



**ALPING
ASIA**
AUTOMATION

AlpRobTAG-C

AUTOMATIC COIL TAGGING SYSTEM

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AlpRob TAG-C can be regarded as the evolution of the previous welding based coil tagging system. The new model uses a more effective tagging system that utilises Machine Vision technology to identify the ideal position on which to secure the tag.

OVERVIEW

- Ability to operate at high temperatures
- Robotic guide system
- Automatic search of the fastening strap
- Steadfastness and precision in securing the tag
- Wear-resistant and heat-resistant tagging
- Long lasting identification imprint
- Increased operational safety
- Extended operating capacity



AlpRob TAG-C employs an advanced vision system that can identify the portion of the fastening strap inside the coil that is most suitable for anchoring the tag. It does so by identifying possible obstacles such as protrusions of the fastening strap itself or parts of the handling mechanism. Once the ideal section has been identified, the anthropomorphic robot proceeds to secure the tag by means of a special metal crimp that fixes it in a stable manner preventing it from sliding along the fastening strap. The tag is made of heat-resistant and tear-resistant material, it is designed to withstand atmospheric agents and powerful stresses, including various chemical treatments.

SYSTEM ARCHITECTURE

AlpRob TAG-C consists of a 6-axis anthropomorphic robot equipped with a pneumatic gripper and a vision system, an auxiliary device for the preparation of metal rings, a printer, a punching machine and a tag ringing machine. For systems that require faster tag ringing cycles, an additional option is available that consists of a dedicated unit which includes printing and tag ringing functions in a single automatised solution. On request, options are provided for multiple tags insertion and for verifying that the information has been printed successfully. Installation takes place in the finishing area of the wire rod rolling mill.

- ARTIFICIAL INTELLIGENCE
 - MACHINE VISION
 - AUTOMATION
- PATENTED (PROPRIETARY)

HOW IT WORKS

A robot guidance system, based on artificial vision technology, inspects the structure of the coil by creating an image that is processed by a specially developed algorithm that proceeds to identify the optimal point of the fastening strap on which the robot will then secure the tag with a metal crimp by means of a pneumatic gripper.

Depending on the configuration of the system, an auxiliary system or a dedicated unit provides for the printing of the identification tag (or more tags), the punching and tag ringing, the production and coupling of the metal crimps.

If present, a special control device verifies whether the tags have been printed correctly. Finally, the robot proceeds to pick up the finished tag for the next cycle.



TECHNICAL SPECIFICATIONS

Wire rod operating temperature	<900 °C	Robotic arm	6 Axes anthropomorphic
Tagging cycle time*	>30s	Operating range	3000 mm
Tags capacity **	<600° ~ 2000 pcs. ¹ 600÷1200°C ~ 900 pcs. ²	Robot guide system	Artificial vision
Metal rings capacity	~ 900 pcs. Base ~ 3000 pcs. Optional	Imprint verification system	Optional
Metal crimps capacity	~ 30000 pcs.	Multiple tags	Optional

* According to the type of installation

** Approximate quantities related to the size of the tag (width x length):

¹ Tag size 75x50mm. Lifespan can be increased on request with an optional unwinding unit

² Tag size 80x100mm, 60x100mm.

When using other formats, quantities must be calculated based on the specific dimensions of the tag to be used.



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