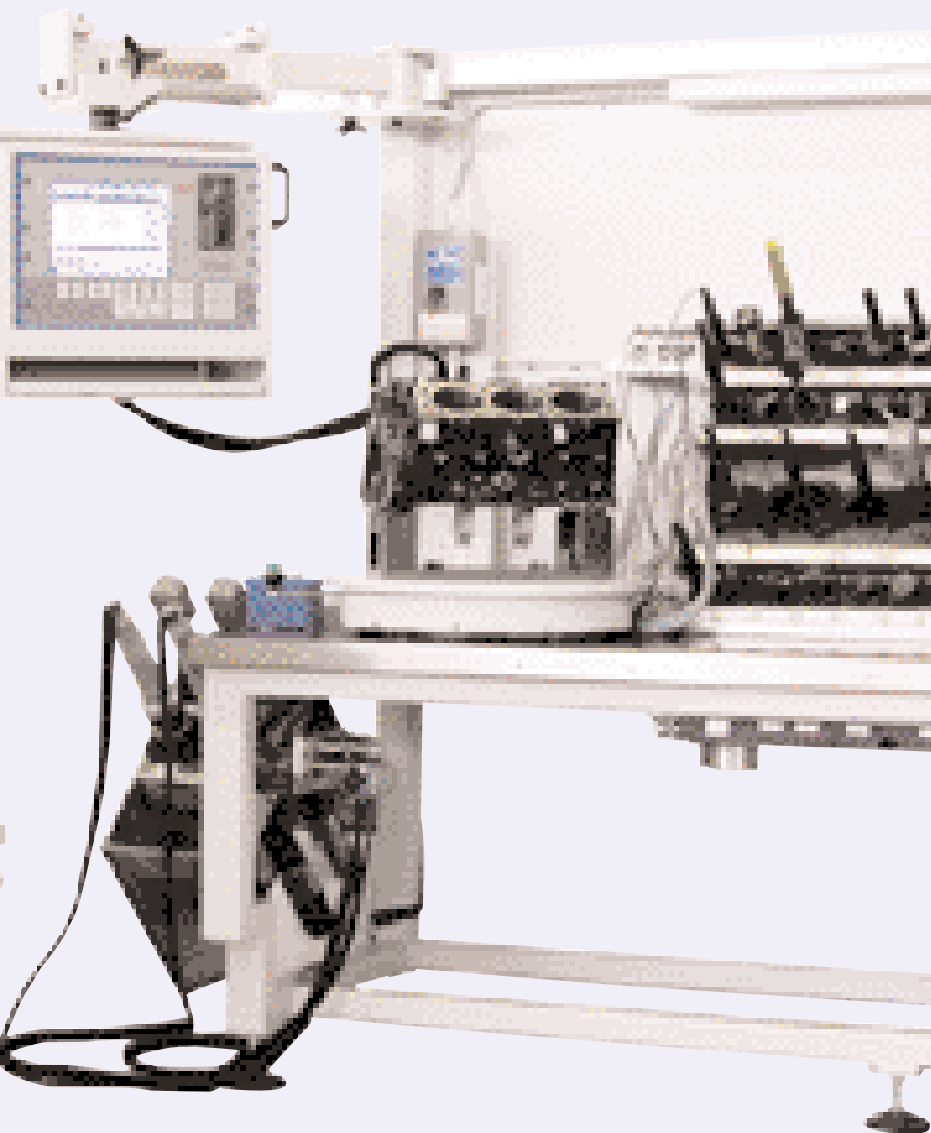


Project Gauging Integration



MG S.p.A., established in 1954, is a leading company in the metrology area.

Company mission is to provide outstanding products and services to its Customers.

The continuous efforts to improve the Company' s quality standard and the capability of supporting its Customers from the definition of their metrology needs up to after-sales service make MG the ideal partner for Companies aiming towards excellence in their sector.

From the initial activity as a maker of attribute gauges (plain and thread Go/NoGo) MG has enlarged its product range adding, among the others, spline gauges and master gears, mechanical variable gauges and systems up to complex fixtures for dimensional checking.

With the take-over of Microcontrol, MG entered the field of functional and leak testing automatic machines.

