

GARBOLI

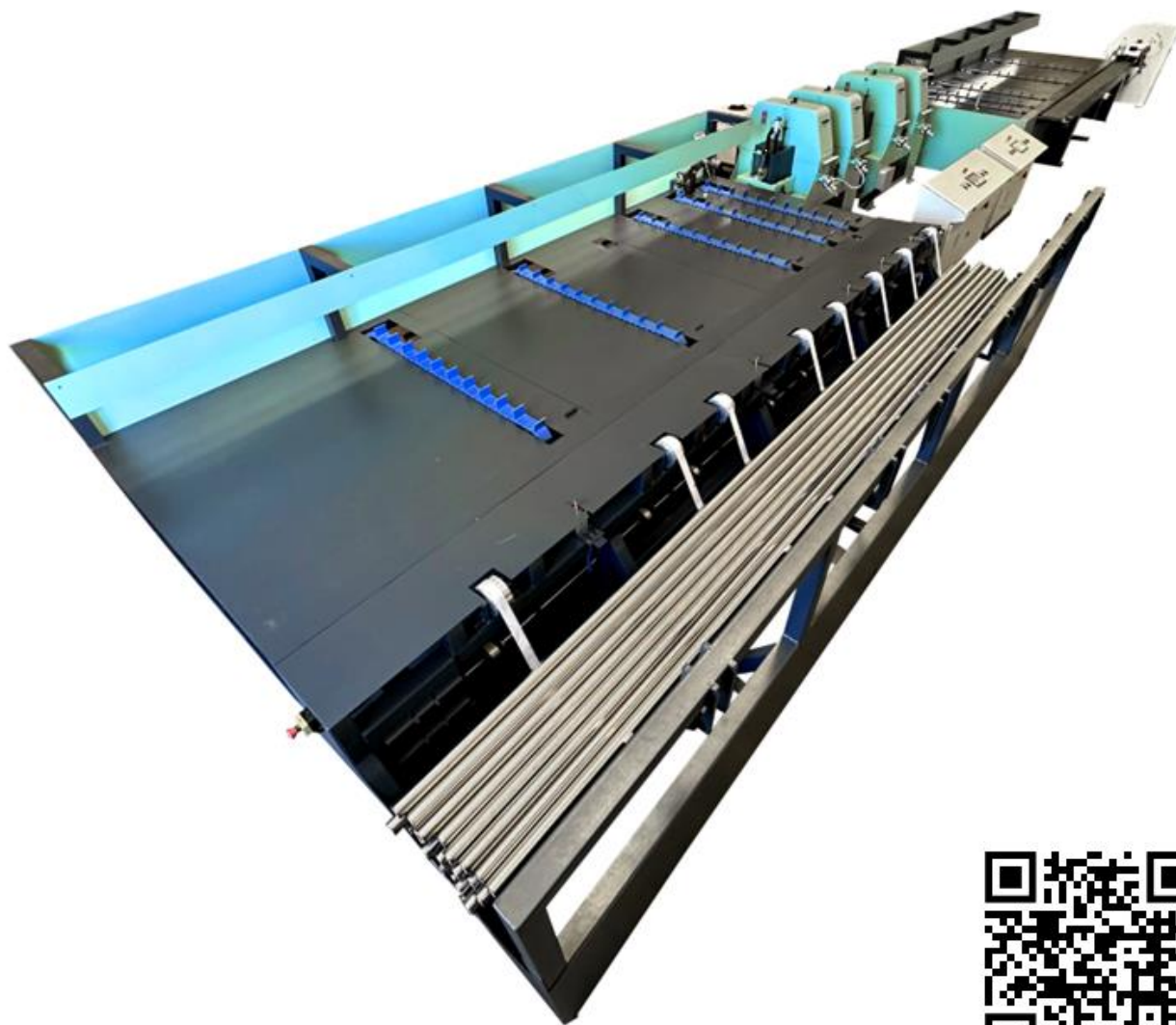
Grinding & Polishing Machines

Smerigliatrici e Lucidatrici



LMT

AUTOMATIC LINE FOR TUBES - BARS POLISHING



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0 AUTOMATIC LINE DESCRIPTION

