

MARPOSS

M125

AUTOMATIC MEASURING MACHINE TO CHECK CYLINDER BLOCK AND HEAD

VERSATILE

The M125 system, thanks to its strength, was born to measure in workshop environment. It is able to offer, together with dimensional, geometric and Non-Destructive (ND) checks, additional functions such as marking, part selection and back-up area.

RELIABLE

The M125 system is designed and manufactured with the help of the most advanced engineering methods, making it an extremely reliable and precise checking instrument in the workshop environment.

COMPLETE

The M125 is provided with all the systems necessary to meter and transfer parts coming from the manufacturing line automation. The capacity to provide for reduced cycle times, assures the check of 100% of parts, allowing the quality check of the whole production.



THE M125 SYSTEM

The conveyor

Cylinder Block movement to the various machine stations is performed by use of a motorized roller conveyor in axis with the Customer line. The parts are oriented along the longitudinal axis and supported by the oil pan plane.

Along the conveyor, a series of intermediate part stops (recognition, marking, scrap...) are present, allowing the synchronization of all the machine movements, to optimize the cycle time.

Measuring station

The measuring station is provided with a supporting structure independent from the part conveyor, in order to eliminate vibration interference on the measurements. It is composed of two parts:

Lower part:

Part elevator device electro-mechanically actuated having two functions: locate the crankcase and raise it to the fixed plugs of the upper measuring station (three or more intermediate stops are foreseen in relation to the requested sections to be checked inside the cylinder bores).

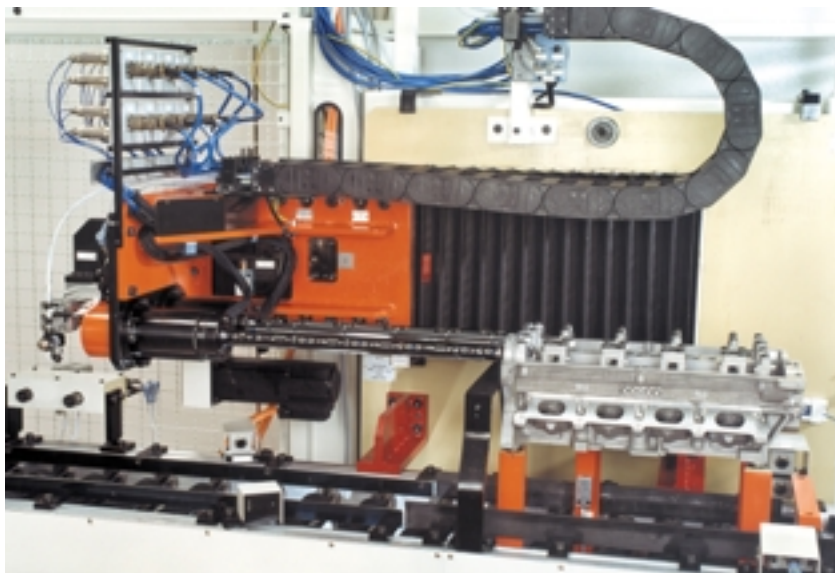
Upper part:

- plugs fixed in a measuring arrangement to check cylinder liners (crankcase)
- horizontal plug to check crankshaft axis (or camshaft in the cylinder head) having measuring sections in the same number of bearings.

Combination of signals coming from electronic sensors, allows to detect the following measurements: Diameters, Ovality, Concentricity, Perpendicularity, Distance.

Self-calibration device

The self-calibration device used for measure electric zeroing is integrated in the M125 system. The calibration function can be customized by the Customer in four ways: upon request, programmed after "n" measuring cycles, on time, following a significant variation of the environment temperature.



The Non-Destructive (ND) check

In addition to the measure of all the dimensional parameters, the M125 system can be configured for Non-Destructive detecting of the following surface defects:

- Cracks
- Porosity

Scrap part chutes

The scrap part chute is an integral component of the M125 machine. Thanks to system modularity, its position can change in accordance to the specific layout of the part transport line.

