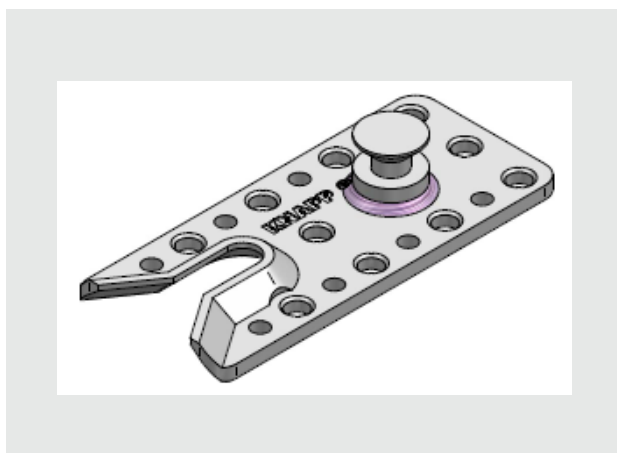


Montageanleitung

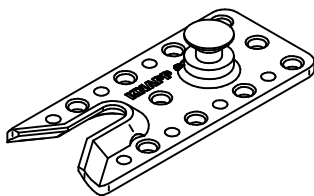
Construction Manual

Notice de montage

VERSION



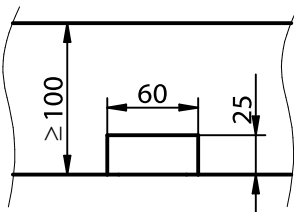
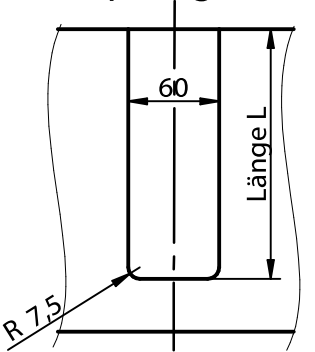
Art.-Nr.



Art.-Nr. K126

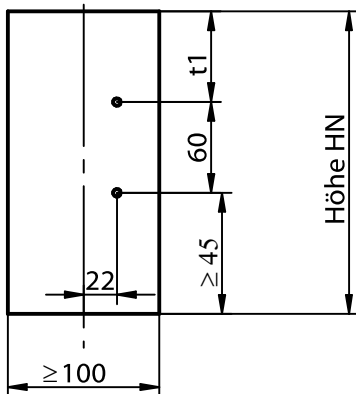
### Ausfräsung im Hauptträger

#### 1. Fräsen im Hauptträger



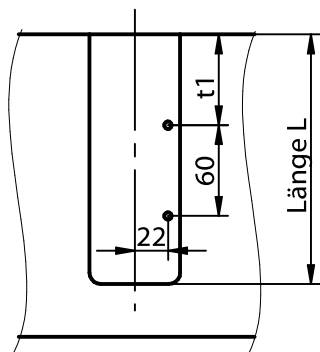
#### 2. Positionierbohrungen

Nebenträger NT



2 Positionierbohrungen Ø 5 mm  
im Hirnholz, Tiefe 50 mm

Hauptträger HT

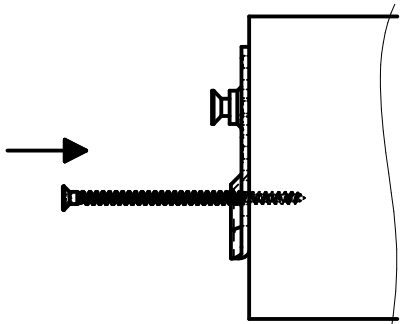


2 Positionierbohrungen Ø 5 mm  
im Längsholz, Tiefe 50 mm

#### 3. Verschrauben

1. Verbinder mit 2 Schrauben  
in Positionierbohrungen  
befestigen

2. Alle weitere selbstbohrende  
Schrauben it. Schraubenbild  
(siehe rechts) eindrehen

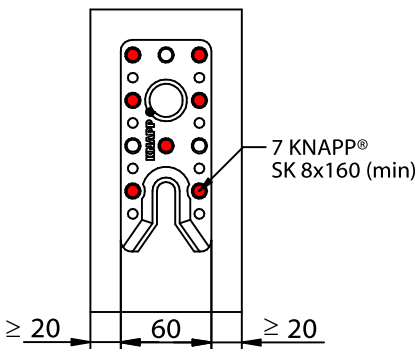
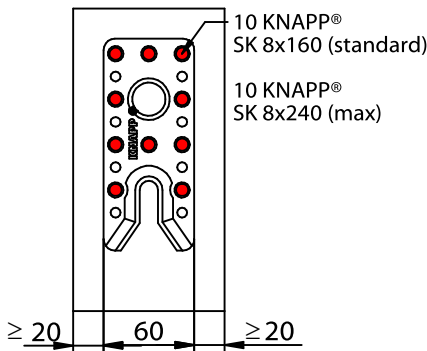


| RICON S Schraube | Bruchdrehmoment<br>M <sub>t,u,k</sub> [Nm] | Anziehdrehmoment<br>[Nm] |
|------------------|--------------------------------------------|--------------------------|
| 8x80             | 30                                         | 22                       |
| 8x160            | 30                                         | 24                       |
| 8x240            | 30                                         | 24                       |

