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DAKOTA

Acquisition principle

DAKOTA inspection system, developed by the company GIPS vision has been created for foam plants in particular those manufacturing car seats. It can inspect several kind of components placed inside a mold before foam injection.

Figure 1: Injected foam

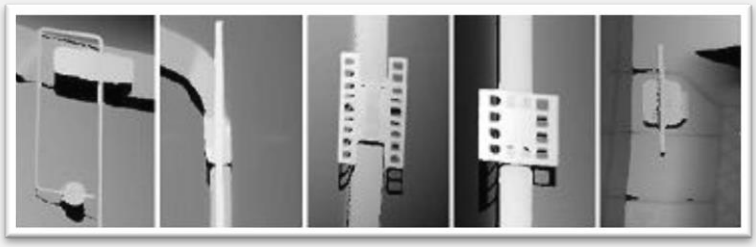


Figure 2: Different kind of components placed inside the molds before injection

The acquisition is based on the triangulation. For each module, the laser beam is projected on the bowl (or the lid) and the camera acquires each profile and adds it in order to create a 3D image. A 2D luminosity image, based on profile brightness, is also collected at the same time.

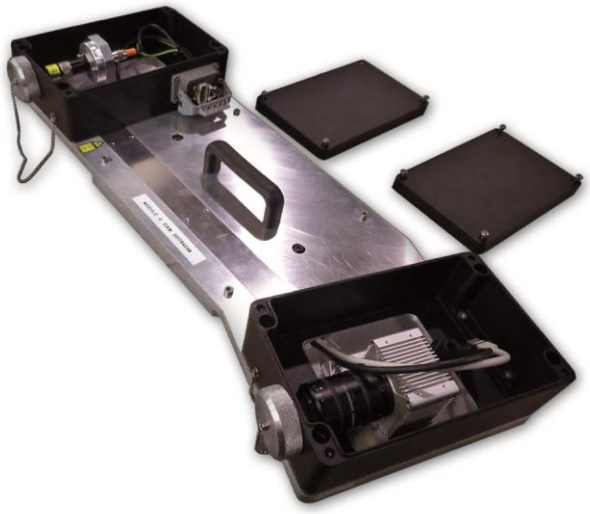


Figure 3: Module profilomètrique (caméra + laser)