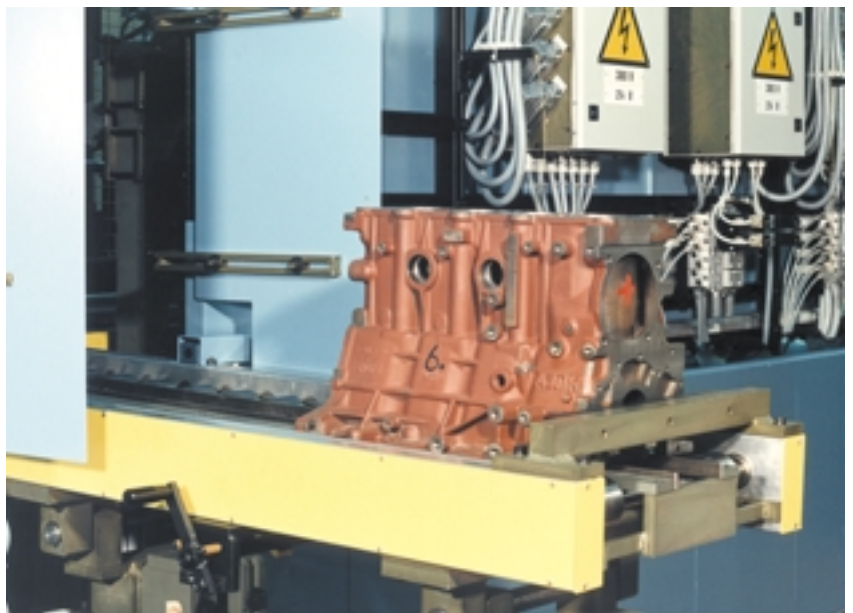
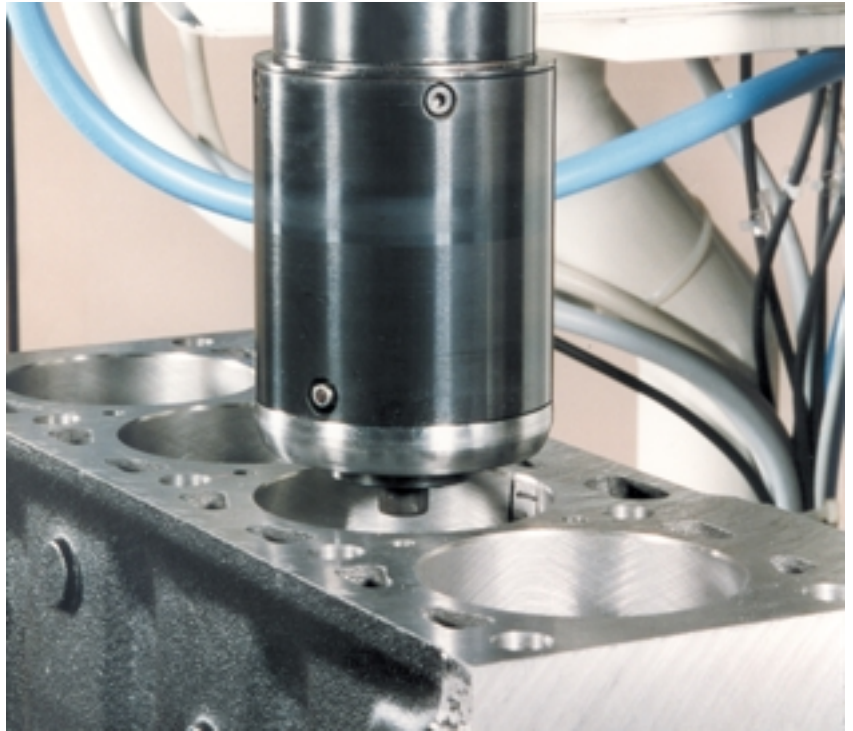
Accessories which can be integrated into the system

The M125 system can be integrated with one or more accessory modules:

- Part type recognition group
- Automatic or manual device for part type change-over
- Marking station (laser, vibrating pen, labeling machine)
- Part instantaneous temperature check probe.

It is also possible to make available a requalification and back-up area for the following functions:

- 1) Scrap part re-qualification using a series of manual plugs.
- 2) Marking station back-up when the machine device is under maintenance
- 3) Machine back-up when the measuring station is under maintenance.
- 4) Off-line part measuring and marking.



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