MG products are used wherever quality and precision are required. The main sectors of application are: automotive industry and their suppliers, aerospace, pneumatic and hydraulic components, electric components, glass manufacturing, machine tool, etc.

In June 2000 MG became part of **Marposs Group**: through the Marposs network, present in all the industrialized Countries with sales and after-sale service organizations, MG can now be a reliable partner for customers all over the world.

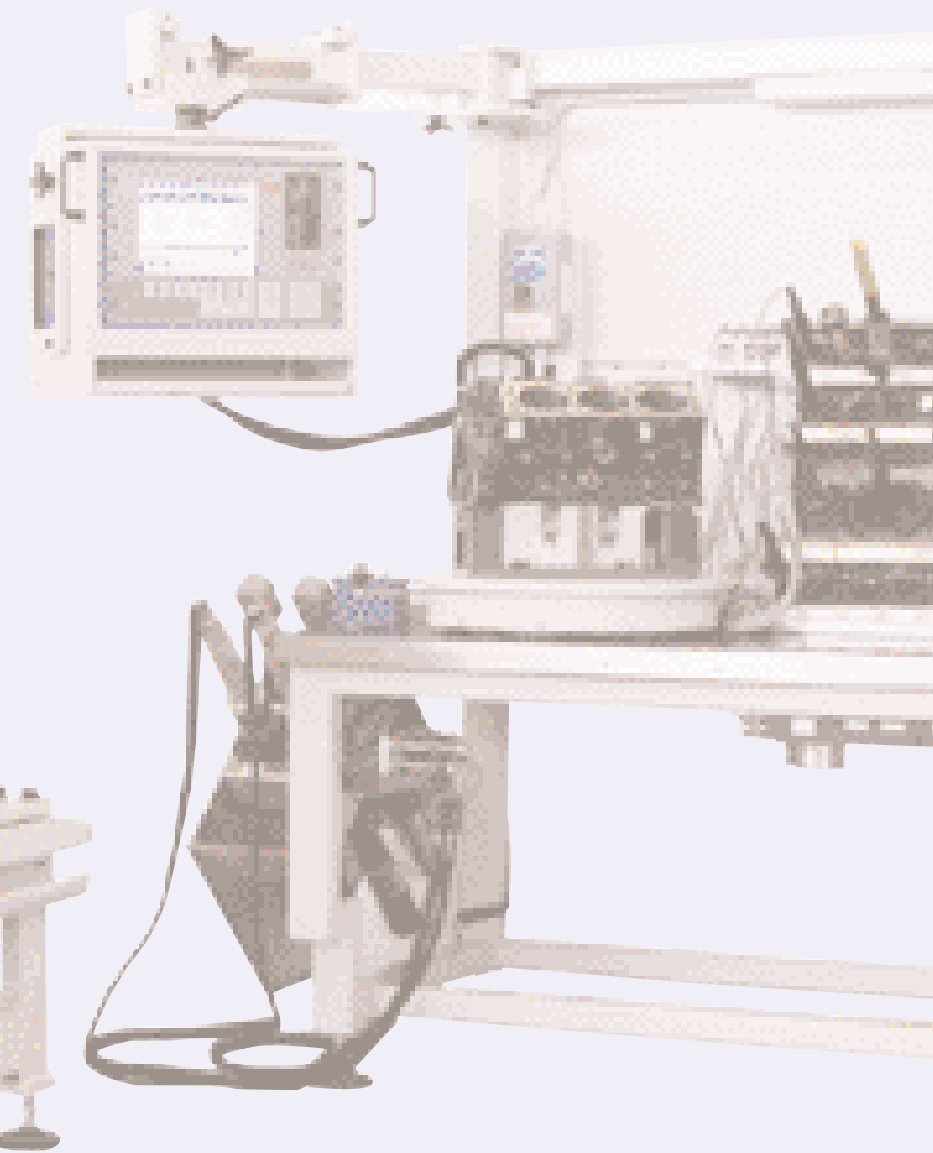
MG is a SIT calibration centre (ISO-UNI 45001) since 1991 and is well recognized as one of the most important centres in Italy.

MG is ISO 9001 certified from 1993.

MG is certified ISO-EN 17025 from 2001.



