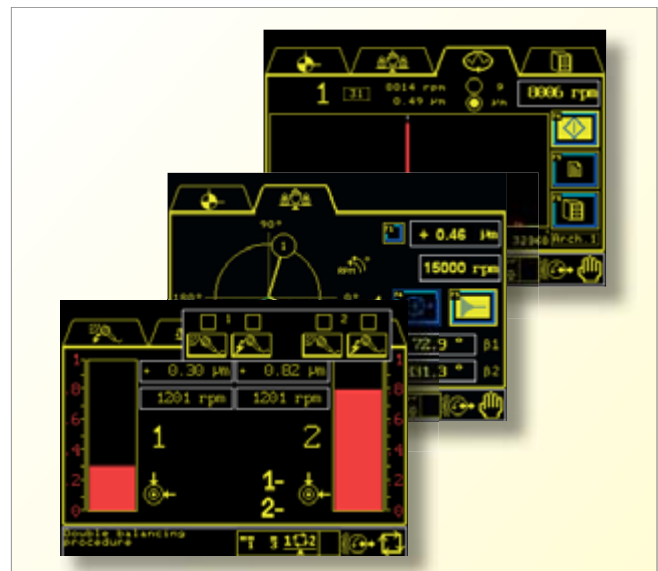# Wheel Balancing *Software*

GRINDING LINE

WHEEL BALANCING APPLICATIONS ON GRINDING MACHINES

In the line of MARPOSS balancers designed to manage and optimise balancing cycles for grinding wheels on grinding machines, the P7 system's versatility, processing speed, possible configurations and hardware/software standardisation place it at the top of its category.

Individual monitor and control requirements are completely fulfilled in the balancing packages developed as a result of Marposs experience. The visualization can be made either by a graphic panel display or directly on CNC operator panel by means of MHIS software (Marposs Human Interface Software) developed in Windows® environment.
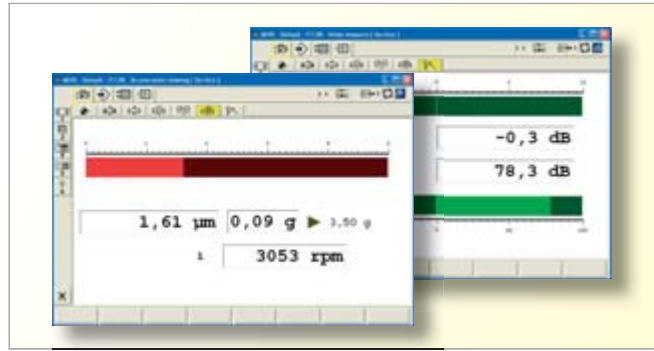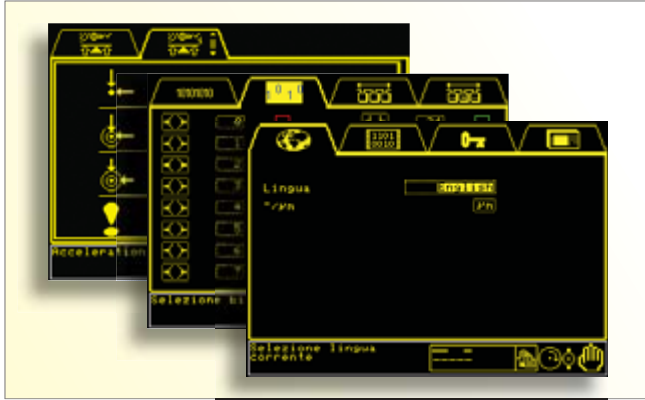
Grinding wheel balancing

- Manual balancing using algorithm with 2 fixed weights / variable angles (typical for CBN grinding wheels Ø < 300 mm)
- Manual balancing using algorithm with 2 variable weights / fixed angles (typical for CBN grinding wheels Ø < 100 mm)
- Automatic balancing on a single grinding wheel
- Double automatic balancing (independent cycle on two grinding wheels)
- Simultaneous automatic balancing on two grinding wheels (balancing on 2 tables)
- Balancer head weights neutral position
- Spectral frequency analysis (FFT)
- Balancing algorithm adapts to elastic characteristics of grinding machines

Measuring Heads

Electronic Units

Balancing Heads

Software

Sensors

Accessories

Process control

- Monitoring vibrations during acceleration, when up to speed or shifting and alarms in the event of excessive unbalance
- Checking grinding wheel minimum and maximum speed of rotation
- Checking signal from acoustic sensors for gap and crash control

Configurability

A configuration tool is used to customise the device for the specific application so that the software, using preset menus, asks the operator only for the parameters relative to the balancing cycles envisaged by the application.

The software's flexibility allows the person defining the application to select from the various types of balancing heads the one most suitable for the specific requirements and the input/output signal mode for interfacing with the PLC / machine CNC and transmission of the measuring values by selecting either conventional 37-pin cannon connectors or a fieldbus connection.

The high degree of P7 system standardisation allows it to adapt to different types of machines, including the development of dedicated solutions, and optimisation of the number of spare parts, containing the overall investment.

Versatility

Operator intervention is facilitated by the graphic interface, by hot keys for the main views and by an efficient debug of all input/output signals.
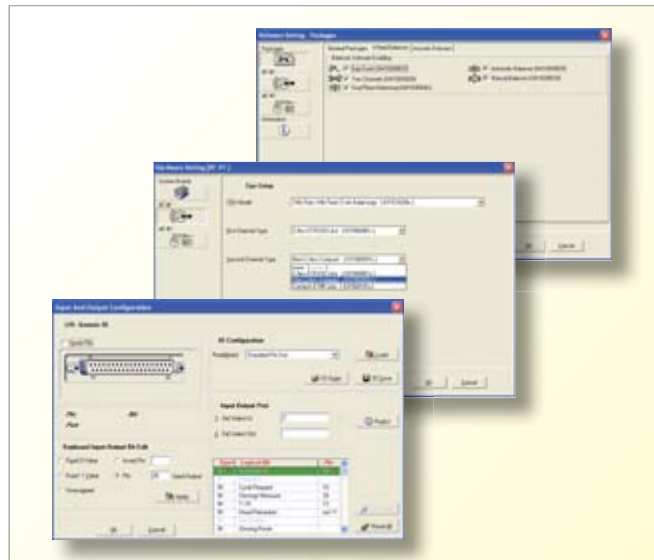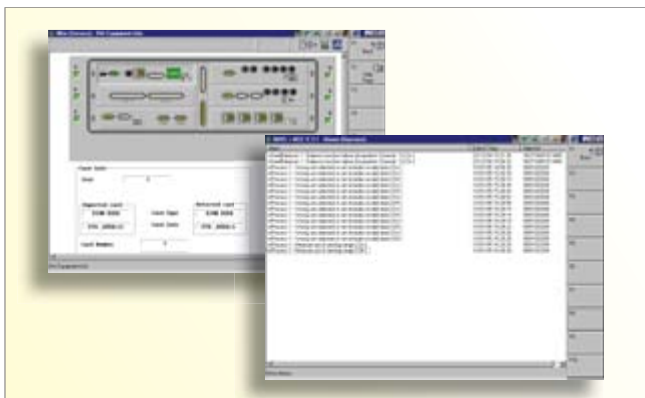
A selection of languages and measuring systems further extends system flexibility.

Maintainability

Control device management is made noticeably easier by programs developed in the Windows® environment designed to archive and restore the data programmed and to install the Marposs application packages.

Clear gauge diagnostics allow immediate checking of any hardware problems and appropriate messages facilitate process control.

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