



ICAM INDUSTRIAL
INTELLIGENT SPACE SOLUTIONS

SILO^{XL}, THE SINGLE-COLUMN VERTICAL LIFT MODULE FOR LONG AND / OR HEAVY ITEMS

SILO^{XL} is our single-column vertical storage system with shifting trays for the intensive storage and safe handling of long and / or heavy items. Thanks to its vertical development, SILO^{XL} ensures maximum exploitation of any available vertical space within a minimum footprint.

SILO^{XL}

LONG & HEAVY ITEMS STORAGE SYSTEM

THE SPACESAVER VLM FOR HEAVY SIZE



KEY BENEFITS AT A GLANCE

- Maximum exploitation of the vertical space in a minimum footprint
- Drastic reduction in time during handling operations
- Ergonomics and safety for operator
- High level of protection for the stored items, protecting them from damages and external or unauthorized access
- Optimization of the manufacturing time when machine tools are placed near VLM (for example cutters)
- Real-time monitoring of the status of the storage system and stock levels with an automatic inventory

SILO^{XL} is the perfect **single-column vertical lift module for the intensive, safe and organized storage of long and / or heavy items**, such as profiles, pipes, bars, tubes, sheet metal, panels, etc., within trays up to 7 m (277.7 inches) wide with a load capacity of 1,000 kg (2,204.6 lbs) each.

Its vertical development allows the optimal use of any available vertical space, within a minimum footprint, and it can even be installed outdoors.

The stored items are automatically brought to the operator, making the picking and retrieval handling of long and / or heavy items easier, faster and more comfortable. Walking time is considerably decreased as well as the time necessary for searching. The percentage of goods damaged in storage is also drastically reduced.

Each **SILO^{XL} VLM can be used as a stand-alone solution or integrated into the manufacturing process**: the access opening can be equipped with a side opening in order to facilitate picking and retrieval operations of long items and their transfer to machine tools, such as cutters, located near the VLM.

Load cells, installed as standard on the access opening, ensure that the weight of the stored material is continually monitored, thereby avoiding any possible malfunctions or downtime caused by excessive weight.