0.1 GENERAL DESCRIPTION

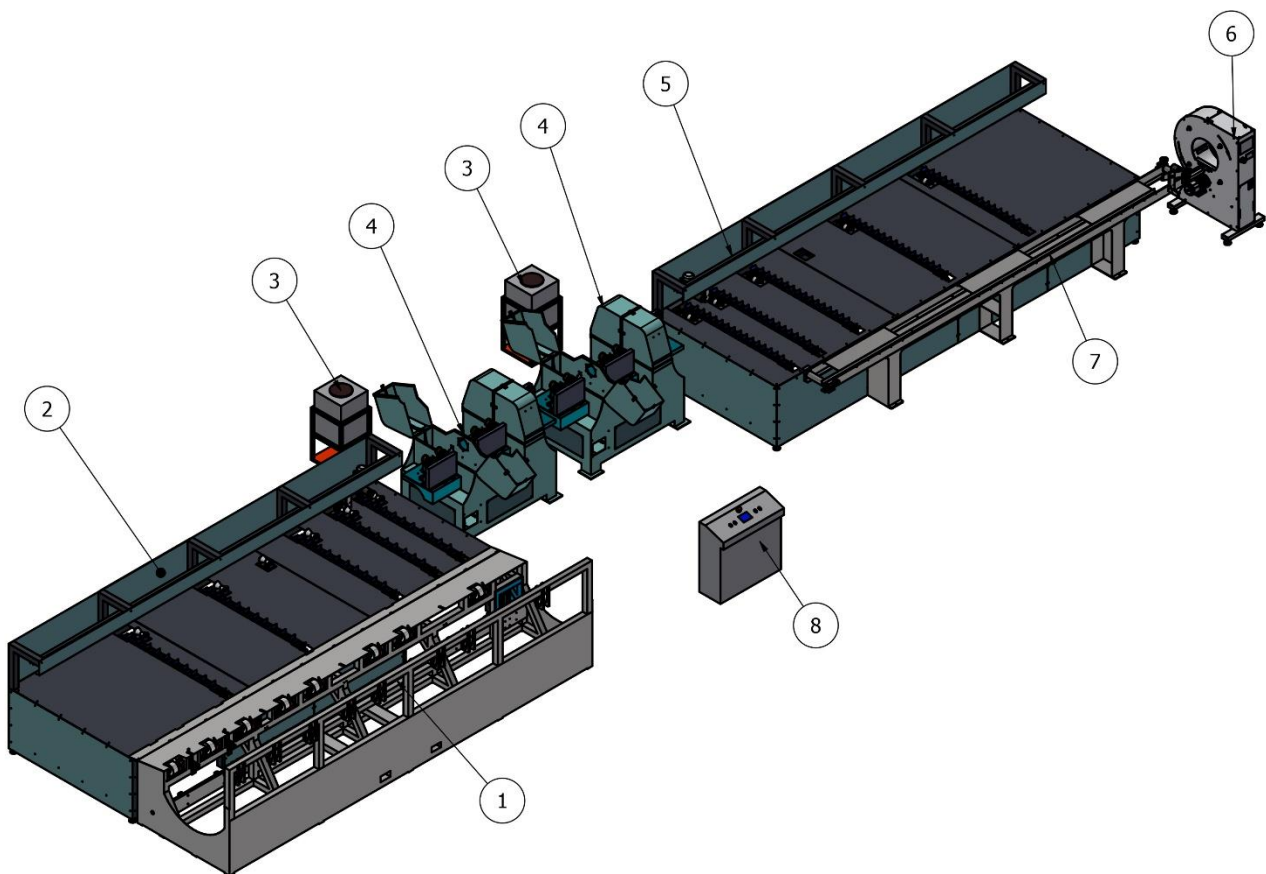
Automatic line for grinding and polishing straight tubes and bars up to max. diameter 219 mm.

