

**MARPOSS**

# **M110** *Flex*

**FLEXIBLE CONTACT MACHINE FOR SHAFT INSPECTION**





*Part on loading arm pre-vees*



*Measuring heads*



*3-section dedicated fork*



## **FLEXIBILITY**

Contact inspection on a large variety of crankshafts, including cam and transmission shaft, after inter-operational and final machining. Easy to retool when needed.

## **VERSATILITY**

Designed considering demanding shop floor environments for off-line, in-line and post-process applications. Manages parts up to 800 mm long, up to 60 Kg and with a maximum overall diameter of 240 mm.

## **INSPECTION COMPLETENESS**

Performs measurements of main and pin bearings (diameter, roundness and taper), flanges, distances and widths, groove diameters, radial and axial runouts, stroke, index.

## **PRECISION**

Extremely reliable and accurate, guarantees the best metrological performances using 2 bi-directional measuring heads with dedicated or wide-range forks.

*Inspection detail*



## CHARACTERISTICS

Robust, reliable and qualified mechanics, assembled on a monolithic floor structure.

Automatic horizontal part loading from gantry on station pre-vees.

Part loading in measuring station using loading arms or double loader or elevator, always outside the measuring area to ensure better protection against damage and greater protection from dirt.

Part located between centers driven by friction, axial pin hole for rotation thru direct drive or with OD gripper.

Horizontal measuring plane with 2-head measuring group. Pin bearing inspection with max 2 dedicated 8-cell fork or 9-mm wide-range fork.

Resident master; eventual ring master for wide-range fork and for each dedicated fork.

Ambient thermal compensation.

Ample visibility and accessibility with guarding which is mechanically isolated from the gauge and simple to remove for service.

Separately housed electrical cabinet allows the gauging station to be maintained at ambient temperature.

Marposs E9066T™ Industrial PC provides state-of-the-art processing power to run the Marposs Quick SPC™ Measurement and SPC software suite, offering unparalleled performance for real-time data acquisition and measuring applications, industrial process control, real-time SPC and closed-loop machine tool control.

Quick SPC™ also allows seamless interfacing to virtually any network client and data base architecture, including industrial networks (e.g. Profibus®, ProfiNet®, etc.).

Accuracy, Repeatability and Reproducibility studies are included and data evaluation can be run through the Marposs Measuring System Analysis (MSA) software module.



*Measuring heads calibration*



*Fork calibration*



*Part gripper*



*Measuring results display*





## PART DATA

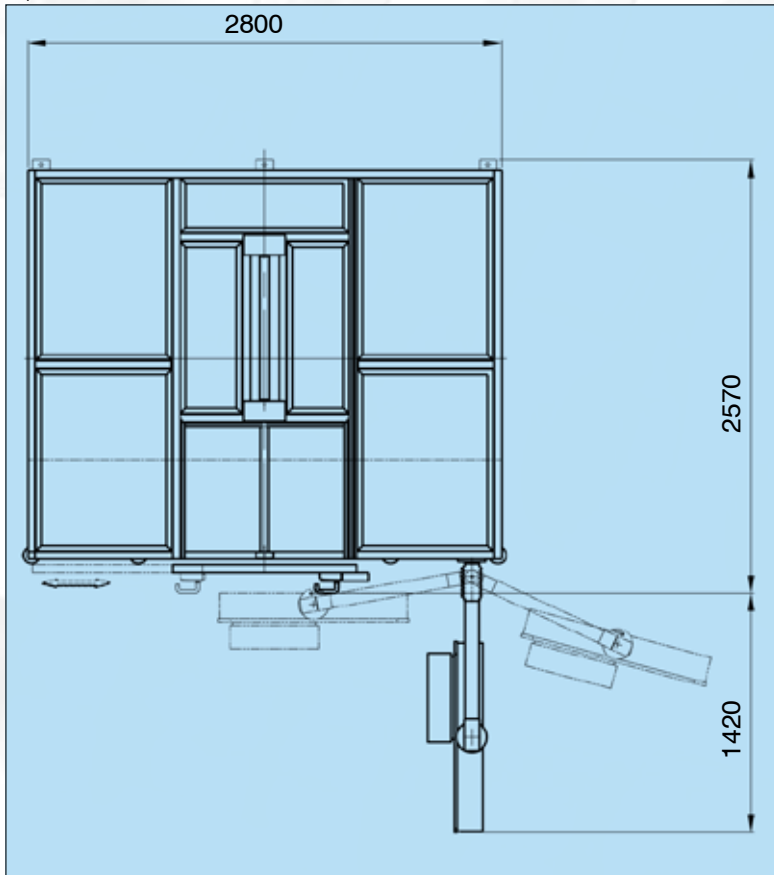
Part Referencing	Horizontal
Maximum Part Length	up to 800 mm
Measurable Diameters	up to 240 mm
Maximum non Measurable Diameter	up to 240 mm
Pin Bearing Diameters	Wide-range Forks (max 2) Diameter Range: from 42 to 51 mm Width: min 18 mm 1 Section - 1 Contact
	Dedicated Forks (max 2) Diameter Range: from 42 to 56 mm - Width: min 22 mm max 3 Sections - min Distance between adjacent Sections: 7 mm max 8 Contacts
Half Stroke	up to 50 mm
Maximum Part Weight	60 Kg

## MEASURING SYSTEM FEATURES

Overall Dimensions (L x W x H)	2800 x 2570 x 2450 mm (*)
Weight of Measuring Station	6800 Kg (*)
Loading Height	Double charger - from 1100 to 1270 mm
	Arms - from 1220 to 1270 mm
Pre-vees Diameter	up to 90 mm
Power Supply	400 VAC three-phase - 50 Hz other ones available upon request
Power Consumption	8 KVA
Ambient Temperature	from 5 °C to 40 °C

(\*) Electric cabinet and operator panel not included

Top view



## TECHNICAL DATA

Measuring Uncertainty	Diameters: $U95 < 2 \mu\text{m}$ (*)
	Distances: $U95 < (5 + L [\text{mm}]/400) \mu\text{m}$ (*)
Resolution	Diameters: $0.1 \mu\text{m}$
	Distances: $0.1 \mu\text{m}$
	Angles: $0.001^\circ$
Speed	max Axial Traveling: 190 mm/s
	Axial Measuring: 8 mm/s
	Angular Measuring: 1 rps

(\*) Calculated following UNI CEI ENV 13005 and ISO/TS 15530-3 norms

## HARDWARE/SOFTWARE CONFIGURATIONS

Data Collector	E9066™ Industrial PC
Monitor	LCD
Operating System	Microsoft® Windows®
Measurement Software	Quick SPC™ with Flex Add-On
Electrical Cabinet	IP54
Data Format	qs-Stat®
	Excel®
	Text (comma/tab delimited)

For a full list of address locations, please consult the Marposs official website

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Marposs has an integrated system to manage the Company quality, the environment and safety, attested by ISO 9001, ISO 14001 and OHSAS 18001 certifications. Marposs has further been qualified EAQF 94 and has obtained the Q1-Award.