work-S and Work-L for even more workpieces and higher packing densities.
- 5 WORK-F: Combination Terminal for Almost Anything F as in flexible: cost-effectively bring workpieces, pallets, and tools together in a single system!
- 6 Work-R: The Flexible Robotic Solutions
  R as in robot: the versatile loading system for complex workpiece automation requirements.



OUR TERMINAL BROCHURE 2



#### **TERMINAL TOOL SERIES**

#### TOOL-S

GENERAL INFORMATION		
Design	S, M, L	
Tool holders	HSK 25 - HSK 125 in all common holders	
Tool places	Approx. 90 - 350	
Max. tool weight	Up to 35 kg	
Tool lengths	Customizable	
Footprint	0.81 m <sup>2</sup> – 5.29 m <sup>2</sup>	
Control	TwinCAT 3	





#### TOOL-D

PRACTICAL EXAMPLE: CONNECTION TO GROB UNI- VERSAL MACHINES		
Machine	GROB G352	
Tool holders	HSK-A63	
Tool places	552	
Max. tool weight	15 kg	
Max. tool diameter	80 mm/160 mm	
Control	TwinCAT 3	
Special features	MULTI-TOOL feature	

#### **TERMINAL WORK SERIES**

#### **WORK-S**

PRACTICAL EXAMPLE: CONNECTION TO GROB UNI- VERSAL MACHINES		
Machine	GROB G352	
Pallet sizes	148, 320, 400, 500	
Transfer weight	300 / 400 kg	
Inscription circle	550 / 600 mm	
Pallet spaces	44	
Dimensions	2,950 x 2,350 x 3,900 mm	
Special features	Setup station operates parallel to production	



#### WORK-R

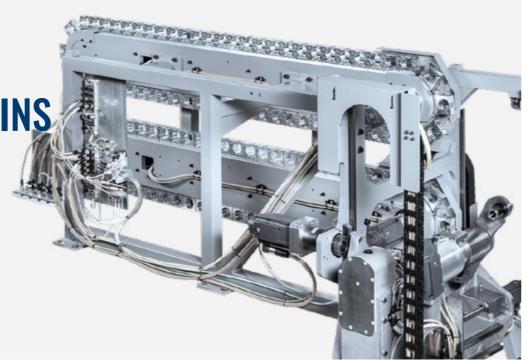


THE FLEXIBLE ROBOTIC SOLUTION		
Machine	HYUNDAI WIA i-CUT400TD	
Architecture	WORK-R robotic handing	
Workpiece size	Customizable	
Inscription circle	Depends on pallet size	
Transfer weight	Max. 10 kg (incl. gripper)	
Workpiece places	Shelf 1: 120, shelf 2: 120	
Dimensions	Varies by machine	
Special features	Multi-machine capability	

OUR TERMINAL BROCHURE 3 OUR TERMINAL BROCHURE 4

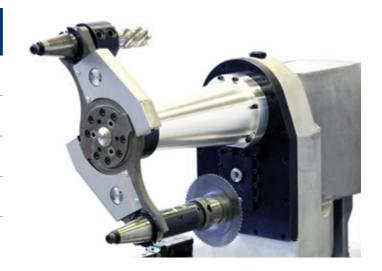


# SO THAT CHANGE REMAINS A RELIABLE CONSTANT



#### **TOOL CHANGER**

	DOL CHANGER WITH AUTOMATIC LOCKING MECHA- ISM FOR YOUR MACHINES	
Tool holders	HSK-25 – 125, Capto, BT, SK, and KW holders	
Diameter	Up to 400 mm	
Tool length	1000 mm	
Swivel radius	Up to 880 mm	
Weights	2 x 45 kg	



## **READY-TO-INSTALL SOLUTIONS**KEYS TO THE SUCCESS OF EVERY MACHINING CENTER

WASSERMANN's ready-to-install tool changers, magazines, and changing systems always fit because we can individually adapt them to any machining center. Installing and connecting them to your machining center's control system is simple, because everything is perfectly prepared. They can quickly be integrated into your subsystems or machines, meaning you and your customers benefit from low-maintenance automation with repeatable results.

#### **FOUR AUTOMATION OPTIONS**

- Tool Changer
- Cam-controlled or servo-controlled hook and pincer gripper with automatic locking mechanism
- Tool Magazine
- Disc and plate magazines as well as chain and sprocket chain magazines
- Tool Changing Systems
- The complete solutions consisting of tool gripper plus tool magazine
- Workpiece Changer
   Precision workpiece handling



#### **TOOL CHANGING SYSTEMS**

THE FLEXIBLE ROBOTIC SOLUTION	
Number of tools	Up to 140
Spindles	2
Tool holders	HSK-25 – 125, Capto, BT, SK, and KW holders
Dimensions	Space-optimized
Design	Modular

## THE FLEXIBLE ROB

#### **BUILT-IN BENEFITS**

- Patented safety: grippers with position-dependent automatic locking mechanism
- Cam-controlled: maximum precision with low maintenance requirements
- Scalable: supply magazine for multiple machine tools
- Cost-effective: custom-optimized for your machine series
- Endurance-tested: in daily use at our own production facility
- Certified quality: QA with test runs and test reports

WASSERMANN's ready-to-install solutions are the easiest way for OEMs to pass on the benefits of automation to their own customers.