This unit consists of bundle loader along with step-by-step loading system to have the tubes detached and one by one loaded on the grinding/polishing units.

Grinding/polishing units, according to required finishing and productivity requirements, are available as single or "multi-head" versions with adjustable feed rate from 1 up to 50 mt./min.

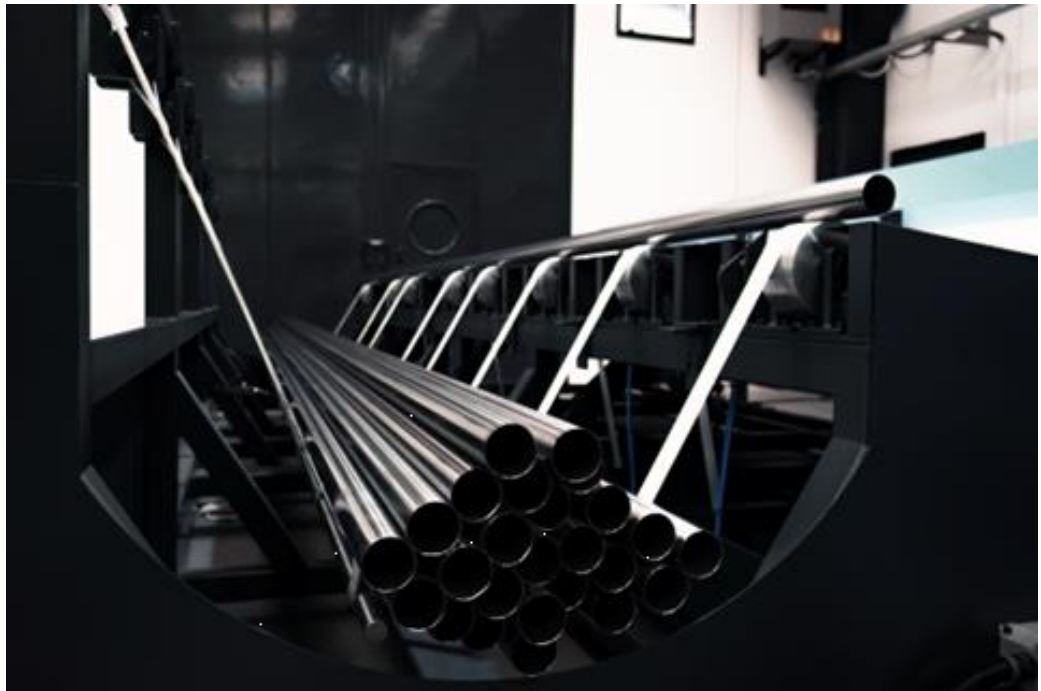
Tubes unloading is managed through a step-by-step unloading system in order to preserve finish quality; finished tubes are then forwarded by a conveyor belt toward the packing device.

