



# AXIS PRO

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A NEW CATEGORY OF  
MEASURING MACHINES



## A COMPUTER-CONTROLLED MEASURING MACHINE FOR AUTOMATIC IN-PRODUCTION MEASURING OF AXLE-TYPE PARTS, WHICH HAS WON GRAND PRIZES IN DESIGN AND SPECIAL PURPOSE MACHINERY CATEGORIES.

The AXIS PRO measuring machine, the flagship of Losoncz Innovation, is a computer-controlled and evaluating device designed for the measurement of axle-type parts.

It's suitable for the in-process inspection of machined parts in robotic or manual operation; for the unique identification of workpieces; the inspection of measured values; and for the evaluation of results and the storage of data, when connected to the computer network of the customer company.

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AXIS PRO is able to check and document all the required dimensions on all components within cycle time, in accordance with the vehicle manufacturers' requirements. These dimensions can be internal and external diameters,

lengths, groovings, runouts, cylindricity, circularity and surface roughness.

The measuring cell can check and record 20 to 30 different dimensions in less than 1 minute.





The measuring machine uses a code reader to scan the unique QR (2D) code of the individual workpieces, which ensures the linking of measurement results to the identified part. After measuring, it processes the gained data and if wear is detected but the dimension is still within tolerance, it sends a signal to the manufacturing machine, which then makes adjustments in accordance with the values obtained. If the measured values fall outside the specified tolerance limits, the measuring machine sends a signal to the operator or robot that the workpiece shall be rejected and placed into the scrap bin.

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With the design, our primary purpose was to provide good accessibility and serviceability.

The designer team gave special emphasis to these requirements in relation to both the assembly process and the maintenance of the installed machine. The electronic and pneumatic parts and the computer are installed in an easily accessible drawer at the bottom of the machine.

Other electronic parts are placed behind easily removable side and back panels, to make any necessary repair easy.

# AXIS PRO

Parts of the AXIS PRO have been standardised after analysing the most frequent measuring tasks. As a result, our designer team unified the elements measuring the internal and external diameter, the lengths and the groovings; the structural elements holding the measuring heads; the workpiece gripping, turning and moving elements; the base plates and the holding structure; the covers; the monitor holder; as well as the pneumatic and electronic building elements. We also developed the PLC of the machine, the robot interface, the digital converter for the inductive measuring probes, the pneumatic pressure measuring unit, and the METRIX software that controls the measurement itself.

Thanks to the standardised components and the modular design of AXIS PRO, the measuring machine can be easily customised and even retrofitted; furthermore, the production and assembly time can also be significantly reduced, as the individual elements can even be produced to stock. With such pre-designed and standardised parts produced to stock, the delivery of a new AXIS PRO measuring machine takes only 2-3 months from placing the order.

## TECHNICAL PARAMETERS

### AXIS PRO<sup>®</sup> | AXIS PRO<sup>®</sup> | AXIS PRO<sup>®</sup>

| LENGTH X WIDTH X HEIGHT              | 830 x 760 x 630         | 980 x 860 x 740         | 1230 x 1000 x 900       |
|--------------------------------------|-------------------------|-------------------------|-------------------------|
| LENGTH OF PIECE                      | 225 mm                  | 375 mm                  | 625 mm                  |
| DIAMETER OF PIECE                    | 70 mm                   | 100 mm                  | 140 mm                  |
| DIAMETER MEASURING HEAD TYPES        | Inductive / Pneumatic   | Inductive / Pneumatic   | Inductive / Pneumatic   |
| NUMBER OF DIAMETER MEASURING HEADS   | 1 - 2 x 15              | 1 - 2 x 25              | 1 - 2 x 43              |
| LENGTH MEASURING HEAD TYPES          | Inductive               | Inductive               | Inductive               |
| NUMBER OF LENGTH MEASURING HEADS     | 1 - 12                  | 1 - 18                  | 1 - 29                  |
| GROOVE WIDTH MEASURING               | Option                  | Option                  | Option                  |
| NUMBER OF SERVED PROCESSING MACHINES | 1 - 9                   | 1 - 9                   | 1 - 9                   |
| CODE READING                         | Option                  | Option                  | Option                  |
| SURFACE ROUGHNESS MEASURING          | Option                  | Option                  | Option                  |
| TEETH IMPACT MEASURING               | Option                  | Option                  | Option                  |
| ATTACHMENT OF SERVICE ROBOTS         | Option                  | Option                  | Option                  |
| ATTACHABLE ROBOTS                    | ABB, KUKA,<br>FANUC, UR | ABB, KUKA,<br>FANUC, UR | ABB, KUKA,<br>FANUC, UR |
| WEB CAMERA                           | Option                  | Option                  | Option                  |
| VIDEO RECORDING OF WORKSPACE         | Option                  | Option                  | Option                  |
| RECORDING OF THE LAST 8 HOURS        | Option                  | Option                  | Option                  |

