



ICA M INDUSTRIAL
INTELLIGENT SPACE SOLUTIONS

SILO², THE CUSTOM-MADE MULTI-COLUMN VERTICAL LIFT MODULE

SILO² is the multi-column vertical lift system designed for intensive storage of various types of items, including those with a very high specific weight. Its modular design enables it to adapt to any space requirement, saving up to 90% of surface area. Completely re-developed according to the latest technological standards, it is now available in two versions, **ECO** and **FAST**.

SILO²

A **CUSTOM-MADE** STORAGE SYSTEM, WITH OVER **ONE BILLION POSSIBLE CONFIGURATIONS**, AS STANDARD

SILO² is a **vertical storage system with shifting trays**, which operates according to the “**goods-to-person**” picking principle.

The internal handling system operates along **three axes** (vertical Y, horizontal X, and tray handling Z) to transport the tray to the picking/refilling station, where the operator safely performs picking or refilling operations.

Thanks to its modular design, SILO² can be configured **with 2 to 7 storage columns, reaching heights of up to 15 meters**, and can adapt to any installation environment (low ceilings, underground spaces, multi-level layouts or complex configurations), **even outdoors**.

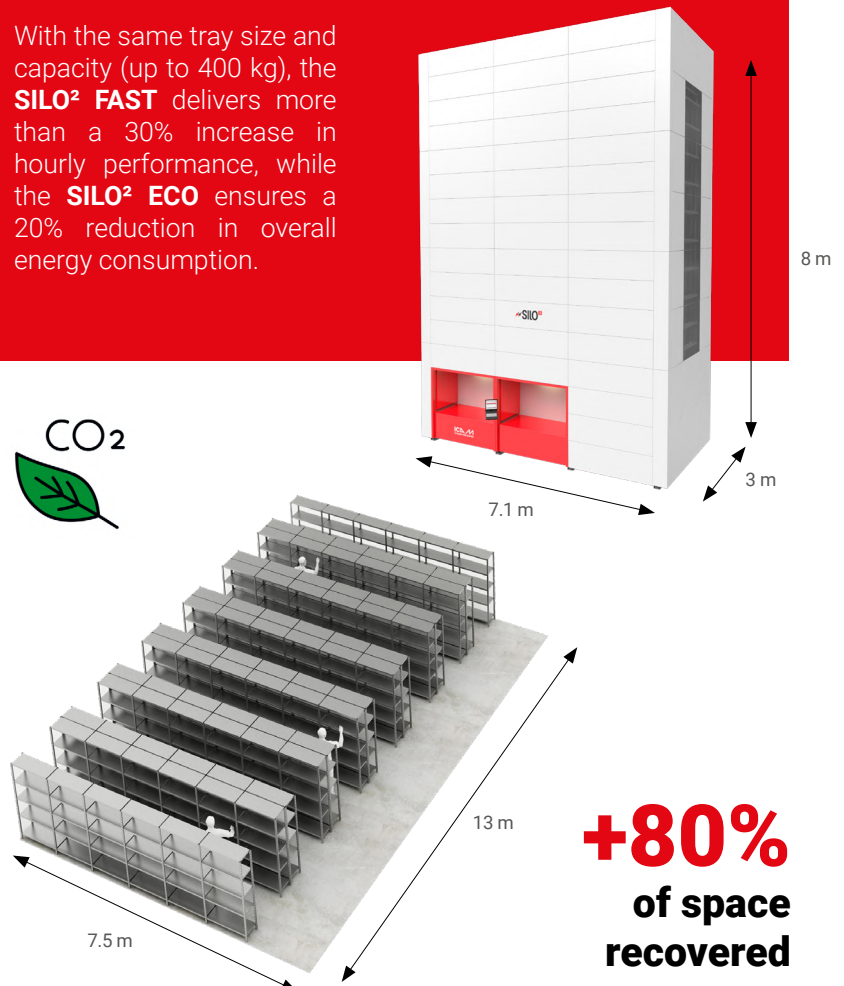


NEW LOOK, BETTER PERFORMANCE, REDUCED ENERGY CONSUMPTION

Completely redesigned according to the latest technological standards, SILO² is now more efficient, more reliable, and more eco-friendly.