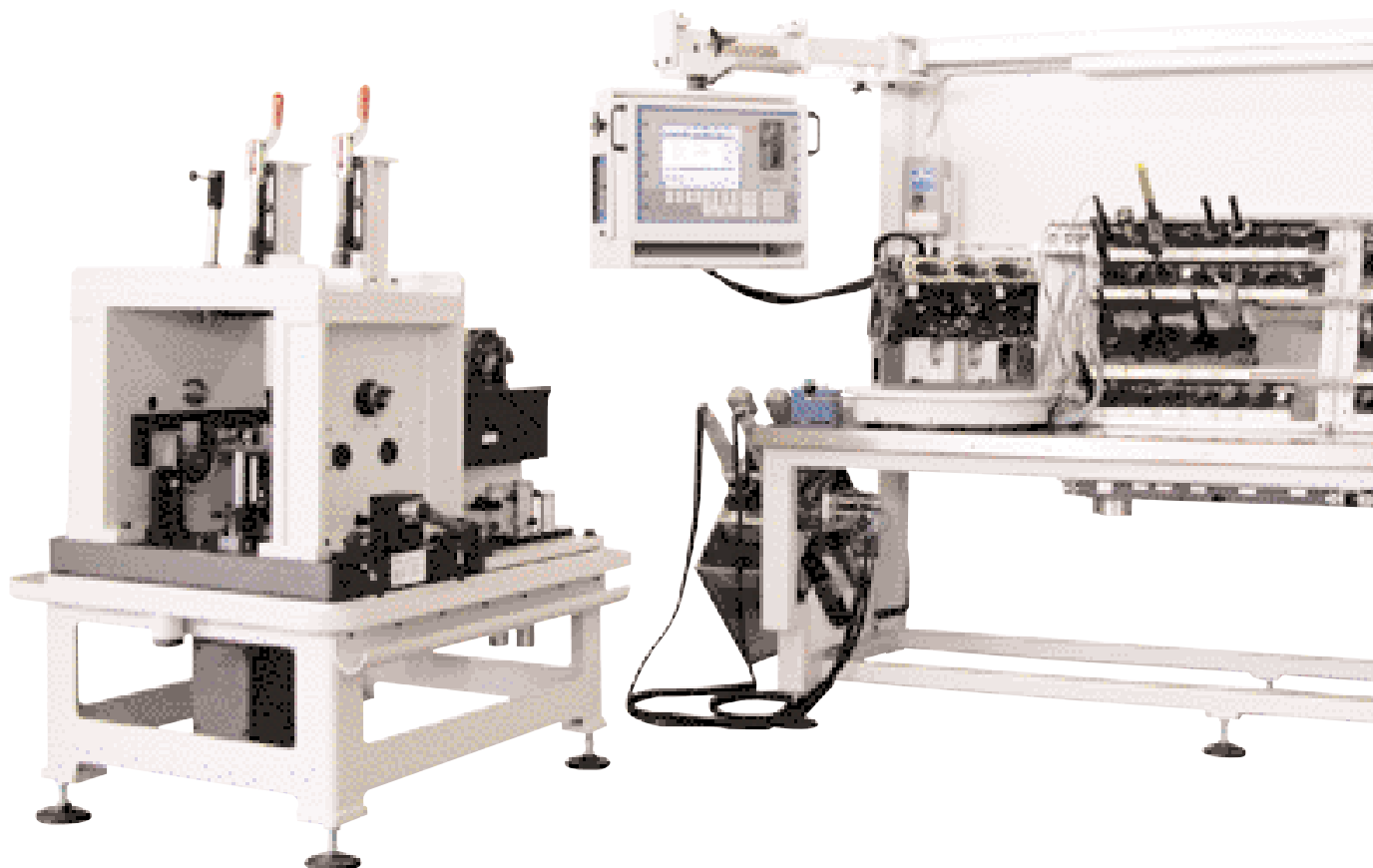
Project Gauging Integration



A modern manufacturing line is designed to deliver a highly reliable and always more performing. The performances and the reliability of the manufacturing process is to be kept under control by properly designed in-line and off-line inspection gauges. Inspection stations are usually foreseen at the end of each machining operation to perform sampling inspection or for tool set-up verifications at tool change.

