

Joints with added value



where needs find solutions



P-System



READY

Lamello with
aggregate
technology

Lamello joining technologies – easy preparation with aggregates

Clamex P-
system



Cabineo
connectors



Drilling system

The Cabineo is a one-piece connector based on drilling or milling for connecting bodies through pure surface machining.

Thanks to this property, machining can be done on all CNC machines, including simple 3-axis machines and nesting machines.

The VERTINEO FUNCTION LINE drilling aggregate was developed especially for creating the recesses for Cabineo connectors and drills three holes with a precise, repeatable hole pattern in a single work step.



P-System

The P-System from Lamello is an innovative, award-winning joining method. With the Clamex, Tenso, and Divario connecting elements, the overall process of design, manufacturing, transport, and assembly is more flexible, faster, and simpler than ever before.

The installation or anchoring of the connector itself is based on the P-System profile groove. The profile groove can be milled using modern CNC technology. Aggregates can get around the space limitations of the machine and allow use of the Clamex connector. Different aggregate solutions are possible for different applications.

Aggregate solutions for milling P-System profile grooves using CNC technology

Standard aggregates such as the MONO, DUO, or QUATTRO FUNCTION LINE allow the profile groove to be positioned at any point on the board thanks to the vertical position of the Clamex groove side milling cutter.

For diagonal positioning of the groove, the MONO FIX FUNCTION LINE (fixed angle) or the VARIO (variable angle) aggregate can be used. The grooving cutter tool of the respective aggregate is plunged into the surface during machining and moved sideways at a precise depth.



Aggregate solutions for surfaces with thickness fluctuations

Profile grooves for the P-System can also be milled with constant and defined positioning into edges and faces of workpieces that have thickness fluctuations. The SOFT TOUCH PRO FUNCTION LINE, which is equipped with a special floating bell, is suitable for this type of machining.

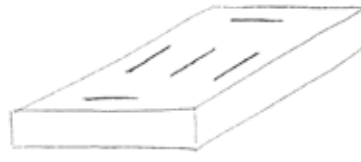

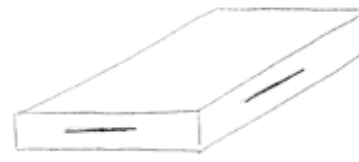

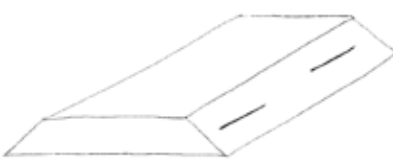




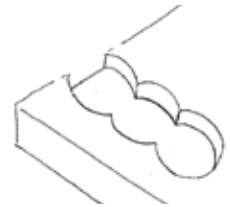













Machine connections

ATEMAG aggregates are used on all CNC machines and robot systems. The machine connection is precisely matched to the technical requirements of the CNC machine or robot.

Here you will find a selection of companies for whose machines we supply suitable connections:

Anderson Industrial Corp., auratronic, BIESSE S.p.A., C.R. Onsrud, Felder KG, FOOKE GmbH, HOLZHER GmbH, HOMAG Group AG, IMA Schelling Deutschland GmbH, MAKA Systems GmbH, Masterwood S.p.A., MKM International GmbH, Multiax International CNC Srl, Reichenbacher Hamuel GmbH, SAOMAD 2 srl., SCM Group S.p.A., Technowood, Thermwood Corporation, Michael Weinig AG, F. ZIMMERMANN GMBH, ... Please consult our sales team for companies not listed here.