**Hinweis:**  
Schlagbohrer und Impulsschrauber sind  
nach EC5 zum Einschrauben nicht geeignet!

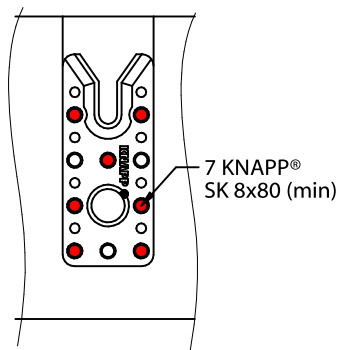
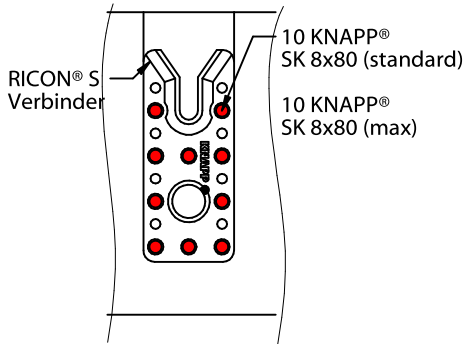
#### Befestigung im Nebenträger NT

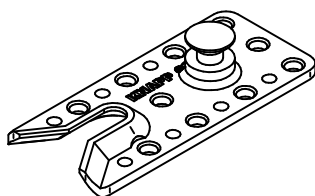
Schraubenanzahl und Positionen:



#### Befestigung im Hauptträger HT

Schraubenanzahl und Positionen:



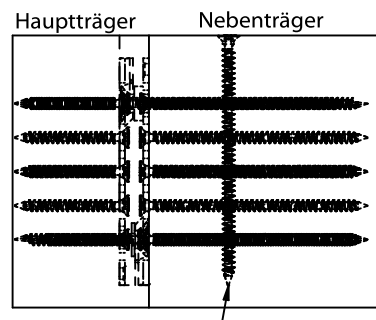


| Einfräslänge L im Hauptträger in Abhängigkeit der Nebenträgerhöhe $H_N$ |                                    |
|-------------------------------------------------------------------------|------------------------------------|
| Nebenträger-<br>höhe $H_N$                                              | RICON® S 140x60                    |
|                                                                         | Länge L ohne<br>Querzugverstärkung |
| [mm]                                                                    | [mm]                               |
| 160                                                                     | 155                                |
| 180                                                                     | 170                                |
| 200                                                                     | 180                                |
| 220                                                                     | 200                                |
| 240                                                                     | 210                                |
| 260                                                                     | -                                  |
| 280                                                                     | -                                  |
| 300                                                                     | -                                  |
| 320                                                                     | -                                  |
| 360                                                                     | -                                  |

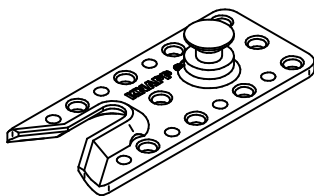
| Randabstand der Positionierbohrungen $t_1$ im Haupt- und Nebenträger in Abhängigkeit der<br>Nebenträgerhöhe $H_N$ |                                  |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Nebenträger-<br>höhe $H_N$                                                                                        | RICON S 140x60                   |
|                                                                                                                   | Randabstand $t_1$ im Nebenträger |
| [mm]                                                                                                              | Abstand $t_1$                    |
| [mm]                                                                                                              | [mm]                             |
| 160                                                                                                               | 55                               |
| 180                                                                                                               | 70                               |
| 200                                                                                                               | 80                               |
| 220                                                                                                               | 100                              |
| 240                                                                                                               | 110                              |
| 260                                                                                                               | -                                |
| 280                                                                                                               | -                                |
| 300                                                                                                               | -                                |
| 320                                                                                                               | -                                |
| 360                                                                                                               | -                                |

## Wichtiger Hinweis:

Sollten geringere Nebenträgerhöhen verwendet werden, muss vom Statiker ein Querzugnachweis durchgeführt werden. Der Querschnitt kann mit Vollgewindeschrauben querzugverstärkt werden, die vom Statiker zu bemessen sind ( EN 1995-1-1, NAD) !