MG is the right partner for off-line inspection stations properly designed to fit the Customer's needs:

- inspection tables provided with custom made nests for the gauging units
- standard and/or customized attribute gauges
- standard and/or customized variable gauges connected to indicators or to SPC computer
- dog-houses able to check parameters using the same references of the machine tool
- accessories for part handling like turning tables or rollover devices

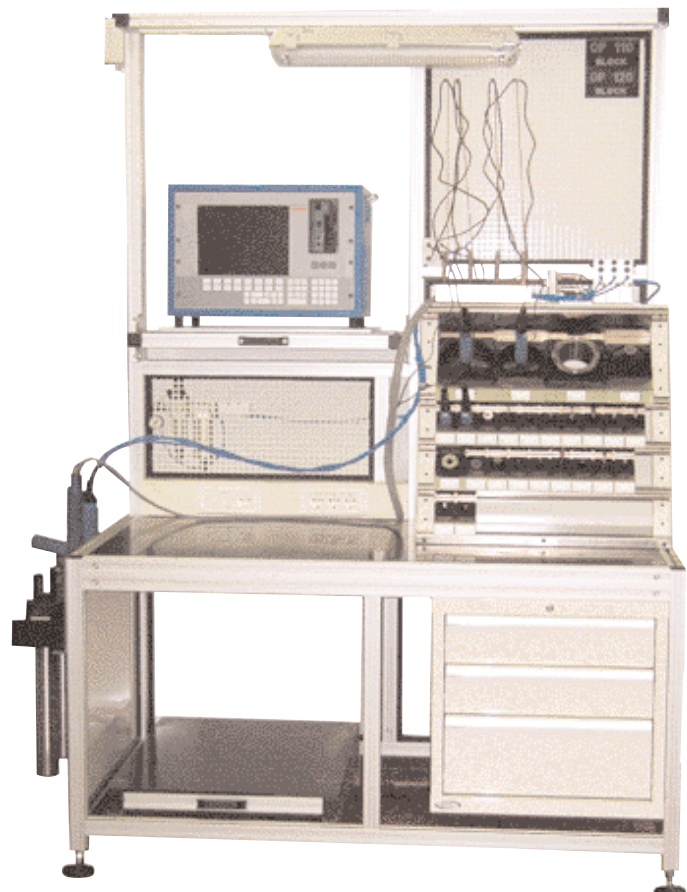
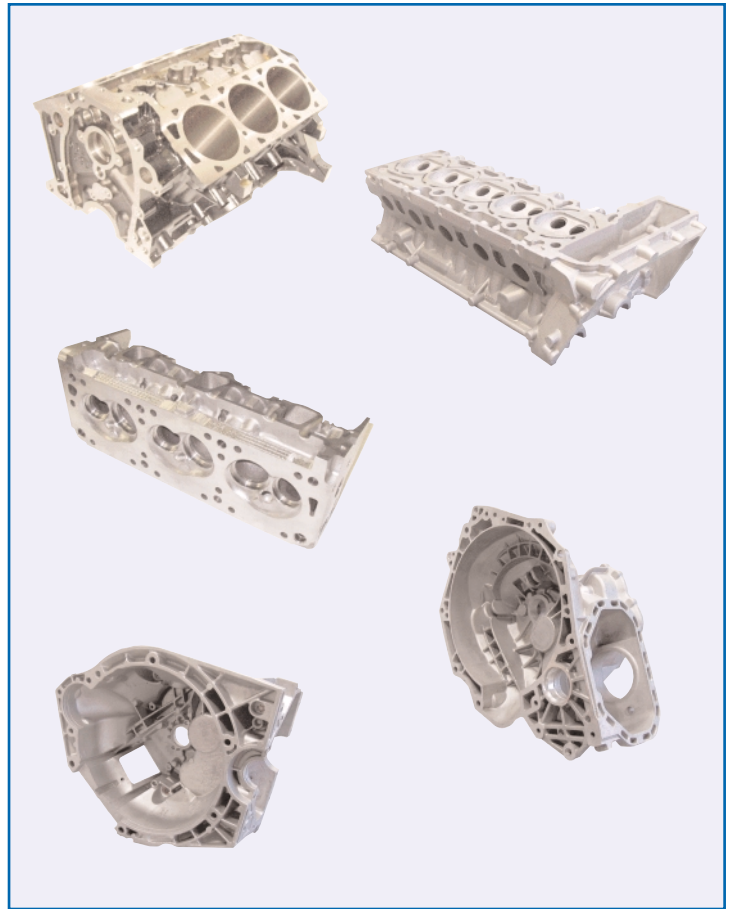