	Profile grooves in surfaces (middle and near-edge regions)	Profile grooves in edges	Profile grooves in miters	Profile grooves in surfaces with thickness fluctuations (Middle and near-edge regions)	Profile grooves in edges with thickness fluctuations	Cabineo hole patterns in surfaces
<p>3-AXIS MACHINE</p> <p>The machine can move along three axes: X, Y, and Z.</p>	  <p>MONO VARIO</p> <ul style="list-style-type: none"> One aggregate mills the profile groove in one axis direction (X or Y). Two aggregates with tool spindles offset by 90° automatically mill the profile grooves in the X and Y axis directions. 	  <p>Groove cutter with spindle</p>	  <p>VARIO</p> <ul style="list-style-type: none"> One aggregate mills the profile groove in one side of the miter. Two aggregates with tool spindles offset by 180° automatically mill the profile grooves in opposite miters. 	  <p>SOFT TOUCH PRO HORI</p> <ul style="list-style-type: none"> One aggregate mills the profile groove with surface probing in one axis direction (X or Y). Two aggregates with tool spindles offset by 90° automatically mill the profile grooves in the X and Y axis directions with surface probing. 		  <p>VERTINEO</p> <ul style="list-style-type: none"> One aggregate drills the Cabineo profile in one axis direction (X or Y). Two aggregates with tool spindles offset by 90° automatically drill in the X and Y axis directions.
<p>4-AXIS MACHINE</p> <p>The machine moves like a 3-axis machine does but also has the ability, e.g., to rotate an aggregate by 360° about the Z-axis. This allows, e.g., Clamex P to be introduced at 0° and 90° without the need for reclamping.</p>	 <p>MONO VARIO</p> <p>One aggregate for producing profile grooves in the X and Y axis directions.</p>	 <p>Groove cutter with spindle</p>	 <p>VARIO</p> <p>One aggregate for producing profile grooves in the X and Y axis directions.</p>	 <p>SOFT TOUCH PRO HORI</p> <p>One aggregate for producing profile grooves in the X and Y axis directions with surface probing.</p>	 <p>SOFT TOUCH PRO</p> <p>One aggregate for producing profile grooves in edges with surface probing.</p>	 <p>VERTINEO</p> <p>One aggregate drills the Cabineo profiles in the X and Y axis directions.</p>
<p>5-AXIS MACHINE</p> <p>The machine moves like a 4-axis machine does but can also swivel the spindle to perform machining in other dimensions.</p>	 <p>MONO VARIO</p> <p>One aggregate for producing profile grooves in the X and Y axis directions.</p>	 <p>Groove cutter with spindle</p>	 <p>Groove cutter with spindle</p>	 <p>SOFT TOUCH PRO HORI</p> <p>One aggregate for producing profile grooves in the X and Y axis directions with surface probing.</p>	 <p>SOFT TOUCH PRO</p> <p>One aggregate for producing profile grooves in edges with surface probing.</p>	 <p>VERTINEO</p> <p>One aggregate drills the Cabineo profiles in the X and Y axis directions.</p>




Lamello generally recommends that all profile grooves be made with a side milling cutter for reasons of precision, service life, milling time, and thus economics.

For profile grooves in the middle of a surface, this can ideally be done with an angle head. A multiple-angle head offers further machining capabilities that make additional use of the aggregate.


We would be happy to answer your questions:
+49 (0)7832-9997-0 or per email at info@atemag.de

FAQ




I want to mill a profile groove in the middle of a surface with a groove cutter (P-System) on my 5-axis machine. In order to be able to position the groove cutter vertically above the board, I pivot the A-axis of the motor spindle by 90° to the horizontal plane. How can I avoid the collision due to the interference contour of the motor spindle?

To avoid the collision with the motor spindle, a compact angle head with a horizontal tool spindle is used in the machine. The groove cutter is then vertical to the machining surface and can introduce the groove in the middle of the surface with a high process reliability.



Can other tools besides the groove cutter (P-System) be mounted on the aggregate?

Depending on the specific aggregate used, up to four tools may be mounted. The DUO FUNCTION LINE has two and the QUATTRO FUNCTION LINE has four tool outputs. These aggregates, depending on their interference contours, can save considerable space in the tool changer and time in the production process.



Can Clamex P profile grooves be milled at different angles with a single aggregate?

