

Equipment Description

# BANNER FINISHING SYSTEM ALL IN ONE

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Welding & Eyeleting



  
**PLASTGrommet**

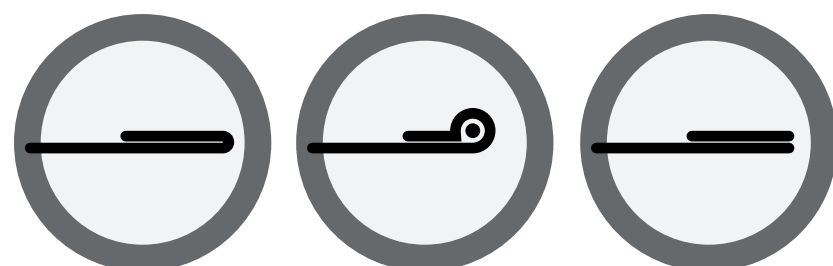
## Automatic system for banner finishing with welding & eyeleting

New All In One integrates in a single process hem welding, eyeleting and slitting to finish large banner jobs. As it eliminates the time needed to weld hems on another finishing station you are not only reducing time but also space while you are boosting your productivity.

All in One is the 360° solution for banner finishing as you will reduce lead times and labor costs.



### WELDING OPTIONS

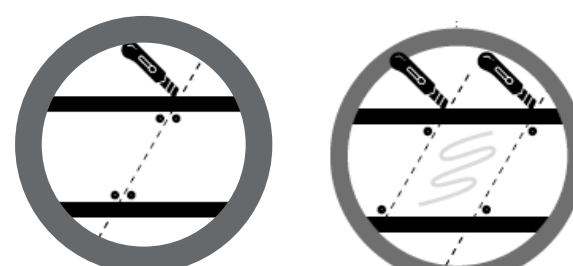


Hem

Keder

Reinforcement Tape

### CUTTING MODE



Single

Double

## Reasons to choose All In One

This **banner finishing system** will weld banner edges, eyelet and cut to size banners or alternatively roll them on a fully automated process.

It can be used on PVC media, mesh or printable PE. All In One incorporates a vision system to recognize eyelet and cutting marks.

1

**All In One** Reduce bottle necks in your print finishing department. When you integrate in a single machine three different processes that are labor intensive (welding, eyeleting and slitting or rewinding) you will be boosting the efficiency of your operation.

2

**Slitting and Rewinding** The system integrates a rewinding station but also allows you to cut the banners adapting to your jobs. You can choose between slitting and rewinding modes.

3

**Vision system for eyelet and cutting marks plus banner alignment** All In One integrates a complete vision system. Camera is able to read eyelet and cutting marks. An alignment sensor works when roll is unwound. If material is badly rolled the machine will automatically correct it to do a perfect job.

4

**Four working modes** AIO has 4 different working modes to set eyelets and to cut banners:

- **Automatic.** Vision system scans the edge material detecting standard and custom eyelet and cutting marks. Machine will perform eyelet settings when marks reach its position.
- **Banner.** Jobs are performed by manual introduction of banner lengths and number of eyelets. Distances between eyelets are auto calculated.
- **Roll 2 Roll.** Fence banner oriented. Only eyelets and distance between them is necessary. Machine will be continuing working and collecting the finished material into another roll.
- **Keder.** Specific mode for keder reinforcement, where the material is not passing through the compensator in order to avoid waves and deformities on the welding.

5

**Different welding options** In the world of digital printing there are different ways of finishing banners. With All In One you can finish your banners using keder, tape reinforcement or hem welding.



**Media.**

AIO is capable of working with different materials such as PVC, Mesh and printable PE. Maximum speed will depend on the specific job (material used, welding option, banner length, number of eyelets...).



**Availability dimensions. 3 versions (width).**

All In One adapts to the customer working size. We offer you an adjustable machine to work from material width 600 mm up to 3200 mm. 3 sizes are manufactured with maximum working width: 1600 mm. | 2400 mm. | 3200 mm.