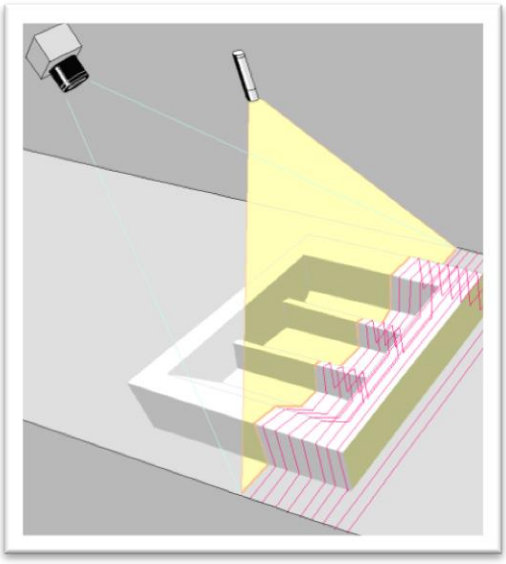


Figure 4: Triangulation

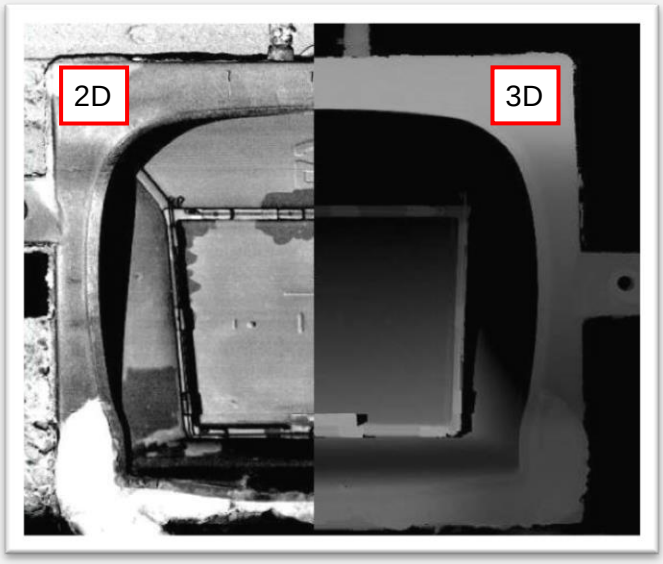
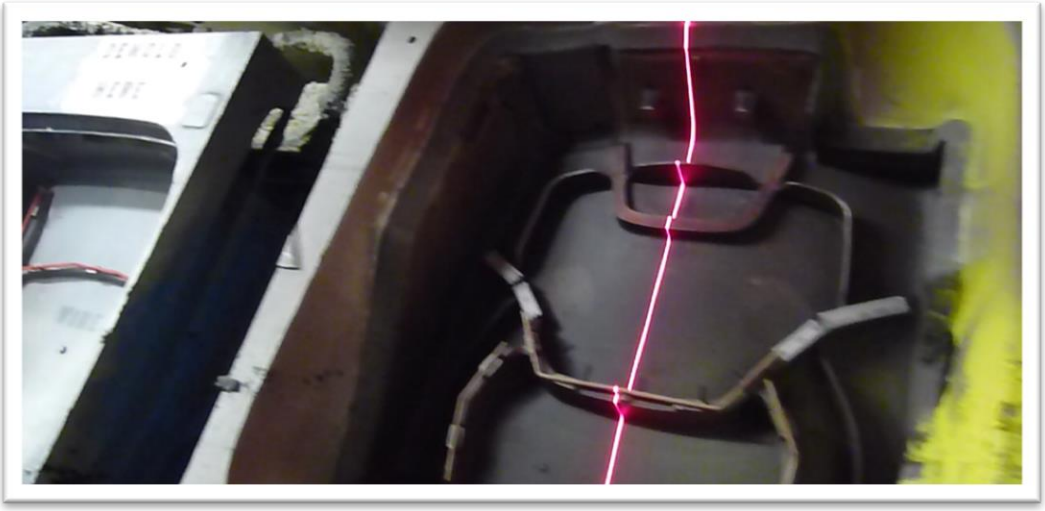


Figure 5: Images 2D et 3D de la cuve

Inspection results is sent within a few seconds after the carrier has passed the vision system in order to avoid injection in a mold with missing or misplaced components.

The three main advantages:

- ► Avoid customer complaints for incomplete products;
- ► Reduce material loss, injecting foam only when useful;
- ► Watch the damage, wear or soiling of molds.



