

# Magnus hook connector

Timber connector for main / secondary beam joints



## What can it be used for?

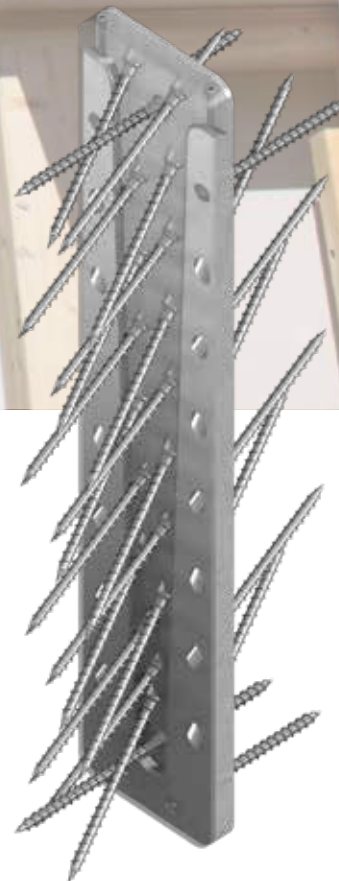
- Load-bearing connection in carports
- Highly stressed node joints in timber engineering
- Constructional use in non-load-bearing connections e. g. in shopfitting

## Advantages

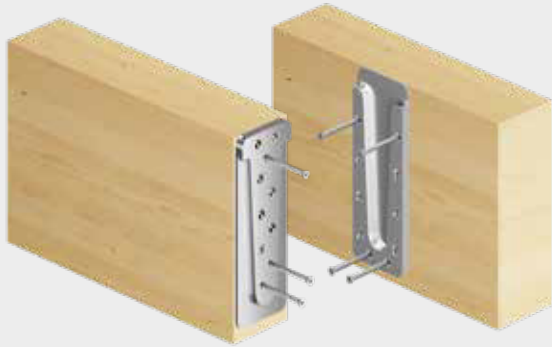
- Simple assembly
- High level of prefabrication
- Suitable for high loads
- Visible and hidden joints
- Milling cutter and milling and assembly jig available
- ESC calculation software for free preliminary calculation

## Assembly

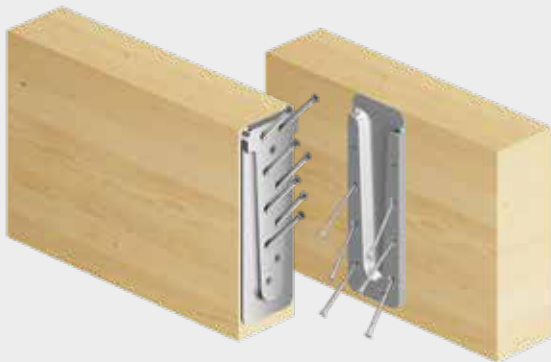
- Always unscrew Magnus fully – simple and safe installation
- Whether it's surface-mounted or flush-mounted, the milling and assembly jig assigns a place to the connector
- The sides and end grain surfaces must be flat to avoid connector deformations due to installation



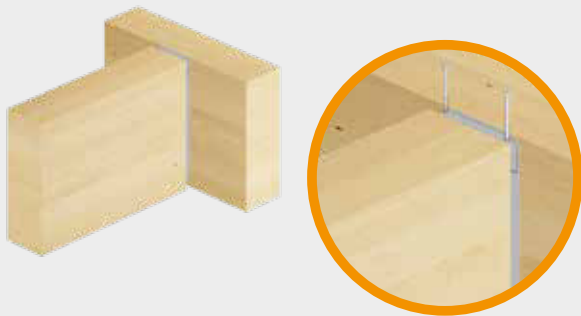
**1** Insert 90° fully threaded screws and fix Magnus to the wood



**2** Insert 45° screws



**3** Mount the secondary beam on the main beam; use fixing screws to secure the joint against lifting out



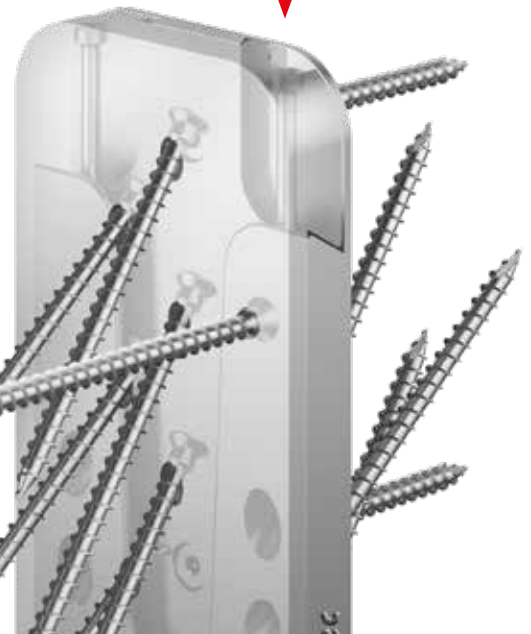
**4** Joint complete



**Connector**

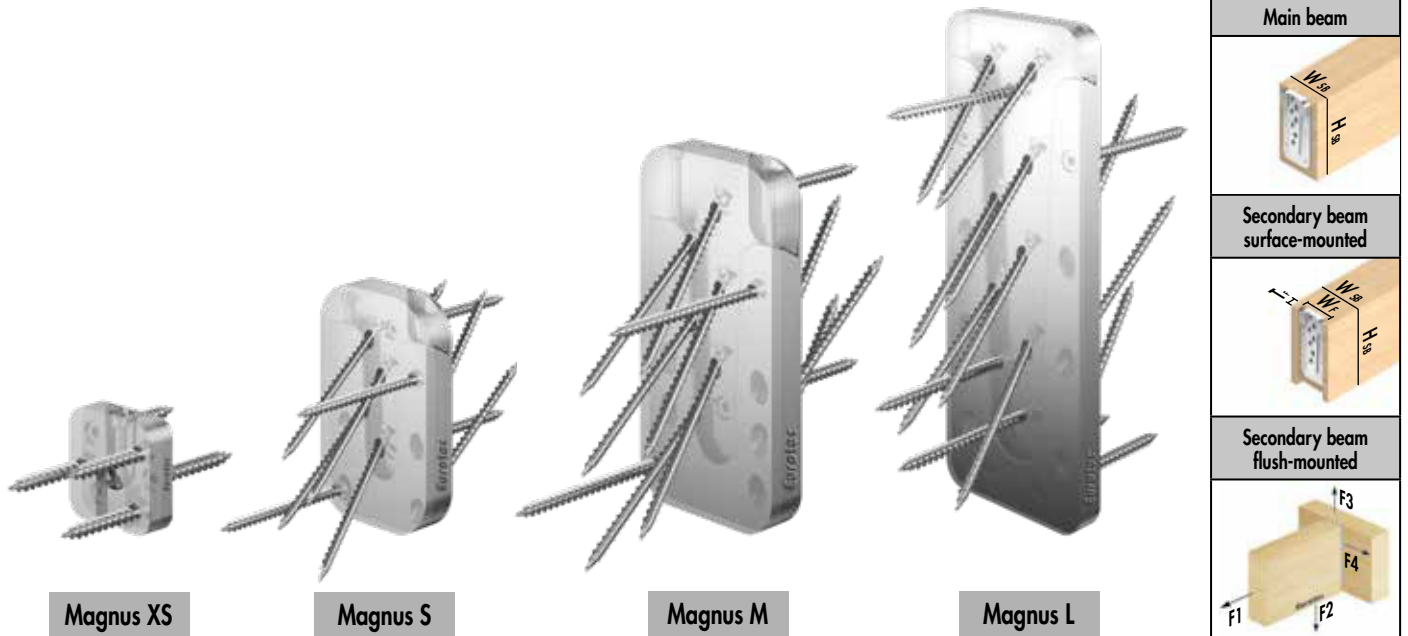


**Fixing screws**



**Fully threaded screws**

# Overview of Magnus hook connectors



| Art. no. | Name               | Dimensions              |      | PU*       | Fully threaded screws <sup>b)</sup> |                            | Fixing screws <sup>b)</sup> |                            | Main beam          |                    | Secondary beam surface-mounted |                    | Secondary beam flush-mounted |                    | characteristic load-bearing capacity $F_{Rk}$ <sup>e)</sup> |                 |                 |                 |                 |                 |
|----------|--------------------|-------------------------|------|-----------|-------------------------------------|----------------------------|-----------------------------|----------------------------|--------------------|--------------------|--------------------------------|--------------------|------------------------------|--------------------|---|-----------------|-----------------|-----------------|-----------------|-----------------|
|          |                    | W x H x D <sup>a)</sup> |      |           | Dimension [mm]                      | $n_{\text{per connector}}$ | Dimension [mm]              | $n_{\text{per connector}}$ | min. $W_{MB}$ [mm] | min. $H_{MB}$ [mm] | min. $W_{SB}$ [mm]             | min. $H_{SB}$ [mm] | min. $W_{SB}^{c)}$ [mm]      | min. $H_{SB}$ [mm] | $W_F$ [mm]  | $D_M^{d)}$ [mm] | $F_{1,Rk}$ [kN] | $F_{2,Rk}$ [kN] | $F_{3,Rk}$ [kN] | $F_{4,Rk}$ [kN] |
|          |                    | [mm]                    | [mm] |           |                                     |                            |                             |                            |                    |                    |                                |                    |                              |                    |   |                 |                 |                 |                 |                 |
| 944874   | Magnus XS 30 x 30  | 30 x 30 x 9             | 20   | 4,0 x 30  | 6                                   | 4,2 x 26                   | 1                           | 40                         | 40                 | 40                 | 40                             | 40                 | 40                           | 30                 | 9   | 1,2             | 1,57            | 1,70            | 1,19            |                 |
| 944875   | Magnus S 50 x 60   | 50 x 60 x 13            | 10   | 4,0 x 60  | 8                                   | 4,2 x 26                   | 2                           | 60                         | 80                 | 60                 | 80                             | 80                 | 80                           | 50                 | 13  | 3,73            | 7,25            | 5,00            | 1,92            |                 |
| 944876   | Magnus S 50 x 80   | 50 x 80 x 13            | 10   | 4,0 x 60  | 12                                  | 4,2 x 26                   | 2                           | 60                         | 100                | 60                 | 100                            | 80                 | 100                          | 50                 | 13  | 3,73            | 14,50           | 5,00            | 2,80            |                 |
| 944877   | Magnus S 50 x 100  | 50 x 100 x 13           | 10   | 4,0 x 60  | 18                                  | 4,2 x 26                   | 2                           | 60                         | 120                | 60                 | 120                            | 80                 | 120                          | 50                 | 13  | 7,46            | 21,75           | 5,00            | 4,41            |                 |
| 944878   | Magnus M 70 x 120  | 70 x 120 x 17           | 10   | 5,0 x 80  | 13                                  | 4,8 x 60                   | 2                           | 80                         | 140                | 80                 | 140                            | 100                | 140                          | 70                 | 17  | 5,49            | 21,34           | 13,00           | 5,17            |                 |
| 944879   | Magnus M 70 x 140  | 70 x 140 x 17           | 10   | 5,0 x 80  | 16                                  | 4,8 x 60                   | 2                           | 80                         | 160                | 80                 | 160                            | 100                | 160                          | 70                 | 17  | 5,49            | 32,00           | 13,00           | 6,09            |                 |
| 944880   | Magnus M 70 x 160  | 70 x 160 x 17           | 10   | 5,0 x 80  | 21                                  | 4,8 x 60                   | 2                           | 80                         | 180                | 80                 | 180                            | 100                | 180                          | 70                 | 17  | 10,98           | 37,34           | 13,00           | 8,27            |                 |
| 944881   | Magnus M 70 x 180  | 70 x 180 x 17           | 10   | 5,0 x 80  | 24                                  | 4,8 x 60                   | 2                           | 80                         | 200                | 80                 | 200                            | 100                | 200                          | 70                 | 17  | 10,98           | 42,67           | 13,00           | 9,32            |                 |
| 944882   | Magnus L 110 x 220 | 110 x 220 x 19          | 4    | 8,0 x 120 | 13                                  | 4,8 x 60                   | 2                           | 120                        | 240                | 120                | 240                            | 140                | 240                          | 110                | 19  | 9,29            | 36,10           | 23,00           | 13,96           |                 |
| 944883   | Magnus L 110 x 260 | 110 x 260 x 19          | 4    | 8,0 x 120 | 17                                  | 4,8 x 60                   | 2                           | 120                        | 280                | 120                | 280                            | 140                | 280                          | 110                | 19  | 13,93           | 45,13           | 23,00           | 17,98           |                 |
| 944884   | Magnus L 110 x 300 | 110 x 300 x 19          | 4    | 8,0 x 120 | 20                                  | 4,8 x 60                   | 2                           | 120                        | 320                | 120                | 320                            | 140                | 320                          | 110                | 19  | 13,93           | 54,15           | 23,00           | 20,56           |                 |
| 944887   | Magnus L 110 x 340 | 110 x 340 x 19          | 4    | 8,0 x 120 | 22                                  | 4,8 x 60                   | 2                           | 120                        | 360                | 120                | 360                            | 140                | 360                          | 110                | 19  | 13,93           | 63,18           | 23,00           | 24,67           |                 |
| 944888   | Magnus L 110 x 380 | 110 x 380 x 19          | 4    | 8,0 x 120 | 25                                  | 4,8 x 60                   | 2                           | 120                        | 400                | 120                | 400                            | 140                | 400                          | 110                | 19  | 9,29            | 72,20           | 23,00           | 26,96           |                 |
| 944889   | Magnus L 110 x 580 | 110 x 580 x 19          | 4    | 8,0 x 120 | 38                                  | 4,8 x 60                   | 2                           | 120                        | 600                | 120                | 600                            | 140                | 600                          | 110                | 19  | 9,29            | 126,35          | 23,00           | 43,29           |                 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of  $\rho_k = 380 \text{ kg/m}^3$ .