A RELIABLE STRUCTURE WITH A MINIMUM FOOTPRINT

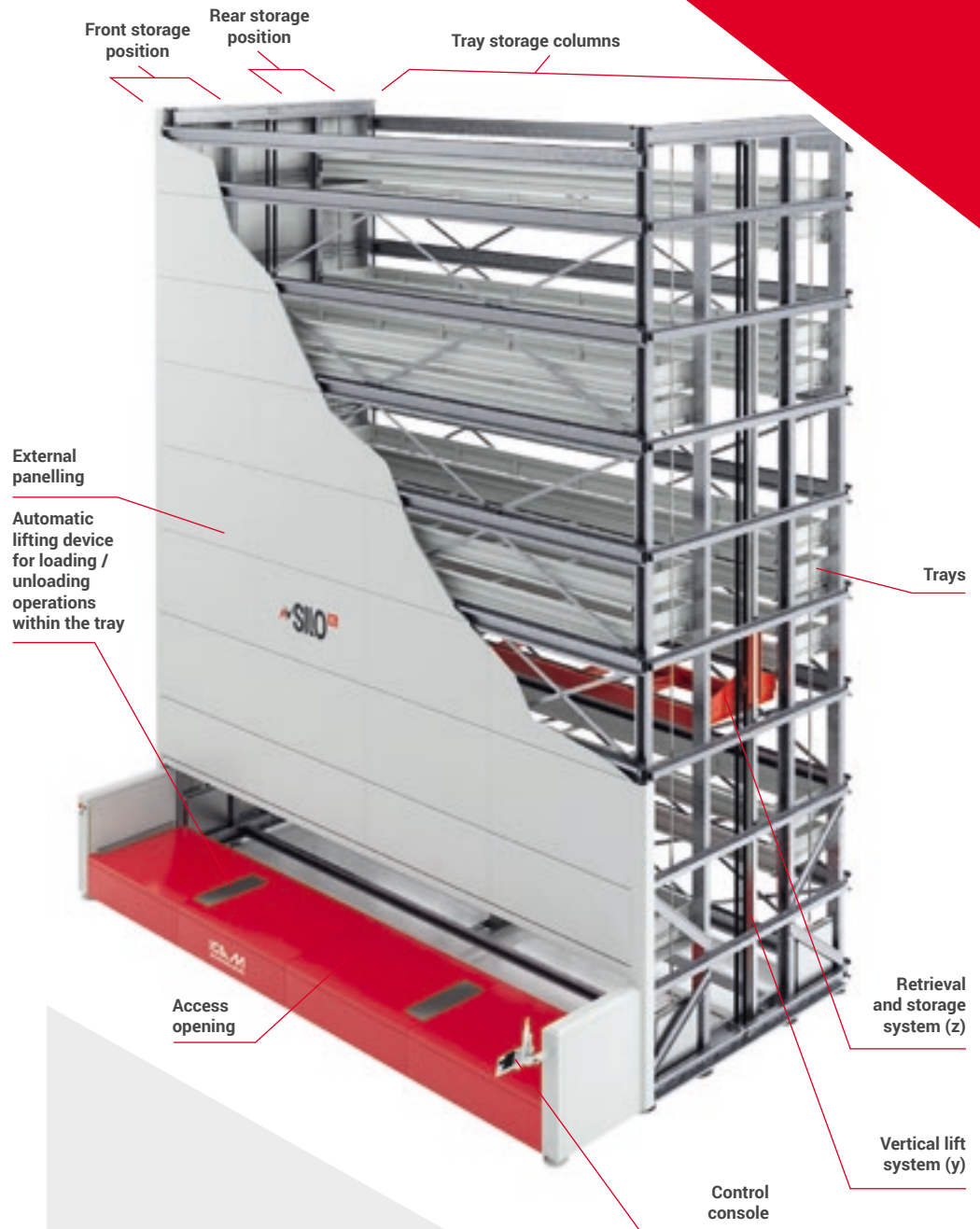
The single-column SILO^{XL} VLM housing **shifting trays arranged in two opposite shelving units**, on a structure which includes a support and running guide.

In the centre, **a vertical lift system**, fitted with a tray retrieval mechanism, **operates according to the 'goods-to-person' principle**: the trays with the requested items are automatically brought to the access opening, which is positioned at an ergonomic height for the operator to perform the picking and retrieval operations safely and ergonomically.

Operation of the SILO^{XL} storage system can be accomplished using an **incorporated PC**, located adjacent to the access opening, or via **any mobile device on which the ICAM ICON™** vertical storage system management software has been installed.

Multi-ray photoelectric light curtains and an **automatic shutter door**, present only on defined machine configurations, allow the warehouse operator to work in complete safety during handling operations at the access opening.

Emergency push buttons on the front of the storage system enable the machine to be stopped immediately at any time.



■ TECHNICAL DATA

TRAY	METRIC SYSTEM	IMPERIAL SYSTEM
Maximum Load	1,000 kg	2,204.6 lbs
Useful width	6,053 / 6,556 / 7,053 mm	238.3 / 257.9 / 277.7 inches
Useful depth	591 / 781 mm	23.3 / 30.7 inches
Useful height	110 ÷ 235 mm	4.3 ÷ 9.2 inches
Maximum loading height*	610 mm	24.0 inches
Incremental positioning pitch	25 mm	1.0 inches
Minimum tray spacing	175 mm	6.9 inches

STORAGE SYSTEM		
Maximum load capacity	75 t	165,347 lbs
Width	6,710 / 7,210 / 7,710 mm	22.0 / 23.6 / 25.3 feet
Depth with internal access opening	2,730 / 3,300 mm	8.9 / 10.8 feet
Depth with external access opening	3,620 / 4,380 mm	11.9 / 14.4 feet
Depth with external extended access opening	(D = 600 mm) 4,220 / 4,980 mm (D = 1,200 mm) 4,820 / 5,580 mm	(D = 2 feet) 13.8 / 16.3 feet (D = 3.9 feet) 15.8 / 18.3 feet
Height	3,000 ÷ 15,000 mm	9.8 ÷ 49.2 feet
Module height pitch	100 mm	0.3 feet
Working environment operating temperature	0 ÷ 40° C	32 ÷ 104 F
Relative humidity**	50 ÷ 85%	50 ÷ 85%

