

P-System

The time-saving joining system with form-locking anchoring



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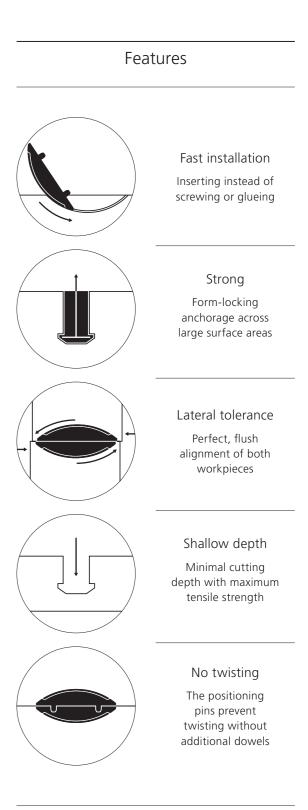
P-System

The time-saving joining system with form-locking anchoring

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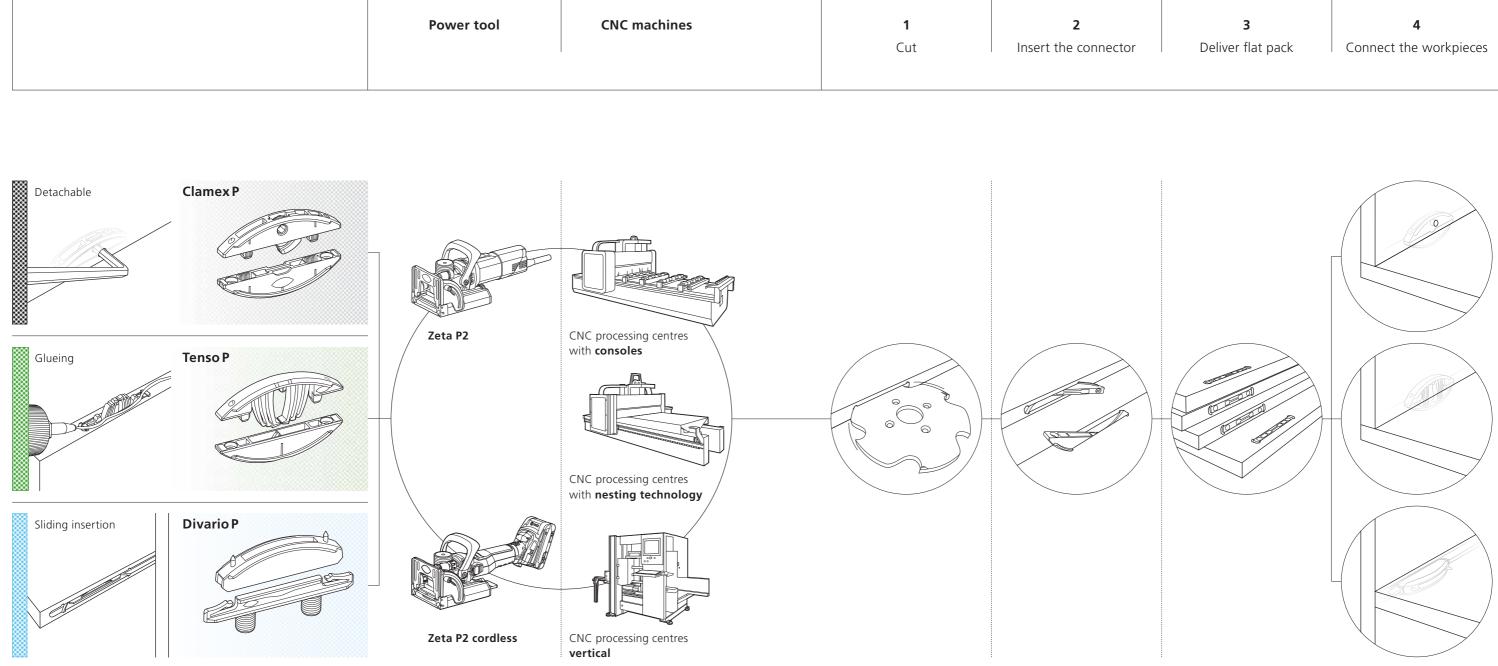




P-System

Overview

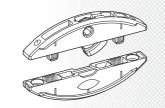
Joining methods	Connector	Machi	nes		Sequ	er
		Power tool	CNC machines	1 Cut	2 Insert the connector	





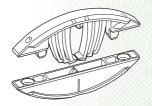


Features overview



Clamex P

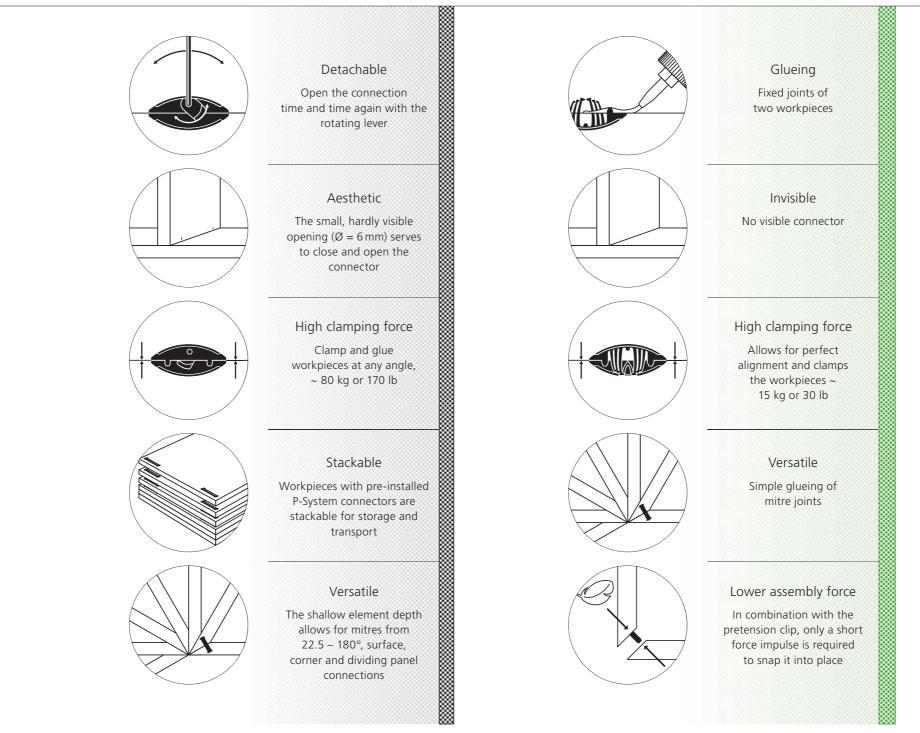
Detachable furniture connector

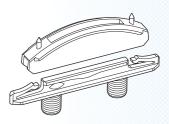


Tenso P

Self-clamping connector for glueing

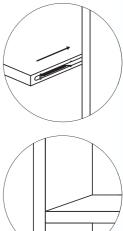
Features

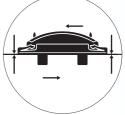




Divario P

Self-clamping, invisible connector for slide insertion









Sliding insertion

Insertion between two fixed sides or shelves via a guiding groove

Invisible

Guiding groove covers the connectors

Clamped joint

No resistance while inserting until shortly before building the clamping force

Fast installation

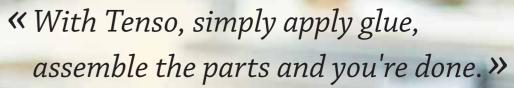
Quick installation of the connectors without glue after transport

Assemble by sliding

Partially routed guiding groove for completely invisible furniture joints

Jeffrey De Smet, self-employed carpenter, Belgium

MIN OR

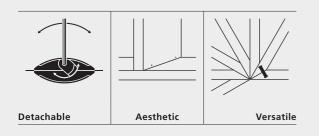


Clamex P-14

Detachable furniture connector



Features



Clamex P-14 is a detachable connector and is anchored in the form-locking P-System groove within seconds.

Through the minimalist 6 mm access hole, Clamex P-14 is firmly connected and disconnected using a lever.

Clamex P-14 eliminates the need for glue, allows aesthetic joints at all angles and is ideal for permanently joined or detachable mitres. Clamex P-14 is used on mitre joints from 18 mm material thickness and in butt joints from 15 mm.

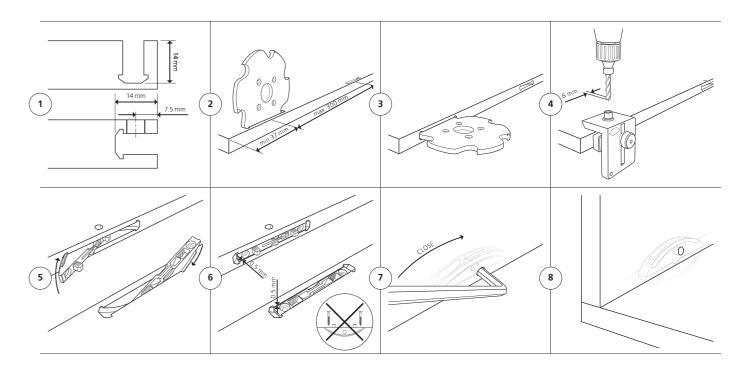


Articles

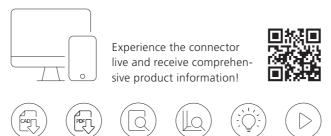


Clamex P-14	Art. NO.
80 pairs	145334
300 pairs	145346
1000 pairs	145356
2000 pieces element with lever	145338
2000 pieces element without lever	145339

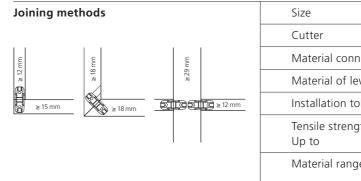
Function



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Technical data



90° and 45° cover caps are available in a variety of colours PAGE 69 | See PAGE 64 for technical specifications ¹ See comment on load limits on PAGE 75

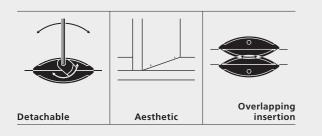
	64×27×9.	7 mm	
	Ø 100.4×7	ר22mm	
nector	Fiberglass re	einforced plastic	
ever	Zinc die cas	t	
tolerance	Long. ± 1 m	ım/radial ± 1 mm	
igth (N)	MDF 9001	Particle board 800 ¹	Beech 10001
ge	Particle boa hardwood e	rd, MDF, plywood, so etc.	ftwood,

Clamex P-14/10 Medius

Detachable connector for centre panels for materials from 16 mm thickness



Features



Clamex P-14/10 Medius is a detachable connector and is anchored in the form-locking P-System groove within seconds.

Through the minimalist 6 mm access hole, Clamex P-14/10 Medius is firmly connected and disconnected using a lever.

The connector for divisions has two installation depths and is used when two shelves are attached to the same dividing panel at the same height. Due to the reduced installation depth of 10 mm, the minimal thickness for the division is 16 mm.

