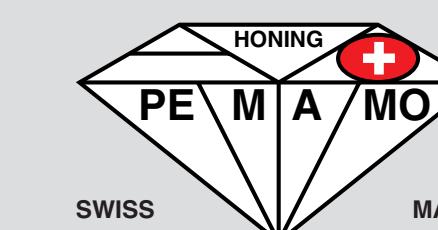




## Control panel

- Convivial Navigation between the various screens of programming.
- Permanent Reading of the honing expansion evolution from the beginning of the cycle until the final diameter and its return.
- The table position can be stored by a simple impulsion on the touch panel (TEACH IN).
- Positioning of the table by the touch screen (JOG) or by the toggle switch.
- Dwell 0 - 60 sec. separate for each spindle.
- Automatic stop after having reached the desired diameter as well as automatic return to the diameter of departure, separate for each spindle.
- Changes of the honing diameter in + or - are possible on each spindle even during the honing cycle in steps of 0,0001 or 0,001 mm.
- The stock removal, expansion speed, expansion pressure, honing time, final Ø as well as the number of parts honed are permanently indicated during the honing operation.
- Honing programs can be stored; each of these programs can have three honing operations stored (Roughing – Finishing – Super-finishing).

<b>Technical Data</b>		
<b>MRL 250</b>		
Honing range	mm	1,5 - 70
Table stroke	mm	0 - 300
Maximum honing length	mm	150
Stroking speed	mv/min	20 - 255
Spindle speed	RPM	150 - 2500
Spindle motor	kW	2,2
Linear motor	F <sub>N</sub>	1015
Distance between the table and the spindles	mm	150
Distance between the spindles	mm	270
Expansion mode with constant pressure and constant speed		
Expansion mode by increment and by absolute		