MAX. SPEED		
Vertical (Y axis)	0.8 m/s	31.5 inch/s
Tray storage or retrieval (Z axis)	0.15 m/s	5.9 inch/s

*For load heights between 235 mm (9.2 inches) and 610 mm (24.0 inches), the tray will be equipped with removable load-supports

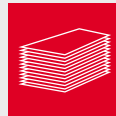
** On request it is possible to equip the storage system with components able to withstand climatic conditions which exceed these limits



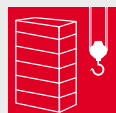
KEY APPLICATIONS



Long and /or heavy items



Sheet metal storage



Inter-operational warehouse

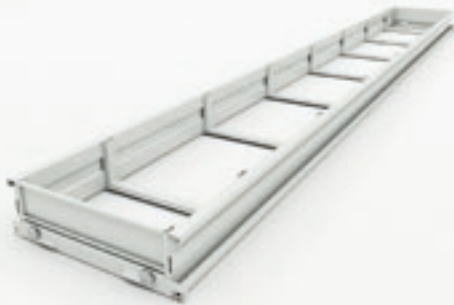
THE RIGHT TRAY FOR LONG AND HEAVY ITEMS

Perfect organization of the stored items within each tray enables the available space in the storage system to be exploited to the full, providing a high level of security and reducing access times.

The **trays, available in three different widths** (6,053 / 6,553 / 7,053 mm - 238.3 / 257.9 / 277.7 inches) and **two depths** (591 / 781 mm - 23.3 / 30.7 inches), with a **maximum load of 1,000 kg (2.204.6 lbs) each**, are characterized by a closed bottom in steel sheet and by transverse batons or by a latticed tray base made from tubular steel, ideal for the storage of long and / or heavy items.

In order **to facilitate sliding** on the support guide and on the retrieval mechanism, **each tray is equipped with 2 wheels each side**.

Load-securing supports ensure the stability of the stored material during handling operations.



Latticed tray base



Closed bottom tray



Latticed tray base with
load-securing supports and side opening



MAXIMUM ERGONOMICS, IN TOTAL SAFETY

Warehouse operators receive the items directly in the access opening, designed according to the latest ergonomic and safety criteria, available both in internal and external versions.

The **internal access opening** is the perfect solution for the handling of less bulky items, those that have a unit weight that can be lifted by an operator.

The **external access opening** is more suited for the handling of heavy or bulky items, whose handling requires appropriate lifting equipment, such as overhead cranes, pneumatic manipulators or robots. To make manufacturing of the stored material more efficient and secure, **the external access opening can be equipped with a side opening** in order to facilitate the picking and retrieval of long items and transfer to the machine tools, such as cutters, located near the VLM.

Where walls or other obstacles impede access, **it is possible to extend the depth of the external access opening**. This solution is ideal when the VLM is installed outdoors but you need to perform picking or retrieval operations of the stored items from inside the building.

In order to facilitate retrieval of items using a forklift truck, **the access opening can be equipped with an automatic device for the loading of the items within the tray**: the forklift's forks can store and / or retrieve the items simply, safely and quickly.

Each storage system can be equipped with between 1 and 4 access openings, all positioned at a height of 700 mm from ground level, in order to ensure safe, ergonomic storage and retrieval operations. The access openings can be positioned at different heights or on opposing sides of the machine.



Internal access opening



External access opening



External access opening with side opening



External extended access opening with automatic device for the loading of the items within the tray