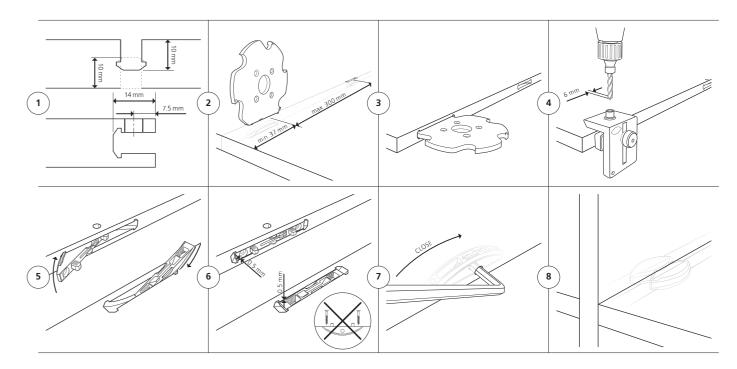


Articles

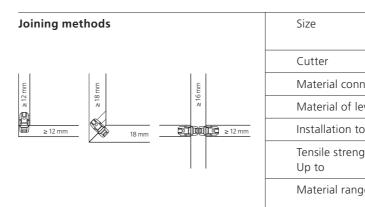


Clamex P-14/10 Medius	Art. No.
80 pairs	145370
300 pairs	145371
1000 pairs	145357
2000 pieces element with lever	145338
2000 pieces element without lever	145369

Function



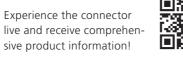
Technical data



90° and 45° cover caps are available in a variety of colours PAGE 69 | See PAGE 64 for technical specifications ¹ See comment on load limits on PAGE 75

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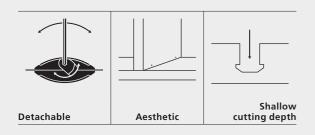
	64 × 13.5 × 9. 52 × 7.5 × 9.		
	Ø 100.4×7	ר 22 mm	
nnector	Fiberglass r	einforced plastic	
lever	Zinc die cas	t	
tolerance	Long. ± 1 m	nm/radial ± 1 mm	
ngth (N)	MDF 8001	Particle board 6001	Beech 9001
ge	Particle boa hardwood e	ard, MDF, plywood, so etc.	ftwood,

Clamex P-10

Detachable connector for materials from 12 mm thickness



Features

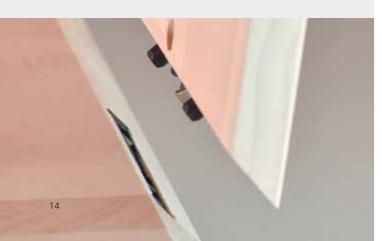


Clamex P-10 is a detachable connector and is anchored in the form-locking P-System groove within seconds.

Through the minimalist 6 mm access hole, Clamex P-10 is firmly connected and disconnected using a lever.

Clamex P-10 eliminates the need for glue, allows aesthetic joints at all angles and is ideal for permanently joined or detachable mitres.

Clamex P-10 is used on mitre joints from 15 mm material thickness and in butt joints from 12 mm.

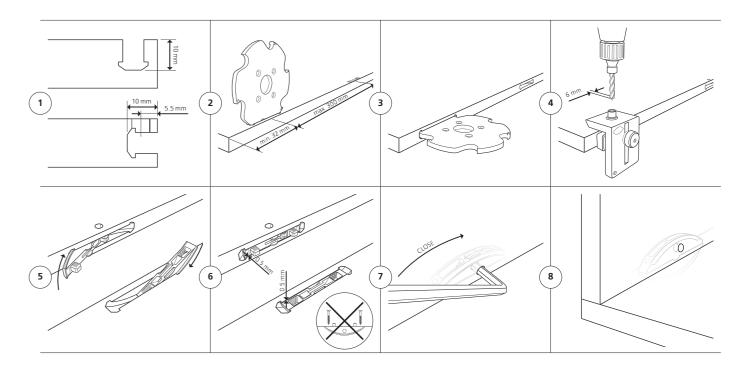


Articles

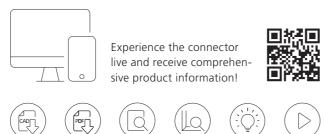


Clamex P-10	Art. No.
80 pairs	145372
300 pairs	145373
1000 pairs	145374
2000 pieces element without lever	145358

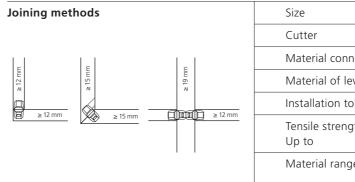
Function



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Technical data



See PAGE 64 for technical specifications | ¹ See comment on load limits on PAGE 75

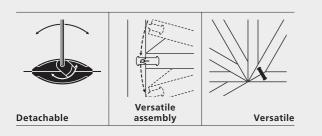
	52 × 19 × 9.7	7 mm	
	Ø 100.4×7ר 22 mm		
nector	Fiberglass r	einforced plastic	
ever	Zinc die cas	t	
tolerance	Long. ± 0.5	mm/radial ± 0.5 mm	
igth (N)	MDF 6001	Particle board 600 ¹	Beech 9001
ge	Particle boa hardwood e	rd, MDF, plywood, so etc.	ftwood,

Clamex P-14/10 **Flexus**

Detachable furniture connector with flexible positioning pins



Features



Clamex P-14/10 Flexus is a detachable connector and is anchored in the form-locking P-System groove within seconds.

Through the minimalist 6 mm access hole, Clamex P-14/10 Flexus is firmly connected and disconnected using a lever.

The flexible positioning pins allow work pieces to be installed in an already assembled cabinet, simplifying the assembly sequence.

Clamex P-14 is used in mitre joints from 18 mm material thickness and in butt joints from 12 mm.

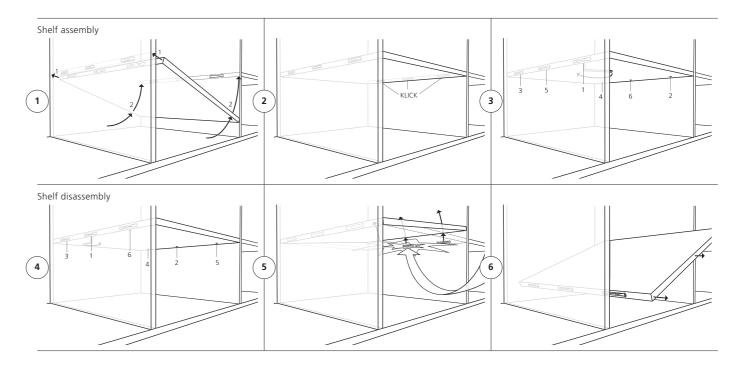


Articles

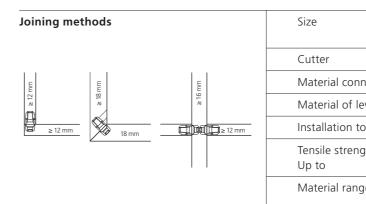


Clamex P-14/10 Flexus	Art. No.
80 pairs	145315
300 pairs	145316
1000 pairs	145317
2000 pieces element with lever	145318
2000 pieces element without lever	145369

Function

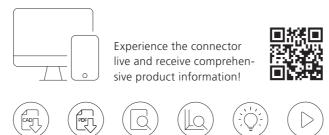


Technical data



See PAGE 65 for technical specifications | ¹ See comment on load limits on PAGE 75

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	64 × 13.5 × 9 52 × 7.5 × 9.		
	Ø 100.4×7	ר 22 mm	
nnector	Fiberglass r	einforced plastic	
ever	Zinc die cas	t	
tolerance	Long. ± 0 m	nm/radial ± 1 mm	
igth (N)	MDF 7201	Particle board 600 ¹	Beech 8101
ge	Particle boa hardwood e	ard, MDF, plywood, so etc.	oftwood,

Clamex P-14 CNC

Detachable furniture connector with precise alignment



Features

Clamex P-14 CNC is a detachable connector and is anchored in the form-locking P-System groove within seconds. Through the minimalist 5 mm access hole, Clamex P-14 is firmly connected and disconnected using a lever.

Clamex P-14 CNC is ideal for production on CNC machines and, unlike Clamex P-14, is automatically aligned during assembly.

Clamex P-14 CNC is used in mitre joints from 18 mm material thickness and in butt joints from 12 mm.



Articles



	2000 pieces element with lever	145388
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Clamex P-14	Art. No.
2000 pieces element without lever	145339

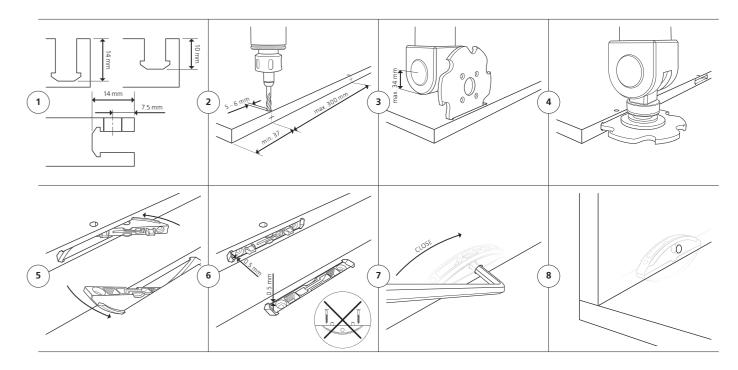


Clamex P-10 Medius	Art. No.
2000 pieces element without lever	145369

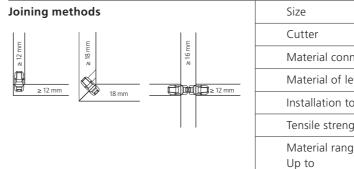
www.lamello



Function



Technical data



* See PAGE 65 for technical specifications

	64 × 13.5 × 9.7 mm
	Ø 100.4 × 7 × Ø 22 mm
nnector	Fiberglass reinforced plastic
ever	Zinc die cast
tolerance	Long. ± 0 mm/radial ± 1 mm
igth (N)	Depending on the connector combination*
ge	Particle board, MDF, plywood, softwood, hardwood etc.

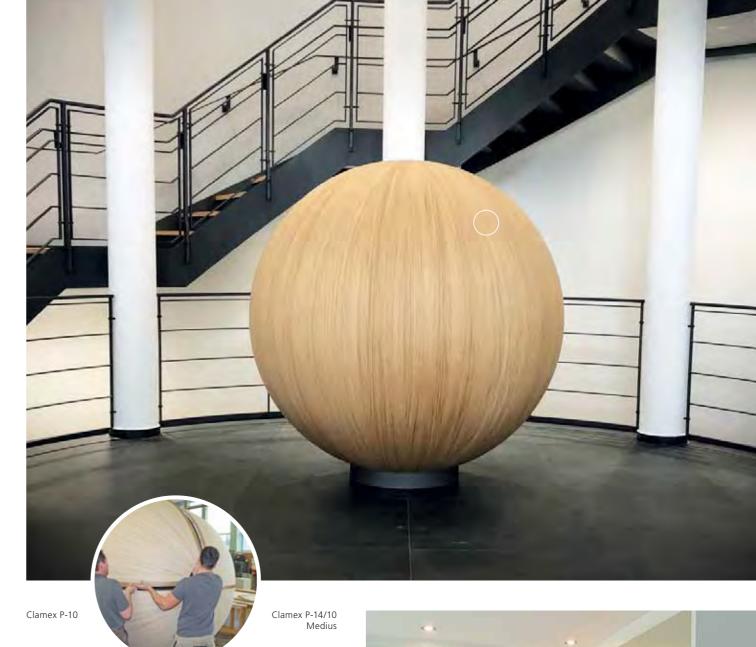
Application examples

Clamex P

Furniture manufacturing/Interior fitting: Sideboards, shelves, wardrobes, trade show exhibits (display cases), kitchen furniture, TV furniture etc.

Shop fitting/Kitchen manufacturing: Wall elements, furniture, trade show exhibits (display cases), trade show exhibits, changing rooms, stools etc.