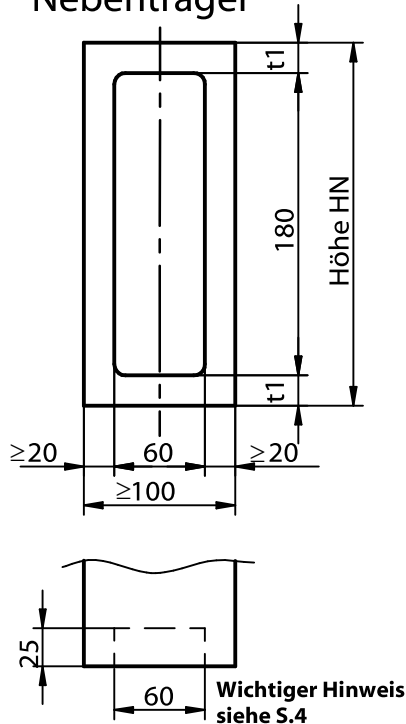
Selbstbohrende Vollgewindeschrauben zur Querzugverstärkung des Nebenträgers



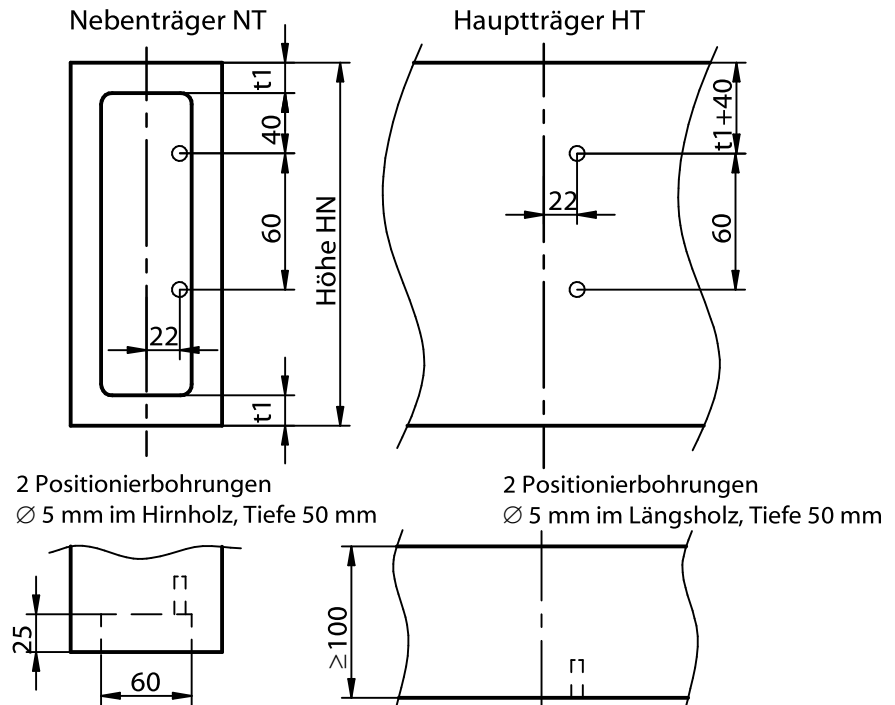
Art.-Nr. K126

Alternativ: Ausfräsung im Nebenträger

#### 1. Fräsen im Nebenträger

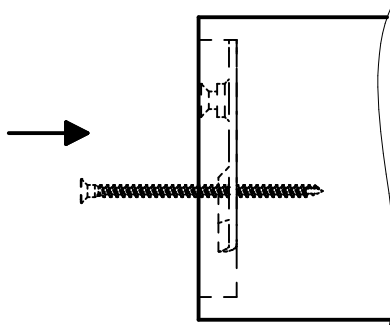


#### 2. Positionierbohrungen



#### 3. Verschrauben

1. Verbinder mit 2 Schrauben in Positionierbohrungen befestigen
2. Alle weitere selbstbohrende Schrauben it. Schraubenbild (siehe rechts) eindrehen

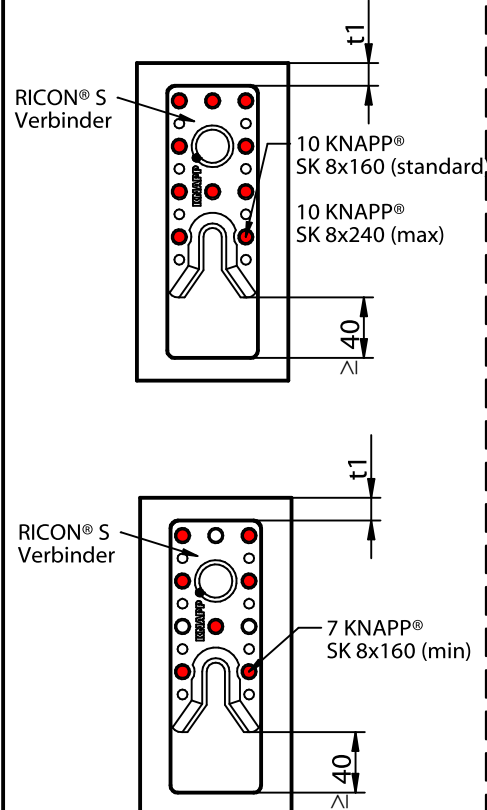


| RICON S Schraube | Bruchdrehmoment<br>M <sub>t,u,k</sub> [Nm] | Anziehdrehmoment<br>[Nm] |
|------------------|--------------------------------------------|--------------------------|
| 8x80             | 30                                         | 22                       |
| 8x160            | 30                                         | 24                       |
| 8x240            | 30                                         | 24                       |