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Cabinet description

Europe

Voltage : 230 VAC

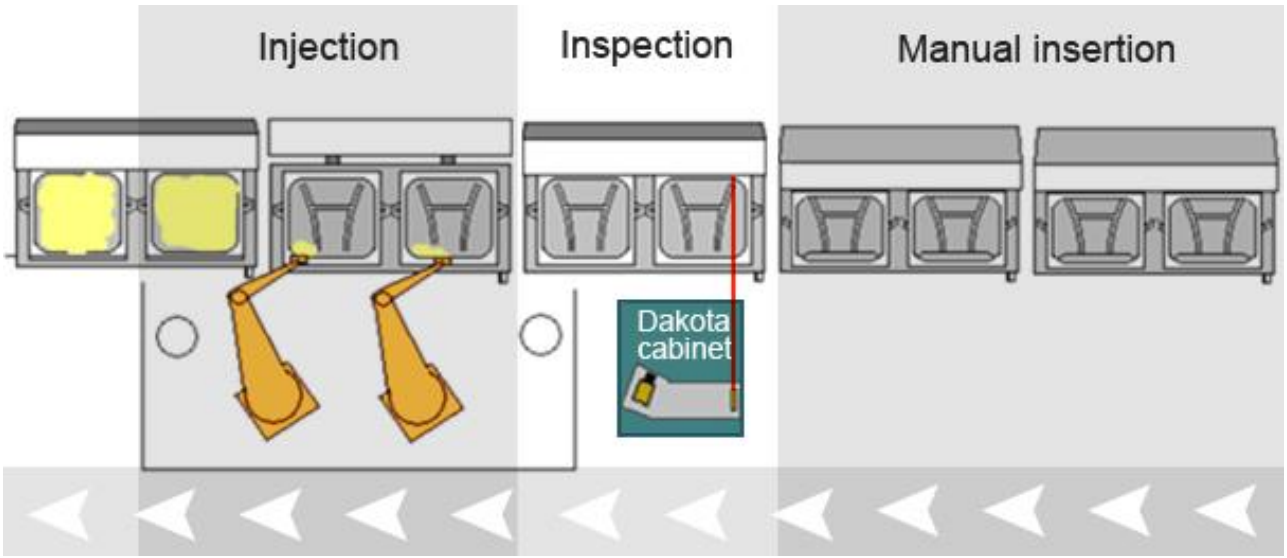
Frequency : 50 Hz

USA

Voltage: 110 VAC

Frequency: 60 Hz

The DAKOTA system cabinet is anchored between the manual insertion area and the robotic injection area.



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The cabinet is as follows

Left side (2 doors)

User side (monitor, control panel)

Right side (2 doors)

Shutter side

The cabinet is positioned along the production line with the shutter opened on the line side in order to inspect the lids and the bowls passing by. It is suitable for each production line; i.e. takes into account production line direction (from left to right or from right to left), the space around (hinged doors or detachable panels), opening angles for the molds (the 3D module location is different in order to this angle), line height, speed, etc.

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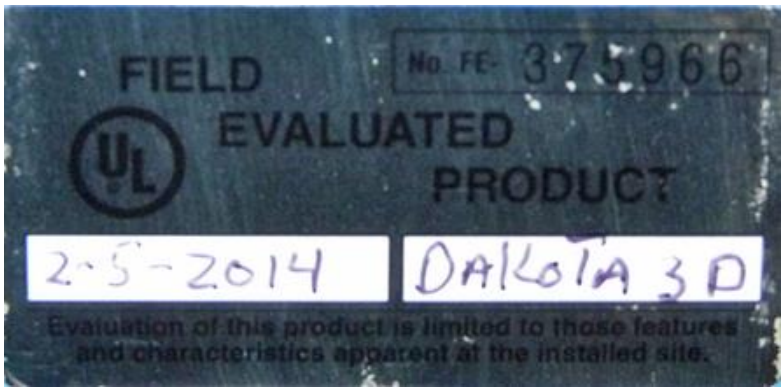
Certifications