The specified characteristic values of the load-bearing capacity  $F_{Rk}$  apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. 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.

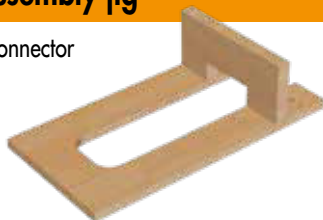
The characteristic values of the load-bearing capacity  $F_{Rk}$  should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity  $F_{Rk}$  should be reduced to the design values  $F_{Ed}$  in terms of the service class and the load duration class:  $F_{Ed} = F_{Rk} \times k_{mod} / \gamma_M$ .

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

# Installation accessories

## Milling and assembly jig

For Magnus hook connector



- Insertion aid for surface-mounted installation
- Milling jig for flush-mounted installation

| Art. no. | Suitable for             | PU |
|----------|--------------------------|----|
| 944867   | Magnus XS                | 1  |
| 944894   | Magnus S                 | 1  |
| 944895   | Magnus M                 | 1  |
| 944870   | Magnus L 220/260/300     | 1  |
| 944903   | Magnus L 340/380/420     | 1  |
| 944904   | Magnus L 460/500/540/580 | 1  |

## Milling cutter

For Magnus hook connector



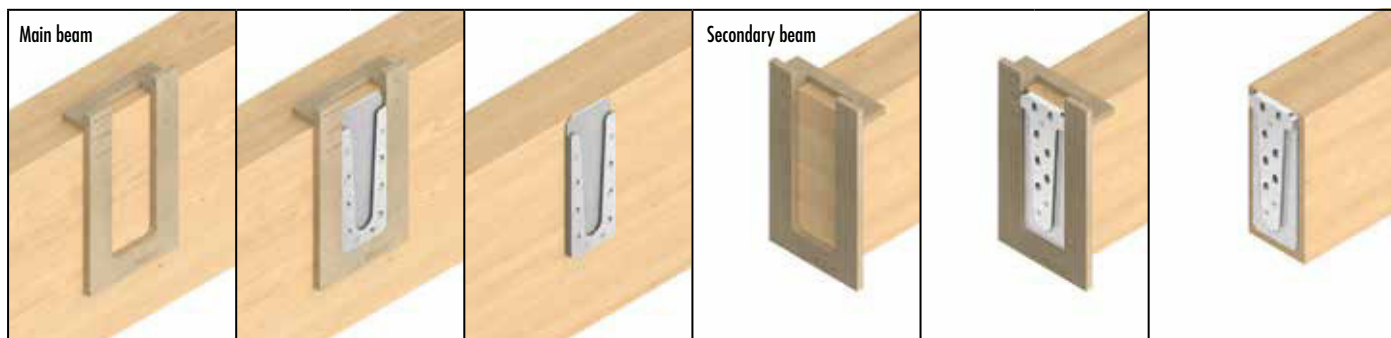
| Art. no. | Suitable for   | Shaft diameter [mm] | PU |
|----------|----------------|---------------------|----|
| 944936   | Magnus XS      | 6,35                | 1  |
| 29686    | Magnus S       | 8                   | 1  |
| 29696    | Magnus M und L | 8                   | 1  |

### The following must be observed in the event of flush-mounted installation in the secondary beam

- The beam's minimum width must be increased so that there is enough surrounding wood remaining at the side for the milling work
- The beam must be milled out at full height

### The following must be observed in the event of flush-mounted installation in the main beam

- The main beam's load-bearing cross-section is reduced by the connector's assembly thickness
- The beam's minimum width must be adjusted (screw length)

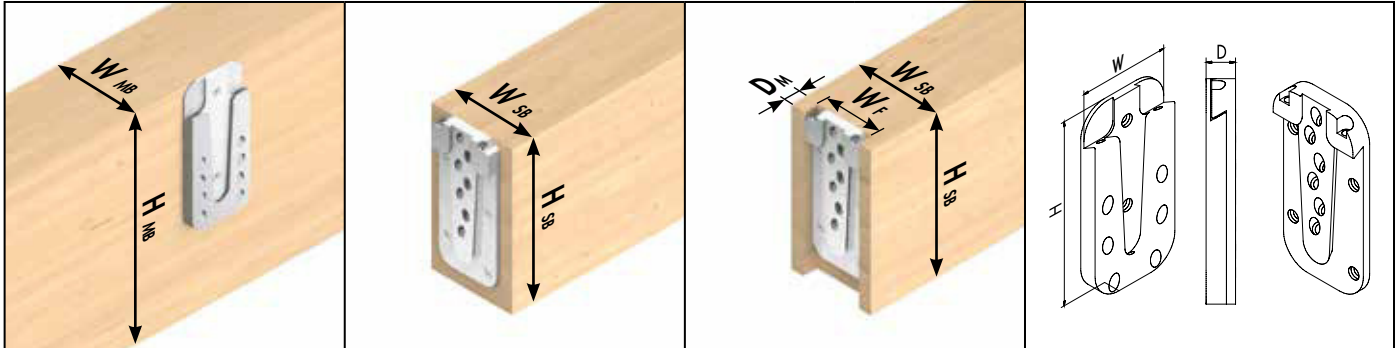


Surface-mounted installation of the Magnus hook connector: left on the main beam, right on the secondary beam

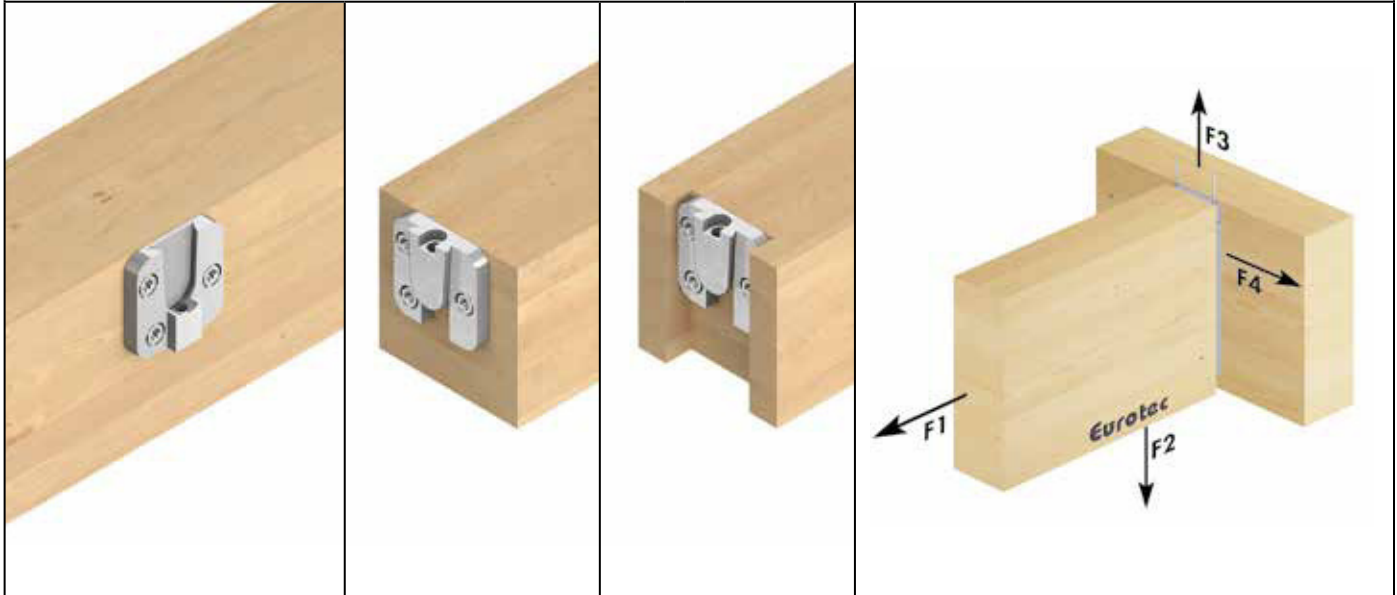


The secondary beam must be milled out at full height in the event of flush-mounted installation

# Magnus XS 30 x 30



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name              | Dimensions<br>W x H x D <sup>a)</sup><br>[mm] | PU* | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       |                  | Fixing screws <sup>b)</sup> |   |
|----------|-------------------|---|-----|-------------------------------------|--------------------|------------------|------------------|-----------------------|------------------|-----------------------------|---|
|          |                   |   |     | Dimensions<br>[mm]                  | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                  | Dimensions<br>[mm]          | n |
|          |                   |   |     |                                     |                    | n <sub>90°</sub> | n <sub>45°</sub> | n <sub>90°</sub>      | n <sub>45°</sub> |                             |   |
| 944874   | Magnus XS 30 x 30 | 30 x 30 x 9                                   | 20  | 4,0 x 30                            | 6                  | 3                | -                | 3                     | -                | 4,2 x 26                    | 1 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name              | Dimensions<br>W x H x D <sup>a)</sup><br>[mm] | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      |                |                              | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                   |                   |                   |
|----------|-------------------|---|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|----------------|------------------------------|--|-------------------|-------------------|-------------------|
|          |                   |   | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub> | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub>  | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                   |   | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]           | [mm]                         | [kN]   | [kN]              | [kN]              | [kN]              |
| 944874   | Magnus XS 30 x 30 | 30 x 30 x 9                                   | 40                   | 40                   | 40                             | 40                   | 40                                 | 40                   | 30             | 9                            | 1,12   | 1,57              | 1,70              | 1,19              |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>g</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams.

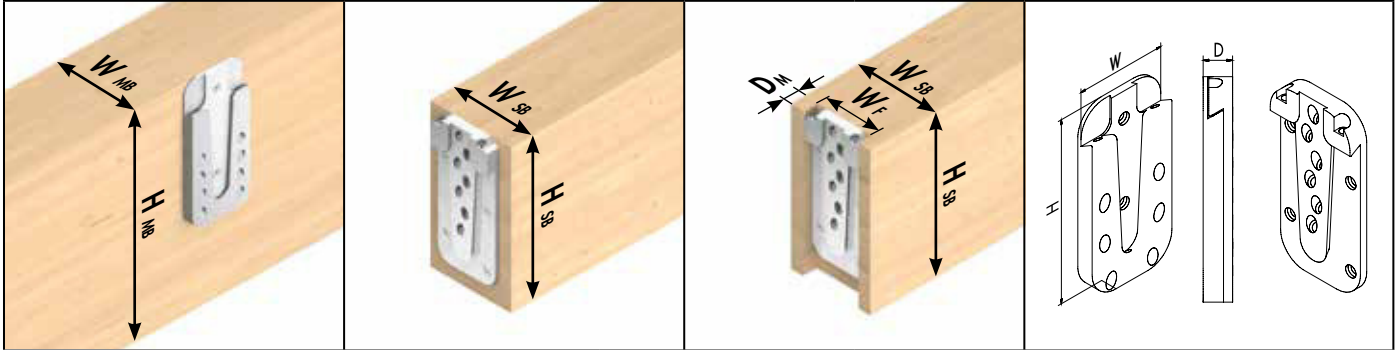
Calculation according to ETA 15/0761. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.

