



TM Tool Dispensing Systems

Intelligent solutions and equipment
to optimise tool storage and tool
management

- TM Multi-Vend
Tool Management System
- TM Tool Vending Machine

GUHRING
The Tool Company

Central Tool Management – around-the-clock

Guhring's TM Multi-Vend tool management system is a modular expandable automated system with electronically locked drawers for the storage of all types of tools. Thanks to the flexible composition of drawer heights and partitioning possibilities the TM Multi-Vend tool management system can be adapted to suit your specific requirements.

Operation with Guhring's TM software ensures a controlled storage and dispensing of the tools. Furthermore, the customer benefits from all evaluation and reporting possibilities of this intelligent software including the monitoring of minimum stock levels and automatic ordering.

Being an open system, the TM Multi-Vend tool management system is multiple supplier capable and, an ideal solution, not only for tool storage. Measuring and inspection instruments, assembly tools as well as expendable items can also be managed, stored and dispensed by this system to suit your needs.

Guhring's Multi-Vend Tool Management System offers a considerable saving potential

- reduction in ordering costs thanks to online connection
- reduction in tool procurement/administration personnel requirements
- reduction in capital expense and stock value thanks to optimised stock control
- no machine downtimes thanks to permanent and reliable tool availability



One system - many possibilities:

Individual partitioning of the drawer heights to the customer configuration ensures that the TM Multi-Vend tool management system can be perfectly adapted to your storage requirements. Detailed information and dimensions can be found on page 7.

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Spiral insert for single dispense

With immediate effect a spiral module for single item dispensing is available for the TM Multi-Vend Tool Management System. The selected tool is dispensed via a separate drawer. This module offers 100 % dispensing control.

NEW

Lockable compartments



Anti-slip mat



Recess sets



Compartment inserts



Partitions



Various tool holders



The basic configuration of Guhring's TM Multi-Vend Tool Management System

- electronically lockable tool administration system of sturdy sheet steel construction
- full extension drawers (loading capacity per drawer max. 180 kg)
- individual partitioning material for drawers
- Guhring TM software with touch-screen and bar code reader
- online link to several suppliers possible
- interfaces to external WWS/ERP systems
- PC with Microsoft operating system
- system extendable through add-on modules



Tool withdrawal from the separate drawer

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TM Multi-Vend Tool Management System advantages



“A good service is important to us!”



Robert Koch GmbH, Trieringen

“The TM Multi-Vend Tool Management System is the optimal entry-level solution for us to add to our existing tool cabinets”

Robert Koch GmbH is a medium-sized company boasting a long tradition and specialising in the manufacture of highly accurate machined components. Tool storage was by conventional drawer cabinets, until the introduction of Guhring’s TM Multi-Vend Tool Management System, however, without access and withdrawal control or a computer-assisted stock control.

Guhring’s TM Multi-Vend Tool Management System is an intelligent addition to the existing tool cabinets. The tools continue to be stored in the existing tool cabinets but are managed via the TM Multi-Vend Tool Management System. The simple, but clever solution at Robert Koch: In the drawers with lockable storage compartments are not tools but keys to gain access to the conventional tool cabinets. The key withdrawal and return via Guhring’s TM Multi-Vend Tool

Management System allows an indirect monitoring of the stock movement. Subsequently, only a small initial investment in a relatively small TM system was required to keep all the tools under control.

The advantages for Robert Koch GmbH are considerable: Robert Koch appreciates the savings made in tool ordering and tool searching to one hour per day. In addition, the ‘dead’ stock in the company has disappeared considerably reducing capital commitment. Instead, the system software provides accurate information regarding stock levels and order requirements. In total, Robert Koch estimates the saving is in excess of 10 percent.