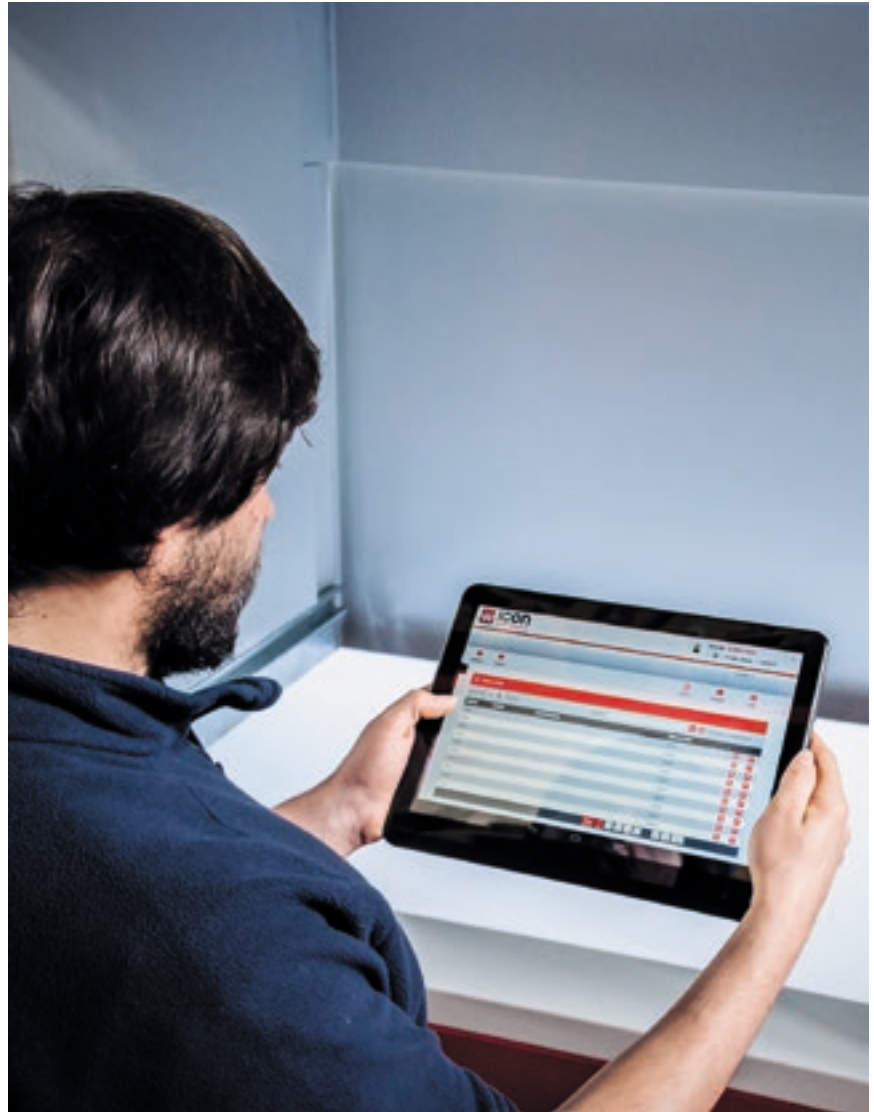
PRECISION, EFFICIENCY AND PROFITABILITY THROUGH INTELLIGENT STOCK MANAGEMENT

New standards of usability, accuracy and productivity can be achieved with the command and inventory control options.

Everything is always under control with ICON™, the web-based software, designed and developed entirely by ICAM, which allows the management of the entire range of SILO VLMs and much more.

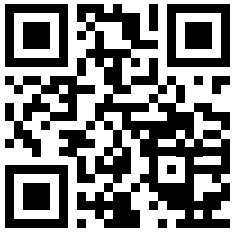
Designed in accordance with the latest technological standards, ICON™ meets the storage and picking needs of the most important commercial and industrial sectors, providing greater flexibility of interface with the most popular WMS and ERP management software packages.

ICON™ was developed in C#, with the Visual Studio .NET 4.5. The PC is Microsoft Windows 10 embedded and is equipped with a network interface, a software package developed by ICAM and a database server program (SQL Express Edition).



ICON™ KEY FEATURES AT A GLANCE

- Touch screen console
- Windows-based intuitive graphic interface
- Modular structure and versatile options
- Multiple inventory management strategies
- Multilingual and multiple-machine management
- Quick response times and optimized processing pathways
- Assignment of specific authorisation profiles for individual users



ICAM Srl

S.P. 237 delle Grotte
70017 – Putignano (BA) - ITALY
P.O. BOX 129
Tel.: +39 080 4911377
Fax: +39 080 4911529
E-mail: info@icamonline.eu



www.silo-icam.com
www.icamonline.eu