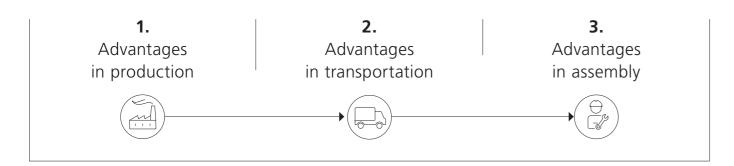




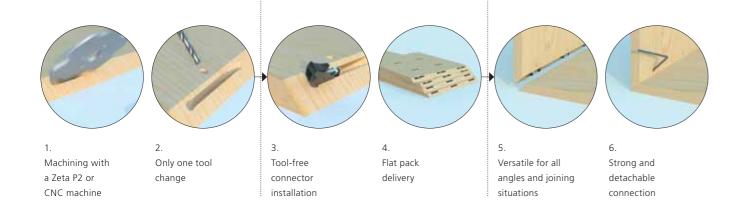
Advantages of the Clamex P



Detachable furniture connector



- Machining possible with Zeta P2 or CNC machinery
- Only one tool change from P-System cutter to 6 mm drill
- Same groove everywhere: whether corner connection, shelf, centre panel or mitres
- Consistently competent partners: from CAD to CAM and CNC
- Tool-free connector installationWorkpieces with pre-installed
 - P-System connectors are stackable for storage and transport
- No extra bags or loose hardware required with furniture shipment
- Tool-free connector disassembly for surface treatment
- Simple positioning of workpieces thanks to positioning pins
- Easy assembly with an Allen key
- Aesthetically small, barely visible hole (Ø = 6 mm)
- Open the connection time and time again with the rotating lever
- Lateral tolerance perfect, flush alignment of both workpieces





« The P-System saves us
an enormous amount
of time in production.
Our fitters are big
fans of Clamex and
now they don't want
to work with anything
else. »

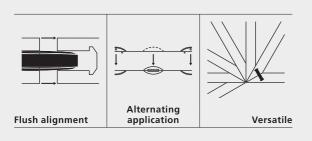
Markus Fust, Managing Director, Fust Schreinerei AG, Wil, Switzerland

Bisco P

Aligning element, suitable for the P-System groove



Features



Bisco P is a plastic biscuit which fits into the 7 mm P-System groove and is held in the groove due to its surface structure. Bisco P is used in combination with Clamex or Tenso as a cost-effective alignment element and ensures flushness of the joint. The Bisco can also be used as a dry joint as a test before the work piece is permanently joined with Tenso P and adhesive.

Bisco P-14 is used in combination with Clamex P-14 or Tenso P-14; and Bisco P-10 with the same connectors in size P-10.

Articles

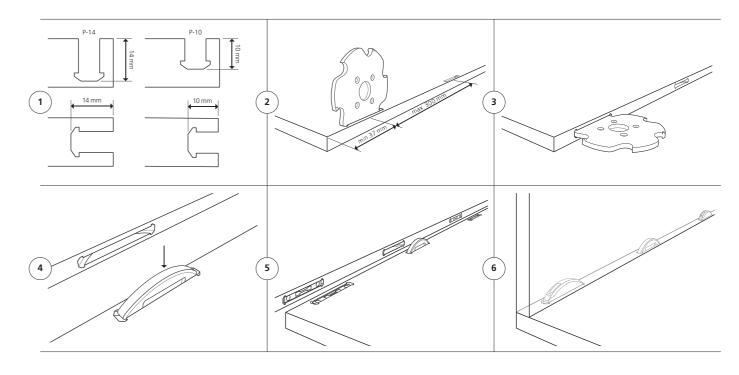


Bisco P-14	Art. No.
80 pieces	145301
300 pieces	145302
1000 pieces	145303

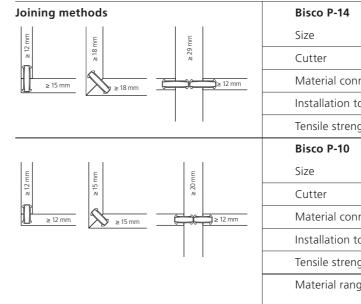


Bisco P-10	Art. No.
80 pieces	145304
300 pieces	145305

Function



Technical data



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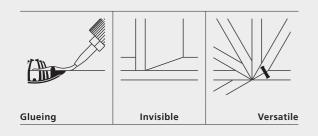
	65 × 27 × 7 mm
	Ø 100.4×7ר 22 mm
nnector	Plastic
tolerance	Long. ± 2 mm
ngth (N)	Depending on the connector combination*
	52 × 19 × 7 mm
	Ø 100.4×7ר 22 mm
nnector	Plastic
tolerance	Long. ± 2 mm
ngth (N)	Depending on the connector combination*
ige	Particle board, MDF, plywood, softwood, hardwood etc.

Tenso P-14

Self-clamping connector for glueing materials from 16 mm thickness



Features



Tenso P-14 is a self-clamping glueing aid and is anchored in the form-locking P-System groove within seconds.

The high clamping force of Tenso leads to perfectly clamped joints without the need for clamps or presses, regardless of the angle of the work pieces.

Aesthetic joining is possible without visible connectors, with short assembly times and without the need to wait for the glue to dry. Tenso P-14 is used on mitre joints from 18 mm material thickness and in butt joints from 15 mm.



Articles



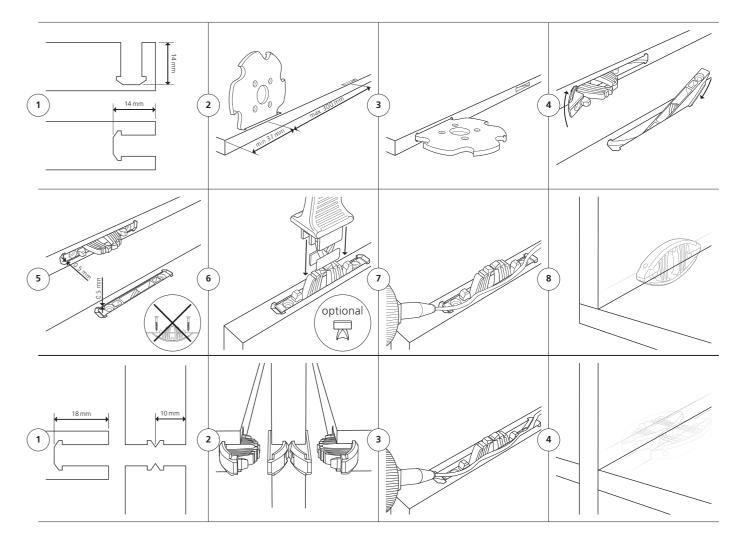


Art. No.
145426
145436

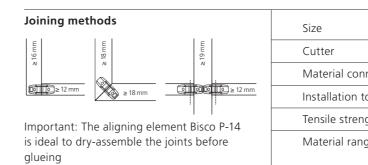
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Function



Technical data



See PAGE 67 for technical specifications

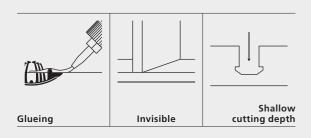
	66×27×9.7 mm
	Ø 100.4×7ר 22 mm
nnector	Fiberglass reinforced plastic
tolerance	Long. ± 1 mm/radial ± 1 mm
ngth (N)	Depending on the adhesive
ge	Particle board, MDF, plywood, softwood, hardwood etc.

Tenso P-10

Self-clamping connector for glueing thin materials from 12 mm thickness



Features



Tenso P-10 is a self-clamping connector to glue and is anchored in the form-locking P-System groove within seconds.

The high clamping force of Tenso leads to perfectly clamped joints without clamps or presses, regardless of the angle of the work pieces.

Aesthetic joining is possible without visible connectors, with short assembly times and without having to wait or the glue to dry. Tenso P-10 is used on mitre joints from 15 mm material thickness and in butt joints from 12 mm.



Articles

interzum Award_ High product quality
Art. No.
145418
145428
145438
145442
145443



Tenso P-10 preload clip	Art. No.
2000 pieces	145445

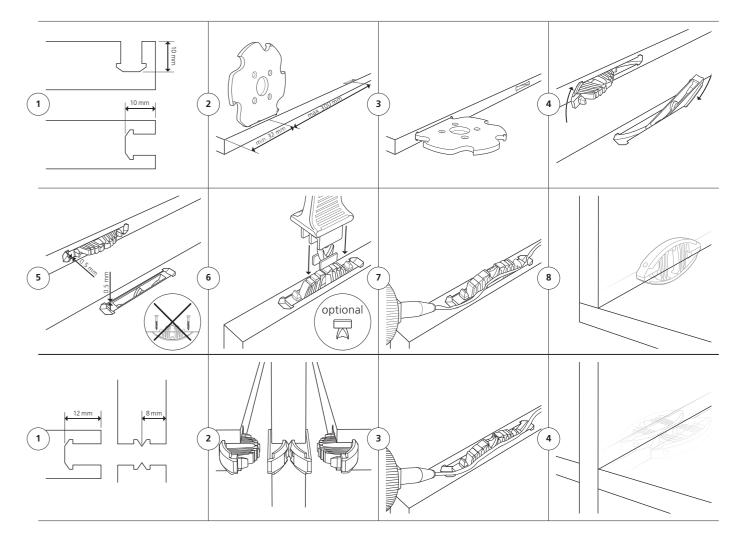
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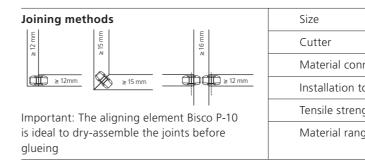
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Function



Technical data



See PAGE 67 for technical specifications



	52 × 19 × 9.7 mm
	Ø 100.4×7ר 22 mm
nnector	Fiberglass reinforced plastic
tolerance	Long. ± 1 mm/radial ± 1 mm
ngth (N)	Depending on the adhesive
ge	Particle board, MDF, plywood, softwood, hardwood etc.

Application examples

Tenso P

Furniture manufacturing/Interior fitting: Furniture, shelves, stools, sideboards, wardrobes, wall panels, cladding, decorative strips, covering panels, plinths, face frames etc.

Shop fitting/Kitchen manufacturing: Furniture, shelves, stools, sideboards, wardrobes, show cases, sales counters, wall panels, cladding etc.

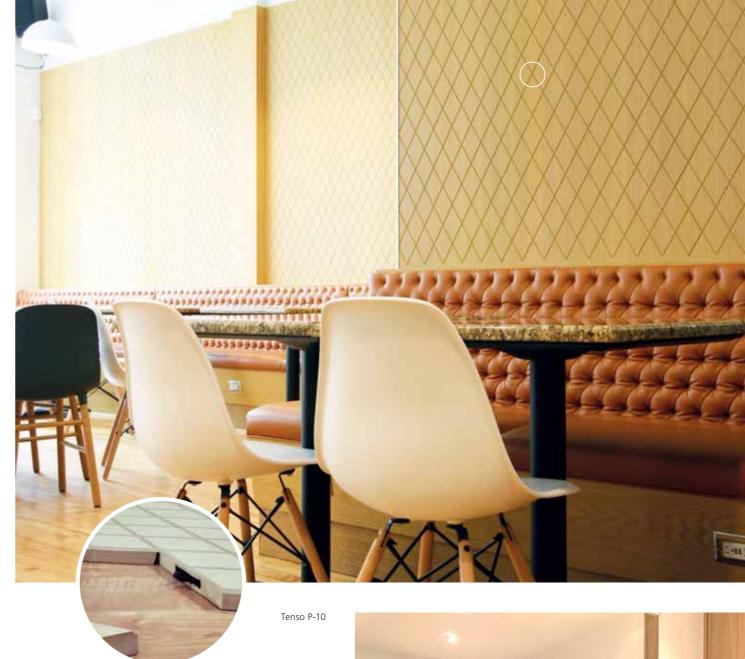
Tenso P-14



Tenso P-14







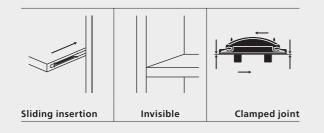


Divario P-18

Self-clamping, invisible connector for slide insertion



Features



Divario P-18 is a detachable connector for slide-in insertion and is anchored in the form-locking P-System groove within seconds.

The connector is used to slide shelves or partitions into an already assembed cabinet. In the process, the Divario P-18 clamps the workpieces together firmly and ensures perfectly closed joints without visible connectors.

Divario P-18 is used for joining shelves to divisions from 18 mm panel thickness or in butt joints from 12 mm.