Typical checks

- presence, size and depth of holes
- size of keyway seats
- chamfer diameters by measuring chamfer depth
- internal and external diameters
- integrity and depth of threaded holes
- true position of holes to machining references
- location of surfaces to machining references
- depth of bores to machining references
- shape profile errors

Typical parts

- cylinder block
- cylinder head
- transmission and gear housing
- pump housing



GO – NO GO PLAIN GAUGES



GO – NO GO DIA-DEPTH “COMBI” PLUG

GO – NO GO dia-depth combi gauge is capable of checking two features at the same time: diameter and depth



FLUSH PIN

The flush pin gauge provide a way to measure chamfers diameters by measuring chamfer depth.



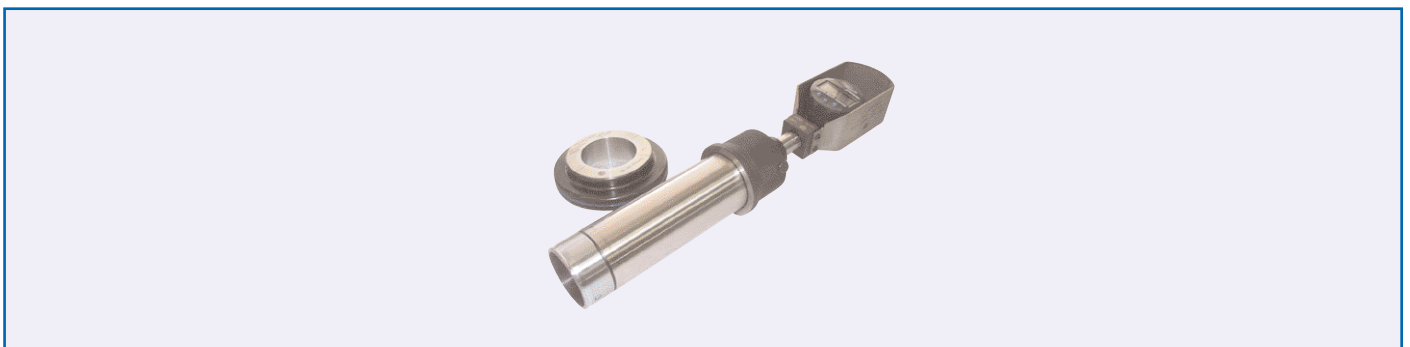
VARIABLE DEPTH PLUG

To check a hole depth. The reading is done by means of a dial indicator. The gauge has a master to zero-set the gauge.



VARIABLE PLUG GAUGES

The reading is done by means of a dial indicator. The gauge has a master to zero-set the gauge.



VARIABLE PLUG GAUGES

The reading is done by means of a probe hooked to a computer box. The gauge has a master to zero-set the gauge.



SPECIAL MULTI-LEVEL PLUGS

Special multi level hand gauges for bores measurement.