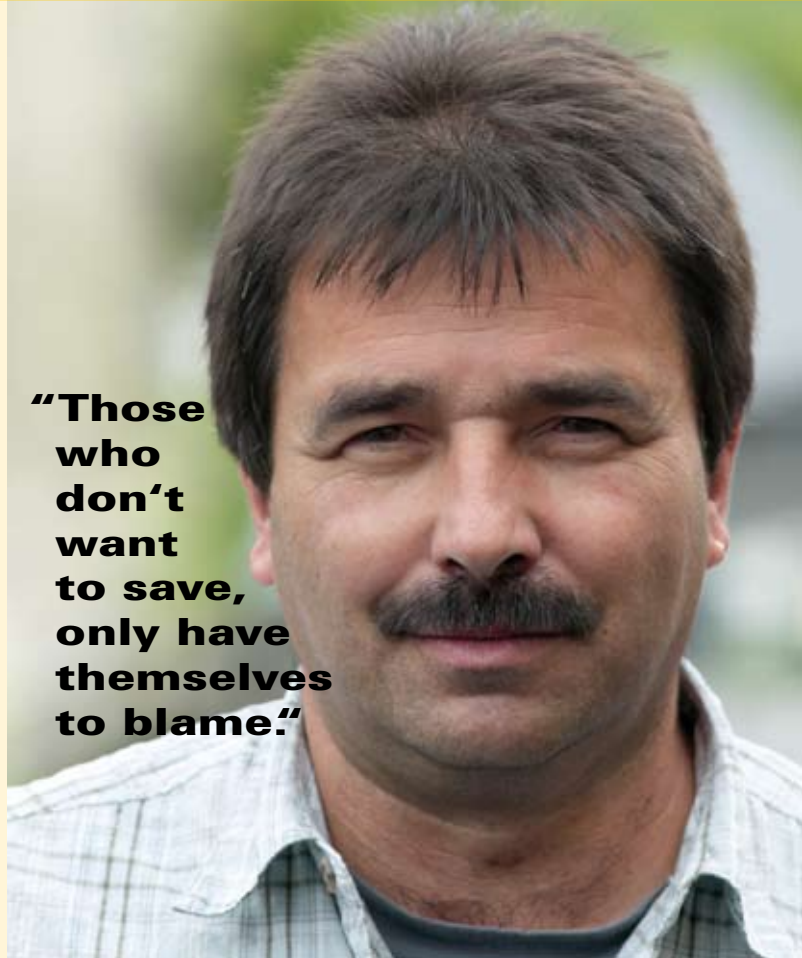
m - satisfied customers appreciate the

AFS Fördertechnik GmbH, Mudenbach

“The investment in the TM Multi-Vend Tool Management System should amortise within 5 years. We have reached this target in less than 3 years. Those who shy away from this investment only have themselves to blame!”

Horst Bender, owner of AFS Fördertechnik GmbH, manages his tools and measuring equipment with Guhring's TM Multi-Vend Tool Management system. He particularly values the permanent overview of stocks and withdrawals. The latter information is special interest with the measuring equipment requiring calibration or adjustment after a certain number of applications - information, provided without problem by the TM Multi-Vend Tool Management system. The permanent stock control simplifies the planning and tool ordering considerably: "I now take stock in 5 minutes, not in a week! Lack of tools, manual lists, chasing etc. are now things of the past."

“Those who don't want to save, only have themselves to blame.”



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TM Multi-Vend Tool Management System Customised - even the colour



Uniform picture:
At Scholz GmbH in Neuhaus-Schierschnitz the tool storage is always perfectly tidy thanks to the TM Multi-Vend Tool Management system.

Scholz GmbH, Neuhaus-Schierschnitz

„We place great value on a bright, friendly and certainly tidy tool storage. Therefore, we wished for the special colour orange. Not a problem for Guhring!“

