

STORAGE SOLUTIONS FOR COLD STORES



AR RACKING

GLOBAL STORAGE
SOLUTIONS



AR Racking is a fast-growing international supplier of industrial storage solutions, with major projects implemented worldwide, a commercial presence in more than 60 countries and headquarters in Bizkaia (Spain).

AR Racking **designs, manufactures, calculates and installs efficient storage systems** for companies with all types of needs.

The company brings a wide range of high-quality solutions to the market resulting from its continuous technological development activity in a **fully automated production plant and its own R&D+i technology center**.

In addition to the production and technology centers in Spain, it has international offices in United Kingdom, France, Germany, Chile, Peru, Colombia and USA.

In its technological center, as an expert in storage solutions, AR Racking develops and designs storage systems that best adapt to the needs of **each storage project in cold stores and freezing rooms**.

What's more, its 100% galvanized product has greater resistance to corrosion than other types of metal structures making it an ideal element to resist extreme environmental conditions.



85% EXPORT



100% GALVANIZED UPRIGHTS



**PRESENCE IN MORE THAN
60 COUNTRIES**



>100.000 TONS PER YEAR



**100% AUTOMATED
PRODUCTION CENTRE**



**PIONEERING
TRACEABILITY SYSTEM**



Storage in cold stores

Storage adapted to cold or freezing environmental conditions is currently one of the most highly-demanded solutions in the logistics sector, mainly by food and biochemical companies.

Storage solutions for cold stores have specific features that make them different to those for other projects. Depending on the specific needs of each project, different combinations of storage systems are also an option to achieve the best result for the customer.

The main features for cold and frozen storage, apart from the temperature, is the need for a more compact storage system to ensure greater energy efficiency of the cooling process and a subsequent cost saving for each cubic metre in the cold store.

In this cases the quality of the storage system to provide **correct resistance to adverse environmental conditions** is of paramount importance, as well as the appropriate design of the solution by a skilled technical team to ensure optimal and uniform refrigeration.

Main storage needs in cold stores:

- OPTIMIZATION OF SPACE FOR GOOD REFRIGERATION
- PRODUCT RESISTANT TO ADVERSE CONDITIONS
- MAXIMUM STORAGE CAPACITY OF THE COLD STORE
- SUPPLY COST SAVINGS
- REDUCED LOADING AND UNLOADING TIMES
- EASY ACCESS TO UNIT LOADS

Cold storage systems

AR Racking range of storage systems which best adapt to storage situations in cold stores or freezing rooms depending on their composition or characteristics are:

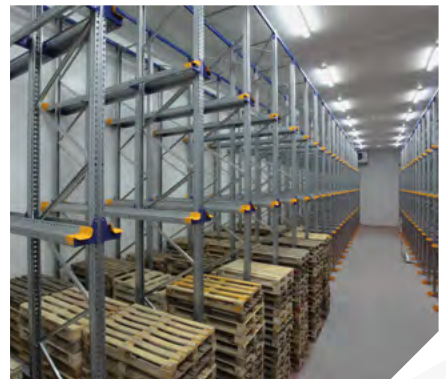
SELECTIVE PALLET RACKING



MOBILE PALLET RACKING



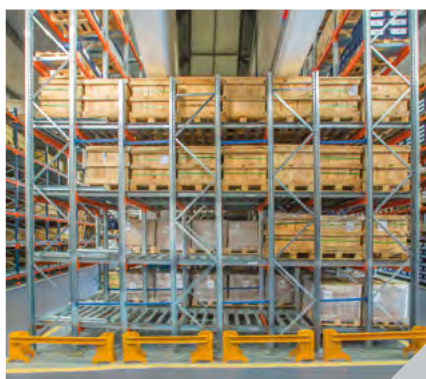
DRIVE-IN/DRIVE-THRU RACKING



PALLET SHUTTLE RACKING



PALLET FLOW RACKING



AUTOMATED SOLUTIONS



AR PAL

SELECTIVE PALLET RACKING

The AR PAL storage solution is a selective racking system for palletized goods. It is also known by its acronym APR (Adjustable Pallet Racking). It is a storage system designed for storing pallets mechanically using forklift trucks.