Available in **ECO** and **FAST** versions, the new SILO² has been engineered to meet different business priorities, whether it is maximizing performance or minimizing energy consumption.

With the same tray size and capacity (up to 400 kg), the **SILO² FAST** delivers more than a 30% increase in hourly performance, while the **SILO² ECO** ensures a 20% reduction in overall energy consumption.



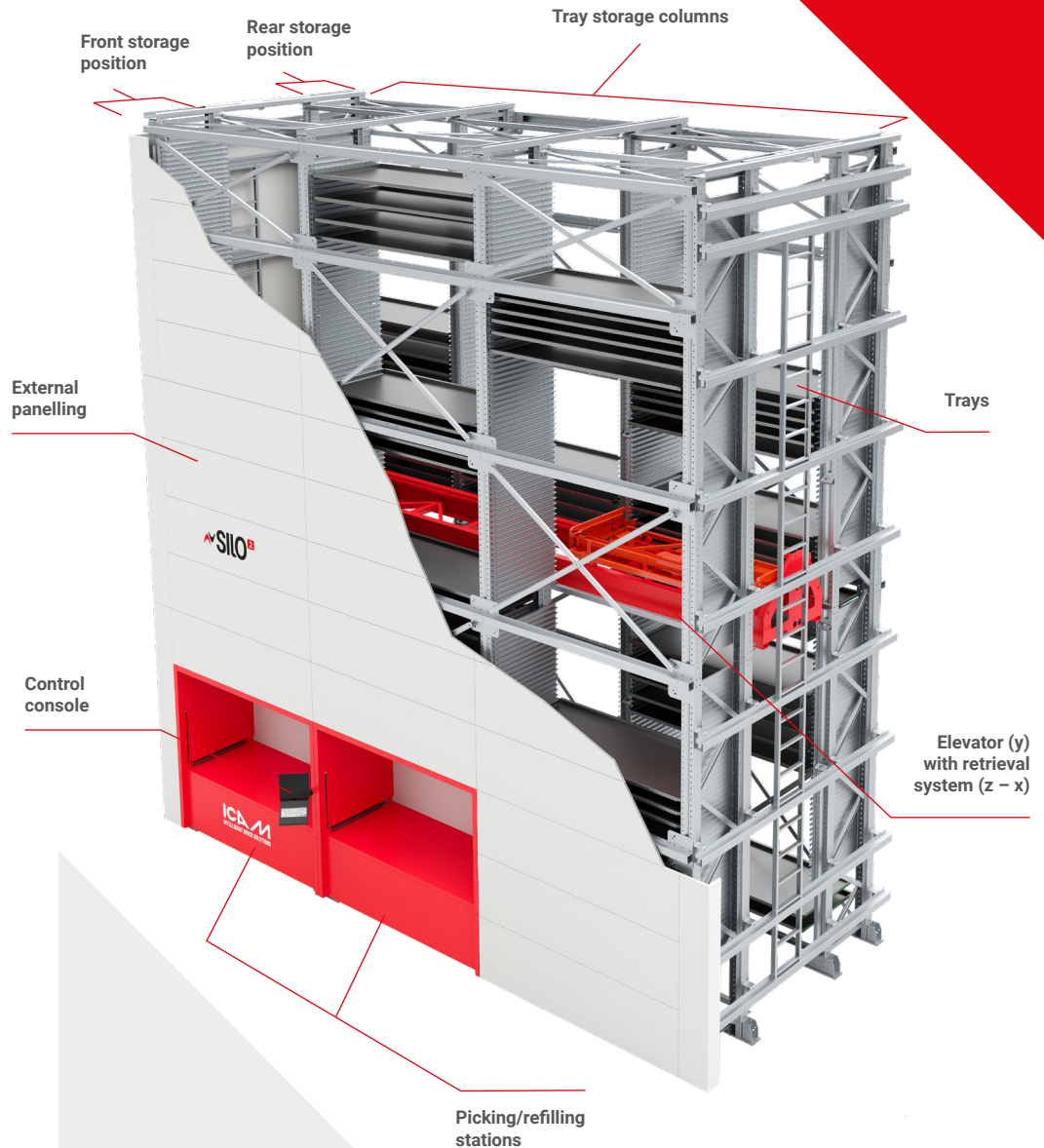
A MODULAR, FLEXIBLE, RELIABLE STRUCTURE

SILO² consists of shifting trays stacked on two opposing storage columns with a central elevator, equipped with an automated retrieval system that picks and releases the trays in the picking/refilling station, then repositions them inside the structure once the operation is completed.