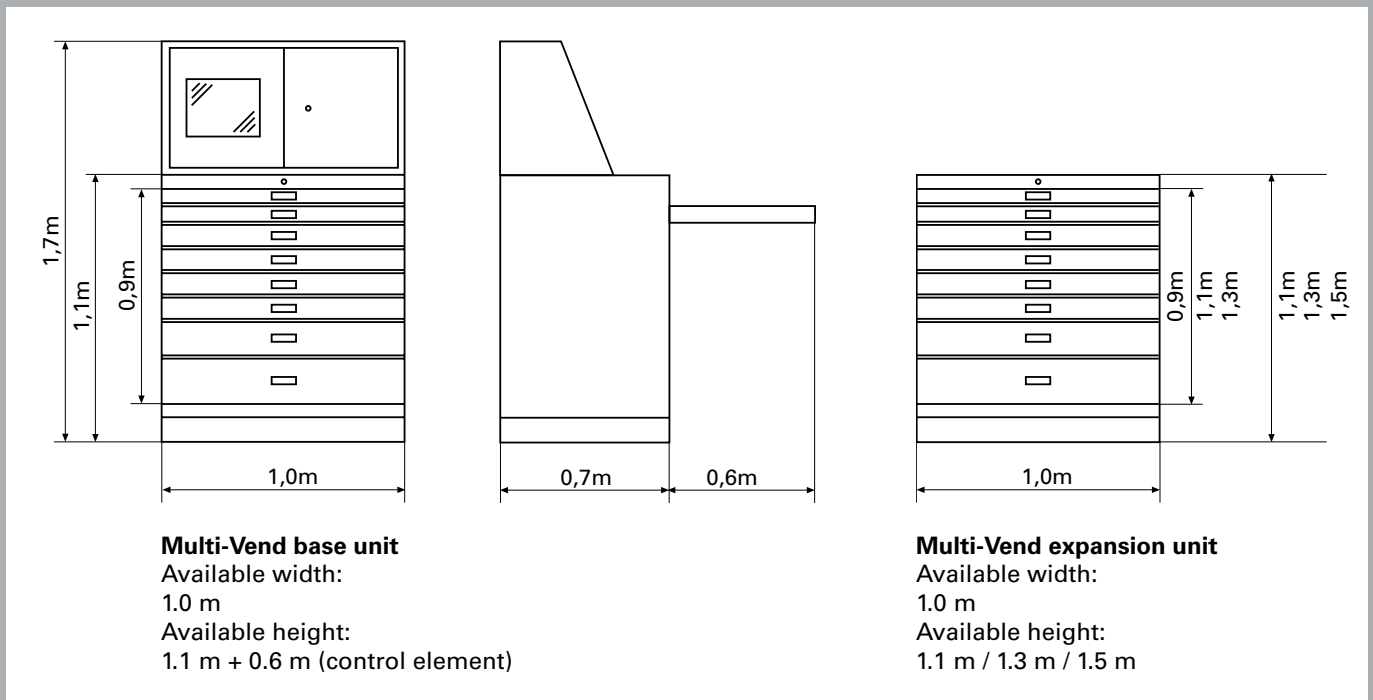
Scholz GmbH has established a name for itself in metal cutting as a specialist for milling, grinding and water jet cutting. The vast tooling requirement for the varied machining tasks is stored in a modern tool dispensary using the Guhring TM Multi-Vend Tool Management System with its base unit has been added to with nine 'add-on' units and a spiral system. Furthermore, tools in numerous cabinets with locking compartments are managed via the TM software. Thanks to the simple and intuitive operation of the system, tools required in production are quickly



at hand despite the size of the storage area. Automatic stock monitoring notifies the supplier directly regarding requirements. This eliminates the absence of tools and equipment.



TM Multi-Vend Tool Management System Designs and Dimensions



Standard drawers

Heights: 75 mm / 100 mm / 125 mm / 150 mm
 200 mm / 250 mm / 300 mm

Partitioning material (see also page 3):

- anti-slip mat
- recess sets
- compartment inserts
- partitions
- various tool holder systems

Drawers with spiral insert

- drawer height: 150 mm
- spiral insert for a maximum of 10 spirals

additional requirement:

- withdrawal drawer with withdrawal shaft and 3 manually lockable compartments, drawer height: 150 mm

Other

- forklift base with removable front panel
- operating voltage: 230 V / 50 Hz

Drawers with electronically locked storage compartments

Available drawer heights:

- 75 mm (effective height 50 mm)
- 100 mm (effective height 75 mm)
- 150 mm (effective height 125 mm)

Compartments per drawer	Internal dimensions		Compartment layout	
	width	depth	width	depth
48	109 mm	75 mm	8	6
40	109 mm	95 mm	8	5
32	109 mm	125 mm	8	4
36	146 mm	75 mm	6	6
24	146 mm	125 mm	6	4
18	146 mm	175 mm	6	3
24	220 mm	75 mm	4	6
20	220 mm	95 mm	4	5
16	220 mm	125 mm	4	4
12	440 mm	75 mm	2	6
8	440 mm	125 mm	2	4

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TM Vending Machine: 100 % dispensing

Modular system

The TM vending machine is adaptable to your specific tool and storage requirements. The modular construction from different units enables the design of the TM Vending System to exactly meet the customer's needs.

