



Large-scale storage system STOPA UNIVERSAL
Exceptionally versatile with modular design
and software interface



»We can now manufacture more productively, flexibly and economically. Because we are now able to return sheets to storage, operate with low staffing levels and keep larger quantities of materials in storage ready for machining. This is an advantage that allows us to secure lower purchase prices.«

Hermann Schickling, Managing Director of H. Schickling GmbH Maschinenbau, Visbek, Germany

„Increase your productivity!“

STOPA UNIVERSAL – Versatile large-scale storage system for industrial use

The STOPA UNIVERSAL can not only be dimensioned to meet each customer's specific needs, it also provides automatic interfacing with peripheral systems. Integrated into a software-based system environment, the warehouse lies at the heart of production activities.

Investments in STOPA's fully automated storage systems soon pay for themselves thanks to the inexpensive use of available space and high-precision access to stored sheet materials.

Variable station layouts permit the rapid and reliable provisioning of materials and can be adapted to specific operating requirements.

STOPA large-scale storage systems are more than just material stores - they ensure the smooth flow of materials in the manufacturing sector and by doing so guarantee economic efficiency.

Decision in favour of STOPA UNIVERSAL,

- ✓ if the construction height doesn't matter.
- ✓ if a large storage system is needed.
- ✓ if you have a lot of stations.
- ✓ if you have got different pallet formats.

When integrated in software-based systems (warehouse management or ERP), the storage system thus acts as the interface between material provisioning, material flow and the processing machinery.

As a logistics centre, the storage system provides clarity - that means: no search times, detection of minimum stock levels and high-precision access to sheet materials.

A wide variety of materials with differing formats, stacking heights and payloads are stored on special system pallets. The longitudinally driven storage and retrieval unit with telescopic forks extending on both sides performs handling operations while preventing damage to material, thus contributing to quality assurance.



Machined parts can be returned to storage thanks to the direct interfacing between the bending machine and the storage system.



A robot takes previously stored, laser-machined parts from the scissor lift table for further processing.



Two scissor lift tables supply the SheetMaster with sheets from storage.

„Optimize your workflows.“

Simple output and return of material

A range of station variants are available for the manual link-up of the storage system to workstations and machines.

The raw material is transported to the required machining location using transport carts or scissor lift tables. Leftover material and offcuts are returned to storage in the same way after machining.

As a result, workstations and machines can be supplied with materials while the associated machining steps are in progress.

Stations can be arranged along the side of or at the front of the shelf tower for the insertion or removal of raw materials.

Transport carts or scissor lift tables with plungers allow loading and unloading of the system pallets.

Insertable centring units ensure that the sheets are precisely located on the system pallets (reference corner).

Special unpacking tables permit the convenient removal of sheet metal stacks from the pallets prior to their insertion into the storage system.

For the storage of europallets or skeleton containers, an insertion station can be equipped with additional centring units.



Fully automatic interfacing of processing machinery

Processing machinery can run at optimum efficiency thanks to the automation of loading and unloading operations.

The machine is supplied by a loading cart which brings raw material directly from the store to the loading unit. After machining, the finished parts are transferred to a separate unloading cart and returned to storage.

Both the loading and unloading carts are equipped with the necessary automation components such as spreader magnets, empty pallet detection and an encoder for longitudinal positioning. The machine and storage system communicate with one another via the warehouse management system.

The optional weighing unit on the storage and retrieval unit supports the warehouse management capability and enables the weight of each pallet to be recorded whenever it is removed from or returned to stock.

Reliable and versatile storage and retrieval unit

The storage and retrieval unit in the STOPA UNIVERSAL system has been designed with the needs of manufacturing industry in mind.

It is based on a robust and reliable telescopic unit combined with an absolute travel measurement system for all axes.

The stacking height check and bay-occupied check features further enhance system safety. Optical data transmission technology permits contact-free data transfer.

The overhead bus bar ensures a reliable power supply. The travelling switchgear cabinet houses the control components.

The storage and retrieval unit is equipped with a plug-in manual control unit for the service mode.



Rapid overview plus simple operation

One crucial advantage of the automated warehouse management functionality is the option for ongoing inventory management. The STOPA LVS warehouse management system provides comprehensive capabilities for the management of all stored materials.

The controller identifies the requirements of robots, handling systems and processing machinery immediately and precisely. It communicates with the ERP and warehouse management

systems and so ensures automated warehouse management and the provision of materials to upstream machines.

The system is operated using an industrial PC with a slot PLC which is integrated into a robust operating console. The graphical display of the individual system components permits the simple and clear operation of the storage system and connected stations.