Pallets are reached along structured aisles, whose dimensions vary according to the forklifts, storage needs and available space.

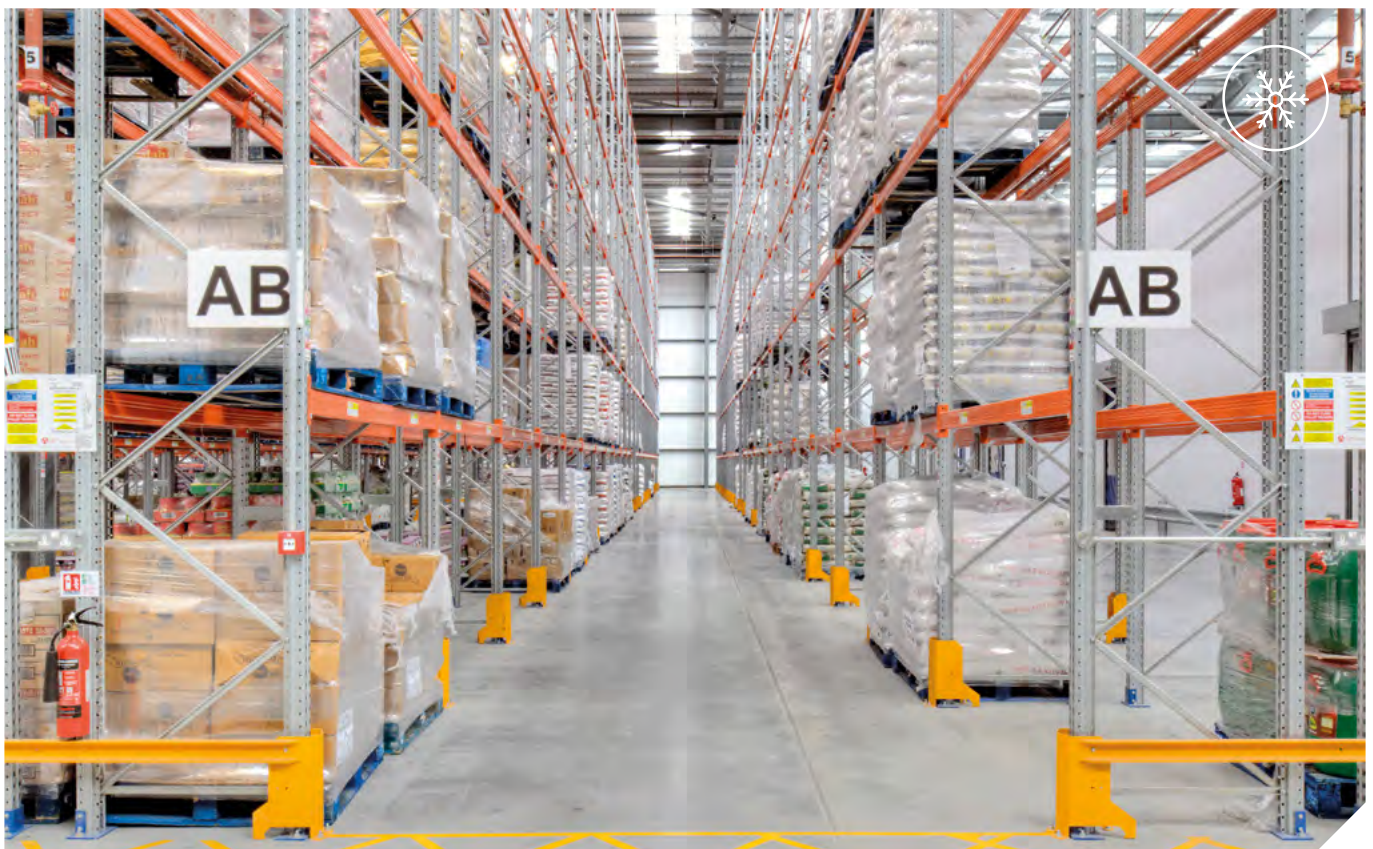
For cold stores, the AR PAL system can be adapted in terms of height, width and length, creating modular and adapted solutions to optimise space and improve storage cost.