Hinweis:  
Schlagbohrer und Impulsschrauber sind nach EC5 zum Einschrauben nicht geeignet!

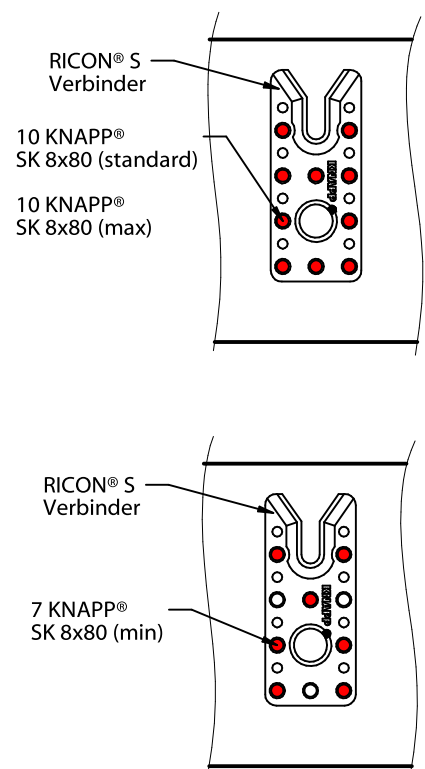
#### Befestigung im Nebenträger NT

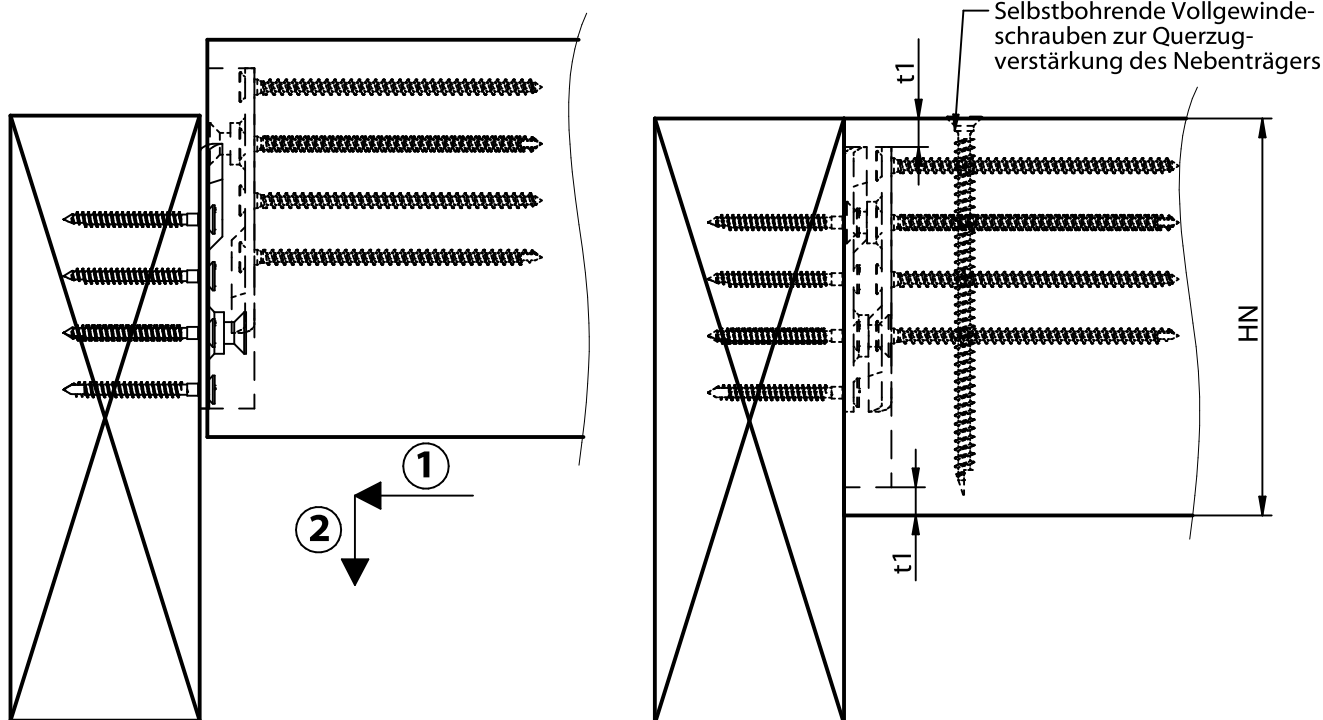
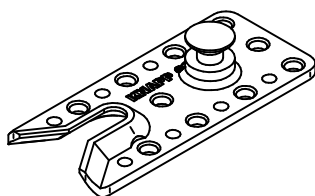
Schraubenanzahl und Positionen:



#### Befestigung im Hauptträger HT

Schraubenanzahl und Positionen:





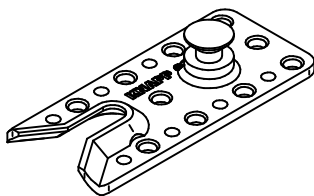
### Wichtiger Hinweise:

Bei der Montage des Nebenträgers zwischen zwei fixierten Hauptträgern oder Stützen muss die Ausfräsung nach unten durchgefräst werden um den Träger einhängen zu können.

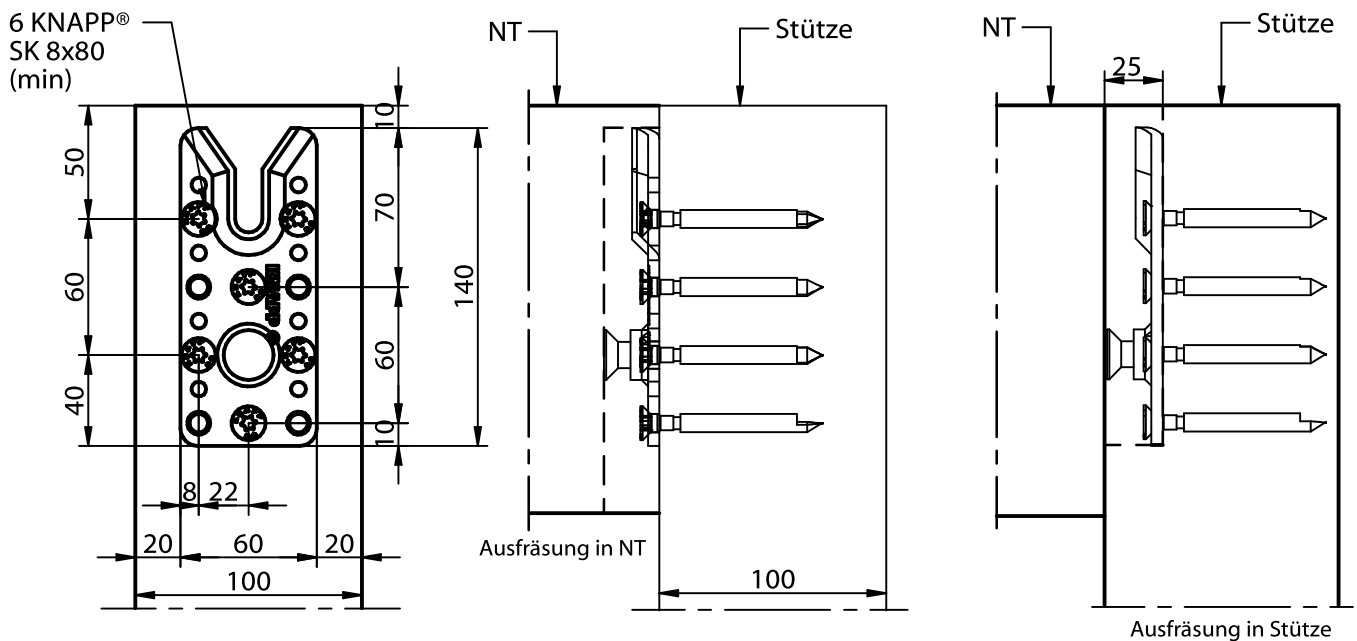
| Nebenträger-<br>höhe | Randabstand t1 in Abhängigkeit der Nebenträgerhöhe $H_N$ |
|----------------------|----------------------------------------------------------|
| $H_N$                | RICON S 140x60                                           |
| [mm]                 | Abstand t1                                               |
|                      | [mm]                                                     |
| 200                  | 10                                                       |
| 220                  | 20                                                       |
| 240                  | 30                                                       |
| 260                  | -                                                        |
| 280                  | -                                                        |
| 300                  | -                                                        |
| 320                  | -                                                        |
| 340                  | -                                                        |
| 360                  | -                                                        |

### Wichtiger Hinweis:

Sollten geringere Nebenträgerhöhen verwendet werden, muss vom Statiker ein Querkzugnachweis durchgeführt werden. Der Querschnitt kann mit Vollgewindeschrauben querkzugverstärkt werden, die vom Statiker zu bemessen sind (EN 1995-1-1, NAD) !