Articles



300 pairs	145560
1000 pairs	145570
2000 pieces, element	145520
for P-System groove	
2000 pieces, element	145540
for drill holes	

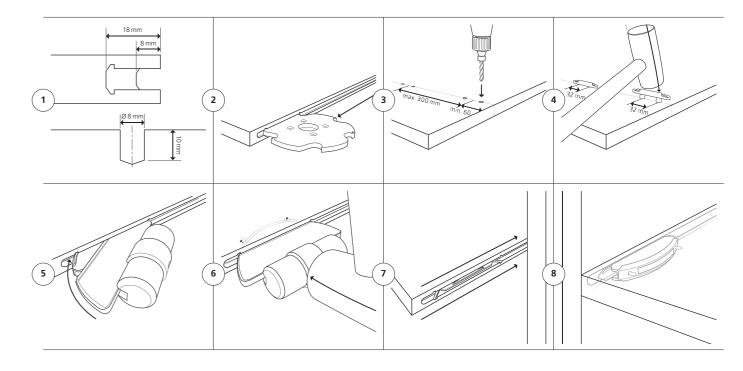


Divario P-18 Installation tool	Art. No.
For fixing the Divario in the workpiece	125500

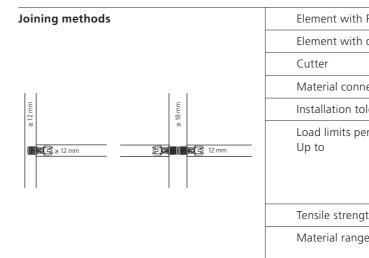
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Function



Technical data

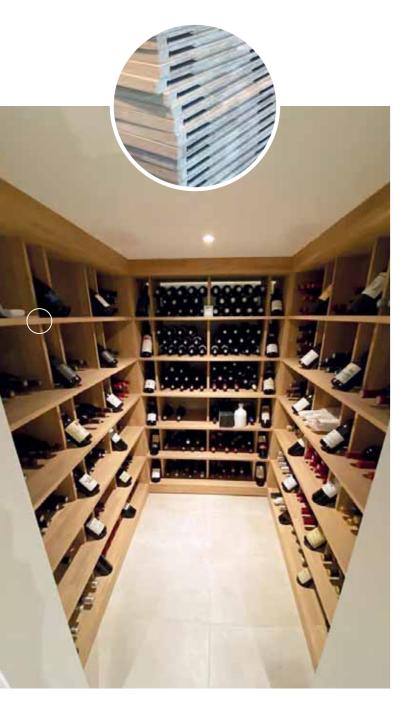


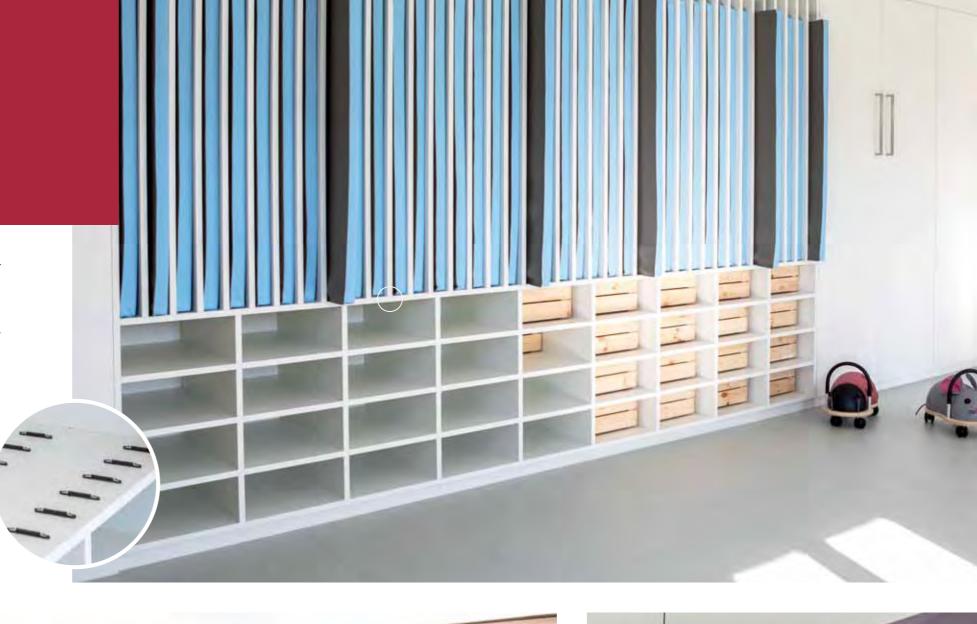
h P-System groove	65 × 16 × 9.7 mm								
h drill holes	Ø8×10mm, o	distance	e 32 mm	1					
	Ø100.4×7×0	ð 22 mr	n						
nnector	Fiberglass reinforced plastic								
tolerance	Long. $\pm 1 \text{ mm/radial} \pm 0 \text{ mm}$								
per connector (N)	(mm)	19	22	25	30				
	MDF	600¹	700 ¹	800 ¹	1000 ¹				
	Particle board	500 ¹	600¹	700 ¹	1000 ¹				
	Beech	1700 ¹	2000 ¹	2000 ¹	2000 ¹				
	Spruce	8001	900 ¹	1300 ¹	1400 ¹				
ngth (N)	All materials	600¹							
ige	Particle board hardwood etc		plywoo	d, softv	vood,				

Application examples

Divario P-18

Furniture manufacturing/Interior fitting: Furniture, shelves, open room dividers, wine racks, sideboards, wardrobes, separating walls, showcases, hanging elements etc.





Divario P-18





High performance without cable

LiHD battery pack

«With the lightweight, powerful 18 V LiHD 4.0 Ah battery pack, the Zeta P2 cordless is ideally equipped to cut longitudinal grooves for the Divario P-18 - even in solid wood.»

LiHD: The world's most powerful battery system in the industry

A unique interplay of:

Powerful!

CAS

Battery alliance with

www.cordless-alliance-system.com

over 30 brands

- Intelligent battery management for long-lasting high capacity
- Patented AIR-COOLED system for short charging times with hot batteries
- High-quality cell structure with 50-percent reduced internal resistance ensures full Zeta power even with a small battery pack

Connection cap made of 50-percent thicker material for good thermal dissipation

Multiple power connectors for internal wiring provide continuously high power output

> Reinforced current collectors for low heat losses

More active material in reactive surface for high capacity in a compact size

Powerful 18 V LiHD battery pack either as 4.0 Ah or 5.5 Ah

Zeta P2

18 V LiHD 4.0 Ah

Lamello

- Included as standard battery in the set
- Compact, lightweight and powerful
- Suitable for all applications



Ludwig Bauer, Teamleader Product Management



- Available as an option for even longer working periods

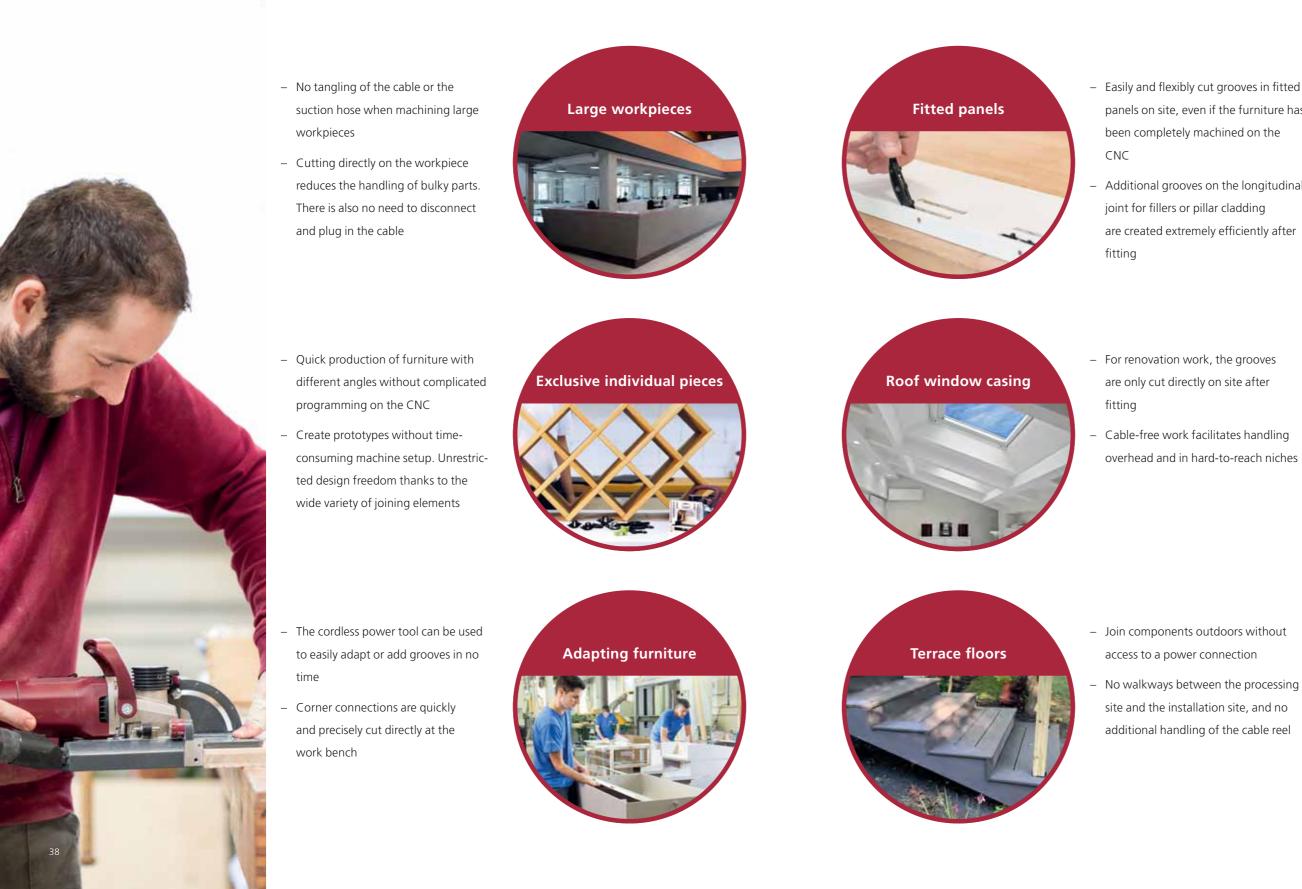


More flexible in the workshop

The ready-to-hand battery-powered biscuit joiner ensures greater efficiency and flexibility in the workshop.

Mobile working on the construction site

The cordless biscuit joiner makes work on the construction site much easier there is no need to search for sockets and roll out the cable reel.



- Easily and flexibly cut grooves in fitted panels on site, even if the furniture has

- Additional grooves on the longitudinal are created extremely efficiently after

overhead and in hard-to-reach niches

site and the installation site, and no additional handling of the cable reel

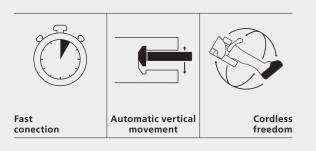


Zeta P2 cordless

The powerful P-System biscuit joiner for cordless freedom



Features



The Zeta P2 cordless is the battery-powered biscuit joiner for even faster joining, suitable for use with P-System connectors. It is used to create the form-locking P-System groove within seconds, and is even more flexible to use due to its cordless freedom. The integrated vertical mechanical drive is automatically triggered at the maximum cutting depth and performs a lateral cutter movement for the P-System groove. Connectors with various functions and different sizes can now be inserted into the form-locking P-System groove without the need for any tools.



Articles



Zeta P2 cordless biscuit joiner, DP (diamond)	Art. No.
In systainer, incl. 2 batteries and charger	101801SD
In systainer, without batteries, without charger	101800SD

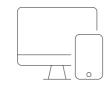


Kit contains

Zeta P2 cordless biscuit joiner, DP, 2 × battery pack 18 V, LiHD 4.0 Ah*, battery charger ASC 55*, P-System drill jig incl. drill, suction stub 36 mm, spacer 2 and 4 mm, dust bag, tool set, stop square

* Only included in art. No. 101801SD

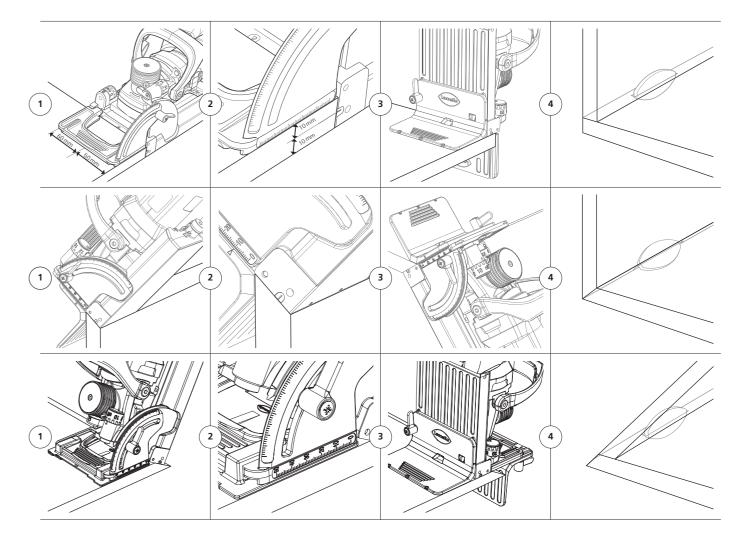
www.lamello



Experience Zeta P2 cordless live and receive comprehensive product information!