0.2 AUTOMATIC LINE UNITS

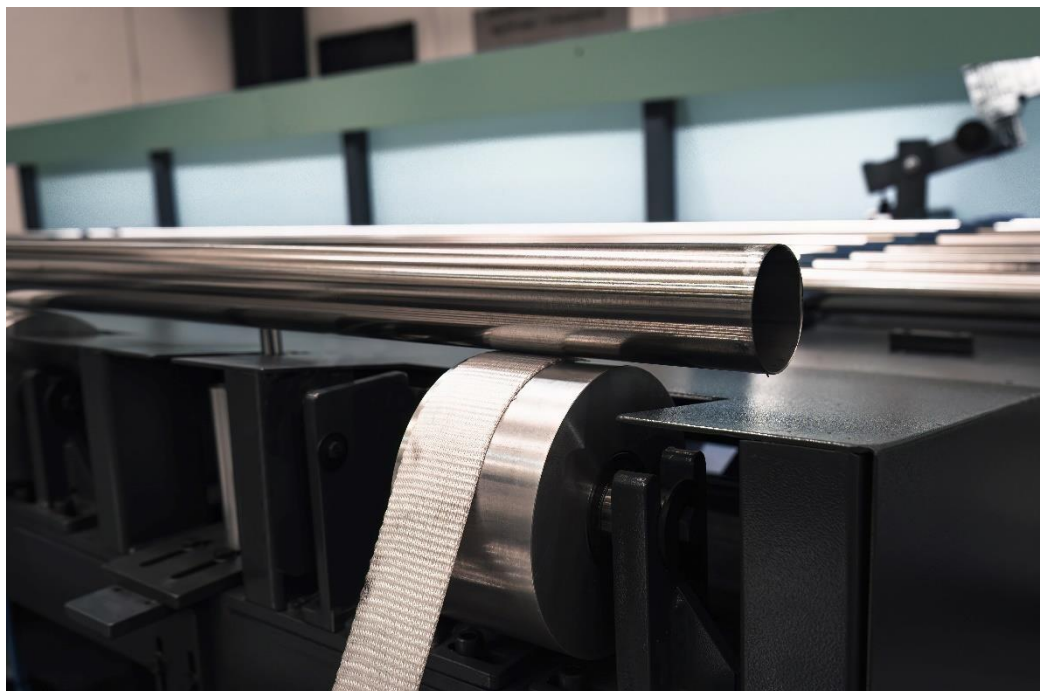


1. **Bundle loading system**, with n°8 hoisting belts suitable for tubes/bars up to max weight 2 tons and max. length 6 m.

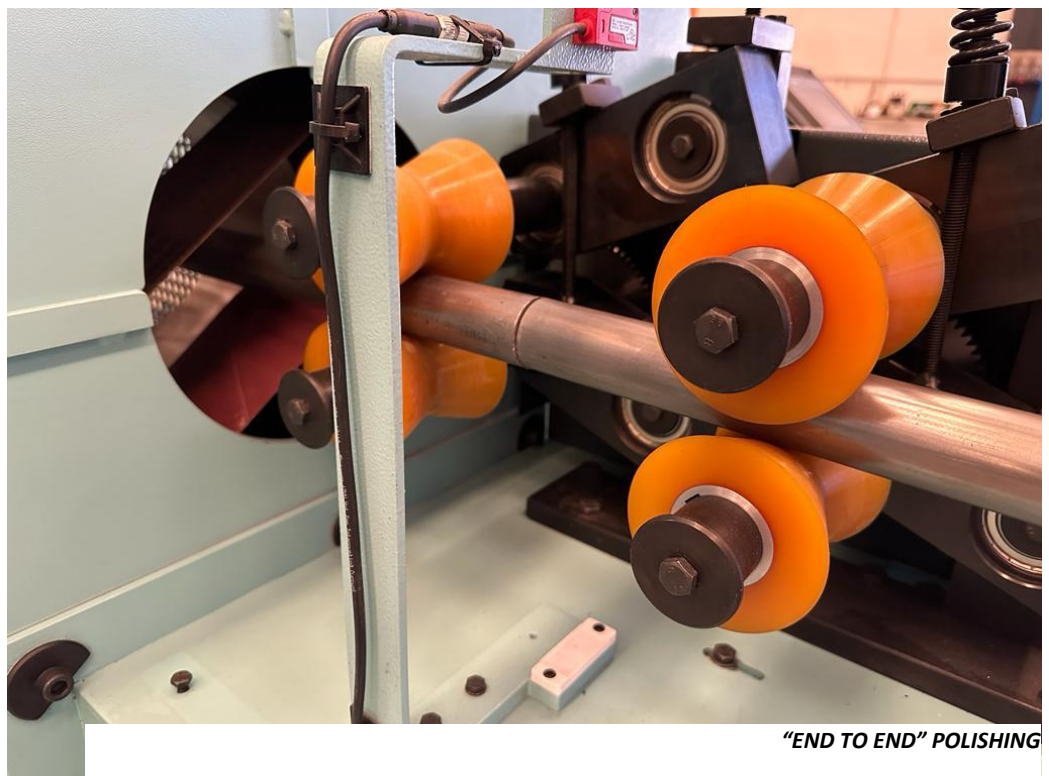
Thanks to a customized software controlled by Touchscreen panel, working cycle will automatically start and keep tubes separate one from the other, without any adjustment required from the operator.