Operation of the SILO² storage system can be accomplished using an **incorporated PC**, located adjacent to the picking/refilling station, or via any mobile device on which the **ICAM ICON vertical lift modules management software** has been installed.

Multi-ray photoelectric light curtains and an **automatic shutter door** allow the warehouse operator to **work in complete safety** during handling operations at the picking/refilling station.

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



■ TECHNICAL DATA

Tray	
Maximum load	400 kg
Useful width	653 ÷ 2,053 mm
Useful depth	612 / 707 / 802 / 897 / 1,003 / 1,098 / 1,193 / 1,288* mm
Height	41 mm
Maximum loading height	675 mm
Incremental positioning pitch	50 mm (Fixed and Automatic configuration)
Minimum tray spacing	100 mm

Storage system	
Maximum load capacity per column	70 t
Width	2,167 ÷ 7,217 mm
Depth	2,433 ÷ 4,479 mm
Height	2,800 ÷ 15,000 mm
No. of columns	2 ÷ 7
Module height pitch	100 mm
Working environment operating temperature	0 ÷ 40°C
Relative humidity**	50 ÷ 85%**

Versions	ECO	FAST
No. of trays per hour	53 ÷ 75	72 ÷ 87
Installed power	11 kW	14 kW

* The 1,288 mm deep tray is only available on machines up to 5.5 m wide.

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

■ WIDTH OF THE MACHINE (MM) BASED ON QUANTITY AND DIMENSIONS OF THE COLUMNS

		No. of storage columns					
		2	3	4	5	6	7
Tray width (mm)	653	2,167	3,017	3,867	4,717	5,567	6,417
	753	2,367	3,317	4,267	5,217	6,167	-
	853	2,567	3,617	4,667	5,717	6,767	-
	953	2,767	3,917	5,067	6,217	-	-
	1,053	2,967	4,217	5,467	6,717	-	-
	1,153	3,167	4,517	5,867	7,217	-	-
	1,253	3,367	4,817	6,267	-	-	-
	1,353	3,567	5,117	6,667	-	-	-
	1,453	3,767	5,417	7,067	-	-	-
	1,553	3,967	5,717	-	-	-	-
	1,653	4,167	6,017	-	-	-	-
	1,753	4,367	6,317	-	-	-	-
	1,853	4,567	6,617	-	-	-	-
	1,953	4,767	6,917	-	-	-	-
	2,053	4,967	7,217	-	-	-	-

HIGH
PRODUCTIVITY
AND MINIMUM
FOOTPRINT

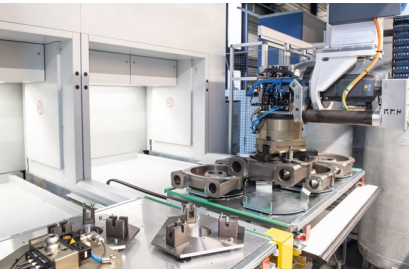
FROM
2
COLUMNS



TO
7
COLUMNS

THE RIGHT TRAY, TO SUIT ANY NEED

The maximum load capacity of 400 kg, the 120 available tray sizes, and the wide range of internal division accessories (side extensions, removable dividers, containers) enable the **management of various types of items**, including those **with a very high specific weight** (from 113 to 1,001 kg/m²), a feature that sets SILO² apart from single-column storage systems.



Additionally, **the correct allocation logic within the trays** (based on product family, picking frequency, supplier, dimensions, etc.) allows the available space in SILO² to be fully utilized, while also reducing material access times.

The possibility of defining at the bidding stage the load capacity of the tray, which ranges from a minimum of 100 kg to a maximum of 400 kg depending on the materials to be handled, also ensures that **SILO² VLMs are always suited to the customer's actual load requirements**, without unnecessary structural oversizing. In this way, SILO² is the ideal solution for the automatic storage of all types of products, from light materials such as plastics, clothing-accessories, pharmaceuticals, electronic components to much heavier ones like steel moulds, nuts and bolts and mechanical components, etc.