Function



Technical data

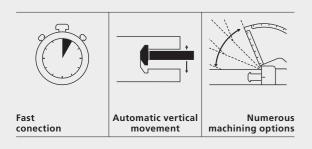
Battery voltage	18 V	Groove width	7/10 mm
Speed	9000 min⁻1	Groove depth max.	20 mm
P-System Cutter	Ø 100.4×7×22 mm	Weight	3.7 kg incl. battery

Zeta P2

The machine for the evolving P-System, saving you time daily! Differentiate your products from the standard!



Features



The Zeta P2 is the biscuit joiner for P-System connectors and is used to create the formlocking P-System goove within seconds. The integrated vertical mechanical drive is automatically triggered at the maximum cutting depth and performs a lateral cutter movement for the P-System groove. Connectors with various functions and different sizes can now be inserted into the form-locking P-System groove. The insertion into the groove is quick and without tools.

Articles





Zeta P2, P-System groove cutter, stop square, suction stub 23 + 36 mm, disc for angles, spacer 2 + 4 mm, tools, Clamex P drill jig incl. drill

www.lamello

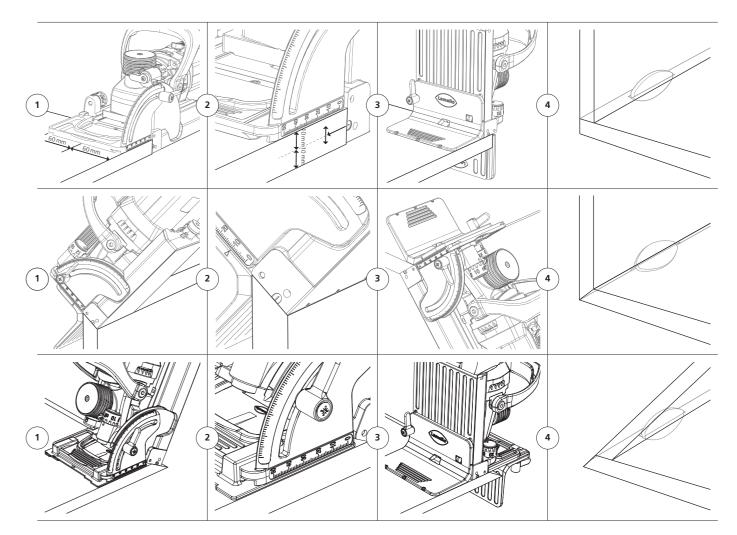


Experience Zeta P2 live and receive comprehensive product information!

ΠR



Function





Technical data

Power/Voltage	1050 W/230 V	Teeth	Z3					
	800 W/120 V	Cutting depth max.	20 mm					
Speed	9 000 min ⁻¹	Weight	3.7 kg					
P-System Cutter	HW: Ø100.9×7ר22mm DP: Ø100.4×7ר22mm		2					

Accessories

Zeta P2 cordless and Zeta P2

Connected in seconds ...

Without waiting time, clamps, or secondary processes, glued and clamped in 40 seconds

	Art. No.
Stop square for Zeta P2, Top 21, Classic X	AIL NU
Stop square for Zeta P2, Top 21, Classic X For stabilising the biscuit joiner in the vertical	251044

4 4	1	-
Spacer for Zeta	P2, Top 21, Classic X	Art. No.
5 mm, aluminium	for 18mm panels	253027
2 mm, plastic for	16 mm panels	253023
4 mm, plastic for	mitres	253026

Batteries





Battery pack 18 V, LiHD 5.5 Ah 313015

Art. No.

123100



Battery charger ASC 55



ist bag	Art. No.
r Zeta P2/Top 21/Classic X	257532

Advantage ... with Clamex P – detachable Cut Drill Insert 2 3 ... with Tenso P – glued Cut Insert Apply glue (1) (2) (3





P-System groove cutter DP (diamond),

Ø 100.4×7ר 22mm	Art. No.
Z3, 4 NL for Zeta P2	132140



P-System groove cutter HW (carbide),

Ø 100.9×7ר 22mm	Art. No.
Z3, 4 NL for Zeta P2	132141

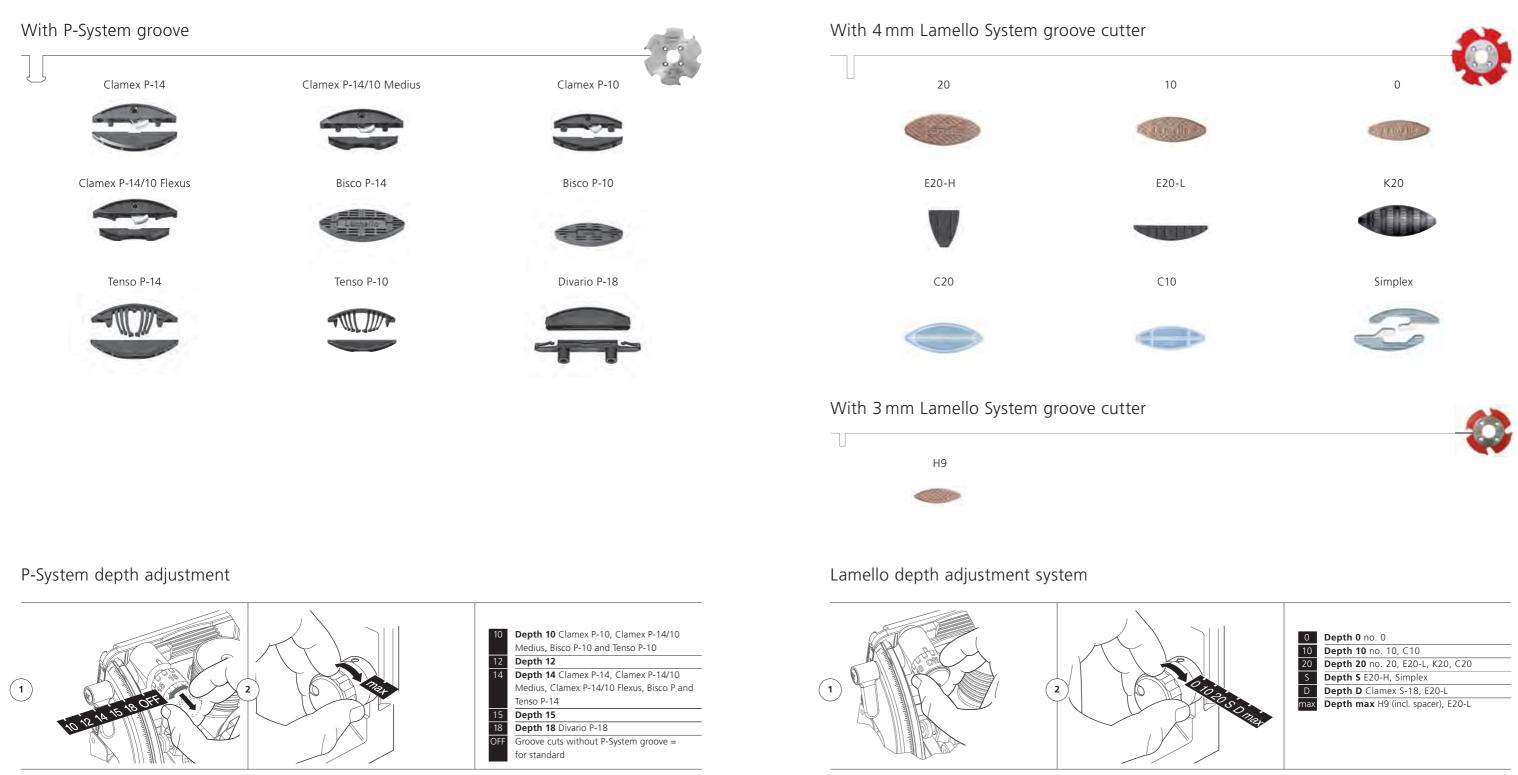


Art. No. Z2 + V4 scoring teeth, 4 screw holes, hub 132000 for Zeta P2/Top 21/Classic X



Versatile use with many different connecting elements.

With the Zeta P2, you can quickly and easily connect parts with a range of angles and joining situations. Suitable for individual pieces of furniture as well as prototypes and line production.





0	Depth 0 no. 0
10	Depth 10 no. 10, C10
20	Depth 20 no. 20, E20-L, K20, C20
S	Depth S E20-H, Simplex
D	Depth D Clamex S-18, E20-L
max	Depth max H9 (incl. spacer), E20-L

Changing the cutter position

Using spacers

Joints in various angles

P-System grooves on edges cut to an angle

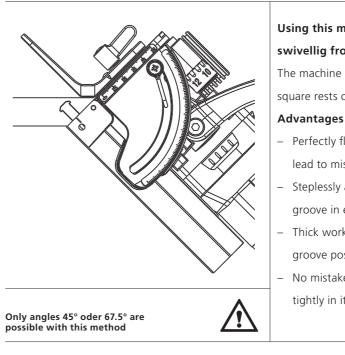
Ο 20 mm 10 10 \bigcirc 20 mm

The underside of the base plate and the swivelling front are reference surfaces with which the Zeta P2 is positioned on a work piece.

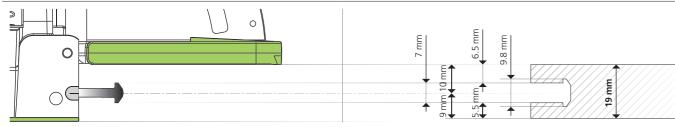
- The position of the **cutter** lies precicely in the centre between these two surfaces, so that the distance from the centre of the cutter to the edge will always be 10 mm.
- This distance can altered by using a **spacer** clilpped to the swivelling front.

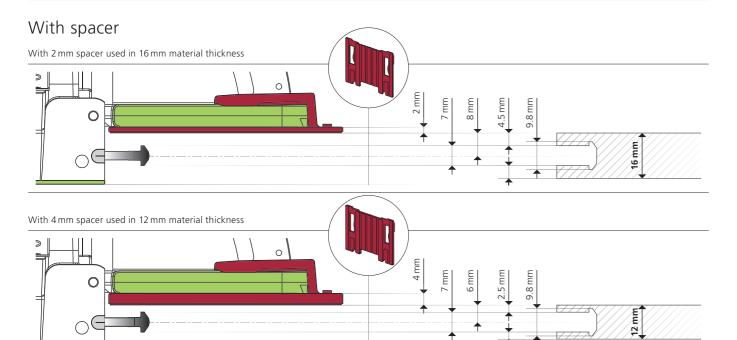
To create joints in various angles, at least one of the two workpieces needs to have one of its edges cut to an angle. There are two possibilities to cut a groove into an edge: Applying the Zeta P2 either on the outer side or the inner side of the work piece as the reference surface.

A. Positioning the Zeta P2 on the **face** of the workpiece:

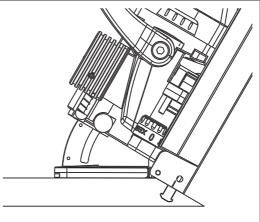


Without spacer





B. Positioning the Zeta P2 on the **inner side** of the workpiece:



Advantages

- The groove position is fixed, however, to two more positions are available using the 2 mm or 4 mm spacers
- possible



Using this method, the multifunctional stop square is attached to the swivellig front and fixed at the desired position.

The machine is then applied on the work piece in such a manner, that the stop square rests on the outer side (green surface) of the workpiece.