BUNDLE LOADING SYSTEM

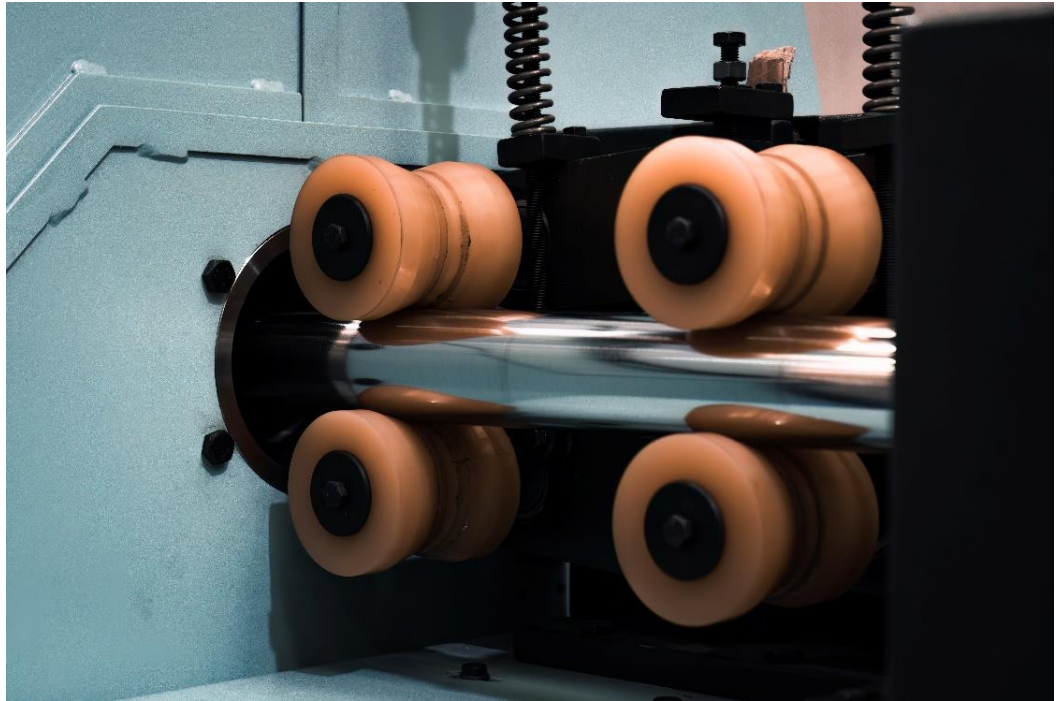


2. **“Step-by-step” loading system**, with n°5 chains and sorting tube holders that avoid any possible tube contact or scratching before the polishing process. Thanks to the advanced engineering on this automatic line, manual mechanic adjustments will not be required. Another important feature is **“END to END”** processing device; working cycle will “join” one tube extremity to the next one, allowing a continuous process as it would be a single tube.



3. **Polishing system**, consisting in automatic dispenser and spray gun for liquid abrasive paste.

Such system will enable to reach “mirror” polishing on tubes and bars, with proper abrasive belts and working parameters setting.