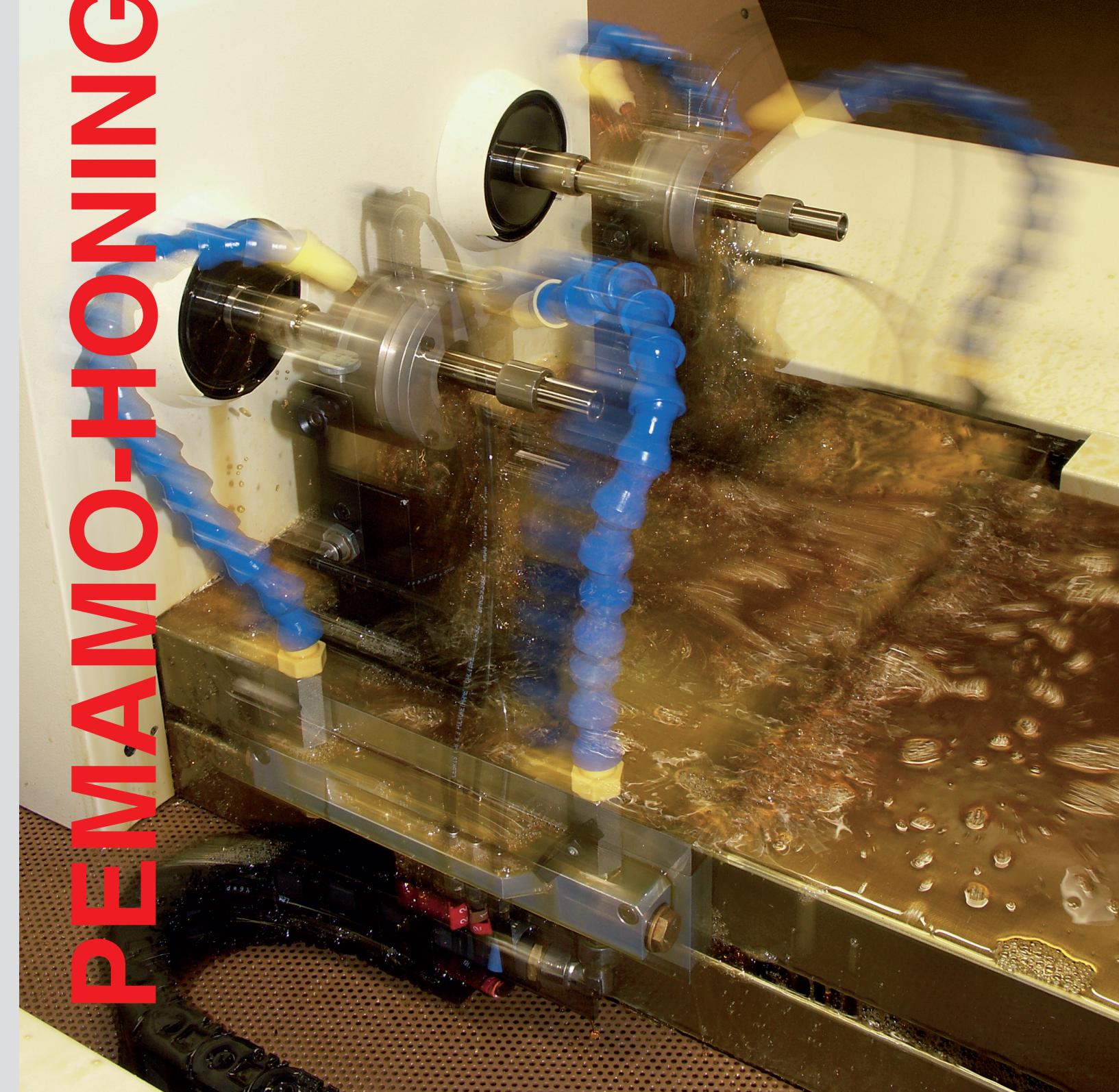


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**PEMAMO-HONING**

**MRL 250**

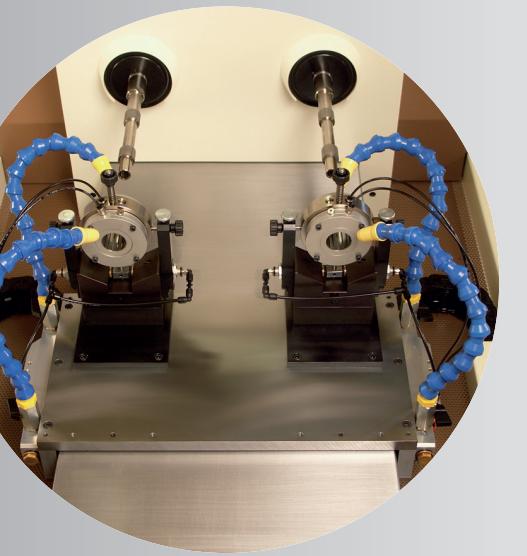
**Honing machine  
with linear motor**





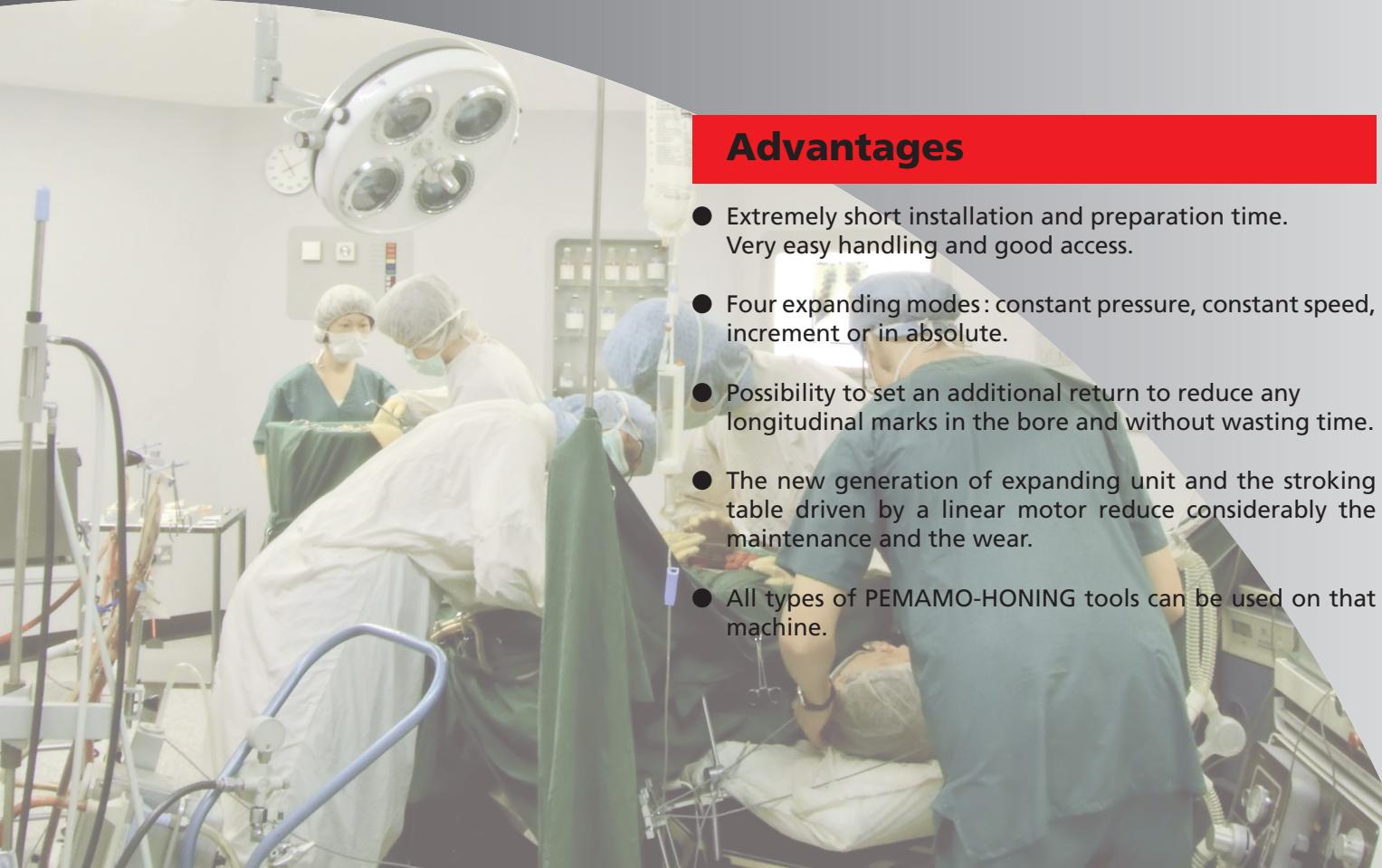
## Productivity

- The new generation PEMAMO-HONING combined tool used on the honing machine MRL 250 can increase the productivity up to 30 % !!!
- Possibility to set two stroking lengths at two different positions in a few seconds.
- No time consuming adjustments of hones and hone spindles to achieve true-running.
- Two work pieces or two work pieces packages can be honed at the same time, roughing then finishing operation without changing the tool and in the same clamping.



## Repetitity and precision

- High precision honing operations, even within 1 micron (.00004"), can be achieved by untrained operators after minimal instruction.
- The nature of our honing system guarantees the necessary conditions for honing also difficult parts, in the most efficient and cost saving way.
- Changes of the honing  $\varnothing$  in + or - are possible on each spindle even during the honing cycle in steps of 0,0001 mm or 0,001 mm.



## Advantages

- Extremely short installation and preparation time. Very easy handling and good access.
- Four expanding modes: constant pressure, constant speed, increment or in absolute.