The basis of the TM vending machine is centred around the control unit, which contains the control electronics, the operating program with touch-screen and barcode reader as well as manually lockable drawer for keyboard and additional stock.

To extend the control unit there is a choice of further modules, that can be freely combined with the control unit and are naturally also designed according to your requirements.

When configuring the drawer module, the height as well as the compartment set-up of each drawer can be individually chosen, always providing optimal storage space as well as an ideal storage system for the smallest to the largest tool.

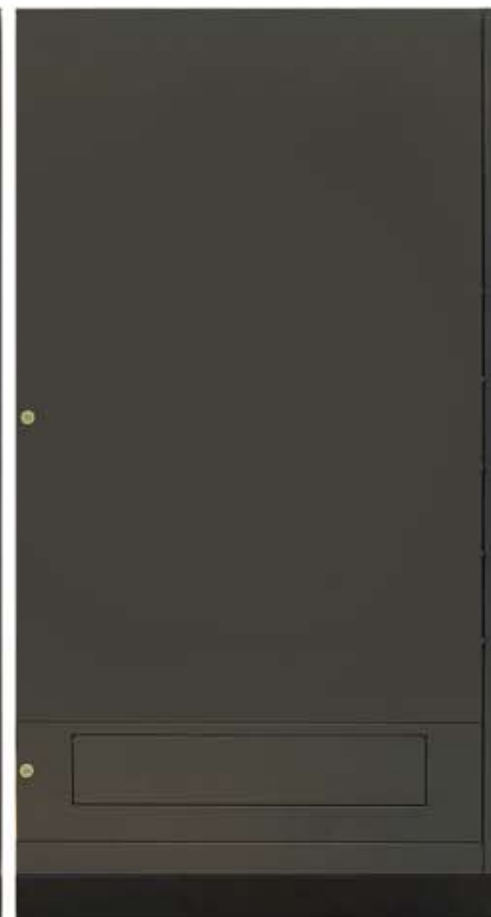
Spiral modules are especially suited for storing and dispensing tools in compact dimensions and required in large quantities. Restocking is either via a cabinet door providing access to the entire spiral system or via drawers enabling access to the individual sections of the spiral system (multi-supplier capability).



Control unit: Operating element with PC, touchscreen and scanner; manually lockable compartments.



Expansion module fully automatic drawer: Model with automatically lockable drawers in different heights and with individual partitioning.



Expansion module spiral machine: Model with cabinet door, designed with 60, 70 or 80 spirals.



control to meet your needs

A vertical pullout module is available for extra length tools or tool holders. The folding door module can be supplied with either two or eight compartments.

Thanks to its adaptability to the customer's individual stock requirements, the TM vending machine not only provides the possibility of secure tool storage and management, but other production equipments (so-called C articles) are also catered for.



Vertical pullout for extra length tools, i.e. gun drills up to a length of 1500 mm



Expansion module spiral machine: Multi-supplier capability with drawers for restricted access when stocking.



Expansion module vertical pullout: Secure storage place for long tools.



Expansion module folding doors: Secure storage place for large tools.



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TM Vending Machine in operation

Engel Austria GmbH, Schwertberg/Österreich

John Deere, Mannheim

MAHLE Motorsport GmbH, Fellbach

Numerous companies from a wide range of industries have relied on Guhring's TM vending machine for the storage and management of tools in their production. As well as the continuous availability of the tools they particularly appreciate the consumption and cost control that the system enables them.

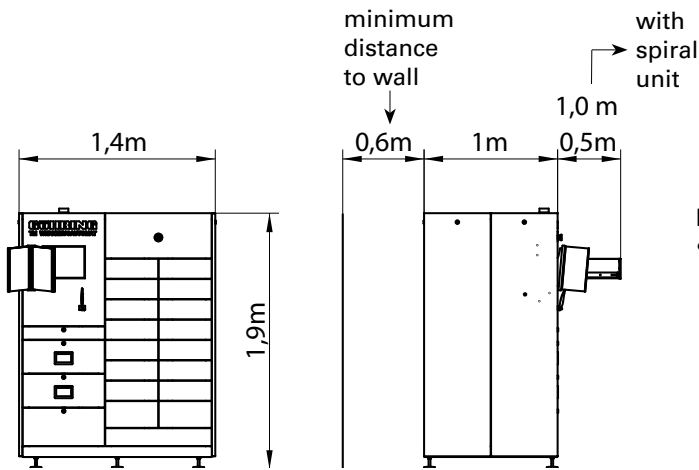
The Austrian Engel Austria GmbH, world-wide the largest manufacturer of injection moulding machines and leading plastic equipment manufacturer, use TM vending machines within the framework of a logistical Tool Management by Guhring. In total, at Schwertberg and St.Valentin in excess of 400 different tools are managed with the TM vending machine within the framework of a logistical Tool Management. Based on the all round success further expansion is already planned.

