



PVSRobot

Machine for Automatic Inspection and Sorting of PET Preforms

Preform Inspection System with Robot

PVSRobot is a state-of-the-art automated inspection machine, designed for monitoring production drifts from injection molding presses operating in industrial environments.

As a technological evolution of the well-established PVS002 model, the PVSRobot system introduces a fully automated and **multi-format** architecture, capable of continuously inspecting preforms from different presses, **without the need for manual intervention**.

Equipped with an integrated format magazine and a high-precision robotic handling system (SCARA or anthropomorphic), PVSRobot ensures **high operational flexibility** and a **simplified user experience** for operators.

Automation allows operators to focus solely on analyzing the data related to product quality.

Key Innovations

- Fast, modern automation
- Integrated weighing module
- Automatic format change
- Bin Picking with AI for automatic recipe learning (upcoming feature)
- No mechanical adjustment required
- Increased productivity and ease of use
- Smart reject



Technical Data

Handling	SCARA robot or anthropomorphic robot with 3D sensor
Format changeover	Manual or fully automatic (with automatic orientator or Bin Picking)
Preform orientation	Manual roller / Automatic roller / Bin Picking (new)
Weighing module	Integrated
Rejects	Up to 2 configurable stations (camera, weight)
User interface	Optimized for laboratory technicians
Productivity with weighing active	Up to 800 preforms/hour
Productivity without weighing active	Up to 1,200 preforms/hour (Manual roller / Automatic roller) Up to 800 preforms/hour (Bin Picking)
Software Suite powered by AI	CVS25 – Inspection software CVSWEB – Web-based data management CLASSY-AI™ – Automatic defect classification GILDA-AI™ – Statistical supervision and process analysis



Defects detectable in preforms

- **TOP SEAL:** Short Shots, Ovalizations, Notches, Flashes, Contaminations
- **FINISH:** Contamination, Flashes, Notches, Black specks
- **BODY:** Inclusions, Black specks, Opacity, Crystallization, Bubbles, Mould dents, Long gate, Colour deviation and inconsistency, Shape, Scratches
- **BODY USING POLARIZED LIGHT:** Orange peel, Pinches, Water marks, Surface deformation, Shrinkages, Semi-transparent crystallization, Mould marks, Thermal degradation
- **BOTTOM:** Crystallization, Pinhole, Inclusions, Off-centre gates, Bubbles, Unmelted resin, Black specks
- **THREAD:** Inclusions, Bubbles, Black specks
- **DIMENSIONAL CONTROLS:** Perpendicularity, Wall thickness, Thread segments height, Finish height, Inner and outer diameter of the topseal, Support ring diameter, Base diameter

Other features:

- **PARTING LINE INSPECTION BODY WITH BACKLIGHT:** (minimum measure: 0.2 mm)
- **WEIGHT-** Modulo di pesatura integrato (novità): Precision down to 0,1% of the preform weigh
- **OPTICAL CHARACTER RECOGNITION (OCR)** with Artificial Intelligence tools