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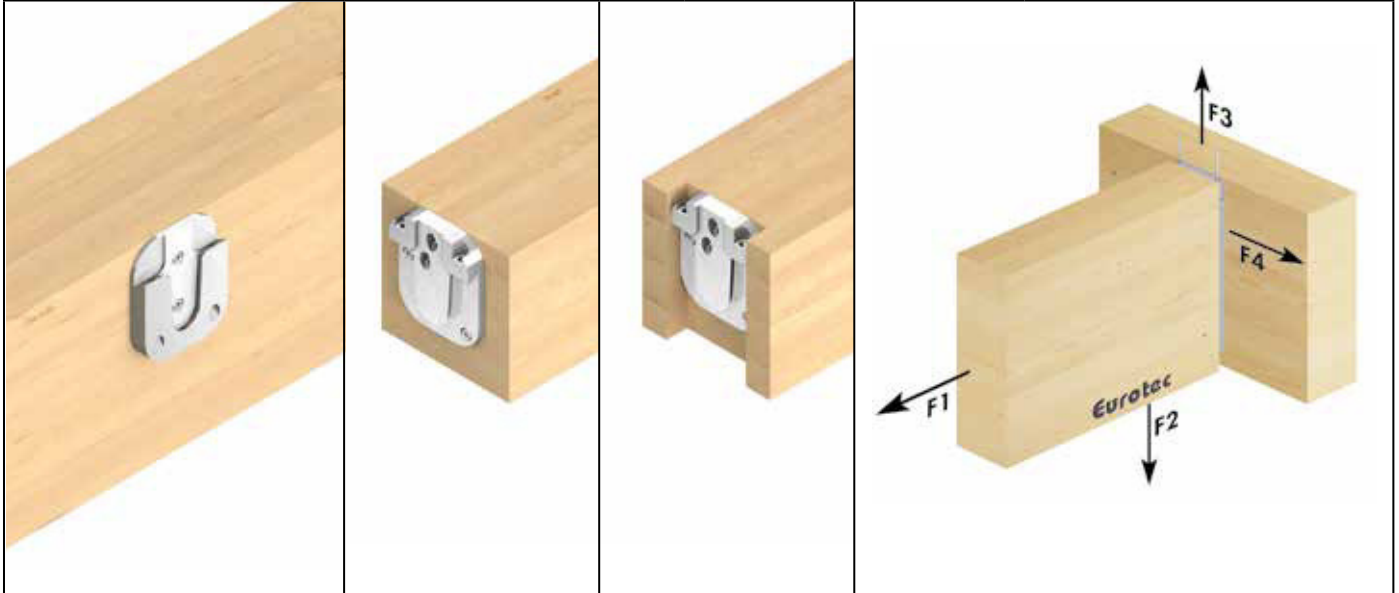
The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Rd</sub> in terms of the service class and the load duration class: F<sub>Rd</sub>= F<sub>Rk</sub> x k<sub>mod</sub> / γ<sub>M</sub>.

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

# Magnus S 50 x 60



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name             | Dimensions              |         | PU* | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       | Fixing screws <sup>b)</sup> |            |   |
|----------|------------------|-------------------------|---------|-----|-------------------------------------|--------------------|------------------|------------------|-----------------------|-----------------------------|------------|---|
|          |                  | W x H x D <sup>a)</sup> |         |     | Dimensions                          | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                             | Dimensions | n |
|          |                  | [mm]                    |         |     |                                     |                    | [mm]             | n <sub>90°</sub> | n <sub>45°</sub>      | n <sub>90°</sub>            |            |   |
| 944875   | Magnus S 50 x 60 | 50                      | 60 x 13 | 10  | 4,0 x 60                            | 8                  | 2                | 2                | 2                     | 2                           | 4,2 x 26   | 2 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name             | Dimensions              | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      |                |                              | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                   |                   |                   |
|----------|------------------|-------------------------|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|----------------|------------------------------|--|-------------------|-------------------|-------------------|
|          |                  | W x H x D <sup>a)</sup> | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub> | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub>  | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                  | [mm]                    | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]           | [mm]                         | [kN]   | [kN]              | [kN]              | [kN]              |
| 944875   | Magnus S 50 x 60 | 50 x 60 x 13            | 60                   | 80                   | 60                             | 80                   | 80                                 | 80                   | 50             | 13                           | 3,73   | 7,25              | 5,00              | 1,92              |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>g</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams.

Calculation according to ETA 15/0761. All mechanical values provided should be subject to the assumptions that have been made and represent example calculations.

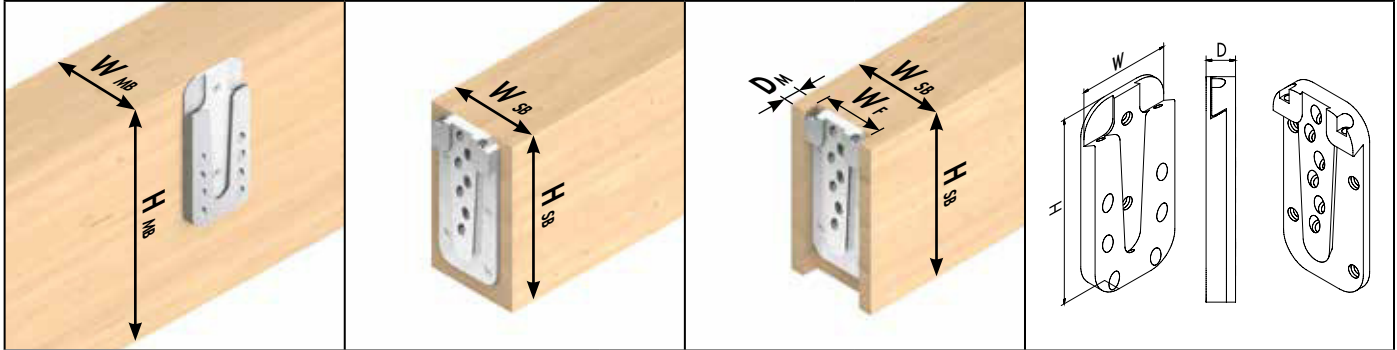
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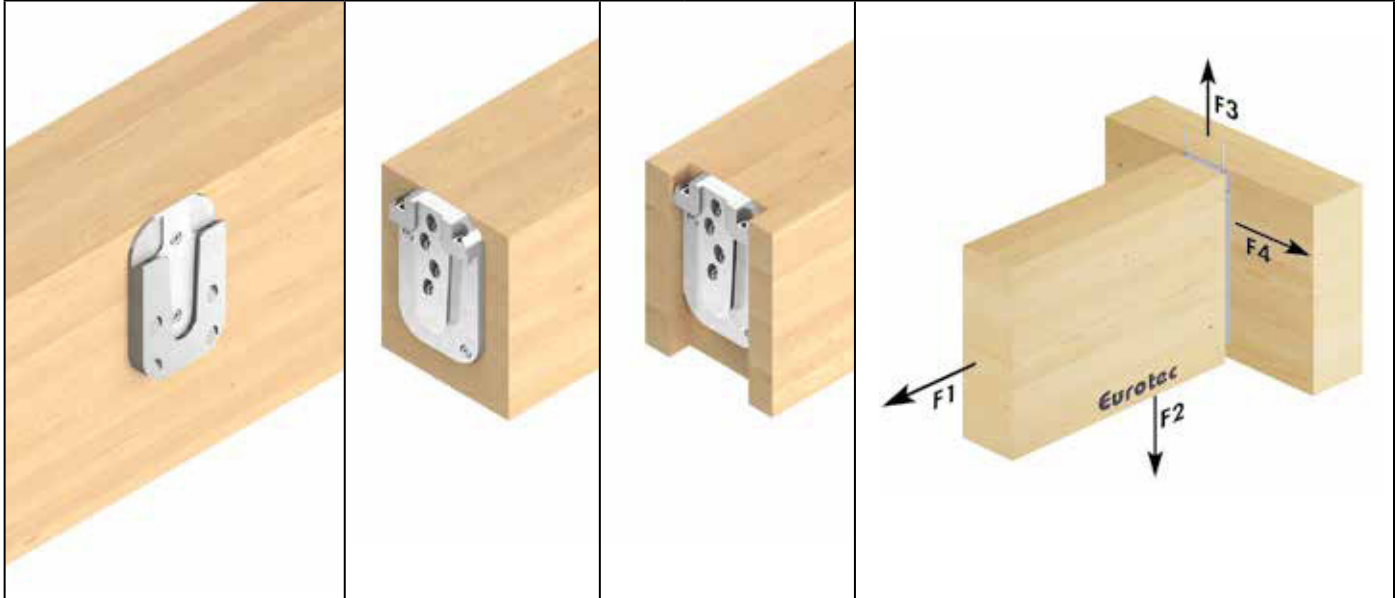
service class and the load duration class: F<sub>Rd</sub>= F<sub>Rk</sub> x k<sub>mod</sub> / γ<sub>M</sub>.

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

# Magnus S 50 x 80



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name             | Dimensions<br>W x H x D <sup>a)</sup><br>[mm] | PU* | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       |                  | Fixing screws <sup>b)</sup> |   |
|----------|------------------|---|-----|-------------------------------------|--------------------|------------------|------------------|-----------------------|------------------|-----------------------------|---|
|          |                  |   |     | Dimensions<br>[mm]                  | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                  | Dimensions<br>[mm]          | n |
|          |                  |   |     |                                     |                    | n <sub>90°</sub> | n <sub>45°</sub> | n <sub>90°</sub>      | n <sub>45°</sub> |                             |   |
| 944876   | Magnus S 50 x 80 | 50 x 80 x 13                                  | 10  | 4,0 x 60                            | 12                 | 2                | 4                | 2                     | 4                | 4,2 x 26                    | 2 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name             | Dimensions<br>W x H x D <sup>a)</sup><br>[mm] | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      |                |                              | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                   |                   |                   |
|----------|------------------|---|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|----------------|------------------------------|--|-------------------|-------------------|-------------------|
|          |                  |   | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub> | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub>  | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                  |   | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]           | [mm]                         | [mm]   | [kN]              | [kN]              | [kN]              |
| 944876   | Magnus S 50 x 80 | 50 x 80 x 13                                  | 60                   | 100                  | 60                             | 100                  | 80                                 | 100                  | 50             | 13                           | 3,73   | 14,50             | 5,00              | 2,80              |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams.

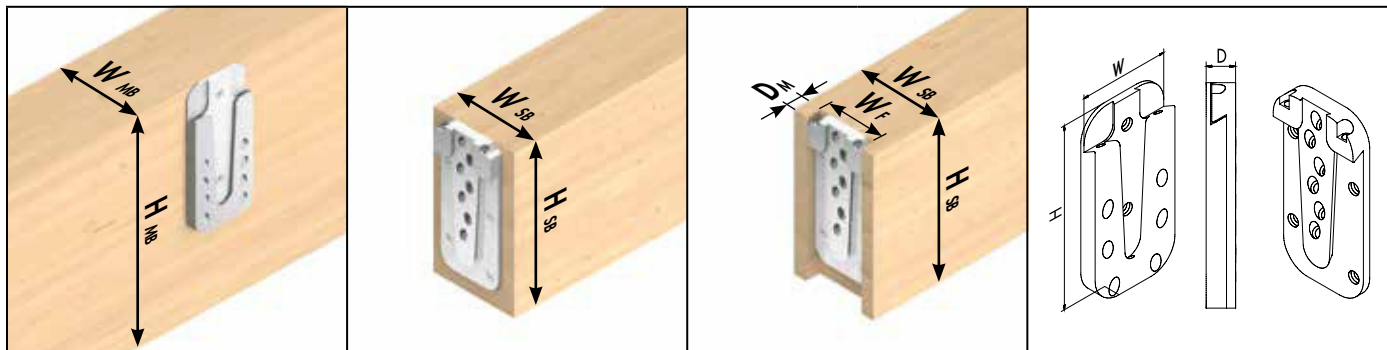
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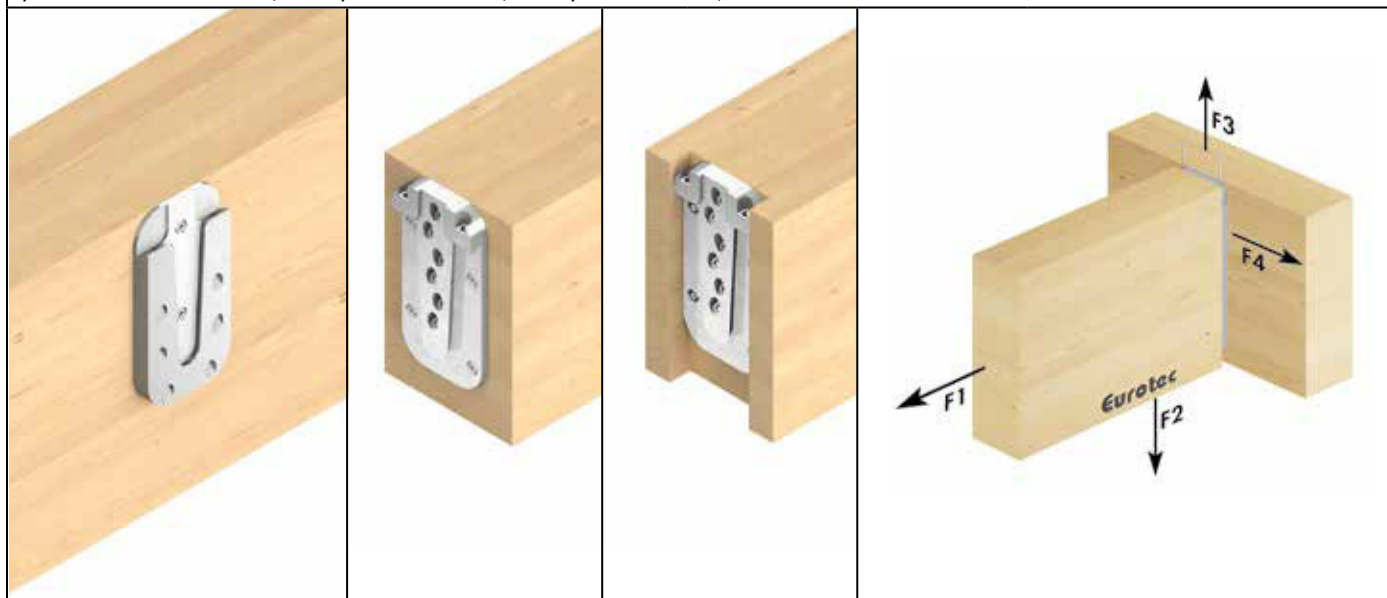
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Please note: These are planning aids. Projects must only be calculated by authorised persons.