DIMENSIONS AND SPECIFICATIONS IN THE ABOVE TABLES  
CAN BE UPDATED UPON CUSTOMER REQUEST.

With the development of Industry 4.0 and robotisation, there is an increasing demand at automotive companies for the automatic in-process measurement of parts. The AXIS PRO measuring device was developed in order to serve this market demand. The machine won the measuring device category at the first Hungarian Industrial Special Purpose Machine Grand Prix in 2021, thus earning the Industrial Special Purpose Machine of the Year title.

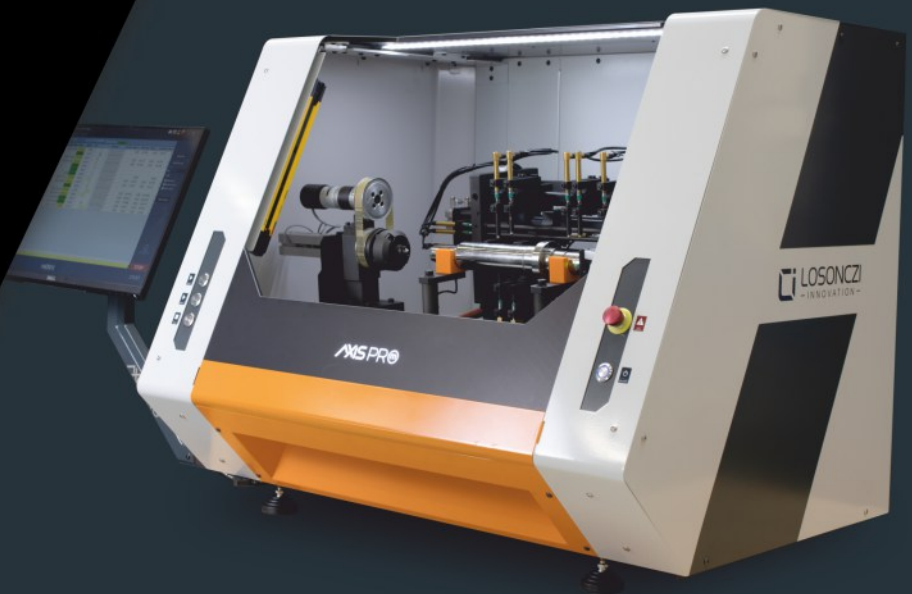
In addition to the applied cutting-edge technologies, design also plays an increasingly important role in the production line machine market. And Losonczi Innovation intended to be among the first to present cutting-edge technology in the adequate design.

When designing the outer casing of the AXIS PRO measuring device, it was important that the design reflected the many years of engineering that Losonczi Innovation had invested in the development of the measuring machine.

Nothing proves better that AXIS PRO has achieved this goal than the fact that in 2020 it won the special award of the Hungarian Intellectual Property Office at the Hungarian Design Award Gala.



HUNGARIAN  
DESIGN AWARD  
2020





# METRIX

The METRIX software, controlling the measuring machine and evaluating the gained data has also been developed by Losonczi Innovation. After filtering and processing the data received from the inductive measuring probes, the software determines the functions mapping the dimensions. Then the results and further data of the measurements are linked to the workpiece identified by the code reader. METRIX also monitors the built-in sensors and the calibration processes.

Furthermore, the software ensures cooperation with the operator or the robot installed with the machine, and data transfer to the correction memory of the manufacturing machine. Remote access of the machine is available, thus any necessary modifications and monitoring of the software are quickly possible. The user language of METRIX is optionally adjustable and upgradable.

FURTHER INFORMATION AND REQUEST FOR QUOTATION:

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