John Deere is one of the leading manufacturers of machinery and vehicles for the agricultural, forest, structural and municipal engineering. At the Mannheim factory, TM vending machines ensure the provision of tools in one of the most modern tractor factories in Europe.

In the motorsport division of MAHLE GmbH in Fellbach near Stuttgart the specialists for piston and engine components also rely on the TM vending machine for the storage and management of their high-tech tools with which they manufacture high-performance parts for Formula 1, Touring and long distance racing cars.

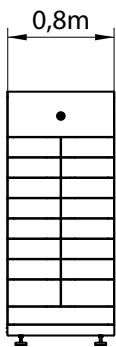


TM Vending Machine Designs and dimensions



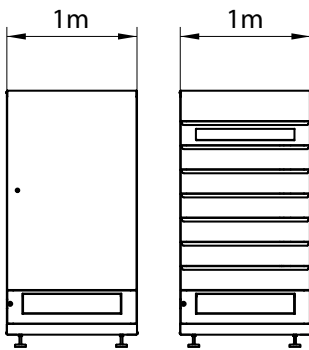
Basic module

- Control unit + module to customer requirements



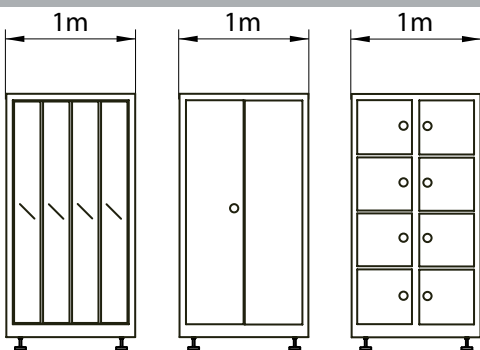
Drawer module

- Useable width: 210 mm
- Useable depth: 460 mm
- Useable heights: 40 mm / 65 mm / 90 mm / 140 mm / 190 mm



Spiral module

- Type S with cabinet door and up to 60 / 70 / 80 spirals
- Type M with 7 individual pullouts, multi-supplier capable, maximum 70 spirals
- Type E for single withdrawal with one withdrawal flap per pullout, avoids fall of tools, maximum 70 spirals



Vertical pullout module

- 4 vertical pullouts, maximum loading capacity 200 kg per pullout
- model with accessibility on both sides
- model with 5 compartment floors and 4 holder carriers each (HSK, SK, Capto)

Folding door module

- model with 2 electronically lockable folding doors and 4 compartment floors

Lockable compartment module

- model with 8 electronically lockable compartments

Other

Operating voltage: 230 V / 50 Hz

Network connectivity: RJ 45 interface



Never lose sight of your tool stock and consumption

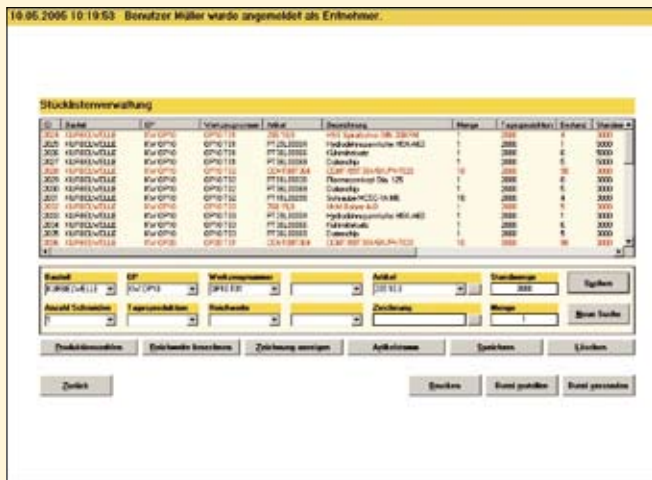
Thanks to Guhring's intelligent and user-friendly TM software the TM tool dispensing system is simple, quick and intuitive to operate via integrated touchscreen and barcode reader.