Depending on the mechanical handling equipment, either of the following systems is used:

- The APR system for Class 400 or Selective System.

- The APR system for Class 300 or VNA system for very narrow aisle forklifts. This is the most commonly used option in warehouses with a cold store.

The galvanized uprights (also known as columns) of the AR PAL make it an ideal system to resist the adverse environmental conditions in a cold store or freezing room.



Advantages

- Quick location of each pallet with **DIRECT AND IMMEDIATE ACCESS**.
- **CONTROL** of stored references, with each space corresponding to its unit load.
- **SAVING TIME** on handling pallets, generating fast stock rotation.
- **INCREASED SAFETY** thanks to the many accessories that it includes.
- The load levels can be defined to adjust them to precise **MAXIMUM USE OF SPACE**.
- **MODULAR STRUCTURE EASY TO ASSEMBLE**. The design of the assembly between the different structural elements facilitates its rapid disassembly and transfer, or its reconfiguration or expansion according to new storage needs.
- The variety of accessories and configurations available **ENABLE ADAPTATION** of the racks to any type of load in terms of weight and volume.
- **ABILITY TO ADAPT** to changing needs.
- The uprights and frames of AR range are **PREGALVANIZED**.

AR MOBILE

MOBILE PALLET RACKING

AR MOBILE system for mobile pallet racking is designed to make more compact racks and significantly increase the storage capacity.

It is therefore a perfect high-density system for cold storage, doing away with the need for individual access aisles as in selective pallet racking installations and maintaining a single access aisle to the stored material.

The work aisles to be accessed are automatically opened by electric motors and displacement devices situated at the base of the racks. The staff is responsible for giving the order to open the aisles with a remote control.

To ensure that the movement of the racks entails no safety risk, this system is equipped with technical

and organizational protection measures.

The characteristics of AR MOBILE make it one of the best storage systems for cold and frozen storage, mainly for the reduced total volume to be cooled.

Advantages

- **OVER 80% INCREASE IN STORAGE CAPACITY.** The mobile aisles system allows for significant increase in storage capacity.
- **USE OF SPACE.** High-density storage system, i.e. same space but more storage capacity.
- **ENERGY-SAVING:** lighted control and less space to refrigerate.
 - Only the open aisle is lighted.
 - Once the rack is fully loaded, the lights of that alignment are automatically turned off.
- **DIRECT ACCESS** to any stored pallet, hence time saving.
- Ideal for cold stores or freezing rooms due to the **REDUCED VOLUME TO COOL.** It also allows air circulation using the "night setting" mode, for all having aisles of the installation opened automatically with identical, albeit reduced, width between them. Therefore it helps to improve the air circulation in the cold stores.
- **REDUCED OPERATING COSTS** thanks to the excellent use of space.
- The uprights and frames are **GALVANIZED** offering high resistance to corrosion.



AR DRIVE IN

COMPACT STORAGE SYSTEM
(DRIVE-IN / DRIVE-THRU PALLET RACKING)

AR DRIVE IN compact storage system is the best solution to store homogeneous products with a large amount of unit loads per reference.

AR DRIVE IN is a high density storage racking system for pallets designed to get the maximum use of the available space and height, minimising the work aisles for the forklift.

For its ability to optimise space efficiently, this system is frequently used in cold stores and freezing rooms, achieving around an 80% increase in storage capacity.