Within SILO² it is possible to handle trays with **fixed load heights (fixed configuration)** or with **variable height (automatic configuration)**.

From **113** —————> to **1,001 Kg/m²**

Specific load-bearing capacity (kg/m ²) per tray															
	Tray width (mm)														
	653	753	853	953	1.053	1.153	1.253	1.353	1.453	1.553	1.653	1.753	1.853	1.953	2.053
612	1,001	868	766	686	621	567	522	483	450	421	395	373	353	335	318
707	866	751	663	594	537	491	452	418	389	364	342	323	305	290	276
802	764	662	585	523	474	433	398	369	343	321	302	285	269	255	243
897	683	592	523	468	423	387	356	330	307	287	270	254	241	228	217
1,003	611	530	468	418	379	346	318	295	274	257	241	227	215	204	170**
1,098	558	484	418	382	346	316	291	269	251	235	220	208	197	187	155**
1,193	513	445	393	352	318	291	268	248	231	216	203	191	181	172	122*
1,288	416**	361**	273*	244*	221*	202*	186*	172*	160*	150*	141*	133*	126*	119*	113*

0-200 kg/m²

201-300 kg/m²

301-400 kg/m²

401-600 kg/m²

601-1,000 kg/m²

1,001 kg/m²

* Specific capacity relating to the tray downgraded capacity equal to 300 kg
** Specific capacity relating to the tray downgraded capacity equal to 350 kg



UNPRECEDENTED OPERATIONAL CONTINUITY AND FLEXIBILITY

Designed according to ergonomic and safety standards, the picking/refilling stations are available in both **internal** and **telescopic versions** to ensure accurate and safe picking and refilling of any type of item stored in the system.

The **telescopic version**, equipped with an automatic tray extraction system, is ideal for handling **heavy or bulky materials** that require the use of servo-assisted or automated systems (such as overhead cranes, pneumatic manipulators, anthropomorphic robots, etc.), reducing the risk of dangerous operations for staff.

Each SILO² can be equipped with **1 to 8 picking/refilling stations**. The possibility of placing them side by side allows the operator to work without delays: while picking or refilling materials in one picking/refilling station, the handling system prepares the next mission in the adjacent picking/refilling station, reducing or eliminating waiting times.

The picking and refilling stations can be positioned on the **same level**, on **different levels** or on **opposite sides**. **Fully-automatic picking and refilling stations** to automate repetitive and less ergonomic tasks can be implemented with the help of collaborative robots.



PRECISION, EFFICIENCY AND PROFITABILITY, THROUGH INTELLIGENT STOCK MANAGEMENT

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

Everything is under control with **ICON**. This **web-based software**, designed and developed entirely by ICAM, enables the management and control of the entire range of ICAM warehouse systems and much more.

Designed in accordance to 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**.

The PC is Microsoft Windows 10 embedded and equipped with a network interface, a software package developed by ICAM, and a database server program (SQL Server).



DISTINCTIVE FEATURES

- User and authorization management
- Multi-machine management
- Ground-level area management
- ABC classification
- Dynamic multi-factor association
- Color batch-picking



IRIDE, the innovative interactive control system makes storage and retrieval faster, more accurate and more intuitive. A fully integrated digital experience within both the storage system and ICON, featuring 4 innovative functions:



Light Picking Guide

Colored light beams guide each picking or refilling operation.



Head-up Digital Dashboard

All necessary handling information is displayed directly within the operator's line of sight.



Adaptive Interior Lighting

Lighting system that signals critical events and alarms.



Active Control

A control panel in the picking/refilling station enables real-time management without the need to move.



01/2025

ICAM S.p.A.
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



ICAM APAC Pte Ltd
16 Raffles Quay #33-03
Hong Leong Building
Singapore – 048581
Tel. +65 84847600
www.icamonline.eu
E-mail: info@icamonline.eu

ICAM pursues a continuous improvement policy. Therefore, we reserve the right to change any technical data and product specification and also correct possible typos without any prior notice.
Copyright © 2025 ICAM S.p.A. All rights reserved.

www.icamonline.eu