Simultaneously, Guhring's TM software documents all movement of stock levels. The evaluation of this data enables a comprehensive and detailed reporting according to different criteria. This provides the greatest possible transparency with tool stock and consumption as well as with cost allocation.

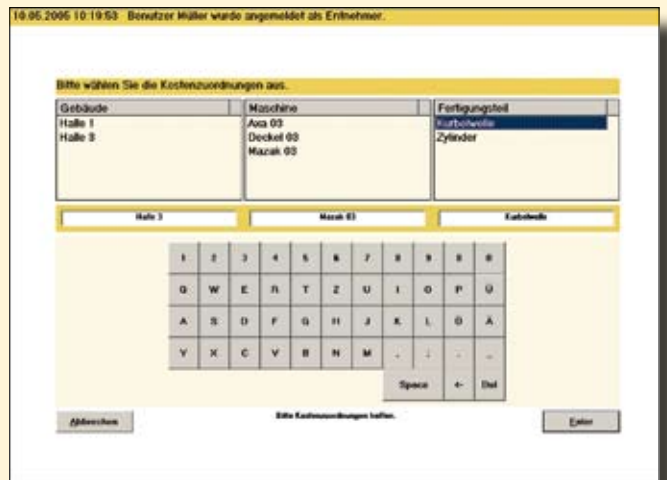
In addition, interfaces provide reliable connection to most different merchandise management systems as well as an online link to suppliers via the Internet, i.e. for automatic ordering procedures when reaching a defined minimum stock.

TM Software performance characteristics

- simple, intuitive user guidance.
- comprehensive stock management functions, which control the Guhring TM vending machines.
- three-step cost hierarchy for clear cost allocation of tool withdrawals.
- exact consumption analyses to different criteria, as for example, tool consumption per component, machine or production area, ABC analyses.
- display of pictures and CAD graphics.
- measuring equipment management.
- re-grind management.
- production of tool stocklists.
- connection to SAP, TDM, Coscom, IBM, ODBC, WebRFC, Zoller Measuring Systems etc. possible via appropriate interfaces.
- individual solutions can be programmed on customer request.
- the software is available in the languages German, English, French, Italian, Dutch, Polish, Danish, Hungarian, Czech, Spanish, Portuguese and Chinese (traditional).



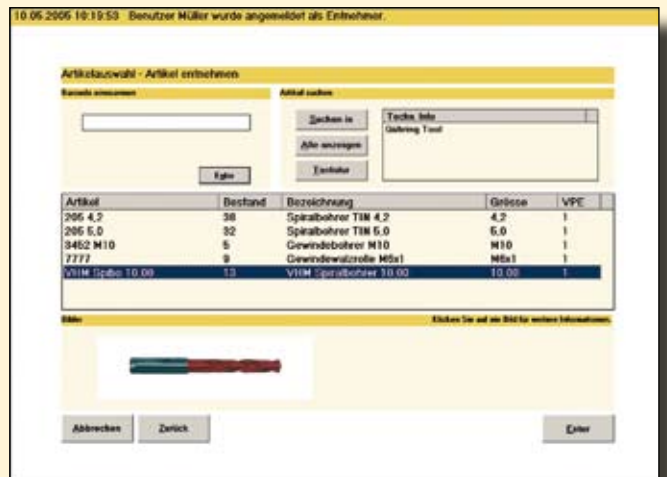
Bill of materials management for the production of new and for maintaining existing tool stocklists.



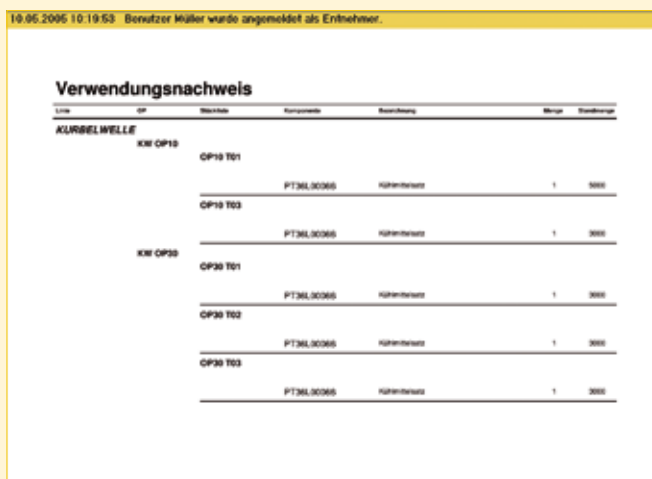
Allocation of withdrawn tools to different cost types.