The AR DRIVE IN system works according to the LIFO (Last in, First out) system, so the last unit load in is the first load out. It only needs

one access aisle resulting in a more compact racking system.

On the other hand, the AR DRIVE THRU system works according to the FIFO (First in, First out) system. This solution requires two entries, one on each end of the system, since the first load to enter is also the first load to be removed.



Advantages

- This system achieves maximum efficiency and **SPACE OPTIMIZATION CAN EXCEED 80%** of the total space available.
- **ENERGY-SAVING** due to the reduced space to refrigerate.
- Ideal for storing **UNIFORM LOADS** whose rotation is not a determining factor.
- Includes many accessories for **INCREASING SAFETY**.
- **NO NEED OF SERVICE AISLES** as in selective pallet racking installations.
- Allows a tightly ordered **LIFO** and **FIFO LOGISTICS MANAGEMENT**, with total control of inventories and circulation and service flow.
- **MAXIMUM USE OF STORAGE SPACE**, both on surface and at height.
- **EASY TO ASSEMBLE** modular structure.
- Allows the **ENTRY OF MACHINES** for loading.
- The **UPRIGHTS AND FRAMES** of the AR range are **GALVANIZED** and therefore have higher resistance to corrosion and adverse conditions than in a painted or coated finishing.

AR SHUTTLE

PALLET SHUTTLE RACKING

AR SHUTTLE is a semi-automated compact storage solution for pallets that uses motorized satellite shuttles, which automatically perform their movements inside the racking.

With AR SHUTTLE the available space and height will be used at best minimising the work aisles for the forklift.

FLT drivers do not have to pass along the aisles, the highest safety index is guaranteed for the staff during pallet handling, avoiding collisions within the structure too. This helps to significantly reduce maintenance costs and load handling incidents.

AR SHUTTLE system allows for the automatic inventory control by means

of sensors on the stored pallets. Thanks to remote control devices and bar codes, there is greater stock control, significantly reducing margins of error.

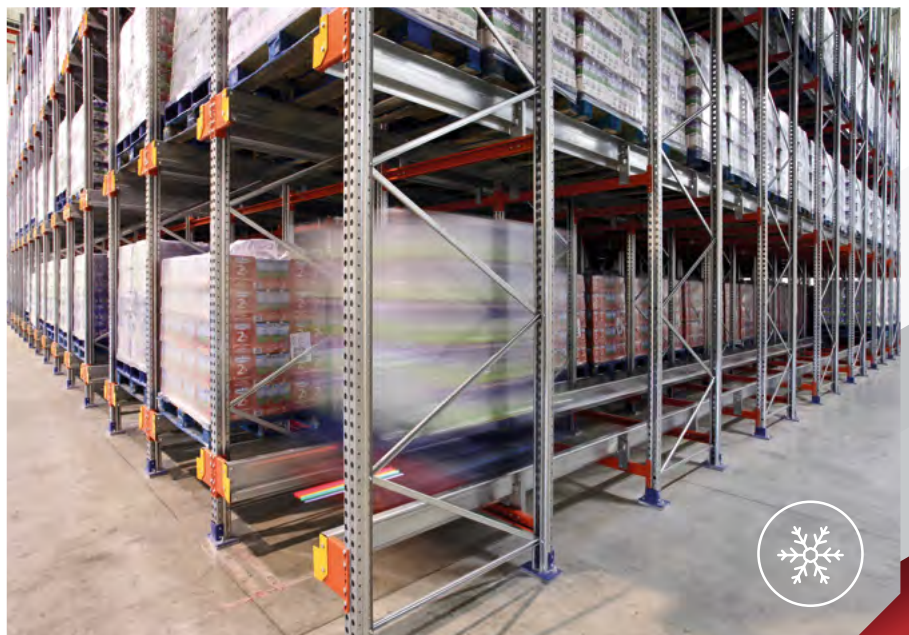
With AR SHUTTLE system the stored pallets can be loaded and unloaded in FIFO or LIFO mode, even in freezing rooms with temperatures as low as -30°C.