System will be manufactured according to the maximum banner width that customer requires. Banner width is adjustable as welding heads and eyelet machines are mounted on linear guides and minimum banner width is 600mm



**Productivity improvement**

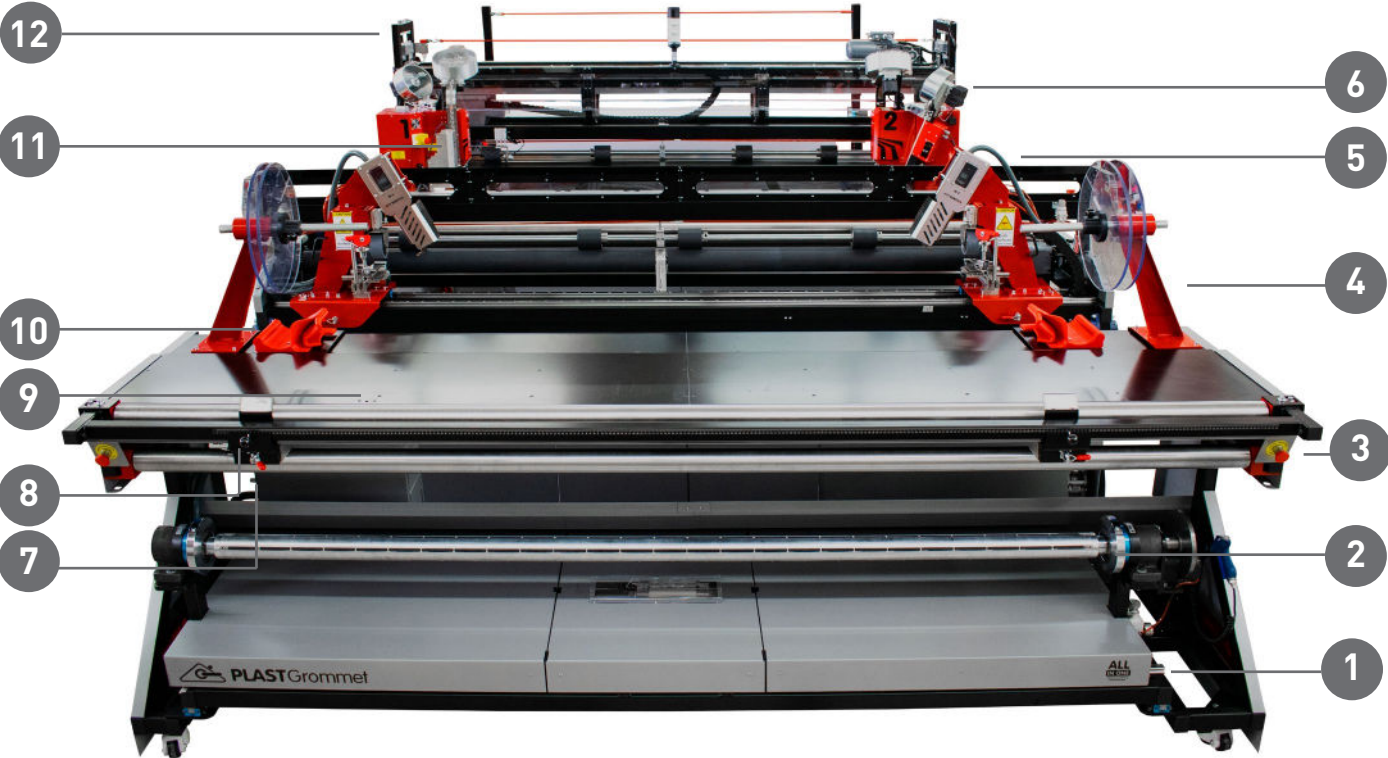
With All In One, customer is able to finish jobs with a machine that performs **everything automatically**, with some processes made parallel to others such as welding and cutting / eyeleting. **Reduction** in process **times** and **costs** allows customer to get **more jobs per day**. A 200 meters roll will require less than 28 minutes, including welding, eyeleting and slitting!!



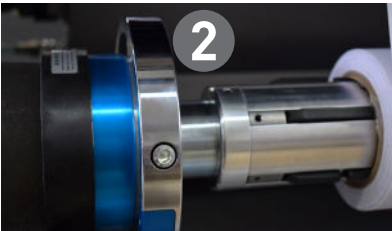
# General Features

New All In One Roll2Roll integrates in a single process welding, eyeleting and slitting to finish large banner jobs. As it eliminates the time needed to weld hems on another finishing station you are not only reducing time but also space while you are boosting your productivity.

All in One is the 360° solution for banner finishing as you will reduce lead times and labor costs.