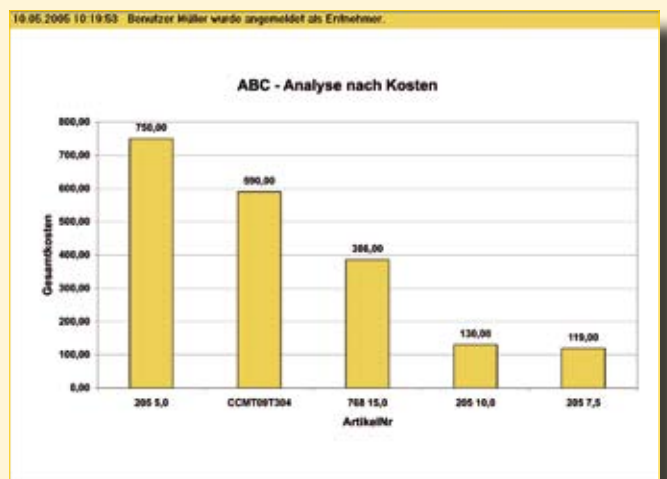
Stocklist print-out, display of required data according to customer specifications.



Tool selection according to different criteria, i.e. article number, description or size.



Usage verification regarding the application of tools.



ABC analyses for a detailed cost distribution.

As a total supplier for machining applications Guhring provides complimentary services to support the application of its tools. They range from a re-grind service to complex and customer-specific Tool Management concepts.

Guhring's Tool Management Service includes five different modules that are flexible, individual and tailor-made for you to arrange and combine according to your requirements.

The aim of Guhring's Tool Management Service is to ensure

- technology awareness
- high quality
- just in time
- cost effectiveness
- increased productivity

provision of all tools required in the customer's manufacturing process as well as relieving the customer of non-value added tasks and services.

Guhring's TM tool dispensing systems are an essential component of the "Logistics" module and decisively relieve you of tool storage and administration costs.

Utilise the competencies and services of Guhring's Tool Management Service to increase your efficiency and optimise your tooling logistics. Choose the equipment required in your production and combine them for your individual Tool Management package.



Process planning

Are you just setting-up a new production line?

Do you want to optimise the complete manufacturing process and apply intelligent tooling solutions?

Then Guhring's Tool Management Service will provide the following support:

- tool layouts
- tool design
- technological parameters
- manufacturing documents
- planning the original equipment



Logistics

Prevent down-times through lack of or wrongly supplied tools and spare yourself unnecessary administrative costs of processing the tool order, delivery and storage.

To ensure the correct tool is at the machine at the right time, we also take over tasks in logistical matters:

- tool vending machines and tool administration systems
- determination of requirements
- planning and acquisition
- consignment stock
- incoming goods inspection
- warehouse management
- provision of new tools at the machine
- collection of worn tools at the machine
- monthly invoicing

gent tool storage and management



Tool application

The actual tool application requires numerous operating steps that Guhring's Tool Management Service can relieve you from. Enabling you to concentrate on your core task: the machining of components. You can confidently leave the preparation of new tools and the maintenance of worn tools to us:

- stock withdrawal
- assembly and pre-setting
- disassembly
- evaluation
- despatch for refurbishment
- scrapping



Tool maintenance

The evaluation of a worn tool has shown that it is worth refurbishing? An applied tool is to be optimised by modifications? These are also tasks for Guhring's Tool Management Service – including the accompanying logistics. Our service centres world-wide takeover the following services quickly and uncomplicated directly near you:

- tool collection
- de-coating
- re-grinding
- coating
- modifications
- tool delivery



Process optimisation

Our offers as part of the process optimisation module predominantly target the optimisation of tools already applied in the customer's production. As a result, the customer can on the one hand reduce the range of tool options and therefore the stock-keeping, on the other increase the efficiency of the production. For this purpose, we offer the following services:

- ABC-analysis of the tool costs
- analysis of unstable processes
- plan of action
- target tracking



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