Advantages

- The AR Shuttle compact system **MAXIMIZES STORAGE CAPACITY**.
- **REDUCES PALLET LOADING AND UNLOADING TIMES**, as AR Shuttle system moves pallets to their right position automatically.
- **ENERGY-SAVING** due to the reduced space to refrigerate.
- Enables both **FIFO** and **LIFO LOGISTICS MANAGEMENT**.
- **HIGHER SAFETY LEVEL** for all staff members during the manipulation works of the palletized goods.
- **REMOTE CONTROL** for up to 4 satellite shuttles with one and the same radio control. Includes a command for counting pallets and a screen for displaying maintenance messages.
- **BEST SOLUTION FOR COLD STORAGE** for its reduced space and fast loading and unloading times.
- **IMPROVES REFERENCE MANAGEMENT** in compact solutions.
- The **UPRIGHTS AND FRAMES** from AR Range are **GALVANIZED** and therefore have higher resistance to corrosion than in a painted or coated finishing.

How does it work?

Designed for high-turnover storage, this solution permits automatically and ongoing loading and retrieving of pallets using a remote control system. Unit loads are either placed on the first available location until the rack is fully loaded, or retrieved from their storage locations and moved to the front so as to be picked by a forklift truck, until the rack is fully unloaded.



AR LIVE STORAGE

PALLET FLOW RACKING & PUSH-BACK RACKING

The pallet flow racking for AR LIVE STORAGE is a compact system which, by means of rolling conveyors and a slight incline, enables the sliding of palletized products on the conveyors.

AR LIVE STORAGE is a perfect high-density storage system for storing

homogeneous pallets and an ideal compact system for cold stores for it uses all available space at best.

This system is ideal for FIFO (First in, First out) systems. During operation, the palletized loads enter the structure through one of the bottoms and move along the rolling conveyors

at a safe speed, controlled by gravity, until they reach the opposite end, being ready to be removed.

To ensure the totally safe movement of the unit loads in AR LIVE STORAGE (PAL), the structure will be equipped with technical and organizational control and protection items.



Advantages

- **USE OF SPACE.** High-density storage system, i.e. same space but more storage capacity.
- **PERFECT PRODUCT ROTATION:** When applying the FIFO (First in, First out) system, the first unit load in is the first load out.
- **QUICK AND SIMPLE MANIPULATION.** The manoeuvring and take off time of the unit loads is reduced through the closer location of the products.
- **ENERGY SAVING IN FREEZING ROOMS.** By optimizing the available space, energy consumption is reduced for the refrigeration of unit loads.
- **ADAPTABLE** to any space, weight or size of the goods to be stored.
- **HIGH SAFETY.** The structure has a control and braking system to minimise risks: braking rollers, pallet centring guides or retainers and pallet back stops.
- **IMPROVEMENT IN STOCK CONTROL** by differentiating a single product reference in each load aisle.
- **COMPATIBLE** with other automatic storage or conventional pallet racking systems.
- **REDUCED OPERATING COSTS** thanks to the excellent use of space.

AUTOMATED COLD STORAGE SOLUTIONS

Together with the solutions already shown, AR Racking offers a comprehensive service in the installation of storage systems to support automated equipment that adapt to cold storage or freezing room needs.

The main automated storage systems for which AR Racking installs its metal structures are:

Rack supported buildings, automated warehouses and mini-load system.

RACK SUPPORTED BUILDING



In clad-rack buildings, the racking forms part of the structure of the building.

The racking supports the load of the stored goods and the outer enclosures, and is the most appropriate solution for storage at great height.

The system adapts perfectly to warehouses that require working in cold conditions or in freezing rooms.

AUTOMATED WAREHOUSE



The automatic systems with stacker crane for pallets are automatic storage systems that use robotic equipment for the handling of loads.

It is a high density, quick and reliable system.