# Magnus S 50 x 100



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name              | Dimensions              |          | PU* | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       |                  | Fixing screws <sup>b)</sup> |   |
|----------|-------------------|-------------------------|----------|-----|-------------------------------------|--------------------|------------------|------------------|-----------------------|------------------|-----------------------------|---|
|          |                   | W x H x D <sup>a)</sup> |          |     | Dimensions                          | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                  | Dimensions                  | n |
|          |                   | [mm]                    |          |     |                                     |                    | [mm]             | n <sub>90°</sub> | n <sub>45°</sub>      | n <sub>90°</sub> |                             |   |
| 944877   | Magnus S 50 x 100 | 50                      | 100 x 13 | 10  | 4,0 x 60                            | 18                 | 2                | 6                | 4                     | 6                | 4,2 x 26                    | 2 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name              | Dimensions              | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      |                |                              | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                   |                   |                   |
|----------|-------------------|-------------------------|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|----------------|------------------------------|--|-------------------|-------------------|-------------------|
|          |                   | W x H x D <sup>a)</sup> | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub> | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub>  | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                   | [mm]                    | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]           | [mm]                         | [kN]   | [kN]              | [kN]              | [kN]              |
| 944877   | Magnus S 50 x 100 | 50 x 100 x 13           | 60                   | 120                  | 60                             | 120                  | 80                                 | 120                  | 50             | 13                           | 7,46   | 21,75             | 5,00              | 4,41              |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams.

Calculation according to ETA 15/0761. 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.

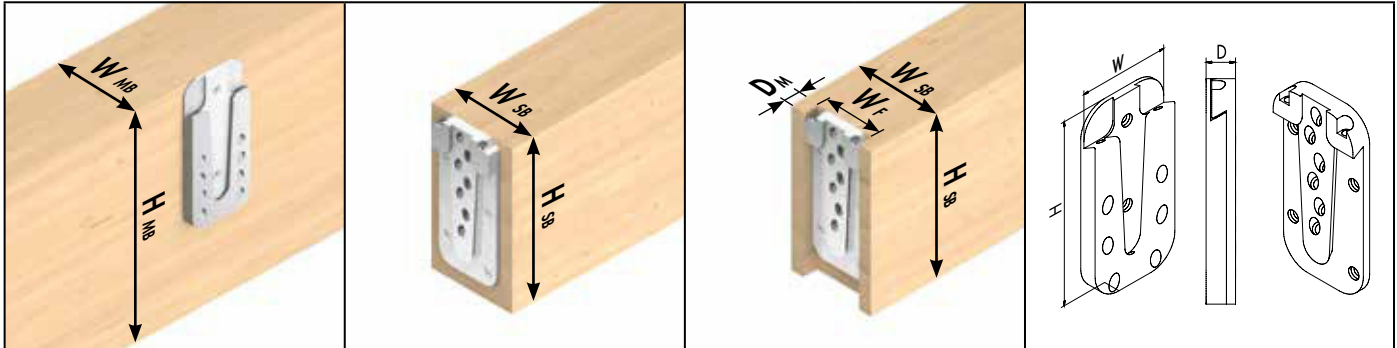
The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Rd</sub> in terms of the

service class and the load duration class: F<sub>Rd</sub>= F<sub>Rk</sub> x k<sub>mod</sub> / γ<sub>M</sub>.

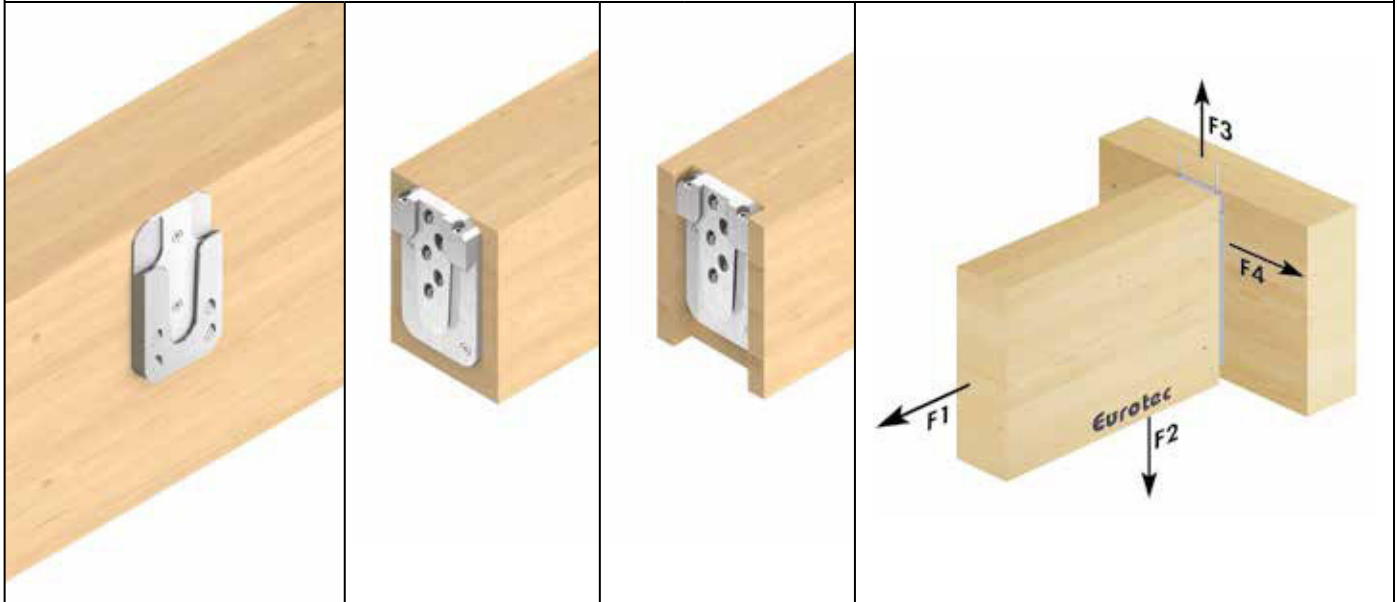
Please note: These are planning aids. Projects must only be calculated by authorised persons.



# Magnus M 70 x 120



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



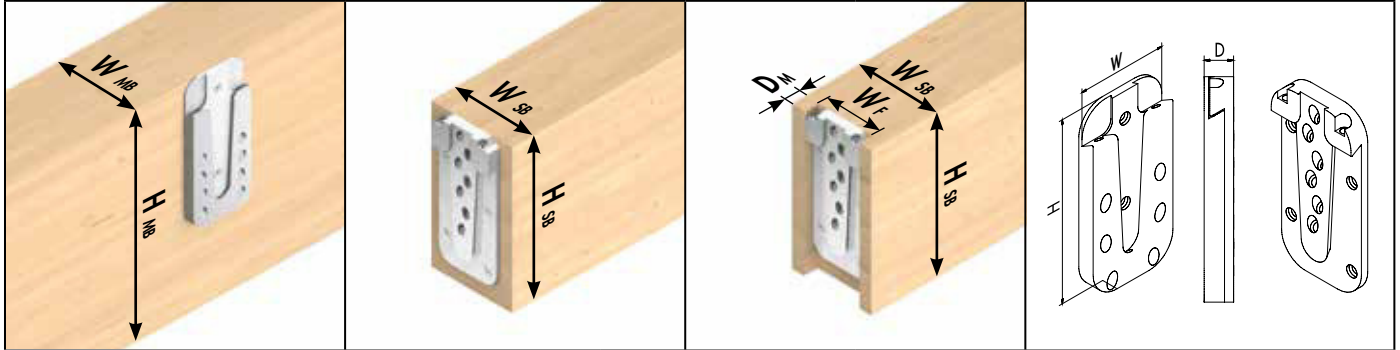
| Art. no. | Name              | Dimensions              |  | PU* | Fully threaded screws <sup>b)</sup> |  |                    |                  |                  | Fixing screws <sup>b)</sup> |                  |            |   |
|----------|-------------------|-------------------------|--|-----|-------------------------------------|--|--------------------|------------------|------------------|-----------------------------|------------------|------------|---|
|          |                   | W x H x D <sup>a)</sup> |  |     | Dimensions                          |  | n <sub>total</sub> | In the main beam |                  | In the secondary beam       |                  | Dimensions | n |
|          |                   | [mm]                    |  |     | [mm]                                |  |                    | n <sub>90°</sub> | n <sub>45°</sub> | n <sub>90°</sub>            | n <sub>45°</sub> | [mm]       |   |
| 944878   | Magnus M 70 x 120 | 70 x 120 x 17           |  | 10  | 5,0 x 80                            |  | 13                 | 2                | 4                | 2                           | 5                | 4,8 x 60   | 2 |

\* 1 connector consists of 2 individual parts  
 a) D= assembly thickness  
 b) Included in delivery

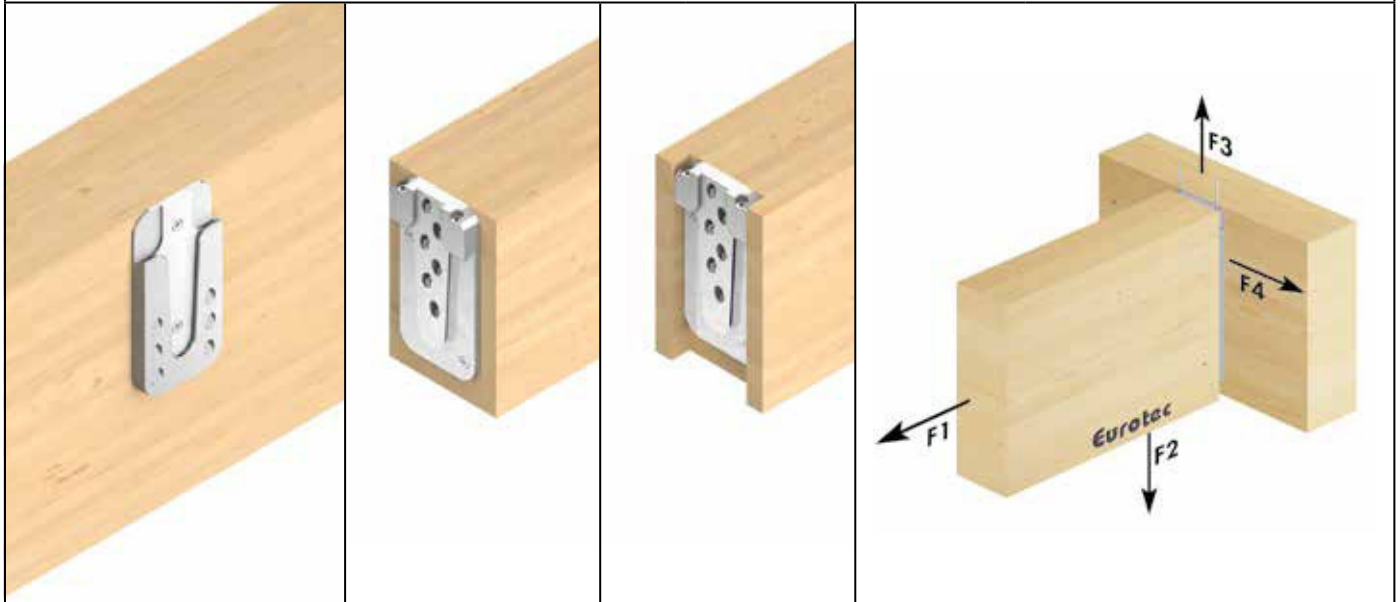
| Art. no. | Name              | Dimensions              | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      |                | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                   |                   |                   |                   |
|----------|-------------------|-------------------------|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|----------------|--|-------------------|-------------------|-------------------|-------------------|
|          |                   | W x H x D <sup>a)</sup> | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub> | D <sub>M</sub> <sup>c)</sup>                                       | F <sub>1,Rk</sub> | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                   | [mm]                    | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]           | [mm]   | [kN]              | [kN]              | [kN]              | [kN]              |
| 944878   | Magnus M 70 x 120 | 70 x 120 x 17           | 80                   | 140                  | 80                             | 140                  | 100                                | 140                  | 70             | 17   | 5,49              | 21,34             | 13,00             | 5,17              |

a) D= assembly thickness  
 b) Included in delivery  
 c) Recommended minimum width of the secondary beam with the connector flush-mounted  
 d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.  
 e) Both beams softwood with a gross density of ρ<sub>0k</sub>= 380 kg/m<sup>3</sup>.  
 The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. 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.  
 The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Ed</sub> in terms of the service class and the load duration class: F<sub>Ed</sub>= F<sub>Rk</sub> x K<sub>mod</sub> / γ<sub>M</sub>.  
 Please note: These are planning aids. Projects must only be calculated by authorised persons.