Certification UL



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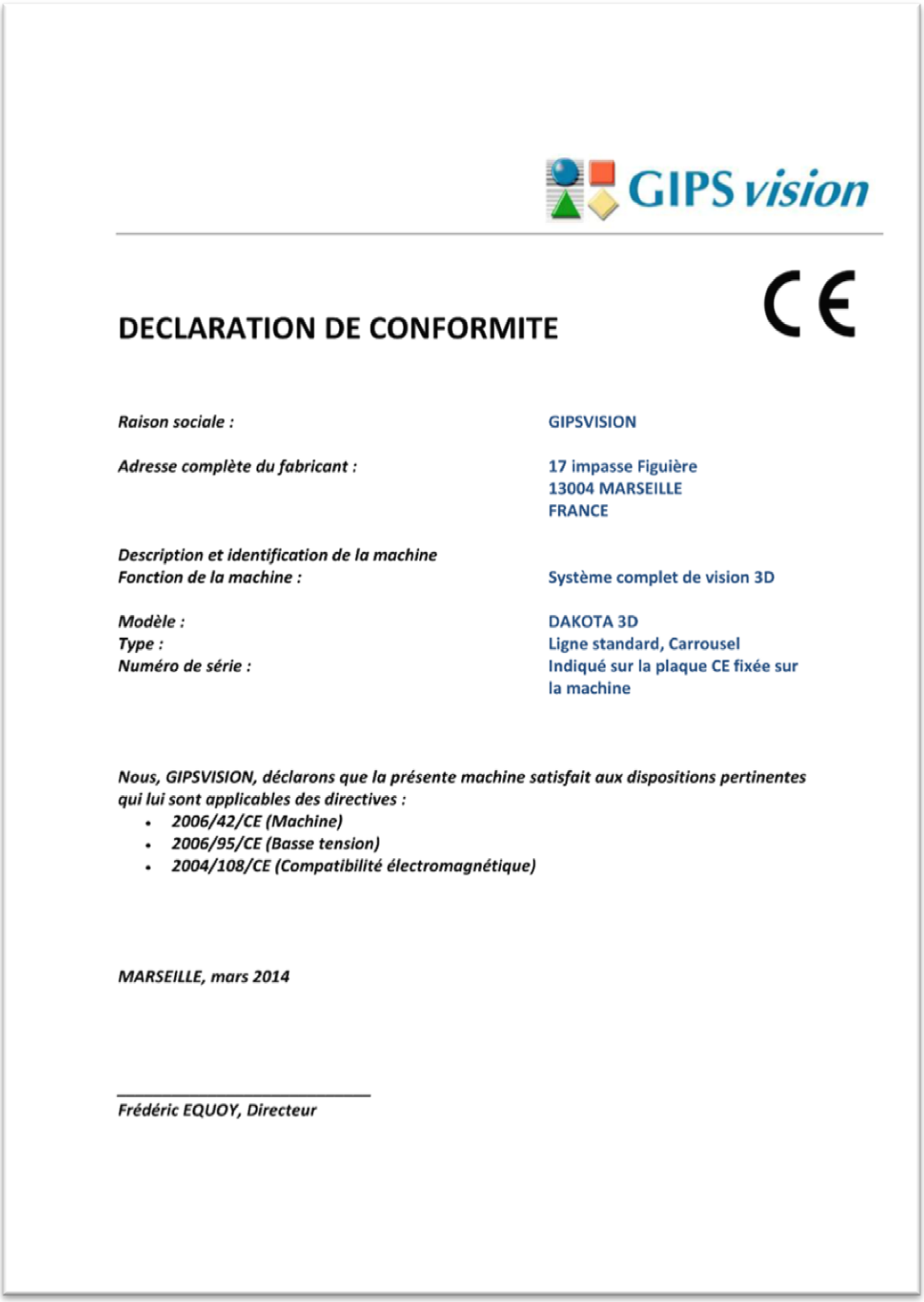
Declaration of conformity CE



GIPS vision

CE

DECLARATION DE CONFORMITE

Raison sociale :	GIPSVISION
Adresse complète du fabricant :	17 impasse Figuière 13004 MARSEILLE FRANCE
Description et identification de la machine *Fonction de la machine :*	Système complet de vision 3D
Modèle : *Type :* *Numéro de série :*	DAKOTA 3D Ligne standard, Carrousel Indiqué sur la plaque CE fixée sur la machine

Nous, GIPSVISION, déclarons que la présente machine satisfait aux dispositions pertinentes qui lui sont applicables des directives :

- *2006/42/CE (Machine)*
- *2006/95/CE (Basse tension)*
- *2004/108/CE (Compatibilité électromagnétique)*

MARSEILLE, mars 2014

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Frédéric EQUOY, Directeur