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1 - Description

Mainly designed for print heads, the alignment bench allows the precise placement of objects between them in the horizontal and vertical planes.

This placement is carried out by an operator assisted by the equipment of the machine thanks to the continuous analysis of the positions by vision.

The HMI displays in real time the positioning information of the object being aligned with respect to a theoretical or reference position. The operator corrects the position of the object according to the differential readings by acting on the mechanical tools associated with the bench.

The part is correctly placed when the measured entities are within the tolerance zone.

The technology used in this machine makes it possible to adjust the position of objects with an absolute precision of less than $\pm 5 \mu\text{m}$ over the entire working range.

At the end of an alignment session, a report is published to ensure traceability.

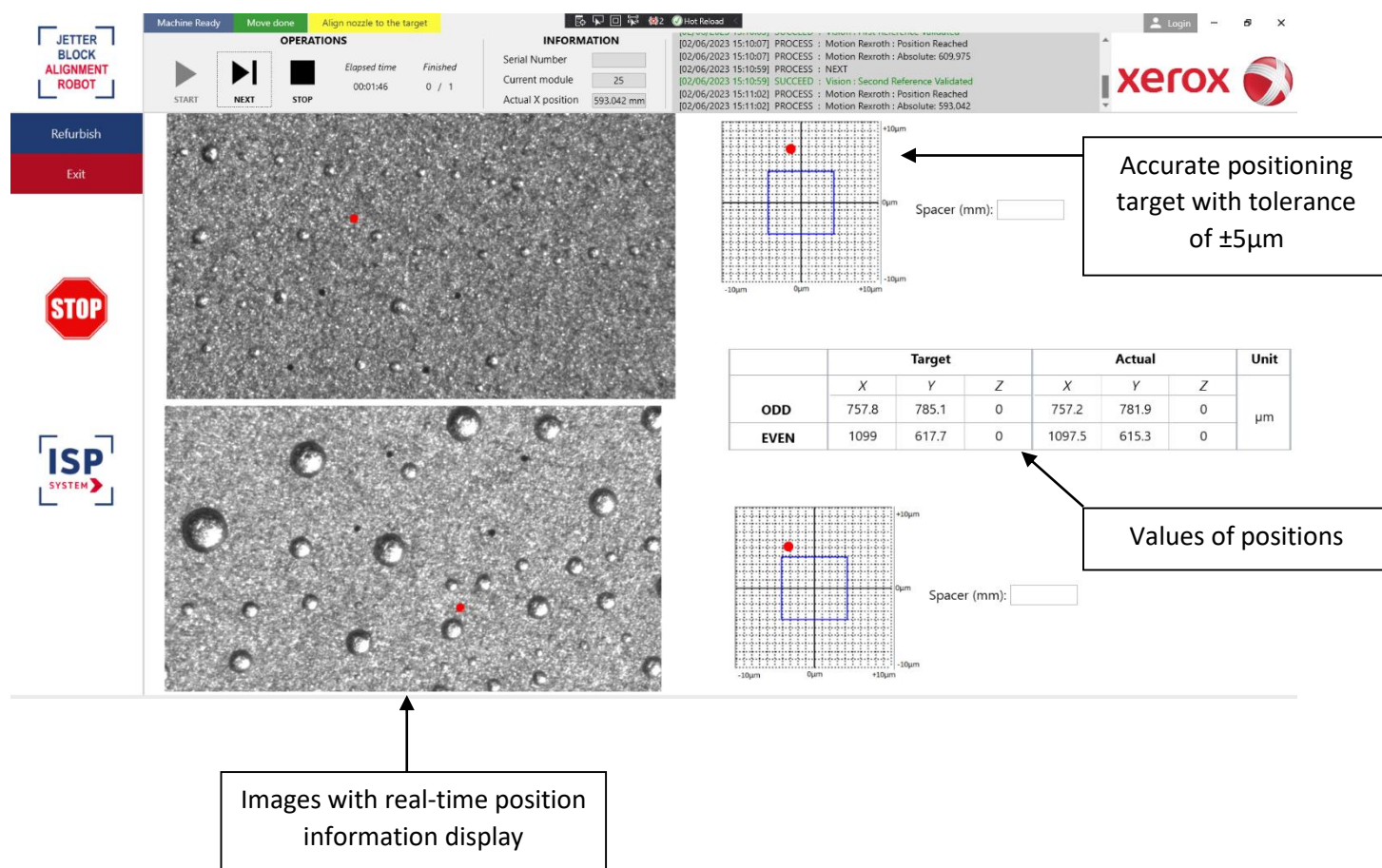
This machine is designed for long life and minimum maintenance (linear motor, optical ruler, aerostatic guidance). It just requires periodic cleaning of the sliding surfaces.

2 - Technical characteristics

Main characteristics:

- Rectified granite marble on mechanically welded frame (with double level of vibration isolation).
- Granite carriage with aerostatic guides: no vibration during alignment.
- Two support arches made of stabilized aluminium.
- High precision absolute measuring ruler.
- Position control by linear motor.
- Vision system embedded: two cameras with lighting.
- Z measurement system embedded: two retractable feelers.

Visualisation of the HMI:



CHARACTERISTIC (excl. options)	VALUES
Working area	720 mm x 200 mm
Structure	Grinded granite
Trolley bearing	Air bearing
Displacement resolution	0.1µm
Camera measurement system	2 cameras + lighting (precision < 2µm)
Z-measurement system	2 feelers (resolution < 5µm)
Displacement speed	50 to 10 mm/s
Machine dimensions (L x W x H)	1570 x 655 x 1720 (working height for the operator)
Absolute positioning accuracy	< ±5 µm
Power supply	400 Vac / air supply 6 bars (dry and filtered)
Mass	800 Kg

These measuring equipments are defined according to customer needs.