# Magnus M 70 x 140



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name              | Dimensions              |          | PU* | Fully threaded screws <sup>b)</sup> |    |                    |                  |                  |                       | Fixing screws <sup>b)</sup> |            |   |
|----------|-------------------|-------------------------|----------|-----|-------------------------------------|----|--------------------|------------------|------------------|-----------------------|-----------------------------|------------|---|
|          |                   | W x H x D <sup>a)</sup> |          |     | Dimensions                          |    | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                             | Dimensions | n |
|          |                   | [mm]                    |          |     | [mm]                                |    |                    | n <sub>90°</sub> | n <sub>45°</sub> | n <sub>90°</sub>      | n <sub>45°</sub>            | [mm]       |   |
| 944879   | Magnus M 70 x 140 | 70                      | 140 x 17 | 10  | 5,0                                 | 80 | 16                 | 2                | 6                | 2                     | 6                           | 4,8 x 60   | 2 |

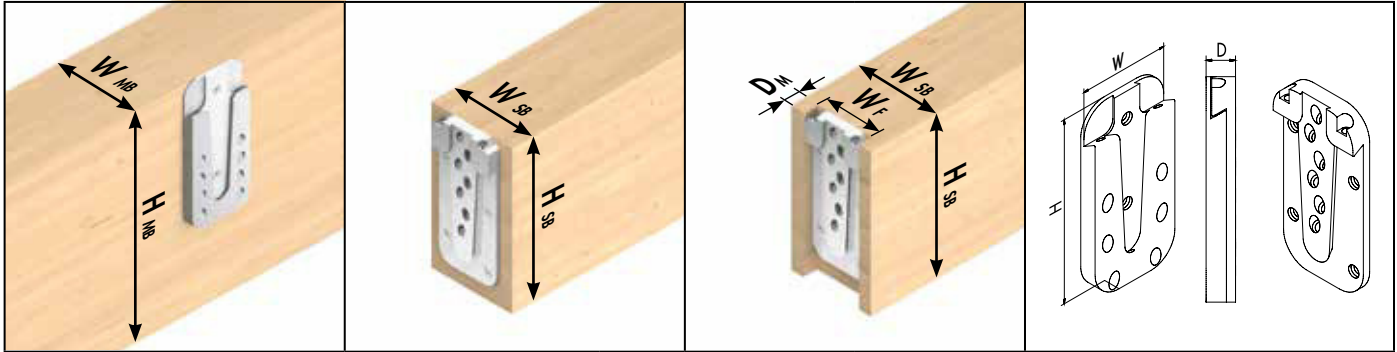
\* 1 connector consists of 2 individual parts  
 a) D= assembly thickness  
 b) Included in delivery

| Art. no. | Name              | Dimensions              | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      |                |                              | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                   |                   |                   |
|----------|-------------------|-------------------------|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|----------------|------------------------------|--|-------------------|-------------------|-------------------|
|          |                   | W x H x D <sup>a)</sup> | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub> | D <sub>M</sub> <sup>d)</sup> | F <sub>1,Rk</sub>  | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                   | [mm]                    | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]           | [mm]                         | [kN]   | [kN]              | [kN]              | [kN]              |
| 944879   | Magnus M 70 x 140 | 70 x 140 x 17           | 80                   | 160                  | 80                             | 160                  | 100                                | 160                  | 70             | 17                           | 5,49   | 32,00             | 13,00             | 6,09              |

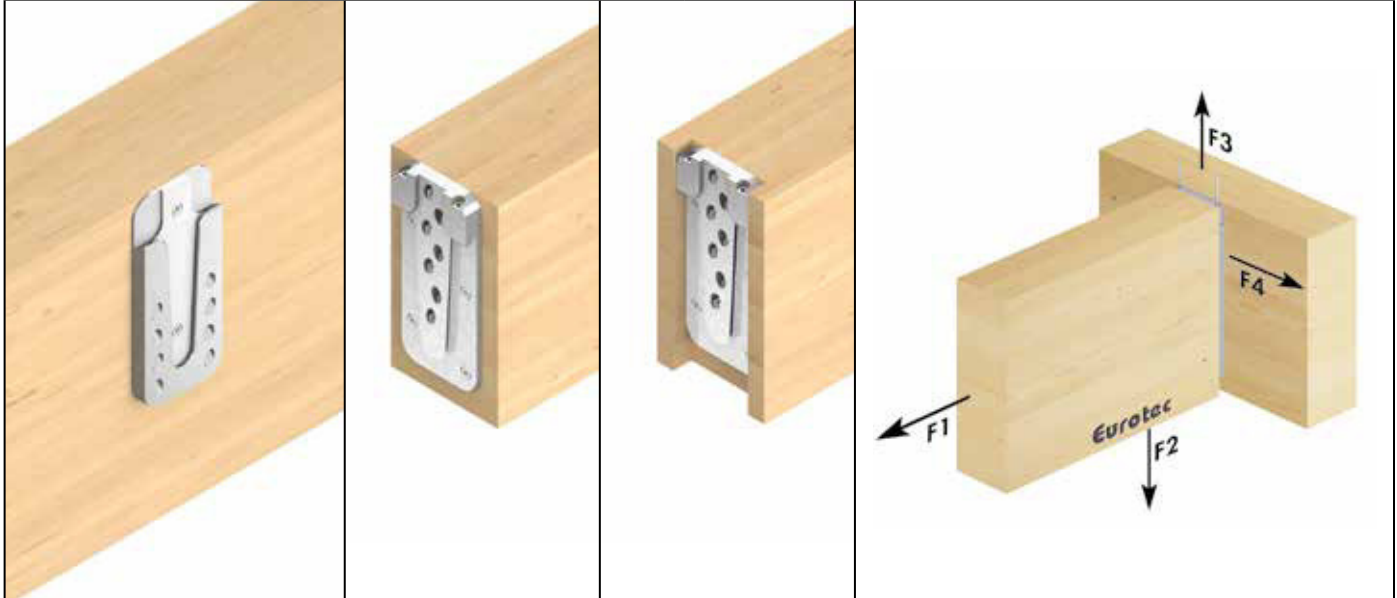
a) D= assembly thickness  
 b) Included in delivery  
 c) Recommended minimum width of the secondary beam with the connector flush-mounted  
 d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.  
 e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.  
 The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. 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. The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Ed</sub> in terms of the service class and the load duration class: F<sub>Ed</sub>= F<sub>Rk</sub> x k<sub>mod</sub> / γ<sub>M</sub>.

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

# Magnus M 70 x 160



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



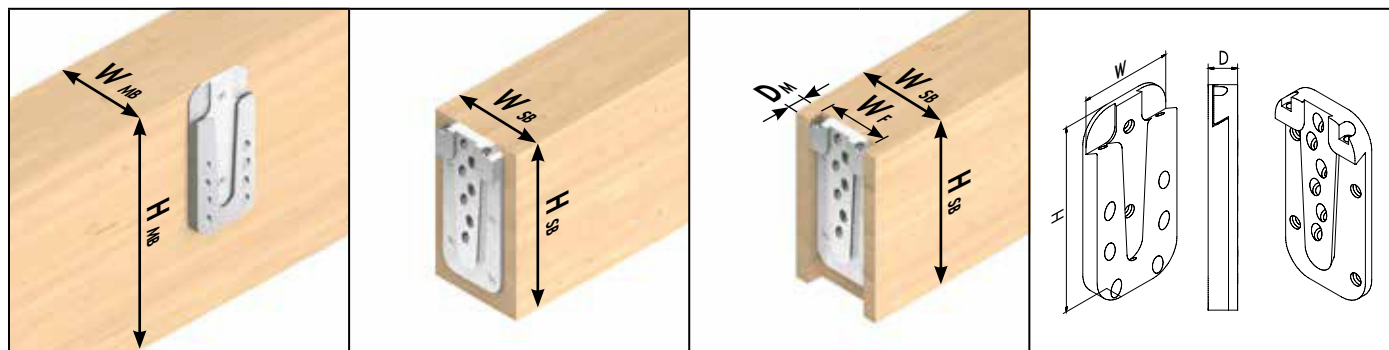
| Art. no. | Name              | Dimensions              |  | PU* | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       | Fixing screws <sup>b)</sup> |            |   |
|----------|-------------------|-------------------------|--|-----|-------------------------------------|--------------------|------------------|------------------|-----------------------|-----------------------------|------------|---|
|          |                   | W x H x D <sup>a)</sup> |  |     | Dimensions                          | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                             | Dimensions | n |
|          |                   | [mm]                    |  |     |                                     |                    | [mm]             | n <sub>90°</sub> | n <sub>45°</sub>      | n <sub>90°</sub>            |            |   |
| 944880   | Magnus M 70 x 160 | 70 x 160 x 17           |  | 10  | 5,0 x 80                            | 21                 | 2                | 8                | 4                     | 7                           | 4,8 x 60   | 2 |

\* 1 connector consists of 2 individual parts  
 a) D= assembly thickness  
 b) Included in delivery

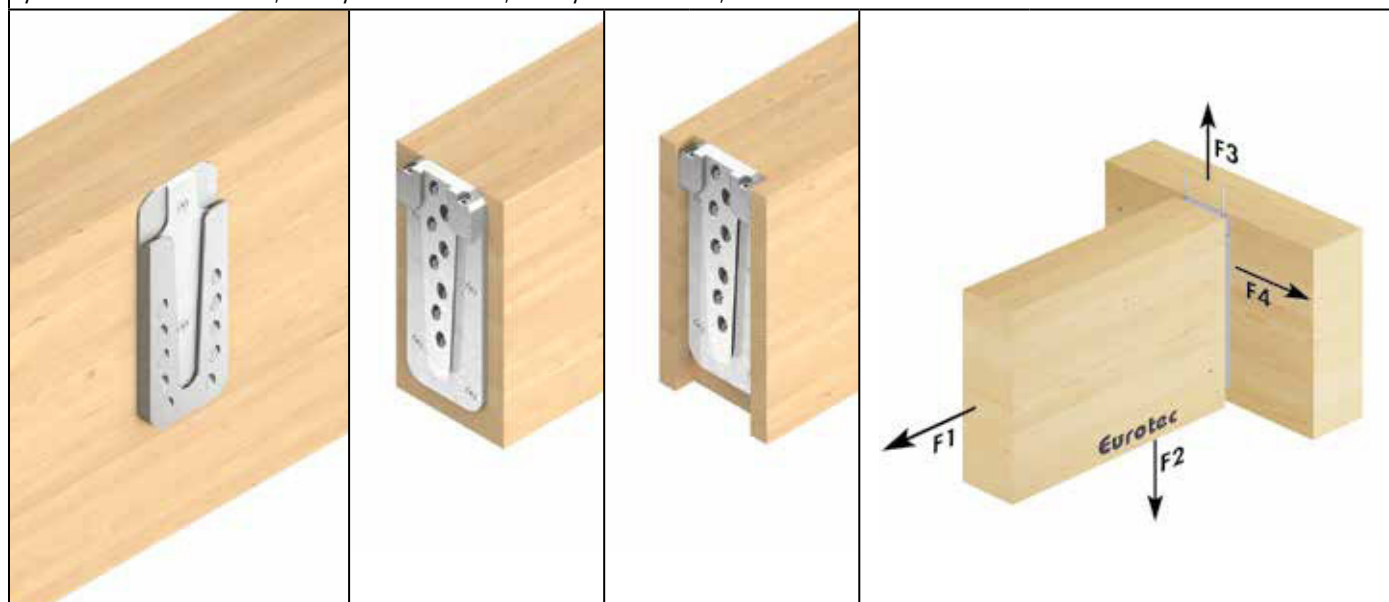
| Art. no. | Name              | Dimensions              | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      |                |                              | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                   |                   |                   |
|----------|-------------------|-------------------------|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|----------------|------------------------------|--|-------------------|-------------------|-------------------|
|          |                   | W x H x D <sup>a)</sup> | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub> | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub>  | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                   | [mm]                    | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]           | [mm]                         | [kN]   | [kN]              | [kN]              | [kN]              |
| 944880   | Magnus M 70 x 160 | 70 x 160 x 17           | 80                   | 180                  | 80                             | 180                  | 100                                | 180                  | 70             | 17                           | 10,98  | 37,34             | 13,00             | 8,27              |

a) D= assembly thickness  
 b) Included in delivery  
 c) Recommended minimum width of the secondary beam with the connector flush-mounted  
 d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.  
 e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.  
 The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. 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.  
 The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Rd</sub> in terms of the service class and the load duration class: F<sub>Rd</sub>= F<sub>Rk</sub> x K<sub>mod</sub> / γ<sub>M</sub>.  
 Please note: These are planning aids. Projects must only be calculated by authorised persons.