Thanks to its compact housing, the VARIO CLASSIC SMART LINE can mill Clamex P profile grooves at different angles as well as in surfaces (middle and near-edge regions) and edges.




Can an aggregate used for the Clamex P machining also be used for other machining operations?

ATEMAG aggregates are available with different numbers of tool outputs. With a QUATTRO FUNCTION LINE (four outputs), for example, three more tool outputs can be used for routing, drilling, or sawing. The DUO FUNCTION LINE (two outputs) enables another drilling or routing tool or a saw to be clamped into the second tool output. Integrated into the production process, this saves time by eliminating the need for tool change and also increases the capacity of the changer itself. If the angle head is equipped with a modular spindle, clamps or saw spindles already holding tools can easily and quickly be exchanged as adapters.



When does it make sense economically to use a CNC angle head instead of a profile cutter for producing the Clamex P profile groove on a CNC machine?

Use of an aggregate in combination with the groove cutter (P-System) makes economic sense for automatic and precise milling of profile grooves for certain parts volumes. The aggregate improves the efficiency and precision of the CNC machine and reduces the machining time. In addition, use of an aggregate creates new machining possibilities.



When does it make sense to use a floating aggregate for milling the Clamex P profile groove?

For machining a workpiece with thickness fluctuations or compensating for clamping unevenness, a floating aggregate is needed. By constantly probing the reference surface, the floating aggregate can maintain a constant, defined machining depth over the entire workpiece and maintain the positioning of the milling tool with respect to the workpiece.




Which CNC machine is suitable for milling the profile grooves for Clamex P connectors?

There are a number of different machine concepts from different machine manufacturers for milling grooves for Clamex P connectors. The P-System can be machined on console machines and flat table machines (nesting), compact machines (vertical or horizontal) on production lines, and numerous other machine types.




How do I determine the cutting parameters for Clamex P machining?

The cutting values for tools are generally made up of the parameters of rotational speed and feed rate. These parameters are specified by the tool manufacturer.




Where can I get Clamex P groove cutters?

Lamello has various partners that deliver tools. Either contact Lamello directly or contact a tool supplier that offers tools specifically for the Clamex Lamello groove.




Can I introduce Clamex into a surface using a 3-axis machine?

Yes. Because the 3-axis machine only moves in three axis directions (X, Y, and Z), the Clamex P profile groove can only be milled in one axis direction. For milling profile grooves in the X and Y directions, an additional axis position is necessary. For this, a second aggregate with the required tool spindle axis orientation can be used.




Can I introduce Clamex P in a surface using a 4-axis machine?

Yes. The 4-axis machine enables rotation of the aggregate about the C-axis in addition to movements along the X-axis, Y-axis, and Z-axis. This allows milling of the Clamex P groove either along the X or the Y axis or at any intermediate angle.




What are the advantages of using the VERTINEO FUNCTION LINE for Cabineo machining?

The VERTINEO FUNCTION LINE multispindle aggregate can be used to drill three Cabineo holes in just one machining step for considerable time savings in the production process. The holes are drilled with a constant axial spacing to produce the precise hole pattern required for insertion of the Cabineo connectors without the use of additional tools.



Does tear-out occur on the surface when the Cabineo aggregate is used for drilling Cabineo holes?


A "clean" hole pattern without tear-outs is produced when high-quality tools that ensure a precise hole pattern with the required triple holes are used.



Can CNC aggregates from ATEMAG be used on all CNC machines?


Yes, the CNC aggregates from ATEMAG can be used on nearly all CNC machines. For the appropriate connection of the aggregate to the motor spindle of the machine, the information about the machine connection and the appropriate torque arm with locating pins is required. The CNC aggregates are built using this information. Incidentally, aggregates can also be converted for use in other machines.

ATEMAG aggregates feature a modular design. The main advantage of this is that the aggregates can be adapted individually at any time, not just when they are purchased new. Subsequent adaptation to different CNC machines is easily possible because the torque arm and the machine connection can be flexibly swapped out.




