Magnus hook connector

Aluminium/timber connector for main/secondary beam joints

Suitable for use in virtually all areas of timber-frame construction

The Magnus hook connector is used to create node joints in timber-frame construction. This joint is impressive above all because it can be completely prefabricated, which in turn minimises assembly times on the construction site. The connector consists of two different components, as well as wood construction screws and fixing screws.
The two separate parts of Magnus are attached to the respective structural members using the wood construction screws and then slotted into one another smoothly without the need to apply force.
The two components are braced against one another using fixing screws. This provides effective prevention against the joint being loosened inadvertently.
With high verified load values, joints created by the Magnus can be statically loaded in five directions.
Installation can be both visible (for shadow-groove connections) and hidden (milled in).

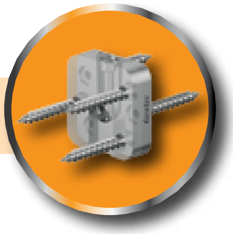
Installation instructions

Hidden (milled-in) main/secondary beam joints

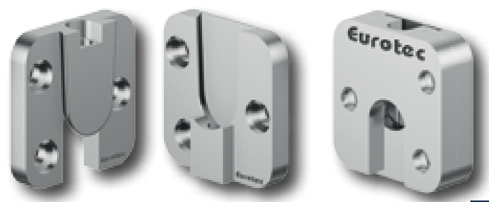
1. Adjust the end stop of the milling and assembly jig to the desired size of the Magnus hook connector, apply and screw on the milling and assembly jig, and create a routed slot with the corresponding groove-milling cutter.
2. The Magnus is then inserted into the routed slot and fastened in place using the supplied system screws. Following this, the milling and assembly jig is placed in the same position as before on the component that is to be connected, and the second part of the Magnus hook connector is screwed on.
   Pre-assembly is now complete, and the component being connected is hooked in place.
3. The fixing screws are then inserted into the Magnus. This pulls the Magnus hook connector together, if necessary, and ensures correct positioning of the node joint.

Installation can be both visible (for shadow-groove joints) and hidden (milled in). The assembly example shows hidden installation.
In this type of installation, there is no need to mill out a slot, and the milling and assembly jig is used only as an assembly jig.

Magnus XS



Aluminium



Art. no.	Name	PU	Included in delivery
944874	Magnus XS, 30 x 30 mm	40 (= 20 connectors)	120 x TX15 fully threaded screws [1] 20 x TX15 fixing screws [2] 1 x assembly instructions

1) 4,0 x 30 mm, blue galvanised, 2) 4,2 x 26 mm, blue galvanised

Magnus L

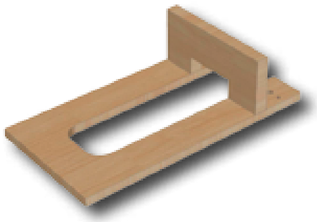
Aluminium

Art. no.	Name	PU	Included in delivery
944883	Magnus L, 110 x 260 mm	8 (= 4 connectors)	68 x TX30 fully threaded screws [1] 8 x TX20 fixing screws [2] 1x assembly instructions
944884	Magnus L, 110 x 300 mm	8 (= 4 connectors)	80 x TX30 fully threaded screws [1] 8 x TX20 fixing screws [2] 1x assembly instructions

1) 8,0 x 120 mm, blue galvanised, 2) 4,8 x 60 mm, blue galvanised

Milling and assembly jig

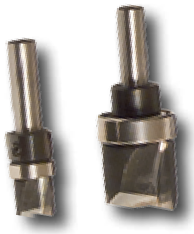
for Magnus hook connector



Art. no.	Suitable for	PU
944867	Magnus XS	1
944870	Magnus L	1

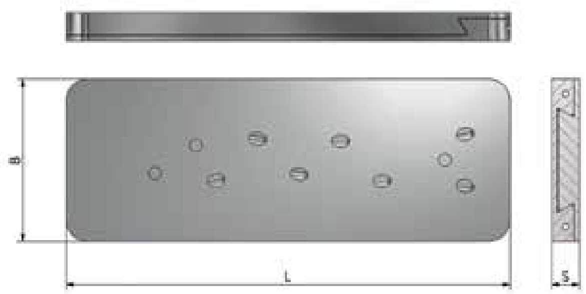
Milling cutter

for Magnus hook connector



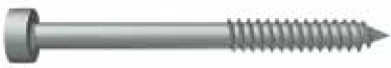
Art. no.	Suitable for	PU
944936	Magnus XS	1
29696	Magnus L	1

