

WAFIOS AG
Silberburgstrasse 5
72764 Reutlingen
Germany

Contact: Presse
Tel. +49 7121 146 309
E-mail: sales@wafios.de
Internet: www.wafios.com

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New Standards for Performance and Productivity! The WAFIOS NAILMASTER Re-defines Wire Nail Production

For this year's leading trade fair in wire processing, WAFIOS AG has announced a **world first** for the nail industry. The newly developed NAILMASTER produces wire nails with lengths of 50 - 100 mm (2"-4") from wire with a diameter of up to 3.8 mm (.150"), at a rate of 1,400 wire nails per minute. This rate of production can also be achieved with the maximal nail sizes. The machine operates fully automatically and produces clean, precisely formed nails separated from tip waste and was developed specifically to be linked with a thread roller or a collator.

From the customer's point of view, the following are worth noting in particular...

1. The improved product quality and variety

The ability to produce "clean" nails with the tip waste separated during the production process must truly be considered one quality criterion. This translates into time and cost benefits, especially when it comes to subsequent operations such as thread rolling or packaging. The option of using a high-torque motor for the jogging mode facilitates exact set-up for a reliable production process in the shortest amount of time. The linear heading principle ensures a 100% round head perfectly centred on the nail's shaft, which means not only product quality, but also the option of defect-free automated processing in subsequent operations. Thanks to the new cutting motion, the newly developed cutting principle permits production of very high-quality nail tips and prevents undesirable split tips. Together with the mechanically controlled holding tool, the time-tested chisel feeding principle used in all WAFIOS wire nail machines guarantees minimal and extremely tight length tolerances in the new NAILMASTER as well.

The greater product variety results from, among other things, the ability to convert the machine to other nail types quickly and easily thanks to the exceptional accessibility to the vertically oriented tool mounting chamber (at eye level). Simple quick-change mechanisms for cutting knife, gripping jaws and punch require no re-adjustment and also shorten the conversion time. The new arrangement of the gripping jaws makes for problem-free production of D-head and offset nails. The straightforward design of the punch cassette system reduces set-up time considerably and further offers the option of producing special nails (barbed nails) by forming a barb at the end of the wire.

2. Functional ergonomics for maximum user friendliness

The upright orientation of the major components and the compact tool mounting area are located extremely conveniently for ease of access by the machine operator. The large dirt collection bin in the basic version helps considerably to reduce the need for frequent changes. As an option, it is possible to remove the tip waste (nippings) and dirt completely (i.e. leaving no residual material) by means of a

conveyor and discharge them into an external collection container according to customer specifications.

Even during set-up at low speed (jogging mode), the high-torque motor guarantees very reliable operation and contributes significantly to greater ease of operation. Coupled with elimination of the tip waste exhaust system, the fully encapsulating machine enclosure lowers noise emissions greatly and reduces the impact on the operator.

3. Very high output

Because of its lower output capacity compared to that of linked downstream machinery, the nail-making machine usually limits their utilisation. For instance, the output of a downstream collator may lie between about 1,500 and 2,000 nails, while that of threading rolls is typically about 1,300 to 1,600 nails. With its output of max. 1,400 nails, the WAFIOS NAILMASTER reduces this discrepancy significantly.

The high machine availability results from short conversion times, the low tooling requirement and the ease of changing straighteners. Thanks to its simple construction, the NAILMASTER needs only one cutter and one pair of jaws while in production. This translates into an unbeatable cost/benefit ratio when calculating the part cost.

The hard-surfacing of the cutter (developed especially for use with metal carbide dies) increases tool life as well. The punch cassette system described in Item 1 contributes further to minimising set-up times.

When using an external tip waste collection bin, (see Item 2), machine availability is even greater as the result of less downtime.

Downtime is lessened as well by the closed oil circuit and resultant reduction in the need for maintenance.

4. Energy efficiency

The open machine frame permits easy and safe removal of tip waste. This eliminates the expensive tip waste exhaust system with its filter, shaker, blower, tubing etc.. The power consumed by the exhaust system (approx. 4 kW) is also eliminated.

The closed oil circuit reduces oil consumption; when synthetic oil is used, machine availability is extended as a result of the specific lubricating characteristics.

Additional savings result from the fact that the separated tip waste is already oil-free when it collects in the bin. The nippings are cleaned in advance by passage over a screen and while being conveyed on the magnetic belt; this means that the tip waste is ready for further use without costly additional treatment. Separating the tip waste also makes cleaning the nails unnecessary; refer to Item 1 in this regard. The compact construction leads to a smaller footprint, while the fully encapsulating enclosure reduces expenditures for noise abatement measures considerably.

The new WAFIOS NAILMASTER sets the standard for output, quality, variety, user friendliness and efficiency.



Fig. 1 WAFIOS NAILMASTER



Fig. 2 Accessibility of the tool area



Fig. 3 Conveyor system

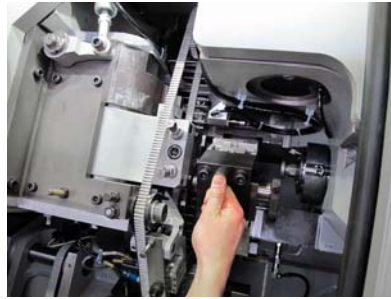


Fig. 4 Interchangeable punch cassette system