
World innovation for synchronous trimming of 5GS cross profiles HOMAG trimming unit for 5GS profiles

Following the success of the innovative technique which has become known as the “Välinge screw cutter”, with its new 5GS trimming unit HOMAG Holzbearbeitungssysteme has now come up with an innovative industrial method of trimming the 5GS cross profile patented by Välinge.

With its many functional benefits, Välinge’s patented 5GS profile variant is increasingly becoming an established feature of the marketplace alongside its other existing 5G profiles. This has led to increasing requests from customers over recent months for HOMAG to come up with a technological solution for milling the striking 5GS fold-down locking profile on the transverse edges of planks.

The trimming movement used here is based on the principle of parallel kinematics calculated specifically for this application.

The extensive pool of expertise possessed by HOMAG in the field of synchronous workpiece processing using stand-alone controls was implemented in developing the solution.

Because the system uses a separate control, provided an add-on length of 570 mm is available, any customary machine control system available on the market can be mounted.

The trimming unit was designed in the basic version for an initial output of 80 cycles, corresponding to 32 m/min with a dog spacing of 400 mm and possible workpiece widths of up to 300 mm.

Other performance stages are already under development, with the next level up providing 120 cycles /min and a high-end version aiming to achieve 200 cycles.

Practical experience gained to date on a parallel basis with already supplied trimming units was transposed 1:1 into the concept-finding phase for the additional performance stages, helping to accelerate the time to market.

The guaranteed positioning accuracy of the profile relative to the workpiece is +/- 0.5 mm. Synchronicity is ensured by the use of suitable sensors in conjunction with precise control technology, which also allows highly dynamic angular correction in front of each dog.

Another benefit of the tooling concept is that due to the predetermined tooth geometry of the tool coupled with a short engagement time, no additional tooth-to-tooth tolerances are created, for instance in comparison to the screw cutter, so eliminating the need for the complex measurement of the spacing between individual teeth.

Input of the workpiece width or rather the point of engagement is generally carried out for maximum simplicity and traceability using a separate screen. When using Homatic-based machine control systems, if required this can even be added to the existing operating monitor so that there is hardly any notable difference to the menu guidance and the need for a second monitor is eliminated.

Problem situations such as plant lock-outs or emergency stops do not result in the production of reject parts. If there are no workpieces loaded in the machine and the feed is running, the unit is simply moved to the park position.

This development from HOMAG represents another milestone towards the achievement of integral industrial solutions with a high level of customer benefit. A particularly notable aspect of this development is the excellent cooperative association with Vålinge Innovation AB, Sweden.

HOMAG aims to continue to steer its development work in key technologies towards this type of cooperation with innovation leaders. With the development of this high-tech solution for trimming the transverse ends of planks with the striking 5GS profile, HOMAG has made another decisive contribution towards the achievement of integral industrial solutions.

Pictures courtesy of HOMAG Holzbearbeitungssysteme GmbH

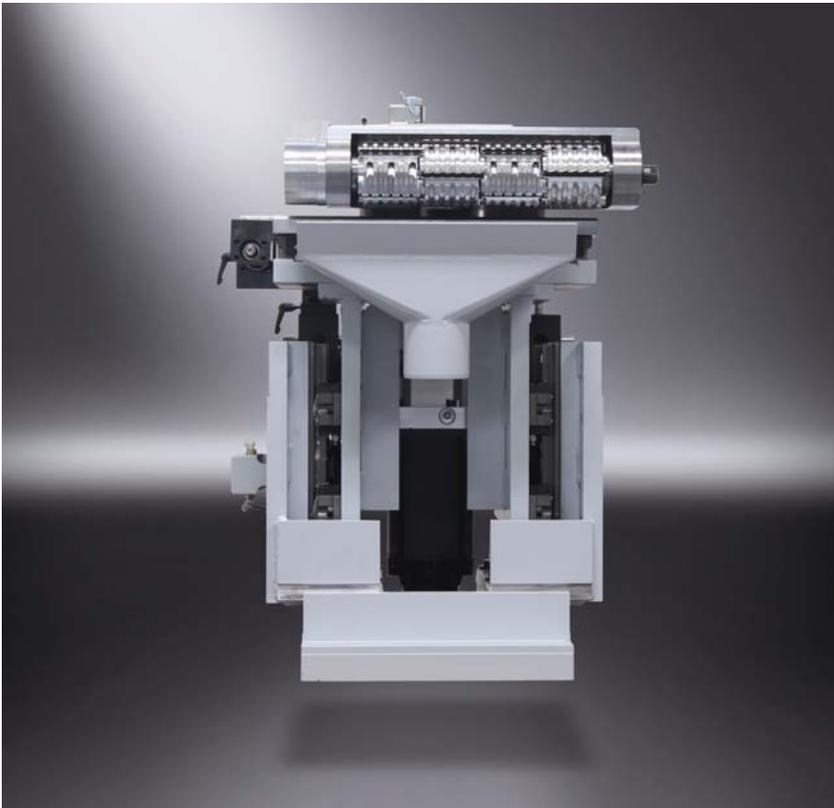


Fig. 1:
HOMAG 5GS trimming unit



Fig. 2:
5GS cross profile

For more information, contact

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