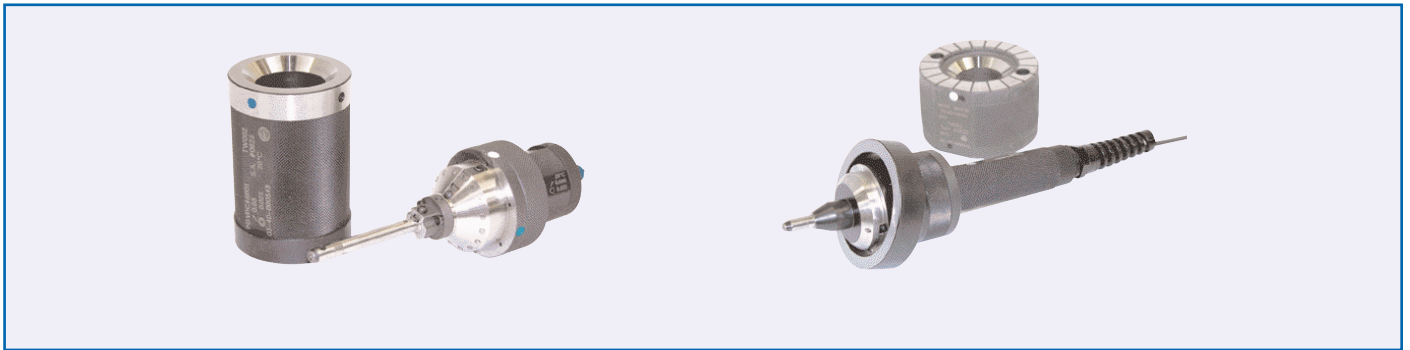
RUN OUT GAUGE

The gauge checks run-out of the outer diameter respect to a mechanical reference.



SPECIAL RUN - OUT SPINLE

Special hand gauge for valve seat run-out inspection.



PNEUMATIC GAUGES

Multi level air plug for bores measurement.



PNEUMATIC SNAP

Pneumatic gauge for OD (outer size) measurement.



Dog houses

The dog houses gauges are used to check:

- Positional tolerances
- Locations

of part feature respect to the workpiece machining references or generally respect to some “Datums”.

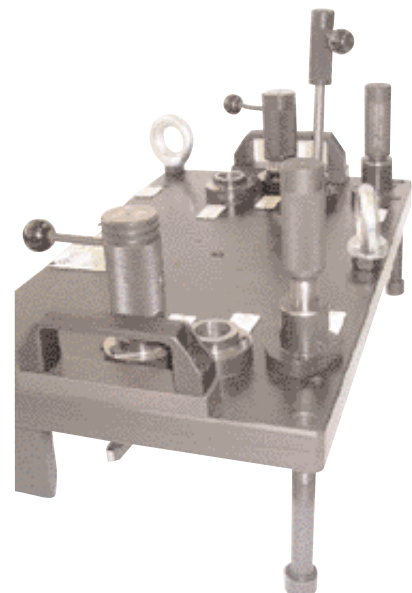
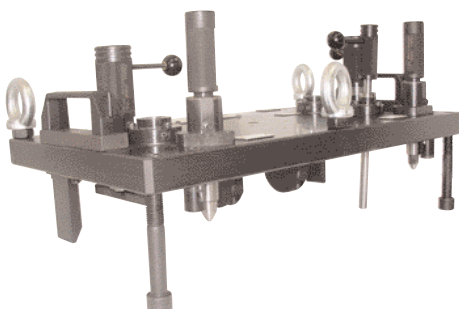
Generally they consist of a:

- Load/unload station
- Gaging station with clamps
- Functional pins or variable gauges



Layon gauges

The check performed by Layon Gauges are similar to checks made with an dog houses, but in this case the gage is placed on the workpiece, while the workpiece is loaded on a proper part handling device like rollover units or similar.



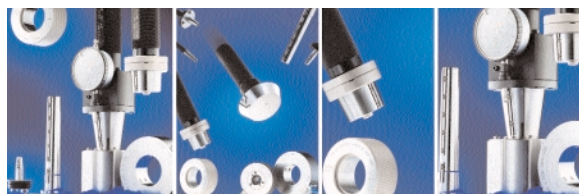
GO – NO GO gauges



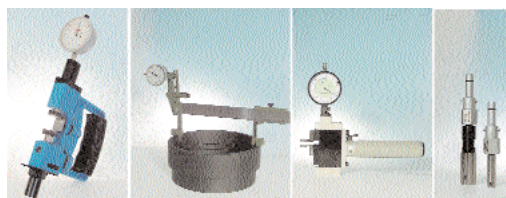
Master gauges



Taper gauges



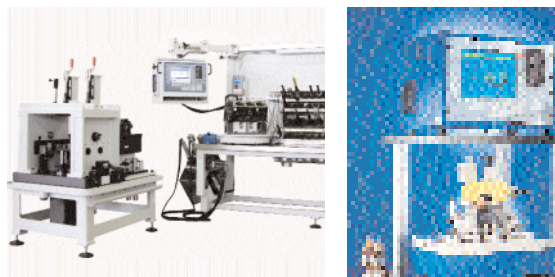
Universal gauges



Leak Testing



Special application



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