- Possibility to set an additional return to reduce any longitudinal marks in the bore and without wasting time.
- The new generation of expanding unit and the stroking table driven by a linear motor reduce considerably the maintenance and the wear.
- All types of PEMAMO-HONING tools can be used on that machine.

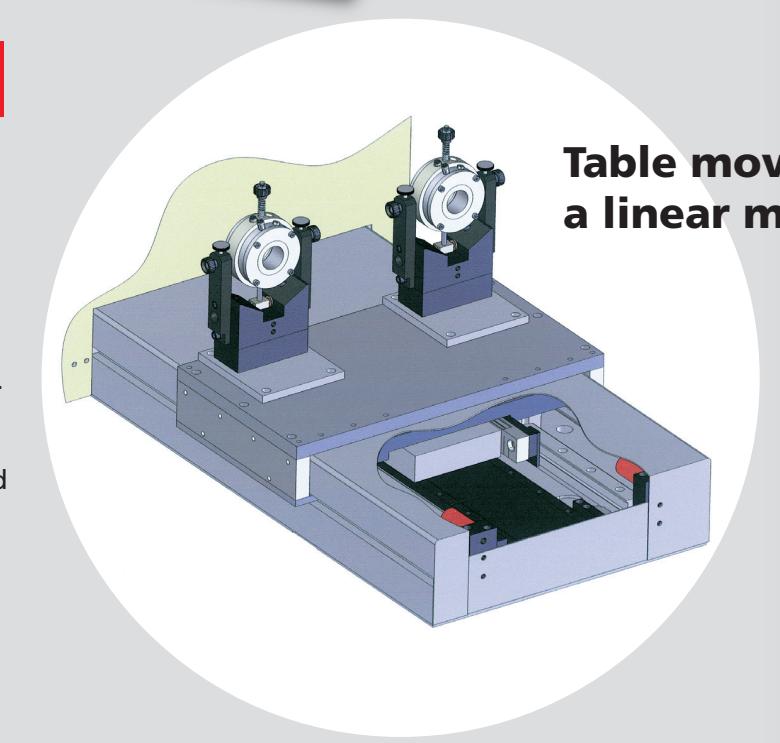
# DOUBLE-SPINDLE HONING MACHINE

MRL 250

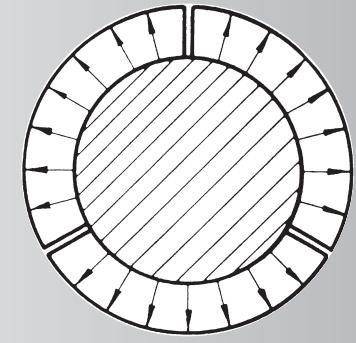


## Performances

- All work pieces are clamped in a floating manner, automatically or manually.
- Integration simplified for robots or automatic system to load/unload the parts.
- Reduction of the idle time due to the combination of the expanding unit, the combined hone and the linear motor.
- The stock removal, expansion speed, expansion pressure, honing time, final  $\varnothing$  as well as the number of parts honed are permanently indicated during the honing operation.
- Possibility to set two different stroking lengths in the same program (example for blind bore).



## High precision honing



## PEMAMO diamond hones



Expandable diamond hones for blind holes  $\varnothing$  1,5 - 70 mm



Expandable diamond hones for through holes  $\varnothing$  1,5 - 70 mm



New generation of combined honing tool aloud to make two honing operations (roughing + finishing) with the same tool