# Magnus M 70 x 180



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name              | Dimensions              |     | PU* | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       | Fixing screws <sup>b)</sup> |            |   |
|----------|-------------------|-------------------------|-----|-----|-------------------------------------|--------------------|------------------|------------------|-----------------------|-----------------------------|------------|---|
|          |                   | W x H x D <sup>a)</sup> |     |     | Dimensions                          | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                             | Dimensions | n |
|          |                   | [mm]                    |     |     |                                     |                    | [mm]             | n <sub>90°</sub> | n <sub>45°</sub>      | n <sub>90°</sub>            |            |   |
| 944881   | Magnus M 70 x 180 | 70                      | 180 | 17  | 5,0 x 80                            | 24                 | 2                | 10               | 4                     | 8                           | 4,8 x 60   | 2 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name              | Dimensions              | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      |                |                              | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                   |                   |                   |
|----------|-------------------|-------------------------|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|----------------|------------------------------|--|-------------------|-------------------|-------------------|
|          |                   | W x H x D <sup>a)</sup> | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub> | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub>  | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                   | [mm]                    | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]           | [mm]                         | [kN]   | [kN]              | [kN]              | [kN]              |
| 944881   | Magnus M 70 x 180 | 70 x 180 x 17           | 80                   | 200                  | 80                             | 200                  | 100                                | 200                  | 70             | 17                           | 10,98  | 42,67             | 13,00             | 9,32              |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>0k</sub> = 380 kg/m<sup>3</sup>.

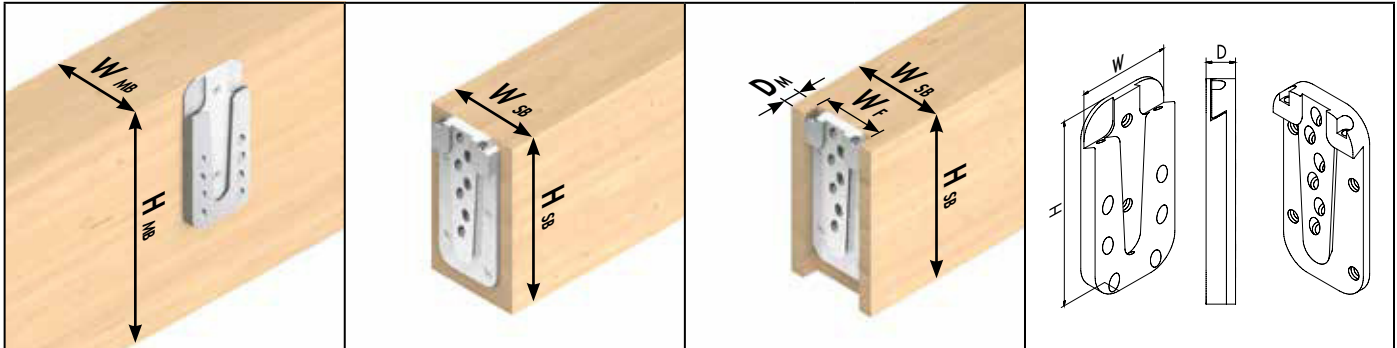
The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. 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.

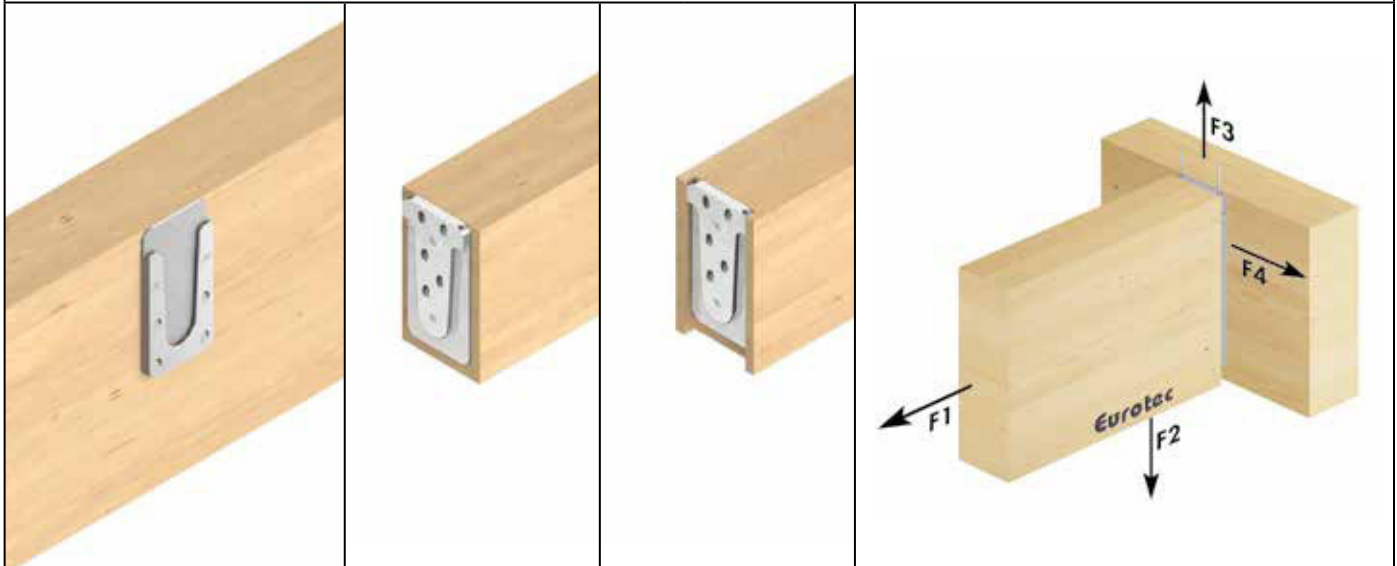
The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Rd</sub> in terms of the service class and the load duration class: F<sub>Rd</sub> = F<sub>Rk</sub> × K<sub>mod</sub> / γ<sub>M</sub>.

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

# Magnus L 110 x 220



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name               | Dimensions              | PU* | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       |                  | Fixing screws <sup>b)</sup> |   |
|----------|--------------------|-------------------------|-----|-------------------------------------|--------------------|------------------|------------------|-----------------------|------------------|-----------------------------|---|
|          |                    | W x H x D <sup>a)</sup> |     | Dimensions                          | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                  | Dimensions                  | n |
|          |                    | [mm]                    |     | [mm]                                |                    | n <sub>90°</sub> | n <sub>45°</sub> | n <sub>90°</sub>      | n <sub>45°</sub> | [mm]                        |   |
| 944882   | Magnus L 110 x 220 | 110 x 220 x 19          | 4   | 8,0 x 120                           | 13                 | 2                | 4                | 2                     | 5                | 4,8 x 60                    | 2 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name               | Dimensions              | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                              |                   |                   |                   |                   |
|----------|--------------------|-------------------------|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|--|------------------------------|-------------------|-------------------|-------------------|-------------------|
|          |                    | W x H x D <sup>a)</sup> | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub>   | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub> | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                    | [mm]                    | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]   | [mm]                         | [kN]              | [kN]              | [kN]              | [kN]              |
| 944882   | Magnus L 110 x 220 | 110 x 220 x 19          | 120                  | 240                  | 120                            | 240                  | 140                                | 240                  | 110  | 19                           | 9,29              | 36,10             | 23,00             | 13,96             |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.

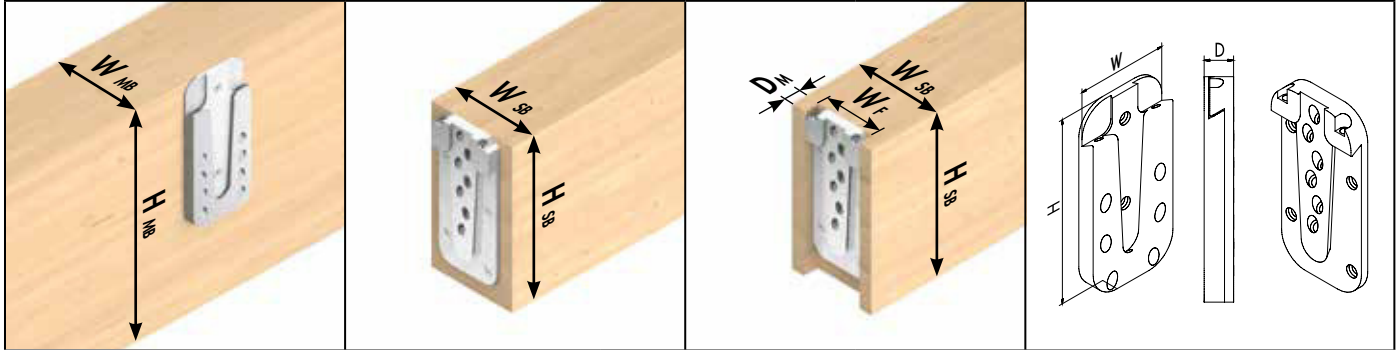
All values are calculated minimum values and are subject to typographical and printing errors.

The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Ed</sub> in terms of the service class and the load duration class: F<sub>Ed</sub>= F<sub>Rk</sub> x k<sub>mod</sub> / γ<sub>M</sub>.

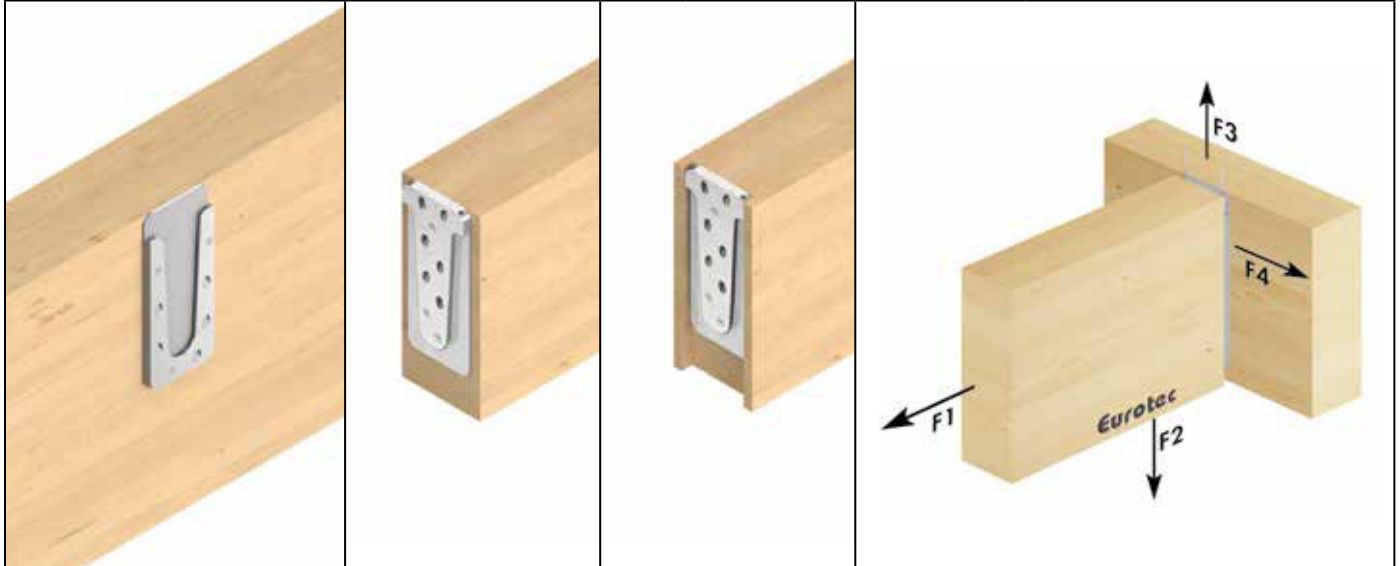
The characteristic load-bearing capacities for the L series were determined using 8 x 120 VG screws. Higher capacities can be achieved with longer screws (however, the minimum cross-sections of the supports also change)

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

# Magnus L 110 x 260



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name               | Dimensions              |   | PU*       | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       |                  | Fixing screws <sup>b)</sup> |   |
|----------|--------------------|-------------------------|---|-----------|-------------------------------------|--------------------|------------------|------------------|-----------------------|------------------|-----------------------------|---|
|          |                    | W x H x D <sup>a)</sup> |   |           | Dimensions                          | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                  | Dimensions                  | n |
|          |                    | [mm]                    |   |           |                                     |                    | [mm]             | n <sub>90°</sub> | n <sub>45°</sub>      | n <sub>90°</sub> |                             |   |
| 944883   | Magnus L 110 x 260 | 110 x 260 x 19          | 4 | 8,0 x 120 | 17                                  | 3                  | 5                | 3                | 6                     | 4,8 x 60         | 2                           |   |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name               | Dimensions              |     | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                              |                   |                   |                   |                   |
|----------|--------------------|-------------------------|-----|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|--|------------------------------|-------------------|-------------------|-------------------|-------------------|
|          |                    | W x H x D <sup>a)</sup> |     | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub>   | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub> | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                    | [mm]                    |     | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]   | [mm]                         | [kN]              | [kN]              | [kN]              | [kN]              |
| 944883   | Magnus L 110 x 260 | 110 x 260 x 19          | 120 | 280                  | 120                  | 280                            | 140                  | 280                                | 110                  | 19   | 13,93                        | 45,13             | 23,00             | 17,98             |                   |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.