“MIRROR” POLISHING PROCESS

4. **Grinding/polishing units**, with orbital working system.

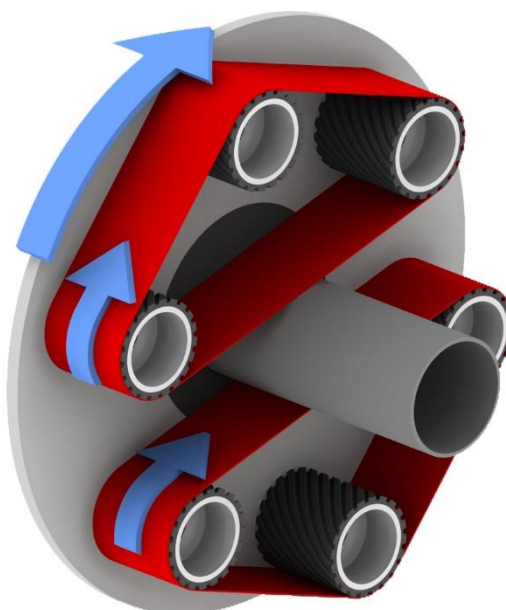
Electro-mechanic components used for this line are suitable for big productivity requirements. Moreover, each unit does not require daily maintenance and

abrasive belts in size 120 x 2000 mm. enable a continuous working process.

Customized software allows to store up to 100 different programs, with possibility to change parameters like abrasive belts speed, feed rate, finishing degree and packing features. According to required working process/productivity, this line is also available in multi-head version, with feed rate adjustable from 1 up to 50 mt./min.

“WET” process is possible by adding an external cooling tank with filtering system.

Tube feed is granted by selfcentering prismatic feed rollers with



ORBITAL WORKING SYSTEM

programmable feed rate, synchronized with the rest of the line.



GRINDING/POLISHING LINE WITH N°4 HEADS/UNITS

5. **“Step by step” unloading system**, with n°5 chains and sorting tube holders, to avoid any possible contact or damaging. END to END working system can automatically detach all tubes getting out from the polishing units and let them go one by one into the sorting system of the unloading device.