The system consists of small AS/RS machines (satellite shuttles) which, simultaneously and autonomously, load the goods controlled by warehouse management software.

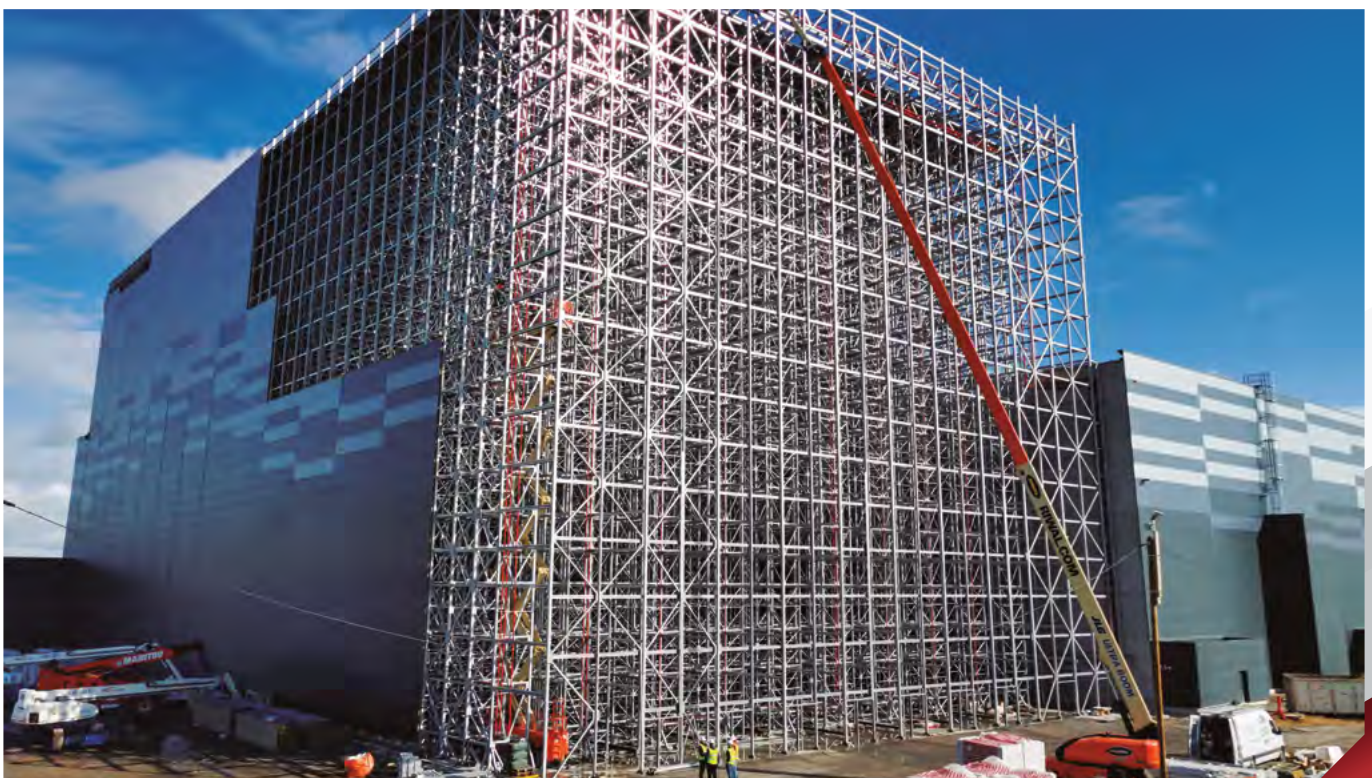
MINI-LOAD SYSTEM



The miniload system uses robotic equipment for the direct handling of plastic boxes or trays.

It is a high density system and therefore ideal for cold storage, due to fewer work aisles and maximum use of the surface area and area at height.

It is the optimum solution to implement with semi-automated or fully robotised order processing logistics solutions.