STOPA LVS key features

- ✓ Clearly organized GUI
- ✓ Management of any required number of shelves and storage areas
- ✓ Blocking of shelves, items or individual batches
- ✓ Static and/or chaotic storage, configurable for each bay and pallet
- ✓ Management of inventories possible down to batch level
- ✓ Full withdrawals, partial withdrawals, warehouse admission, relocation of stock
- ✓ Automatic determination of part quantities through integrated weighing unit (optional)
- ✓ Function scope individually configurable for each user, table view, interface language
- ✓ Management of multiple segments on one pallet/cassette
- ✓ Monitoring of minimum stock levels
- ✓ User and rights administration



The customer provides the operating console and computer. STOPA implements the software.



The clearly organized display simplifies operation.

Software interfaces

	Type	Option
PLC controller	Siemens S7	VPN or STOPA TelePresence Portal
Warehouse management system (LVS)		Interface between LVS and processing machinery
		ERP interface
		Interface to connected machines

„Keep things clear.“

The benefits at a glance

- ✓ Well-organized, space-saving storage
- ✓ Reduced damage to materials
- ✓ Dimensioning to suit customer's needs
- ✓ Automatic interfacing to processing machinery
- ✓ Ongoing inventory management via the warehouse management software (LVS)
- ✓ Enhanced work efficiency



It is also possible to store europallets in stock thanks to a special mechanism that prevents slipping.



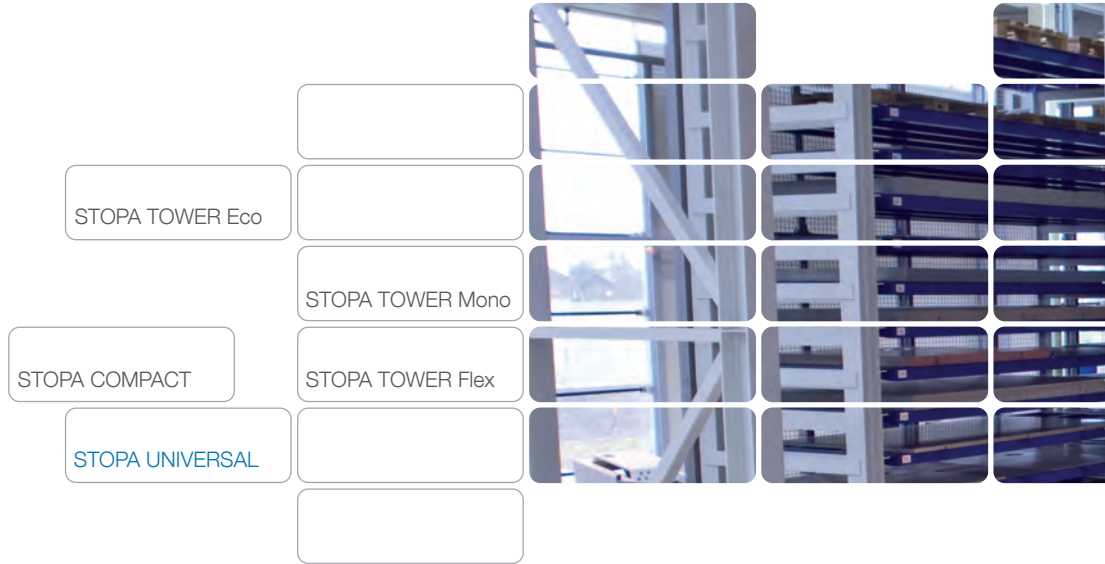
Machines interfaced with the storage system are provisioned with material on a just-in-time basis. This guarantees trouble-free production workflows.



The STOPA UNIVERSAL storage and retrieval unit in use.

Technical Data

STOPA UNIVERSAL	Pallet formats MF (medium)	Pallet formats GF (large)	Pallet formats XF (extra-large)	Pallet formats SF
Dimensions W x L [inches mm]	48" x 96" 1250 x 2500	60" x 120" 1525 x 3050	80" x 160" 2032 x 4064	
Load capacity per shelf [lbs kg]	6600 3000	6600 3000	6,600 / 11,000 3000 / 5000	Special formats available on request
Upper dead area [inches mm]	35.5" 900	35.5" 900	39.4" 1,000	
Lower dead area [inches mm]	28" 700	28" 700	30" / 31.5" 750 / 800	
Shelf pitch [inches mm]				
Material stack height 5.1" 130	11" 280	11" 280	12.2" 310	
Material stack height 7.8" 200	13.8" 350	13.8" 350	15" 380	
System height, length, width	Dependent on circumstances on-site!			



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