OUR TERMINAL BROCHURE 5 OUR TERMINAL BROCHURE 6



### JUST DOUBLED THE THROUGHPUT

#### - THE COURAGE TO IMPLEMENT UNMANNED SHIFTS



Small businesses are often reluctant to embrace automation. Yet they, too, can significantly increase their cost-effectiveness with the right solution. This was demonstrated for a four-person company active in the manufacturing technology sector in a collaborative project between WASSERMANN Technologie, RINK Machine Tools (general representative of GROB in Hesse), the machine manufacturer GROB, and the control technology specialist PROCAM.

Despite the same number of personnel, the throughput of the new complete system more than doubled compared to the two machines that were replaced! The maximum flexibility resulting from the combination of technology and software now allows the company to run two completely unmanned shifts.

## THE MOST EFFICIENT WAY TO MANUFACTURE

#### - AUTOMATION IN OUR OWN PRODUCTION FACILITY



We use a great deal of our own technology in WASSERMANN's in-house manufacturing operations. This is not only daily confirmation to us that our solutions are efficient and reliable, but also allows us to produce more efficiently. We have automated the following machines with WASSERMANN terminals:

**Hedelius BC 100/50:** existing system retrofitted with a TOOL-S tool terminal

**DMG Mori DMU 125P:** fully equipped with a TOOL-D tool terminal from WASSERMANN **Grob G350 and Grob G150:** complete automation with TOOL-D tool magazine and WORK-S pallet magazine

**Hyundai WIA LM 1800:** automation with WORK-R robotic cell

#### YOUR COMPETITIVE EDGE WITH OUR TOOL MANAGEMENT:

- $\sim$  Space-saving: high tool density, e.g., 552 tools in only 3.5 m<sup>2</sup>
- A generalist: can be used with all common tool holders
- Compatible: tool storage with interfaces to tool management, tool presetting, and production
- Cost-effective: quickly pays for itself

- Market-driven: complex orders with existing machines
- Productive: SReduce downtime with sister tools
- Attractive: state-of-the-art manufacturing environment for your team
- Meets your specific needs: three basic architectures for flexible configurations

#### **BENEFITS OF OUR PALLET TERMINALS:**

- Productive: greater throughput with the same number of people
- Space-saving: high pallet density with small footprint
- Cost-effective: short amortization period quickly leads to an improved bottom line
- Time-efficient: pallet setup during machining and quick pallet changes
- Competitive: ready for unmanned shifts
- Needs-based: configurable capacity and handling
- Versatile: can be used with multiple machines and machining centers
- Heavy-duty: high transfer weights up to 800 kg

OUR TERMINAL BROCHURE 7 OUR TERMINAL BROCHURE 8



## SERVICES – FOR MACHINE, SYSTEM, AND PROCESS AUTOMATION WE DELIVER RESULTS

With its four service areas of Engineering, Manufacturing, Software, and WT-Plus, WASSERMANN is your one-stop shop for automation. This structure has clear advantages for our customers, because direct lines of communication keep projects running smoothly. Fluid boundaries between the areas speed up collaboration. A central partner simplifies project coordination. Furthermore, this portfolio always gives you the option of bringing exactly the additional resources you need into your project.

#### **VALUE CREATION AND PRODUCTION**

Discover our expertise in machining and explore our 3000 sqm filled with machines and testing equipment.

#### ENGINEERING AND PROJECT MANAGEMENT

We design, optimize, calculate curves, develop, and simulate automation solutions. We bring your ideas to life.

#### **WT-PLUS**

Tell us your needs and requirements and use our consulting and market knowledge to overcome your manufacturing and automation challenges.

#### **Software and Control**

Come and see how we support process automation with data, software, control, software-supported machine functions, and interfaces for yourself.

#### A REAL FAMILY BUSINESS – FROM THE BE-GINNING TO THE PRESENT DAY

We don't just call ourselves a family business because we're owner-operated. We view our entire team of over 200 employees as part of the family. Taking action together, assuming responsibility together, and working together to achieve success is what we believe a family business is all about.

Here at WASSERMANN, everyone contributes to ensuring that our customers are satisfied and delighted with us. Satisfied customers play an important role in our continuous growth, as many new leads at WASSERMANN are generated on the basis of recommendations from our customers.



#### 50 Years of WASSERMANN

- Founded in: 1969
- Type of company: owner-operated
- Employees: 200
- Production space: 4500 m<sup>2</sup>
- Assembly space: 3500 m<sup>2</sup> including flexible project areas
- Certifications: DIN EN IS 9001; DIN EN ISO 14001; DIN EN 9100

OUR TERMINAL BROCHURE 9 OUR TERMINAL BROCHURE 10

## LET'S BEGIN WORK-ING ON YOUR SOLU-TION TODAY

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