Mobile loading plataorm



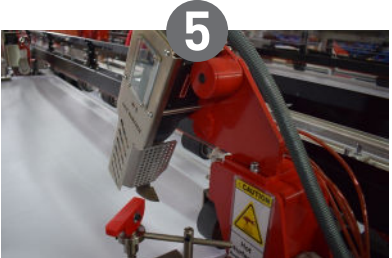
Material loading



Safety first



Reinforcement tape dispenser



Welder systyem



Eyeleting system



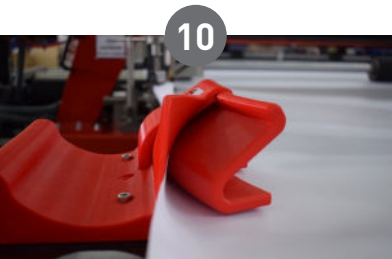
Alignmt mat. system



In-line slitters



End of roll detection



Material folder



Vision system



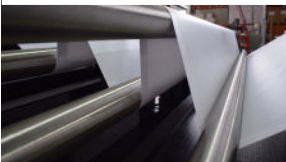
Cutting banner system



- Control panel to make your job easier**
- Friendly interface to control all operations in one place with a 10" colour touchscreen
  - Recipe storage of materials and welding parameters.
  - Warnings & maintenance messages.
  - Remote access to monitor HMI, PLC, sensors...



- Welding station**
- Two hot air welders with automatic positioning system - 230V/3400W. Up to 650°C.
  - Integrated heating element and tool protection device.
  - Automatic cool-down function.
  - Temperature/Air flow adjustable for each kind of material from HMI.



- Accumulating system (dancer)**
- In order to have an efficient welding process an accumulating system has been built-in.
  - When eyelets are set or slitting takes place, the accumulating system creates a buffer of material not making necessary to stop the welding process, improving productivity.
  - Position control of the dancer.




- Eyeleting system**
- System integrates two fully automatic eyelet machines with double washer supply on raceway.
  - The eyeleting machines are mounted on linear guides to easily adjust working width.
  - Easy access to both machines for maintenance routines.



- Rewinding and Slitting**
- When you need to make panels to a certain length you can use the integrated rotary cutter to slit between the last eyelet of one banner and the first of the other, being able to do it with the vision system that recognizes cutting marks or using the position reader.
  - Optional coreless off-line shaft for small banners rewinding.

# Modular system

All In One - Roll2Roll consists of individual job stations that come together to create the definitive Banner Finishing Machine. The stations are joined together through a system of clamps.




### Rewinding Station

When you need to finish full rolls (fence banners for exemple).

The rewinding station has a tensioning system to roll even with eyelets already set.

Pneumatic shaft for easy handling.

Safety rope.




### Eyeleting & Slitting Station

Adjustable distance between eyelet machines.

Vision system to scan eyelet and cutting marks.

Precise and fast slitting unit with rotary cutter built-in.

Single or double cutter selection.




### Welding Station

Hot air welders with setting adjustments through HMI.

Accumulating system (dancer) for continuous welding.

Different welding options: hem, tape reinforcement and keder.



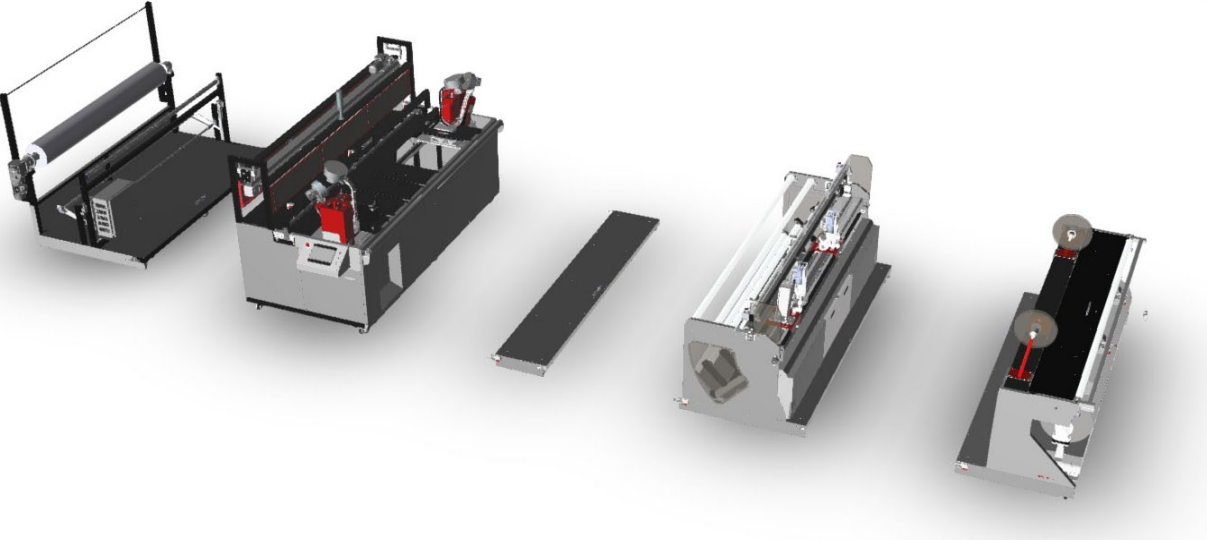
### Loading Station

Easy loading system with pneumatic shaft.

