IRS - Intelligent Robotic Sorting

Robotic station for the automatic unloading of cutting and machining stations

Machines designed for the automatic unloading and classification of cut and machined parts, coming from the following stations: FABCUT, ASG, RMA.
This is a robotic island equipped with an anthropomorphic robot for the vertical storage of parts in manual or automated carts guided by Autonomous Mobile Robots (AMRs). The robot automatically picks up the parts from the unloading areas of the operating machines, classifies them and sorts them by job order and position within the job order, thereby optimising the subsequent pick-up process at the welding station.

The machine eliminates the need for manual unloading by the operator, making the classification and storage process faster and more efficient.

Presentation

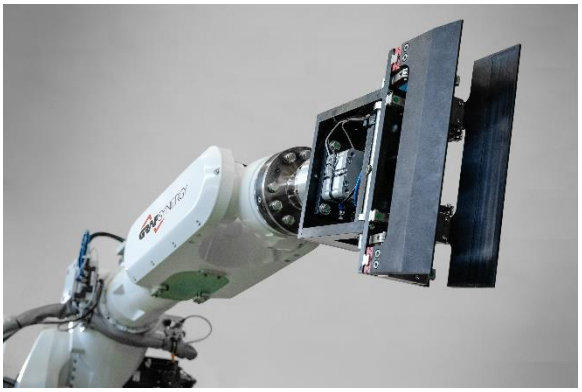
Speed and Labour Savings

The introduction of robotic unloading frees human resources from low-skilled operations, redirecting them towards more strategic activities, avoiding errors in the classification of cut parts and reducing the risk of material damage due to manual handling.

5 reasons to choose IRS

Innovate and Automate

- ✓ **Extreme execution speed**: makes high levels of productivity possible
- ✓ **Extremely precise processing**: Handling of cut and machined PVC profiles of different lengths.
- ✓ **Automatic storage control**: Optimised filling of storage carts.
- ✓ **Processing flexibility**: Can be used for different types of profiles.
- ✓ **High level of automation:** reduces the workload as no operator intervention is required.



Designed to ensure the best performance on the market, it is equipped with **various cutting-edge solutions** to unload parts quickly, efficiently and repetitively.
It **optimises activity** and speeds up the unloading time of machines, preventing slowdowns in the upstream cutting and machining island.

The IRS is equipped with modern **software that expertly manages the robotic island**, allowing for precise control of the part unloading and classification operations.

Specifications

Dimensions

Operating Radius	2200-2598 mm
Width	1200 mm
Height	2500 mm
Weight	1100 Kg

Details

Installed Power	20 Kw
Power Supply	400V
Air Consumption	200 Nl/min
Min. Operating Pressure	7 bar

Operating Specifications

Work module

Structure
Robot base structure to be secured to the floor with mechanical anchors;
Metal carts with 10 slots for 4 parts each, for the vertical storage of profiles, for a total of 40 parts (Optional);
6 steel guides for the repetitive positioning of the profile-holding carts on the island (IRS);

Operations
Unloading and vertical storage of cut and machined profiles.

Technical Specifications

Machinable Profile Dimensions

Length	350 / 3,200 mm
Width	40 / 110 mm
Height	40 / 90 mm

Operators 0*

Profile-holding cart changeover module

Used in combination with the AMR system to move the profile-holding carts provided with the island.