#### Schraubenanzahl und Positionen (min. Verschraubung)

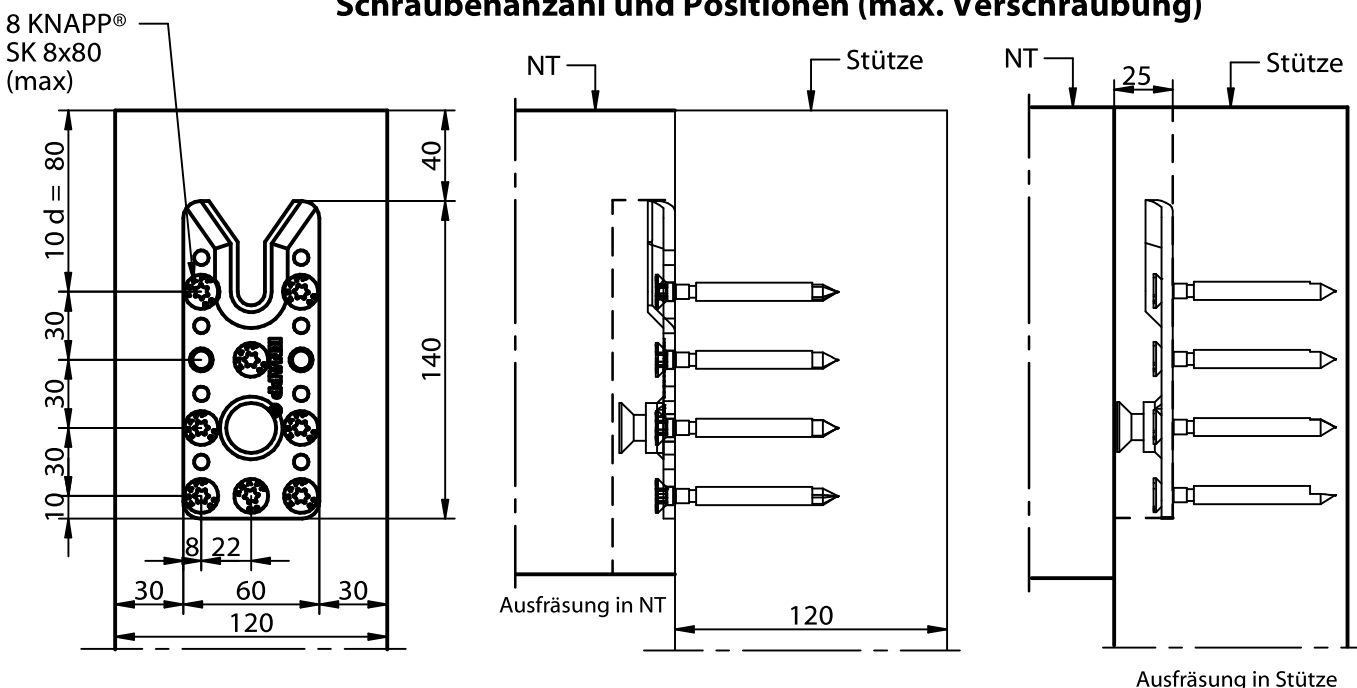


#### Mindestquerschnitt für Min.- Stützenverschraubung

Mindestquerschnitte gelten für Brettschichtholz.

Im Nadelvollholz müssen die 8x80 mm Schrauben mit d=5 mm auf ganze Länge vorgebohrt werden!

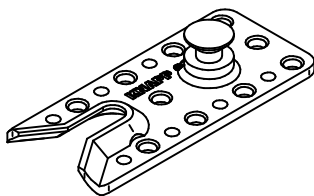
#### Schraubenanzahl und Positionen (max. Verschraubung)