Which CNC aggregate is right for my application?

With the product finder at www.atemag.de, you can find a standard aggregate that is suitable for your application. You can select the material to be machined and the machining method – the aggregate options are then filtered and suitable aggregates are displayed. You can also email your queries to us or get advice over the phone (+49-7832-9997-0 outside Germany or 07832-9997-0 within Germany).




Are aggregates from ATEMAG suitable for all types of wood and wood-based materials?

Yes, ATEMAG aggregates can be used on all types of wood and wood-based materials. The important thing is that the right aggregate is selected in each case. We would be happy to advise you!



Can aggregates be used on robots?

Yes, aggregates can be used with robots and CNC machines alike.



Can aggregates be repaired after a collision?

Any aggregate that needs to be repaired after a collision is checked for possible damage and wear by one of our mechanics. Defective aggregate parts are replaced, all wear parts are regreased or reoiled, and the interior of the aggregate is cleaned. If we find that repair would not be economically feasible, we offer you a new aggregate for purchase.




Can very old aggregates also be repaired?

ATEMAG has been on the market since 2004 and is very proud of its history and the promise of quality it has kept from the very first day on. We have repaired ATEMAG aggregates that were made in the first two or three years of the company's existence. This shows that with ideal machine processes and good care of the aggregates, a high aggregate quality is a guarantee of a long service life. With our extensive spare parts warehouse, we can repair almost any aggregate, but we also offer a new aggregate in exchange if repair is not economically feasible.




Does ATEMAG offer international delivery and support?

We can deliver to anywhere in the world and offer technical support irrespective of location. The ATEMAG team is international and speaks German, English, Italian, Polish, Spanish, and other languages. We also have a worldwide network of dealers, whom we regularly qualify and who provide service locally. Contact information can be found here: <https://www.atemag.de/kontakt.html>



Can ATEMAG aggregates only be purchased directly from ATEMAG?


No. ATEMAG aggregates are sold directly through ATEMAG and through an extensive network of ATEMAG-trained dealers. Many well-known machine manufacturers, including Biesse, Felder, HolzHer, IMA, Masterwood, and Weinig, have been trusting in the ATEMAG quality and equipping their machines with ATEMAG aggregates for years.



What makes ATEMAG different from other aggregate providers?

We are a craft production facility and are specialized in developing and manufacturing high-quality aggregates. ATEMAG was founded in 2004 and has a wealth of experience in manufacturing aggregates, both single products and small series. By using modern manufacturing technologies and high-grade materials, we guarantee durable and precise aggregate solutions.

CNC aggregates that are manufactured by hand at the ATEMAG aggregate craft production facility display clear differences from aggregates that come off of industrial production lines. At ATEMAG, we pride ourselves on ensuring that all parts fit together perfectly. All bearings, gearwheels, and spacer rings are optimally coordinated. As a result, every aggregate is a one-of-a-kind. Customer service is especially important to us and we focus on offering comprehensive advice and support in the selection and use of CNC aggregates. Each ATEMAG aggregate is a custom-made solution for individual requirements and is perfectly coordinated to the needs of the customer. The wide range of products offered encompasses angle heads, floating aggregates, multispindle aggregates, and special aggregates for various application areas, including routing, drilling, sawing, sanding, and more.



How can I get more detailed information about aggregates for my CNC machine?

You can reach ATEMAG at any time via the homepage at www.atemag.de. We work with dealers and partners around the world who have been trained by us and who can also provide in-depth technical information on the CNC aggregates in their respective languages. In addition, ATEMAG has a number of quality tool manufacturers as good and long-term partners who know the advantages of the angle heads and floating aggregates from ATEMAG and can provide information about them.



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In keeping with the ATEMAG quality promise, every aggregate is crafted by hand. The aggregate specialists assemble, test, calibrate, document, and confirm the quality with their signatures.

Take our virtual tour and get to know us:



Don't miss any NEWS – follow us on:



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