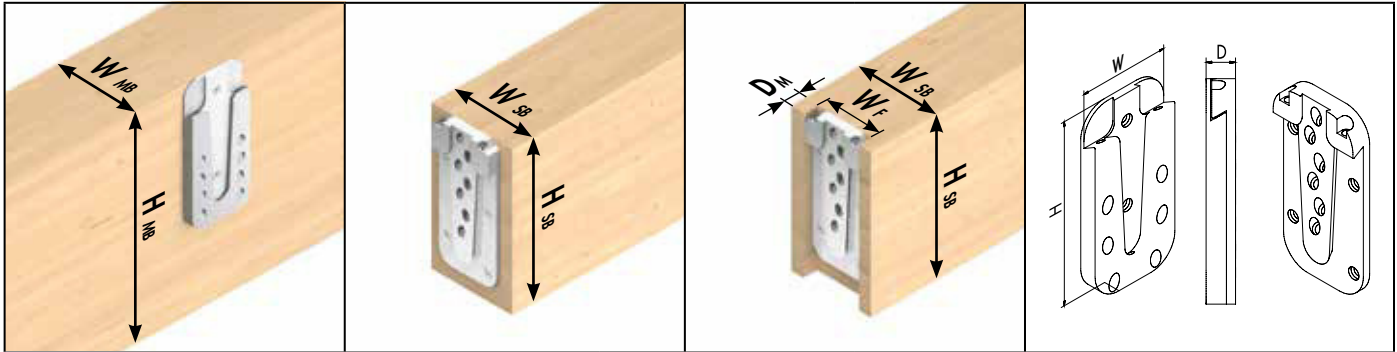
All values are calculated minimum values and are subject to typographical and printing errors.

The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Ed</sub> in terms of the service class and the load duration class: F<sub>Ed</sub>= F<sub>Rk</sub> x k<sub>mod</sub> / γ<sub>M</sub>.

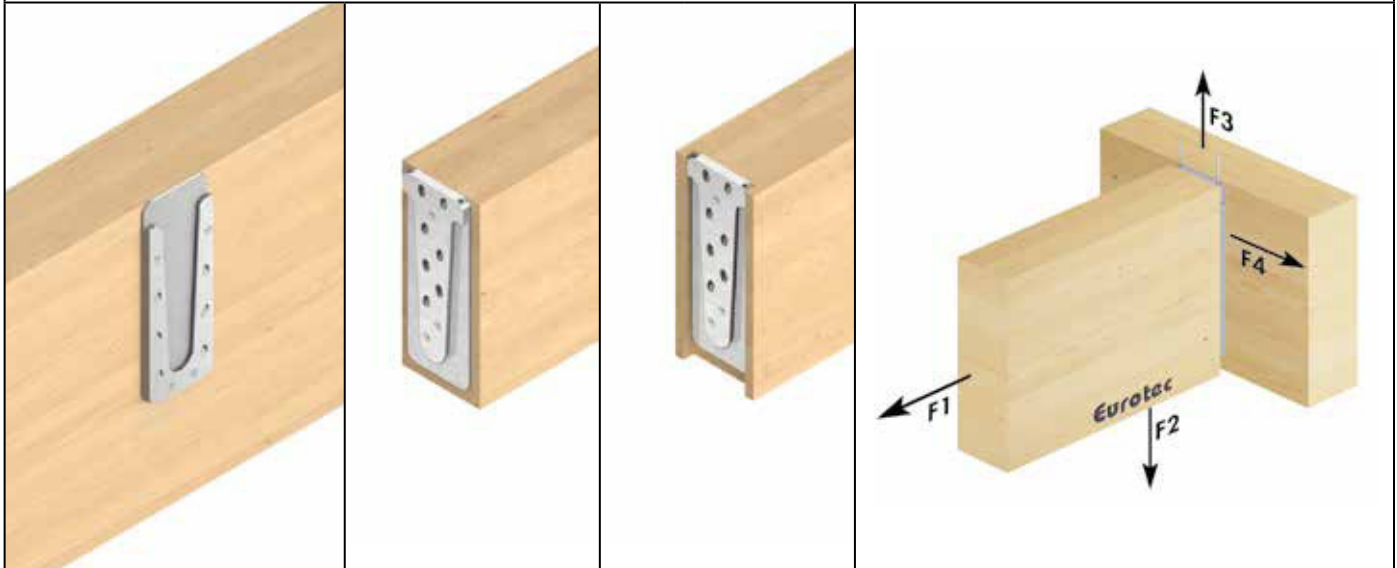
The characteristic load-bearing capacities for the L series were determined using 8 x 120 VG screws. Higher capacities can be achieved with longer screws (however, the minimum cross-sections of the supports also change)

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

# Magnus L 110 x 300



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name               | Dimensions              |  | PU* | Fully threaded screws <sup>b)</sup> |  |                    |                  |                  |                       | Fixing screws <sup>b)</sup> |            |  |   |
|----------|--------------------|-------------------------|--|-----|-------------------------------------|--|--------------------|------------------|------------------|-----------------------|-----------------------------|------------|--|---|
|          |                    | W x H x D <sup>a)</sup> |  |     | Dimensions                          |  | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                             | Dimensions |  |   |
|          |                    | [mm]                    |  |     | [mm]                                |  |                    | n <sub>90°</sub> | n <sub>45°</sub> | n <sub>90°</sub>      | n <sub>45°</sub>            | [mm]       |  | n |
| 944884   | Magnus L 110 x 300 | 110 x 300 x 19          |  | 4   | 8,0 x 120                           |  | 20                 | 4                | 6                | 3                     | 7                           | 4,8 x 60   |  | 2 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name               | Dimensions              |  | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                              |                   |                   |                   |                   |
|----------|--------------------|-------------------------|--|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|--|------------------------------|-------------------|-------------------|-------------------|-------------------|
|          |                    | W x H x D <sup>a)</sup> |  | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub>   | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub> | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                    | [mm]                    |  | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]   | [mm]                         | [kN]              | [kN]              | [kN]              | [kN]              |
| 944884   | Magnus L 110 x 300 | 110 x 300 x 19          |  | 120                  | 320                  | 120                            | 320                  | 140                                | 320                  | 110  | 19                           | 13,93             | 54,15             | 23,00             | 20,56             |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.

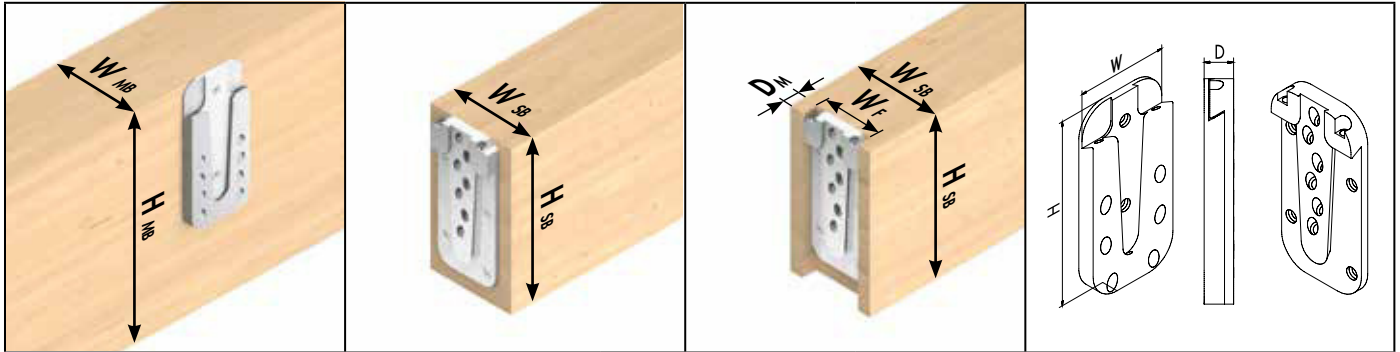
All values are calculated minimum values and are subject to typographical and printing errors.

The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Ed</sub> in terms of the service class and the load duration class: F<sub>Ed</sub>= F<sub>Rk</sub> x k<sub>mod</sub> / γ<sub>M</sub>.

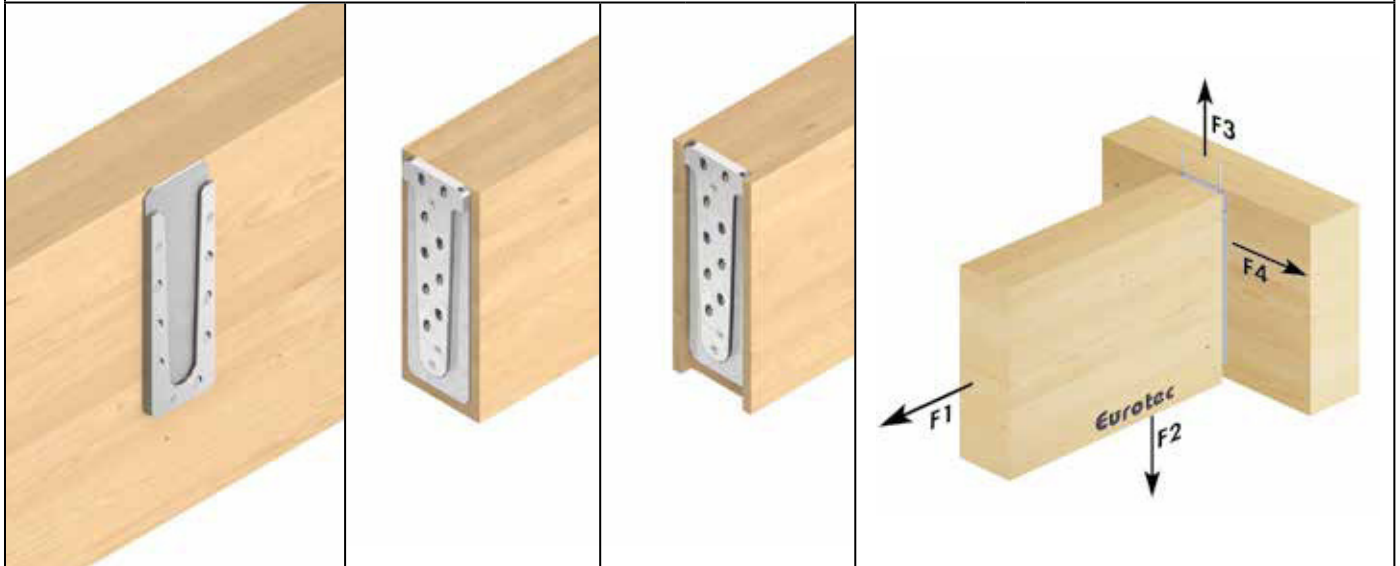
The characteristic load-bearing capacities for the L series were determined using 8 x 120 VG screws. Higher capacities can be achieved with longer screws (however, the minimum cross-sections of the supports also change)

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

# Magnus L 110 x 340



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name               | Dimensions              |   | PU*       | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       | Fixing screws <sup>b)</sup> |                    |   |
|----------|--------------------|-------------------------|---|-----------|-------------------------------------|--------------------|------------------|------------------|-----------------------|-----------------------------|--------------------|---|
|          |                    | W x H x D <sup>a)</sup> |   |           | Dimensions<br>[mm]                  | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                             | Dimensions<br>[mm] | n |
|          |                    | [mm]                    |   |           |                                     |                    | n <sub>90°</sub> | n <sub>45°</sub> | n <sub>90°</sub>      | n <sub>45°</sub>            |                    |   |
| 944887   | Magnus L 110 x 340 | 110 x 340 x 19          | 4 | 8,0 x 120 | 22                                  | 3                  | 7                | 3                | 9                     | 4,8 x 60                    | 2                  |   |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name               | Dimensions              |     | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                              |                   |                   |                   |                   |
|----------|--------------------|-------------------------|-----|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|--|------------------------------|-------------------|-------------------|-------------------|-------------------|
|          |                    | W x H x D <sup>a)</sup> |     | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub>   | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub> | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                    | [mm]                    |     | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]   | [mm]                         | [kN]              | [kN]              | [kN]              | [kN]              |
| 944887   | Magnus L 110 x 340 | 110 x 340 x 19          | 120 | 360                  | 120                  | 360                            | 140                  | 360                                | 110                  | 19   | 13,93                        | 63,18             | 23,00             | 24,67             |                   |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>g</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. 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.

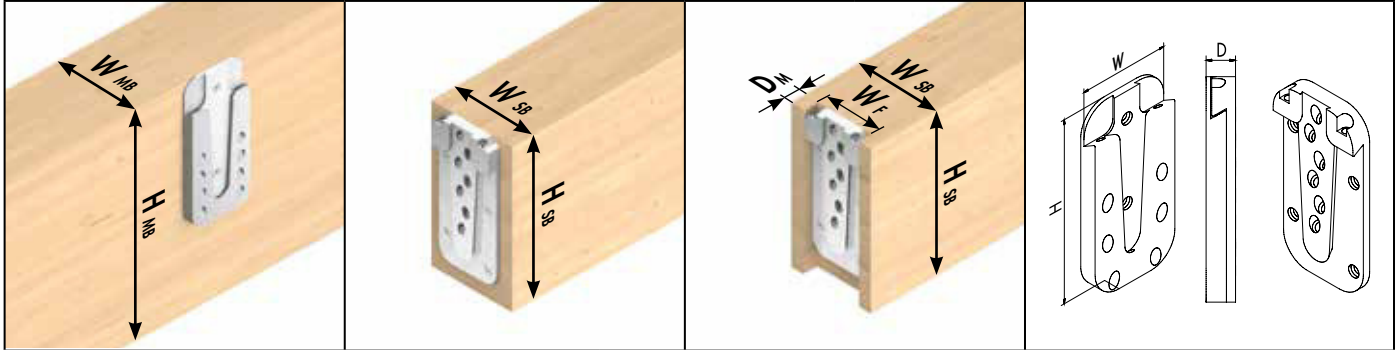
The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Ed</sub> in terms of the service class and the load duration class: F<sub>Ed</sub>= F<sub>Rk</sub> x K<sub>mod</sub> / γ<sub>M</sub>.