Edge alignment mechanism with photosensor and pneumatic adjustment.

Double roll charger option.

Material folder.



### Loading Station

This is **the first module** of AIO where customer loads the printed roll of media on an air shaft. It is possible to use the standard configuration with a single air shaft for rolls up to Ø500mm or a rotating double shaft for continuous material loading for rolls up to Ø280mm.

This module has an edge alignment sensor with pneumatic adjustment that continuously repositions the roll in case that it has not been rolled evenly on the printer. Roll end sensor pauses the cycle to join a new roll with less change time

### Welding Station

**Second module** of AIO. On the loading station there are two folders to start creating the hem before material reaches welding heads. Hot air welders are fully controlled from HMI.

As a standard, machine creates a hem of maximum 46-47mm. It is possible to create a 50mm hem, but last 2/3 mm will not be properly welded because of the welding nozzle dimension.

### Eyeleting & Slitting Station

This is **the third module** of AIO and it has the two eyeleting machines, the HMI to control all the different processes and the slitting station.

AIO has a vision system installed underneath the banner that performs a fast and accurate reading of both eyelet and cutting marks. The camera scans a rectangular area where those marks will be detected.

It is possible to mount a second camera to read from top. The pros of this system are that eyelet and cutting marks will remain on the non-visible side of the hem (back of the banner),avoiding image confusing with other printing marks, but the cons are that this system will not work when using reinforcement tape, but it is possible then to read with the other camera.

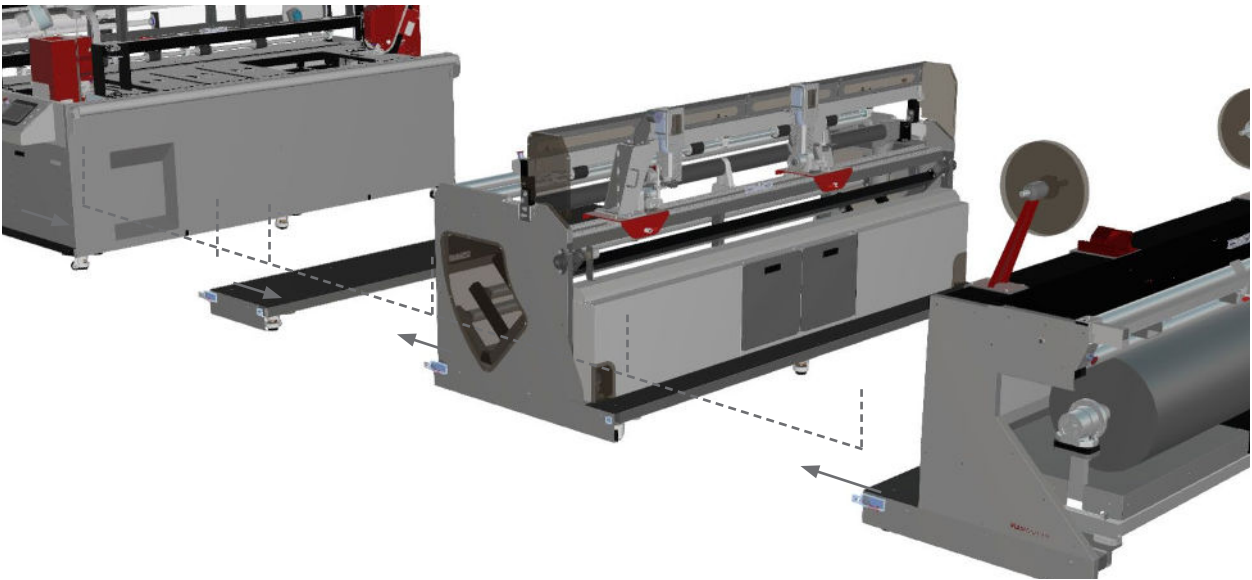
The vision system detects cutting and cut marks printed on the material. As standard, AIO comes with a single rotary cutter, industrial type, mounted on a gantry.

It is possible to order a double cutting system (two rotary cutters) to avoid any visible cutting marks on the front side of the banner. The only disadvantage of this system is that it requires a blank gap of material of about 64mm between each banner.

### Rewinding Station

This is **the fourth module** for AIO. Customers will order when they need to work roll-to-roll, as when manufacturing fence mesh for example.

This module is equipped with an air shaft and has an automatic tensioning system.







# PLASTGrommet

[www.plastgrommet.com](http://www.plastgrommet.com)

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