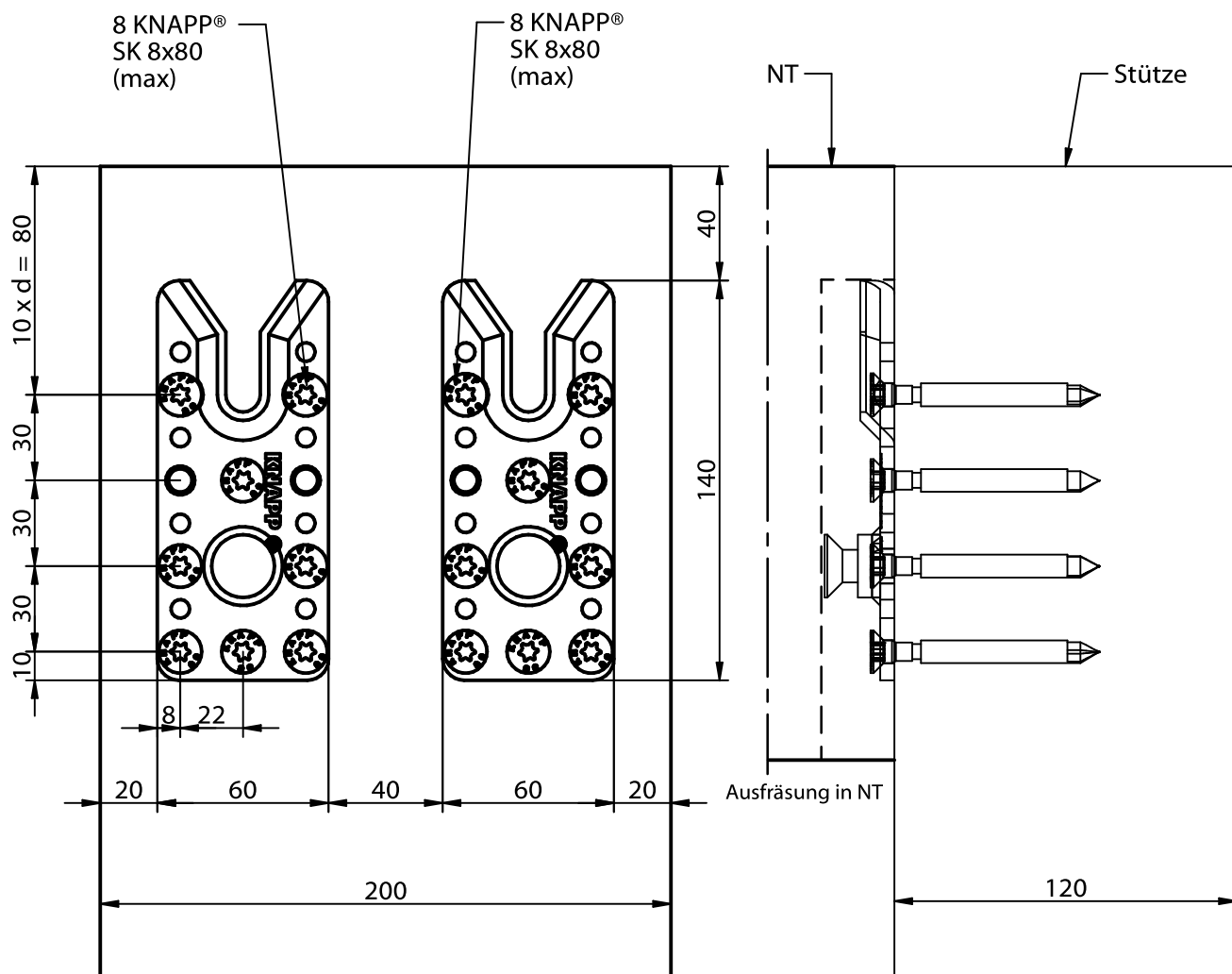
#### Mindestquerschnitt für Max.- Stützenverschraubung

Mindestquerschnitte gelten für Brettschichtholz.

Im Nadelvollholz müssen die 8x80 mm Schrauben mit d=5 mm auf ganze Länge vorgebohrt werden!



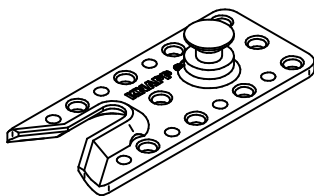
#### Schraubenanzahl und Positionen (max. Verschraubung)



#### Mindestquerschnitt für 2 RICON S 140x60 VS Stützenanschluss nebeneinander

Mindestquerschnitte gelten für Brettschichtholz.

Im Nadelvollholz müssen die 8x80 mm Schrauben mit d=5 mm auf ganze Länge vorgebohrt werden!