- Perfectly flush on the visible work piece outer side. Material tolerances cannot lead to misalignment with this method
- Steplessly adjustable stop square, allowing for perfect positioning of the groove in every board thickness
- Thick work pieces with two rows of grooves (see picture above) with varying groove positions to increase strength
- No mistakes due to sliding during cutting because the machine sits very tightly in its position

Using this method, the swivelling front is adjusted to the angle of the workpieces edge and then fixed in that position.

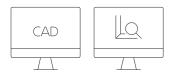
The machine now lies on the inner side (green surface) of the work piece, due to which material tolerances can show on the outer side of the workpieces.

- The advantage of this method is that all angles from 0-180 degrees are



Components for the successful integration of Lamello

connection systems into your networked production



CAD/ERP/Configurator software

- Design and planning software with integrated Lamello connectors
- Also download CAD data:
- from the Lamello website
- from iFurn - from specialist retailers (ComNorm)

The degree of integration of the data and the parameterised position rules influence planning efficiency.



CAM software

- Software for generating CNC programming data
- Post-processor

Data transfer between CAD and CNC, and in particular the control of the macros/ component, must be individually coordinated.



CNC machine

- Machine with 3/4/5-axis

The number of axes and equipment options influence the processing possibilities



CNC software

- or
- Program the machining process yourself

The macro/component determines/affects the processing possibilities

Suitable aggregate

- Aggregate sub-program
- of the surface

The right unit can significantly increase efficiency when cutting connectors.

- Purchase tools from Lamello or a P-System tool partner

connectors

- Purchase software for machine/macro/component from the manufacturer

- The angle aggregate makes it easier to cut the P-System groove in the surface and the centre

You can find the tools recommended by Lamello on PAGES 62-63.

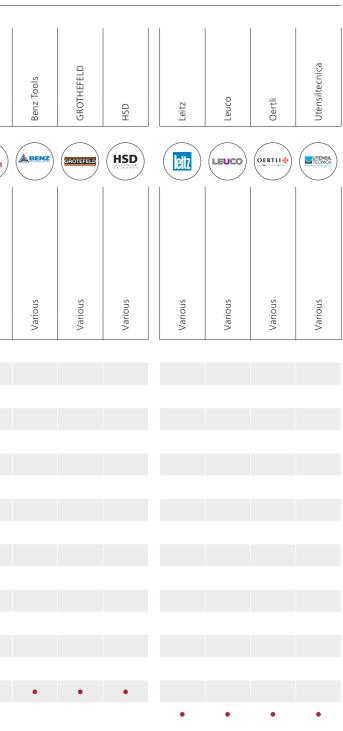
The right cutting tool can significantly increase precision and efficiency when cutting the

Service overview

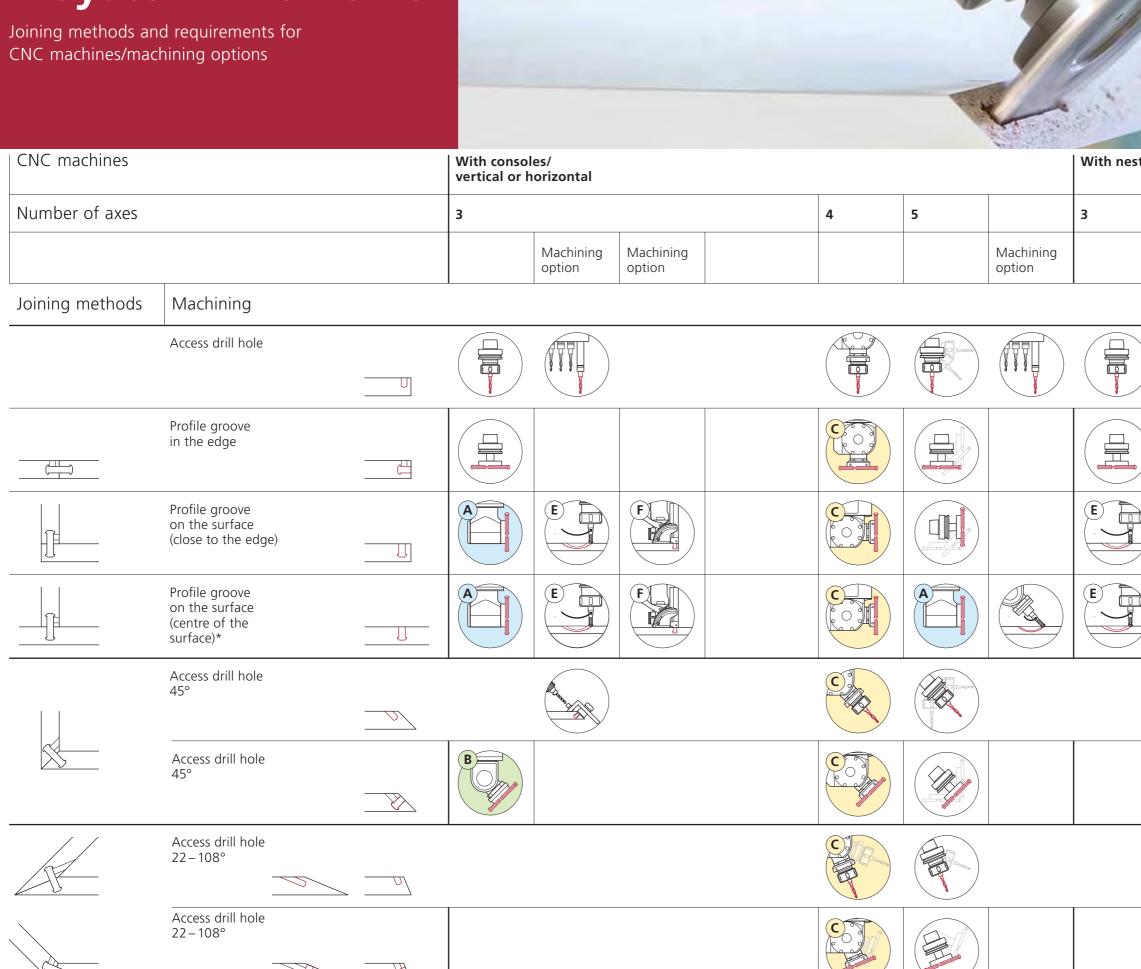
Lamello's planning and machining partners



		Ma	chir	ning	par	tner	's CN	IC m	ach	ines	/Ag	gre	gate	s/Cl	NC 1	tool	S														
Company				blesse			Felder			GANNOMAI			НОГ2-НЕК			Holzfraese			попад	Комо		IMA	INFOTEC	-	Masterwood		SCM, Morbidelli		Vitap		Atemag
			(≋BII	ESSE		(F			GANN	omet		HOL	ZHER		Hol	zfræse	e	HE HC	OMAG	KOMC					nasterwood	sc	cm@grou	I	Vita	ip)	
Product name		CNC machines	bSolid	NC Hops	bCabinet	CNC machines	F4Integrate	Wood Flash	CNC machines	GANNOMAT Editor	CNC machines	NC Hops	CabinetControl NEO	3D-Master	CNC machines	SmartWOP	CNC machines		WOODAVOP	CNC machines	CNC machines	IMAWOP	CNC machines	CNC machines	Masterwork/Master 3D	CNC machines	Maestro CNC	Xylog Plus	CNC machines	Software TPA	Various
Offer/	ERP software																														
Material management/	Interface with procurement																														
Ordering	Interface with CAD				•					•		•		•		•						•			•		•			•	
Visualisation /	Interface with ERP				•					•						•		•													
Planning/ Construction/	Data cloud for CAD data																														
Parts list	CAD 2D software		•		•		•	•																						•	
	CAD 3D software		•		•		•	•						•				•	•						•					•	
	Configurator				•					•1			•	•		•			•						•						
CNC programming data	Interface with CNC		•	•	•		•	•		•		•	•	•		•		•	•			•	• 2		•		•			•	
uuu	CAD/CAM software		•	•	•		•	•				•	•	•		•			•			•			•		•			•	
	WOP programming software		•	•	•		•	•		•		•		•		•		•	•			•					•	•			
	ISO programming software				•		•							٠						• 2								•			
CNC machining	CNC with consoles	•				•					•						•			•	•		• 3	•		•					
	CNC vertical/horizontal (compact)	•				•			•		•						•			•			•	•		•			•		
	CNC nesting	•				•					•				•		•			•	•		•	•		•					
	Aggregates	•				•					•						•									•			•		•
	CNC tools																														



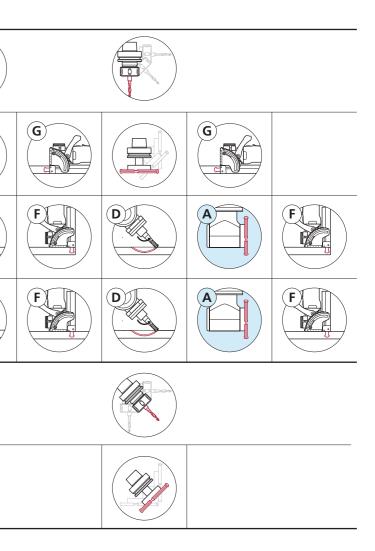
P-System with CNC





With nesting technology

	5	
Machining option		



Additional explanations for the requirements of the CNC machines/machining options



Detailed information on machining	Detailed information on machining	Possible setup of aggregates and tools Comments
		Integrated CNC Z-axis P-System CNC drill bit on with drill (5/6 mm) or with collet chuck for clamping Ø 10 mm and drill 131556 PAGE 62
		Saw blade clamp Ø 40/DTK 52 mm and cutter 132143 or with collet chuck and cutter arbor
A The second sec		Image: Second
B		Image: Several tool changes required for angle cuts, drilling and P-System grooves Note: The cutting depth in the centre of the surface may be restricted depending on the model. Tip: For a mitre, the drill hole could be made with the manual drill
C C C C C C C C C C C C C C C C C C C	No of	Automatically adjustable swivelling aggregates with automatic tool changer (FLEX5+C/5-MOTION PLUS/Flex5+C, from year of manufacture 2015) Note: In the centre of the surface, the profile groove depth is limited to 10 mm - Tool holder WFC 40-25 clamping Ø 10mm for drill - Tool holder WFC 40-25 subming Ø 10mm for drill Note: In the centre of the surface, the profile groove depth is limited to 10 mm - Tool holder WFC 40-25 subming Ø 10mm for drill - Tool holder WFC 40-25 with flange and cutter 132143 Note: In the centre of the surface, the profile groove depth is limited to 10 mm
		Shrink chuck for clamping Ø 12 × 40 mm and shaft tool 131342 or collet chuck for clamping Ø 12 × 40 mm and shaft tool 131342
Positioning drill holes for the Zeta P2		Machining steps
F	Positioning pin CNC for Zeta P2*,2 piecesArt. No.Ø 5 mm251048Ø 8 mm251066	Drill the positioning holes with the CNC, Ø 5 mm/Ø 8 mm
G	Positioning clip CNC for Zeta P2* Art. No. Ø 6 mm 251067 for positioning in the Clamex P access hole (6mm)	Drill the positioning hole with the CNC, Ø 6 mm

* More information on PAGES 62-63

The information concerns technical options regarding how the applications could be implemented. These must be adapted to your company facilities and coordinated with the planning and machining partners.