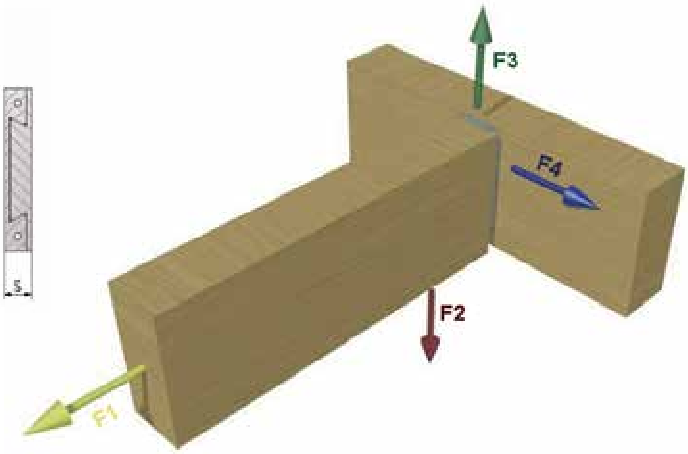
Technical data



Fully threaded screw

Fixing screw





Art. no.	Name	Dimensions W x L x T a) [mm]	No. of fully threaded screws [pcs.]	No. of fixing screws [pcs.]	Main beam		Secondary beam		Char. value of load-bearing capacity R_k b)			
					Min. width [mm]	Min. height [mm]	Min. width [mm]	Min. height [mm]	$F_{1,Rk}$ [kN]	$F_{2,Rk}$ [kN]	$F_{3,Rk}$ [kN]	$F_{4,Rk}$ [kN]
944874	Magnus XS	30 x 30 x 9	6	1	40	40	40	40	1,12	1,57	1,70	1,19
944883	Magnus L	110 x 260 x 19	17	2	120	280	120	280	13,93	45,13	23,00	17,98
944884	Magnus L	110 x 300 x 19	20	2	120	320	120	320	13,93	54,15	23,00	20,56

a) Width x length x thickness (assembly).
Calculation according to ETA-15/0761. Wood density $\rho_k = 380$ kg/m³. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations. All values are calculated minimum values and are subject to typographical and printing errors.

b) The characteristic values of the load-bearing capacity R_k should not be treated as equivalent to the max. possible load (the max. force).
Characteristic values of the load-bearing capacity R_k should be reduced to dimensioning values R_d with regard to the usage class and class of the load duration: $R_d = R_k \cdot k_{mod} / \gamma_M$.
The dimensioning values of the load-bearing capacity R_d should be contrasted with the dimensioning values of the loads ($R_d \geq E_d$).

Example: Characteristic value for constant load (dead weight) $G_k = 2{,}00$ kN and variable load (e.g. snow load) $Q_k = 3{,}00$ kN. $k_{mod} = 0{,}9$. $\gamma_M = 1{,}3$.
→ Dimensioning value of the load $E_d = 2{,}00 \cdot 1{,}35 + 3{,}00 \cdot 1{,}5 = \underline{7{,}20 \text{ kN}}$. The load-bearing capacity of the joint is therefore considered to have been demonstrated i $R_d \geq E_d$.
→ min $R_k = R_d \cdot \gamma_M / k_{mod}$ D.h., i.e. the characteristic minimum value of the load-bearing capacity is calculated based on: min $R_k = R_d \cdot \gamma_M / k_{mod} \rightarrow R_k = 7{,}20 \text{ kN} \cdot 1{,}3/0{,}9 = \underline{10{,}40 \text{ kN}}$
→ comparison with table values.

Please note: These are planning aids. Projects must only be calculated by authorised persons.