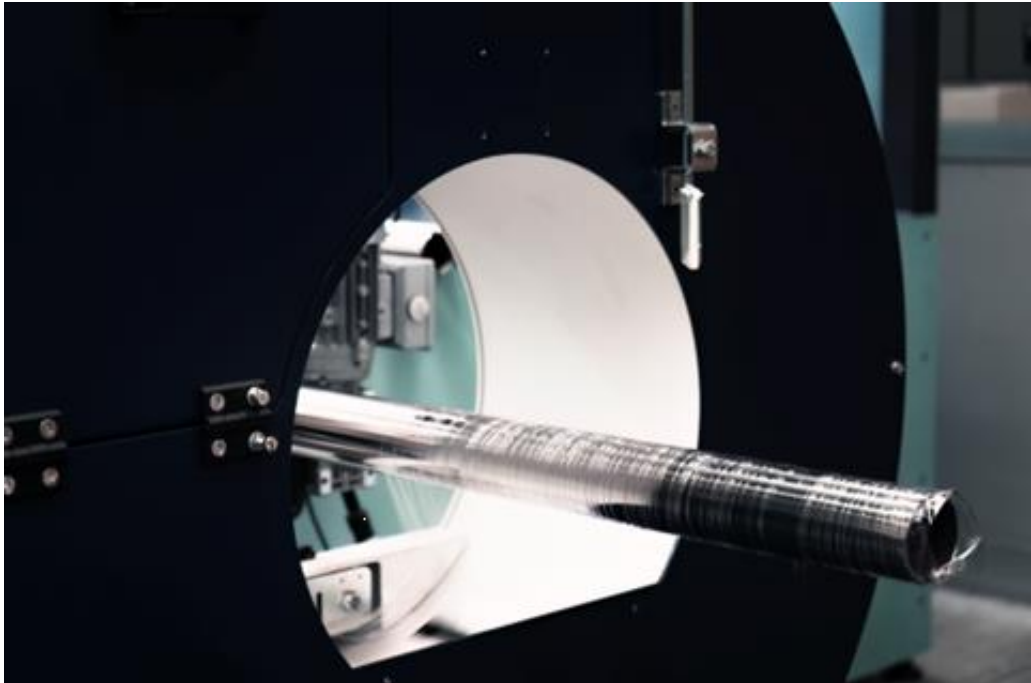


“STEP-BY-STEP” UNLOADING SYSTEM

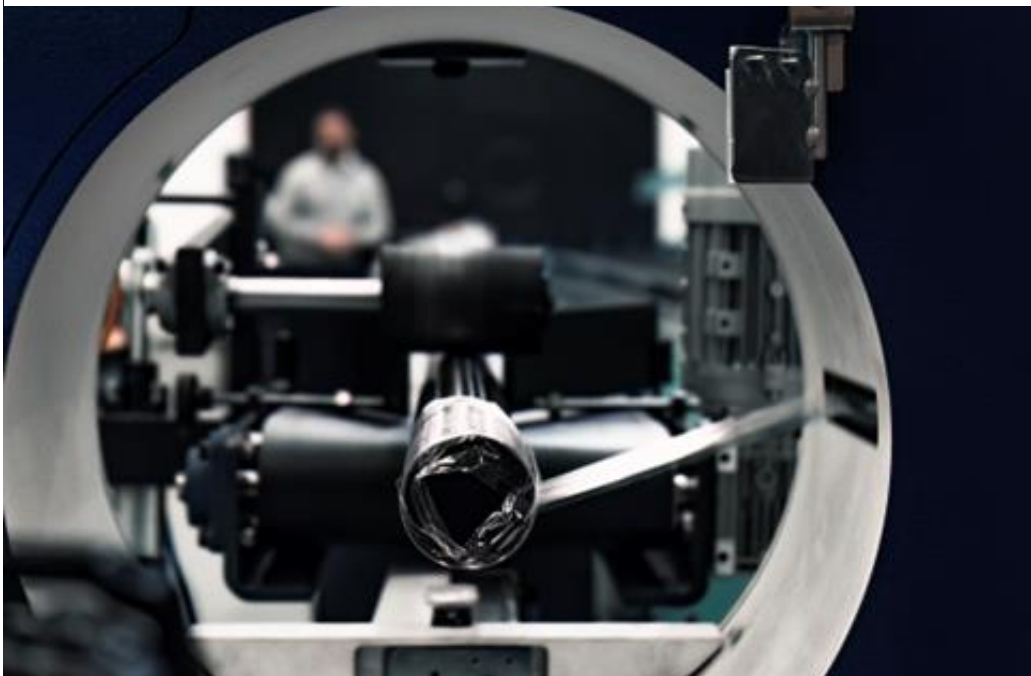
6.7. **Packing device**, with conveyor belt and packing unit.

Tube packing machine works through an orbital system that spins around the tubes to preserve finished product from oxidation or scratches /marks.

Such unit also allows to wrap several tubes or bars together.



PACKING DEVICE



LMT LINE – MAIN FEATURES

Hereunder you will find main features referring to LMT automatic line:

- Load of tubes bundle with diameters from 5 up to 219 mm. and max. weight 2 tons with “step by step” loading of each single item
- Customization of the line – according to number of grinding/polishing heads
- “END TO END” process to optimize production performance.
- Programmable feed speed during grinding/polishing operations
- Feed rate (grinding process) from 1 up to 50 mt./min.
- Feed rate (“mirror” polishing operation) from 0,5 up to 2 mt./min.
- “Step by step” unloading system.
- Packing device for single tube/bar or tube/bars in bundle
- Centralized control panel with SIEMENS electronic components