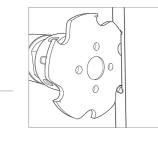


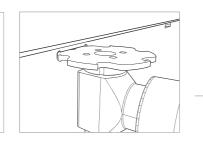


P-System equipment options

For CNC machines for particularly efficient machining







Vertical and horizontal CNC machining centres «CNC compact class»



IE HOMAG

DRILLTEQ V-500 25-spindle + 1× aggregate (VKNR 1549) 1× tool set (VKNR 9763)





masterwood

Project TF 100/TF 100 2.0 1× aggregate 2× P-System CNC groove cutters 1× P-System CNC cutter arbor 1× drill Ø 6 mm



C-morbidelli

cx 210

1× aggregate

2× P-System CNC

groove cutters

1× P-System CNC cutter arbor

1× drill Ø 6 mm



BIESSE

Brema Eko 2.1 1× aggregate 2× P-System CNC groove cutters 1× P-System CNC cutter arbor 1× drill Ø 6 mm

Η

Nextec 7707

1× tool set



BIESSE

Brema Eko 2.2 1× aggregate for 90° 1× aggregate 45° for 2× 45° 2× P-System CNC groove cutters 1× P-System CNC cutter arbor 1× drill Ø 6 mm



■Vitap Vitap K2 2.0 1× aggregate 2× P-System CNC groove cutters 1× P-System CNC cutter arbor 1× drill Ø 6 mm





GANNOmat

ProTec + P-System

add-on package

FORMAT

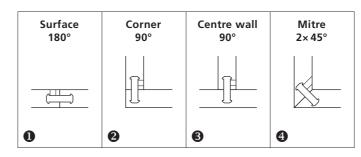
0 · 2 · 6

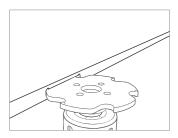
Creator 950 1× P-System CNC

groove cutter in HSK63F 1× P-System CNC shaft tool cutter* in HSK63F 1× drill Ø 6 mm *optional for P-System CNC shaft tool cutter: 1× aggregate for 90° 1× P-System CNC groove cutter

Editor with Lamello P-System macro 1× P-System CNC groove cutter in HSK63F 1× P-System CNC cutter arbor 1× P-System CNC shaft tool cutter 1× drill Ø 6 mm

Connectivity









HE HOMAG

DRILLTEQ V-200 woodWOP «Lamello P-System» component 1× P-System tool set

HE HOMAG

DRILLTEQ V-310 for 180° + 90° joints: woodWOP component «Lamello P-System» 1× P-System tool set

additionally for 45° joints: 1× aggregate 45° 1× tool set for 45°

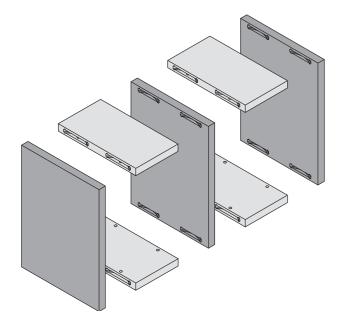


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Ideas for standardising

The machining on a CNC machine

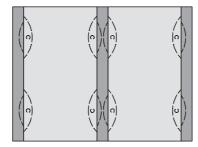


Clamex P-14 CNC with lever, Clamex P-14 with lever and Clamex P-14/10 Flexus with lever are compatible with all Clamex P elements without lever. This allows for a standardised construction method.

Depth 14mm for all P-System grooves in the panel edge (with the access hole)

Depth 10mm for all P-System grooves in the surface

Art. No.
145388
145338
145318
145358
145369









because it allows us to



CNC tools

For the P-System



P-System CNC tools

P-System CNC drill bit	Art. No.	
6 mm, solid carbide, for mitres,	131556	
L = 100/35 mm, shaft = Ø 10 mm		



P-System groove cutter CNC DP (diamond), Ø 100.4×7mm

Ø 100.4×7ר 30mm, Z3, NL 4ר 6.6ר 48mm	132142
suitable for all P-System CNC cutter arbor listed	
on the right	
	400440
Ø 100.4×7ר 30mm, Z3, NL 4ר 6.6ר 48mm	132149
LH for Weeke BHX 200 / DRILLTEQ V-500	132149

Art. No.

Art. No.

Art. No.

Art. No.



Ø 100.4 × 7 × Ø 30 mm, Z6, NL 4 × Ø 6.6 × Ø 48 mm **132145** suitable for all all P-System CNC cutter arbor listed on the right



Ø 100.4 × 7 × Ø 40 mm, Z3, NL 4 × Ø 5.5 × Ø 52 mm **132143** E.g. for angle aggregates and FLEX5+C/ 5-MOTION PLUS



 \emptyset 100.4 × 7 × \emptyset 16 mm, Z3, NL 4 × \emptyset 5.5 × \emptyset 28 mm **132144** E.g. for corner notching aggregate

Art. No.

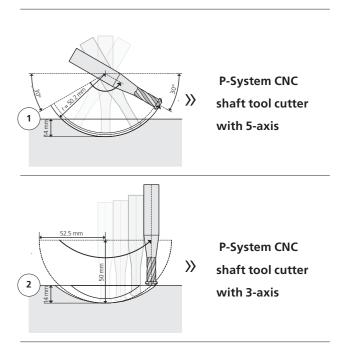
Ø 100.4×7ר 35 mm, Z3, NL 4ר 5.5ר 50 mm **132148** e.g. for Brema Eko 2.1, Masterwood Project TF 100,

Format4 D-Jet

CNC cutter arbors for P-System groove cutter, Ø 30, NL $4 \times M4 \times Ø$ 48 mmArt. No. Shaft Ø 20 × 50 mm, L = 102 mm 132150 Art. No. Shaft Ø 25 × 60 mm, L = 102 mm 132151 Art. No. Shaft Ø 16×50 mm, L = 85 mm 132152 Art. No. Shaft Ø 16×55 mm, L = 68 mm 132153 Art. No. 132154 Shaft Ø 16×50 mm, L = 85 mm, with clamping surface (2°- angle) e.g. for aggregate for door locks Art. No. Shaft Ø 20 \times 50 mm, L = 85 mm, 132155 with clamping surface (2°- angle) e.g. for aggregate for door locks M6 × 16 mm Torx countersunk bolt, 4 pieces, 132159 suitable for cutter arbors Screwdriver with cross-grip, Torx T20 × 100 mm 271919

P-System CNC shaft tool cutter	Art. No.
HW solid (carbide), shaft Ø 12 × 40 mm, L = 80 mm	131342

One tool with 2 functions

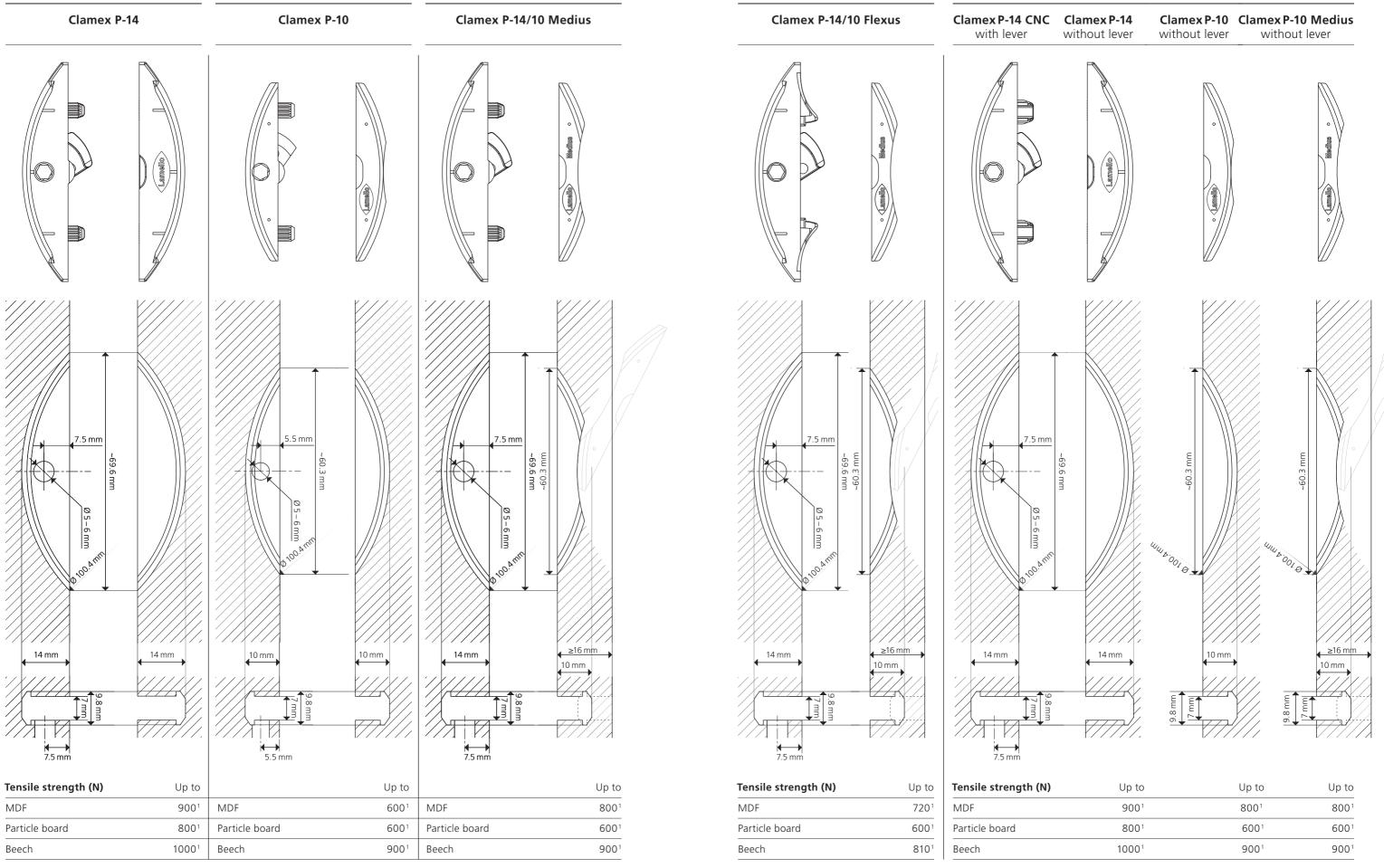


Lamello recommends making all profile grooves with a disc cutter, primarily for reasons of precision, service life, machining time and thus economic efficiency.

A P-System CNC shaft tool cutter or contour cutter should only be used for the machining of surfaces if no angle aggregate is available.

Technical information

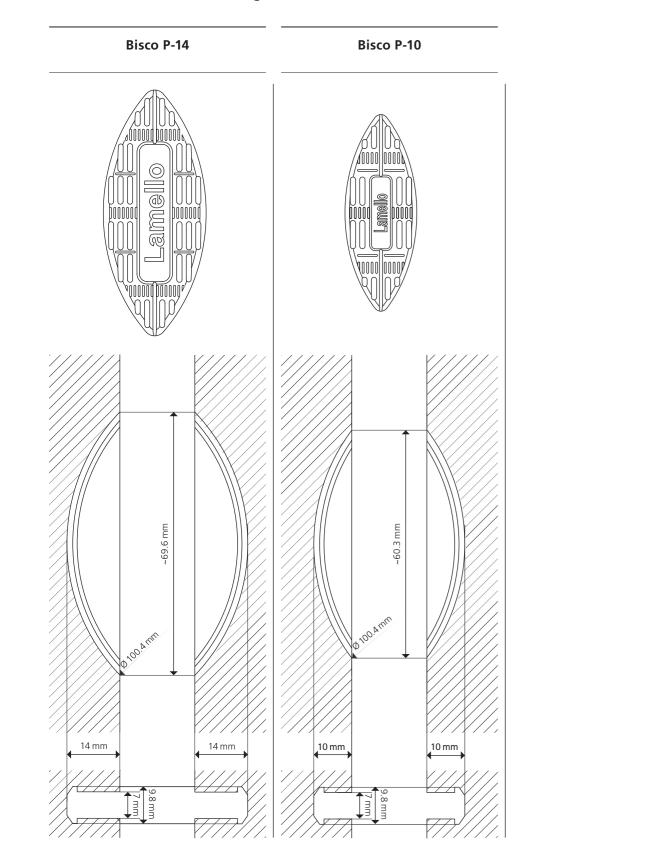
Overview of connectors + grooves (scale 1:1)