WHY CHOOSE AR RACKING?

At AR Racking we are committed to offering high-quality assured storage solutions to our customers, providing a comprehensive service throughout the whole process with the main objective of achieving the full satisfaction of our customers by solving their storage needs.

All this is possible thanks to our automated and state-of-the-art facilities, and highly qualified personnel with extensive experience in the sector.



Quality

- 100% Automated production centre
- Corrosion-resistant galvanized product
- Traceability system



Guarantee

- 5 Year guarantee in AR Racking storage systems
- Quality assurance guaranteed by European standards
- Grupo Arania, with more than 80 years of experience



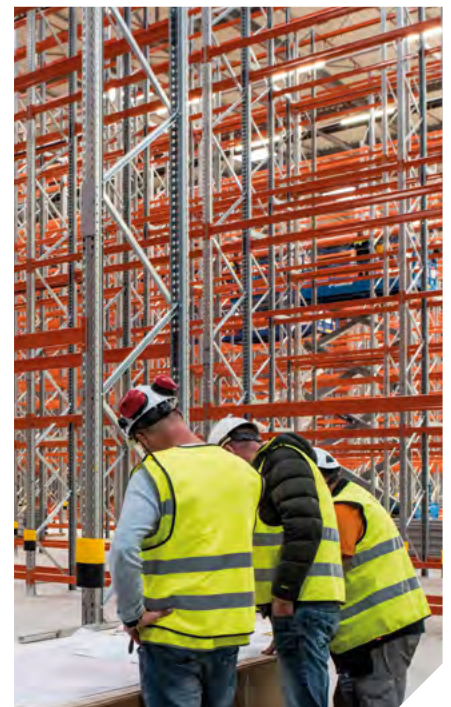
Comprehensive service

- Planning, design, manufacturing and installation
- Specialized international customer service
- Efficient delivery dates



Customer satisfaction

- Customers from more than 60 countries
- More than 100 satisfied international distributors
- Control of and improved customer satisfaction





- **Welding certificate: UNE EN ISO 3834-2: 2006**
- **Galvanized resistance certificate: UNE-EN ISO 14713-1**
- **Fire performance of galvanized product: EN 13501-1: 2007**





AR RACKING

T +1 (984) 286-7223

f in X G

AR Racking Inc.

5960 Fairview Road, Suite 309
Charlotte. North Carolina 28210
www.ar-racking.us

Head Office & Technological Centre

Parque Tecnológico de Bizkaia
Edificio 105 - 1A
48170 Zamudio (Bizkaia) Spain
Tel. +34 944 317 941
Fax +34 944 317 838

Production centre

Pol. Ind. Montes de Cierzo,
Autovía A68, KM 86
31500 Tudela (Navarra) Spain
Tel. +34 948 844 480
Fax +34 948 844 420

AR Racking France

43, rue Jean-Pierre Plicque
77124 Villenoy - Paris
Tel. +33 970 912 967
www.ar-racking.fr

AR Racking Germany

Industriestraße 11
55593 Rüdeshheim
Tel. +49 67192034253
www.ar-racking.de

AR Racking UK

The Switch, 1 - 7 The Grove
Slough SL1 1QP, Slough, UK
Tel. +44 (0) 1753 396 924
www.ar-racking.co.uk

AR Racking Chile

Av. Pdte. Eduardo Frei Montalva 6199,
Oficina 5010
Conchalí
Tel. +56 (2) 2993 4003
www.ar-racking.cl

AR Racking Colombia

Km 19 Av. Troncal de Occidente
vía Mosquera-Madrid, Bod. 50
Parque Industrial San Jorge
Mosquera, Colombia
Tel. +(571) 8939837
+(57) 3123785226
www.ar-racking.co

AR Racking Peru

Av. Las Camelias 790, Oficina 504
San Isidro, Lima - Perú
Tel. +51 1 680 6625
www.ar-racking.pe