The characteristic load-bearing capacities for the L series were determined using 8 x 120 VG screws. Higher capacities can be achieved with longer screws (however, the minimum cross-sections of the supports also change)

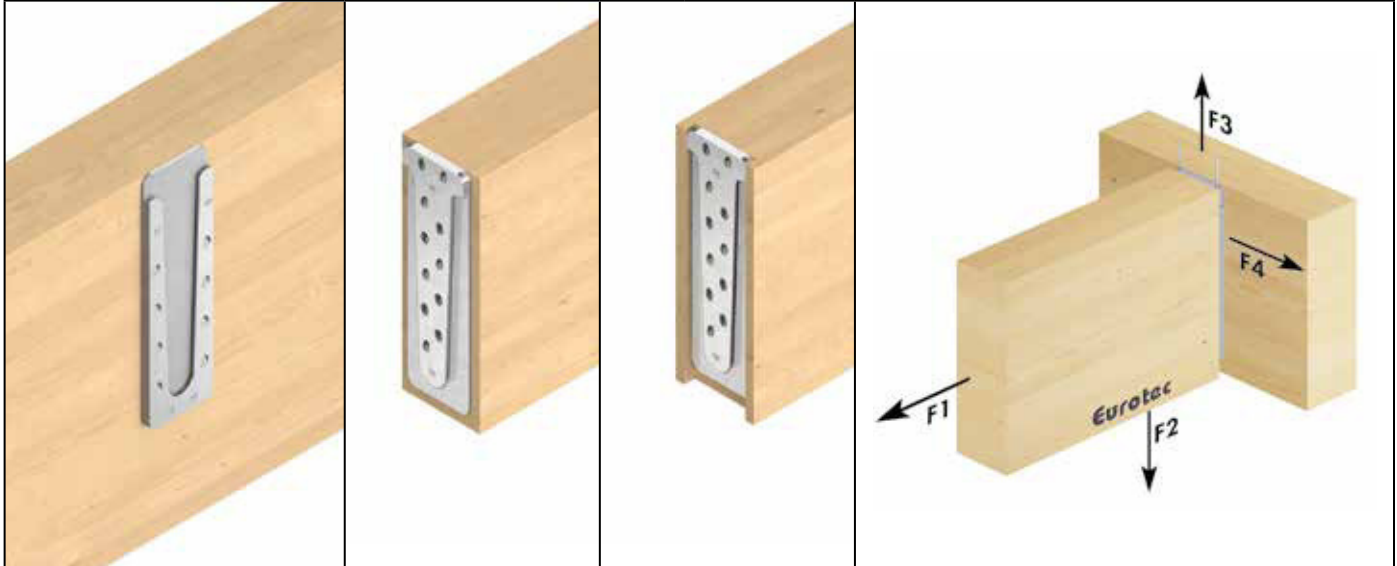
Please note: These are planning aids. Projects must only be calculated by authorised persons.



# Magnus L 110 x 380



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name               | Dimensions              |  | PU* | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       | Fixing screws <sup>b)</sup> |            |   |
|----------|--------------------|-------------------------|--|-----|-------------------------------------|--------------------|------------------|------------------|-----------------------|-----------------------------|------------|---|
|          |                    | W x H x D <sup>a)</sup> |  |     | Dimensions                          | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                             | Dimensions | n |
|          |                    | [mm]                    |  |     |                                     |                    | [mm]             | n <sub>90°</sub> | n <sub>45°</sub>      | n <sub>90°</sub>            |            |   |
| 944888   | Magnus L 110 x 380 | 110 x 380 x 19          |  | 4   | 8,0 x 120                           | 25                 | 4                | 8                | 2                     | 11                          | 4,8 x 60   | 2 |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name               | Dimensions              |  | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                              |                   |                   |                   |                   |
|----------|--------------------|-------------------------|--|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|--|------------------------------|-------------------|-------------------|-------------------|-------------------|
|          |                    | W x H x D <sup>a)</sup> |  | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub>   | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub> | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                    | [mm]                    |  | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]   | [mm]                         | [kN]              | [kN]              | [kN]              | [kN]              |
| 944888   | Magnus L 110 x 380 | 110 x 380 x 19          |  | 120                  | 400                  | 120                            | 400                  | 140                                | 400                  | 110  | 19                           | 9,29              | 72,20             | 23,00             | 26,96             |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.

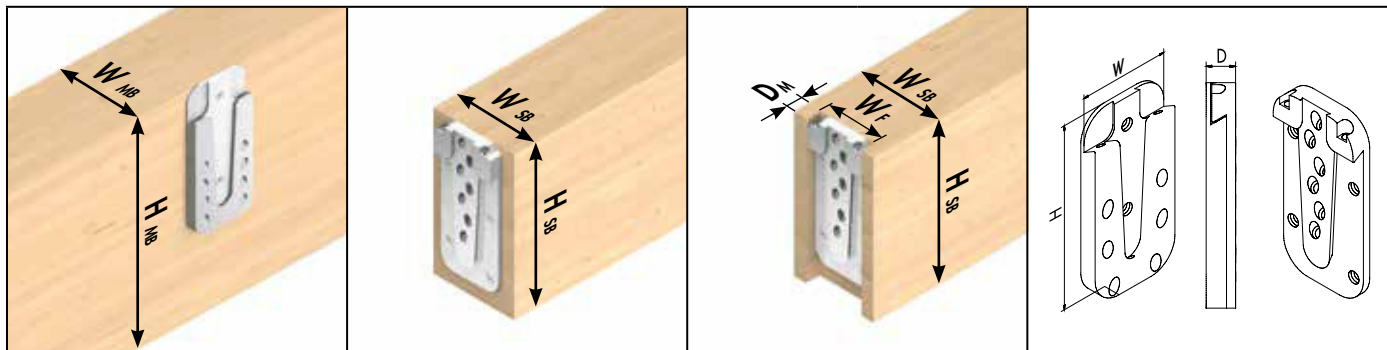
All values are calculated minimum values and are subject to typographical and printing errors.

The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Ed</sub> in terms of the service class and the load duration class: F<sub>Ed</sub>= F<sub>Rk</sub> x k<sub>mod</sub> / γ<sub>M</sub>.

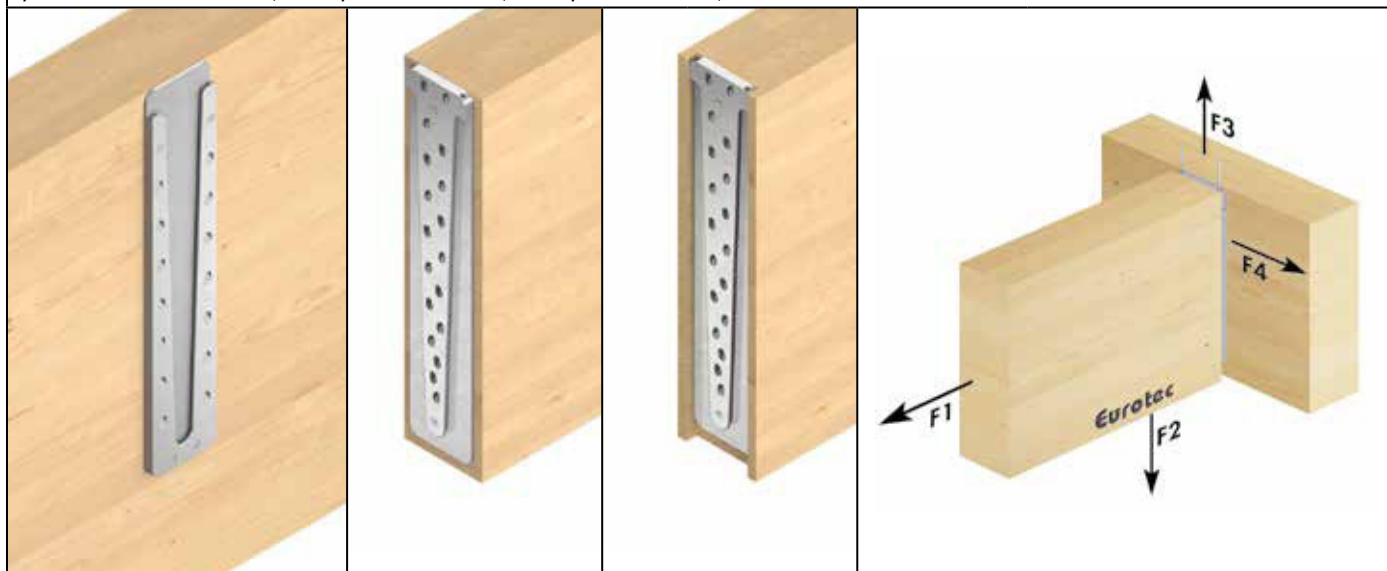
The characteristic load-bearing capacities for the L series were determined using 8 x 120 VG screws. Higher capacities can be achieved with longer screws (however, the minimum cross-sections of the supports also change)

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# Magnus L 110 x 580



Symbolic illustrations: f.l.t.r. Main beam, secondary beam surface-mounted, secondary beam flush-mounted, connector dimensions



| Art. no. | Name               | Dimensions              |   | PU*       | Fully threaded screws <sup>b)</sup> |                    |                  |                  |                       | Fixing screws <sup>b)</sup> |            |   |
|----------|--------------------|-------------------------|---|-----------|-------------------------------------|--------------------|------------------|------------------|-----------------------|-----------------------------|------------|---|
|          |                    | W x H x D <sup>a)</sup> |   |           | Dimensions                          | n <sub>total</sub> | In the main beam |                  | In the secondary beam |                             | Dimensions | n |
|          |                    | [mm]                    |   |           |                                     |                    | [mm]             | n <sub>90°</sub> | n <sub>45°</sub>      | n <sub>90°</sub>            |            |   |
| 944889   | Magnus L 110 x 580 | 110 x 580 x 19          | 4 | 8,0 x 120 | 38                                  | 4                  | 14               | 2                | 18                    | 4,8 x 60                    | 2          |   |

\* 1 connector consists of 2 individual parts

a) D= assembly thickness

b) Included in delivery

| Art. no. | Name               | Dimensions              | Main beam            |                      | Secondary beam surface-mounted |                      | Secondary beam flush-mounted       |                      | characteristic load-bearing capacity F <sub>Rk</sub> <sup>d)</sup> |                              |                   |                   |                   |                   |
|----------|--------------------|-------------------------|----------------------|----------------------|--------------------------------|----------------------|------------------------------------|----------------------|--|------------------------------|-------------------|-------------------|-------------------|-------------------|
|          |                    | W x H x D <sup>a)</sup> | min. W <sub>MB</sub> | min. H <sub>MB</sub> | min. W <sub>SB</sub>           | min. H <sub>SB</sub> | min. W <sub>SB</sub> <sup>b)</sup> | min. H <sub>SB</sub> | W <sub>M</sub>   | D <sub>M</sub> <sup>c)</sup> | F <sub>1,Rk</sub> | F <sub>2,Rk</sub> | F <sub>3,Rk</sub> | F <sub>4,Rk</sub> |
|          |                    | [mm]                    | [mm]                 | [mm]                 | [mm]                           | [mm]                 | [mm]                               | [mm]                 | [mm]   | [mm]                         | [kN]              | [kN]              | [kN]              | [kN]              |
| 944889   | Magnus L 110 x 580 | 110 x 580 x 19          | 120                  | 600                  | 120                            | 600                  | 140                                | 600                  | 110  | 19                           | 9,29              | 126,35            | 23,00             | 43,29             |

a) D= assembly thickness

b) Included in delivery

c) Recommended minimum width of the secondary beam with the connector flush-mounted

d) To make installation easier, it is advantageous to reduce the milling depth slightly, especially for larger wood dimensions.

e) Both beams softwood with a gross density of ρ<sub>k</sub>= 380 kg/m<sup>3</sup>.

The specified characteristic values of the load-bearing capacity F<sub>Rk</sub> apply to the specified timber cross-sections, centred force application along the respective beam axis as well as connector installation flush with the top edge of the main and secondary beams. Calculation according to ETA 15/0761. All mechanical values provided should be viewed as subject to the assumptions that have been made and represent example calculations.

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The characteristic values of the load-bearing capacity F<sub>Rk</sub> should not be treated as equivalent to the max. possible load (the max. force). The characteristic values of the load-bearing capacity F<sub>Rk</sub> should be reduced to the design values F<sub>Ed</sub> in terms of the service class and the load duration class: F<sub>Ed</sub>= F<sub>Rk</sub> X k<sub>mod</sub> / γ<sub>M</sub>.

The characteristic load-bearing capacities for the L series were determined using 8 x 120 VG screws. Higher capacities can be achieved with longer screws (however, the minimum cross-sections of the supports also change)

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