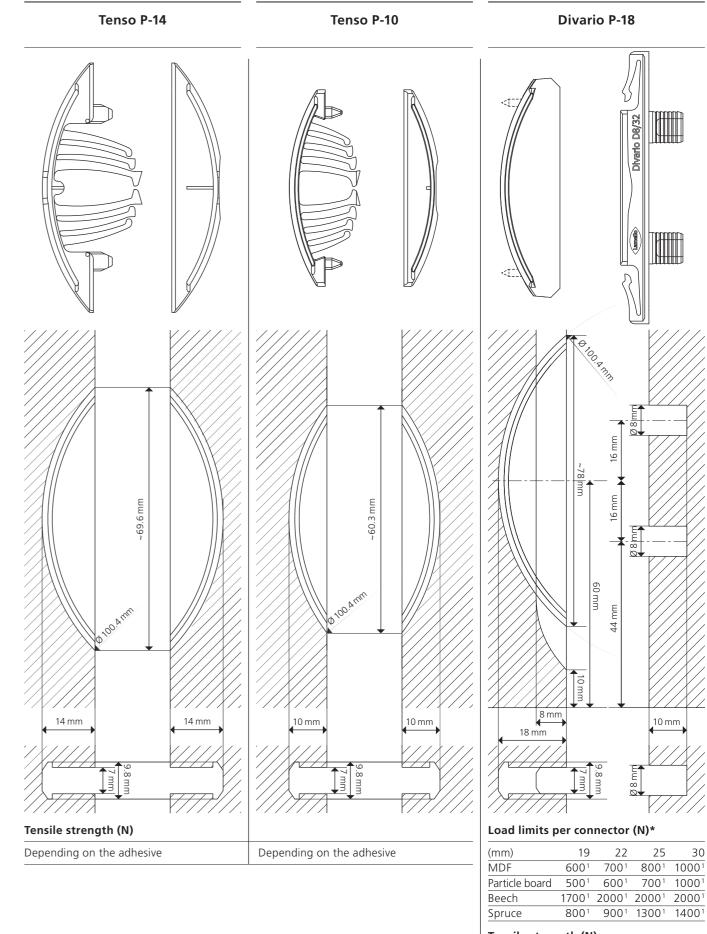


۷)	Up to	Up to	Up to
	900 ¹	800 ¹	800 ¹
	800 ¹	600 ¹	600 ¹
	1000 ¹	900 ¹	900 ¹

Technical information

Overview of connectors + grooves (scale 1:1)





Tensile strength (N)

All materials 600¹

Accessories/ Spare Parts

P-System



P-System



professional	Art. No.	
Scope of delivery: 120 pairs Clamex P-14,	145312	
30 pairs Clamex P-14/10 Flexus, 30 pairs Clamex P-10,		
80 pairs Tenso P-14 incl. clip, 30 pairs Tenso P-10		
incl. clip, 20 pieces Bisco P-14, 20 pieces Bisco P-10,		
80 pairs Divario P-18, Divario installation tool/drill/		
marking gauge, Clamex P installation tool, Tenso P-14/10		
preload tool, Sortainer T-loc		



P-System connector assortment

basic	Art. No.
Scope of delivery: 80 pairs Clamex P-14,	145314
80 pairs Tenso P-14 incl. clip, 60 pairs Clamex P-	14/10
Medius, 20 pieces Bisco P-14, Tenso P-14/10 pre	load tool,
Systainer II T-Loc incl. compartment dividers	

Clamex P



Allen key		Art. No.
4 mm, 75 × 55 mm		271945
4mm, 120×50mm		271945A
^{≥7} <u>90°</u> Cover cap, 100 pieces, 90°		335282 Art. No.
RAL 9010 pure white	\bigcirc	335280
RAL 9011 graphite black		335281
RAL 1014 ivory, pine		335282
RAL 1011 brown beige, beech		335283
RAL 8007 fawn brown		335284
RAL 8017 chocoloate brown		335289
RAL 9002 grey white		335285
RAL 7035 light grey		335286
RAL 7040 window grey		335287
RAL 7031 blue grey		335288
RAL 7022 umbra grey		335298
Cover cap, 500 pieces, 90°		Art. No.
RAL 9010 pure white	\bigcirc	335362
RAL 9011 graphite black		335363
RAL 1014 ivory, pine		335364
RAL 1011 brown beige, beech		335365
		335282
Cover cap, 100 pieces, 45°		Art. No.
RAL 9010 pure white	\bigcirc	335380
RAL 9011 graphite black		335381
RAL 1014 ivory, pine		335382
RAL 1011 brown beige, beech		335383
RAL 8017 chocoloate brown		335384

RAL 7035 light grey

RAL 7022 umbra grey

335386

335388



Clamex P drill jig	Art. No.
Incl. drill, from 22.5° for all	125344
Clamex P connectors (P-10, P-14)	
Angle for drill jig	255250
Element insert for size P-10	255251
Element insert for size P-14	255252



Clamex P drill jig long	Art. No.
Drill jig for thick workpieces 100 mm,	125345
(P-14), incl. drill	

Art. No.
131506
131508
255243

Accessories/ Spare Parts

P-System



Combination CNC and Zeta P2

Positioning pin CNC for Zeta P2*,

2 pieces	Art. No.
Ø5mm	251048
Ø8mm	251066



Positioning clip CNC for Zeta P2*	Art. No.
Ø 6 mm	251067
for positioning in the Clamex P access hole (6 mm)	

Divario P



Divario P-18 Marking jig metal with	
marking points	Art. No.
Marking jig incl. drill with centering point and	125510
rotating depth collar for the precise drilling of	
Divario drill holes by hand	



Divario P-18 Marking jig plastic,	
to mark with a pencil	Art. No.
Marking jig to mark the Divario holes	125511
with a pencil	



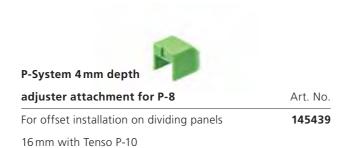
Divario P-18 Installation tool	Art. No.
Divario P-18 Installation tool for fixing	125500
the Divario in the workpiece	

Divario P-18 Starter set	Art. No
80 pairs in Systainer Size I, incl. installation	14555
tool and marking jig in metal	

Tenso P



Tenso P-14/10 preload tool	Art. No.
Tool to pre-load the Tenso P	145400



Zeta P2



Stop square for Zeta P2, Top 21, Classic X	Art. No.
For stabilising the biscuit joiner in the	251044
vertical position, ideal for obtuse mitre joints	







Spacer for Zeta P2, Top 21, Classic X	Art. No.
5 mm, aluminium for 18 mm panels	253027
2 mm, plastic for 16 mm panels	253023
4 mm, plastic for mitres	253026



P-System groove cutter DP (diamond),	
Ø 100.4 × 7 × Ø 22 mm	Art. No.
Z3. 4 NL for Zeta P2	132140



P-System groove cutter HW (carbide),

Ø 100.9×7ר 22 mm	Art. No.
Z3, 4 NL for Zeta P2	132141

We are here for you!

Personal consultation

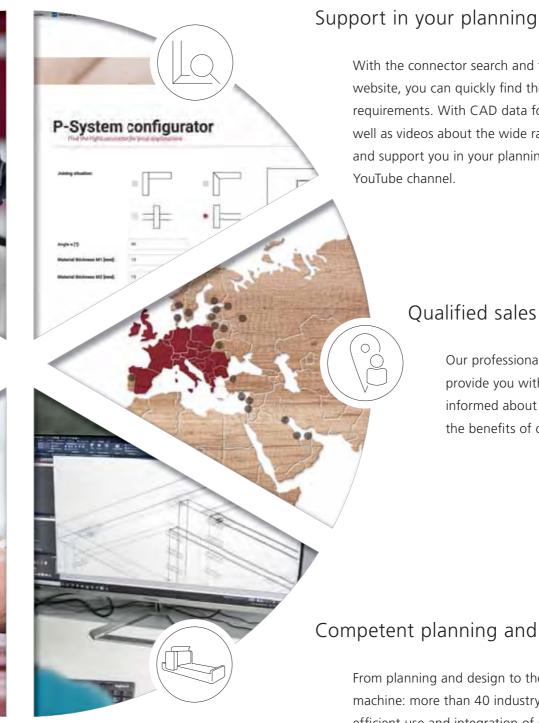
Do you have any questions concerning our products or a certain application? Would you like to learn more about the process benefits for your business? Our qualified employees and sales partners will be happy to help you quickly and competently, whether by telephone, online or during a personal consultation on site.

Latest news

Stay up-to-date and sign up for our Lamello News and e-newsletter. Become part of the Lamello community on social media and be inspired, or visit our stand at one of the numerous trade fairs. We are always happy to hear from you.

Our services

Quality is one of the cornerstones of our business, and so our products are designed to last. If a repair is necessary, we can offer you uncomplicated service through our certified Lamello service partners and a spare parts warranty of at least 10 years.



With the connector search and the P-System configurator on our website, you can quickly find the right connector for your design and requirements. With CAD data for our connectors, tips and tricks, as well as videos about the wide range of applications, we can guide and support you in your planning on our website and on the Lamello

Qualified sales partners

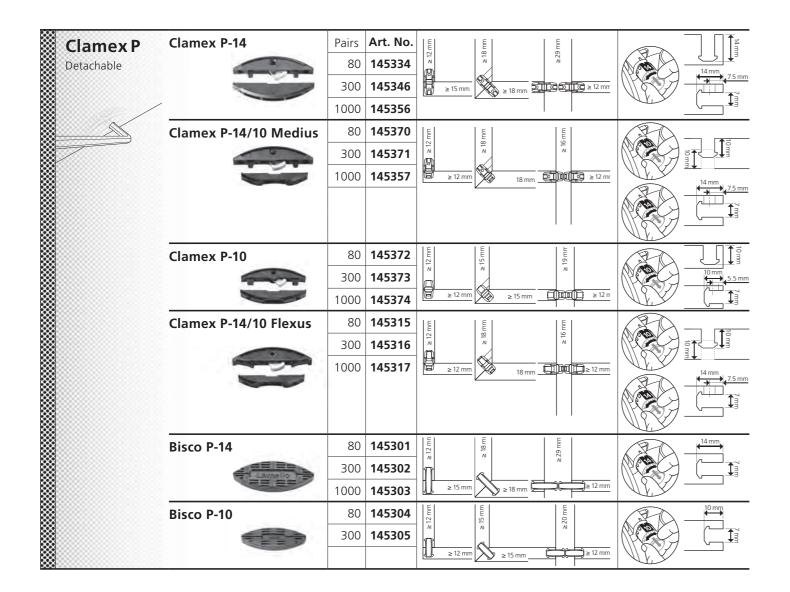
Our professional and committed sales partners provide you with qualified advice, always keeping you informed about new products. This way, you can see the benefits of our products first hand.

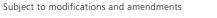
Competent planning and machining partners

From planning and design to the right tool to machine with the CNC machine: more than 40 industry-leading partner companies support the efficient use and integration of our products into your production.

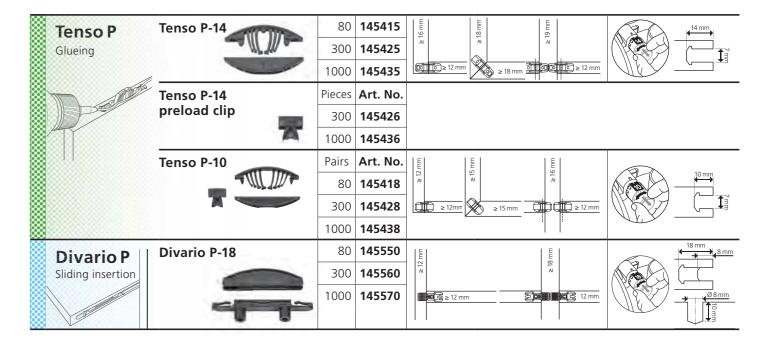
Overview of connectors

P-System





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Disclaimer regarding load limits

Wherever we list information on material strength or loads for our products, they are empirical values of load limits, based on specifically defined test conditions similar to DIN 68501:2016-11. Specific characteristics, in particular to the effect that the products will reach the listed loads in the actual used case, are not thereby guaranteed. Rather, it is the responsibility of the respective user to check and ensure the suitability of the products for each specific used case. Since actual load limits substantially depend on circumstances unrelated to the products themselves, e.g. the properties of the carrier materials used, the assembly or the installation environment, any advice provided by us in the form of a product recommendation with regard to a specific suitability is always non-binding and does not release the user from his or her own examination. **To the maximum extent possible under the law, all warranties, express or implied are DISCLAIMED. This includes, but is not limited to, any warranty of fitness for a particular purpose or merchantability. We undertake no responsibility that the goods except as may be included in any contract, and we assume no responsibility that the goods will be fit for any particular purpose, except as may be provided in any contract.**



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