# Assembly instructions

## RICON® S 140/60 VS

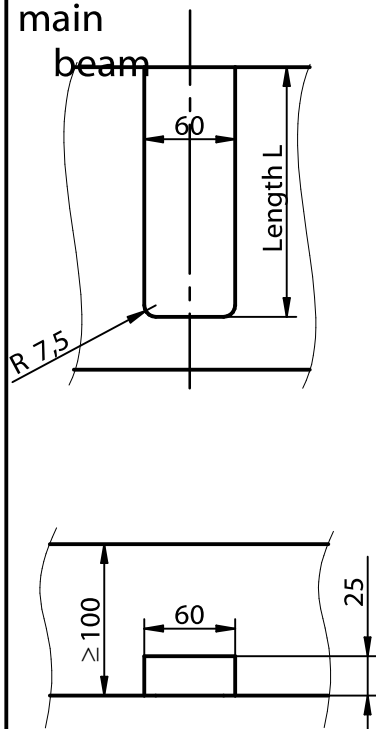
Welded collar bolt

### Milling the main beam

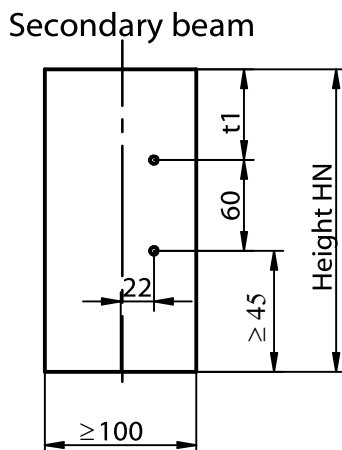


Art.-No. K126

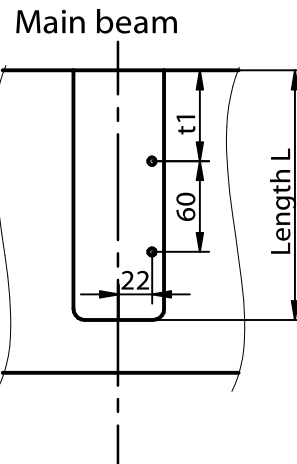
#### 1. Milling pattern main beam



#### 2. Pre drilling centered installation of connector



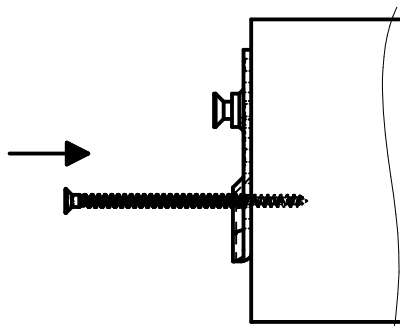
2 x holes  $\varnothing$  5,  
depth 50 mm



2 x holes  $\varnothing$  5,  
depth 50 mm

#### 3. Screw connection:

1. Fasten the connector using pre drilled positioning holes for 2 screws.
2. Screw in all other self-taping screws according to the screw pattern (see right).

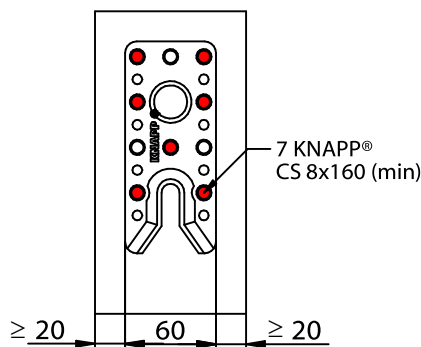
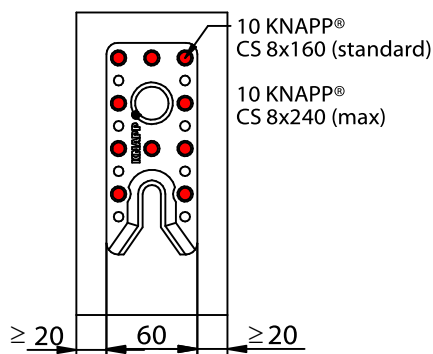


| RICON S Screw | Breaking Torque<br>M <sub>t,w,k</sub> [Nm] | tightening torque<br>[Nm] |
|---------------|--------------------------------------------|---------------------------|
| 8x80          | 30                                         | 22                        |
| 8x160         | 30                                         | 24                        |
| 8x240         | 30                                         | 24                        |

**Note:**  
Impact drills and impulse screwdrivers are not suitable for fastening screws according to EC5!

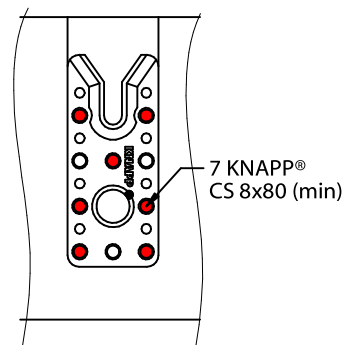
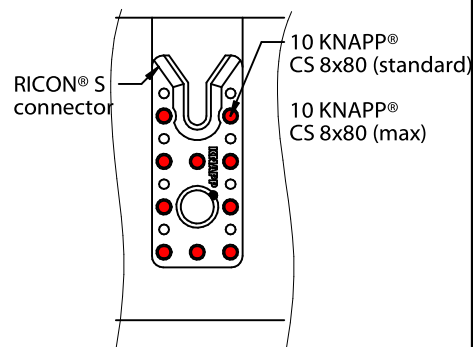
#### Screw pattern secondary beam

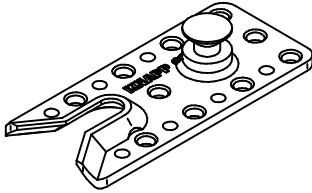
Number and position of screws :



#### Screw pattern main beam

Number and position of screws :





# Assembly instructions RICON® S 140/60 VS

Welded collar bolt  
Milling the main beam



Art.-No. K126

Milling length L in the main beam depending on the secondary beam height  $H_N$

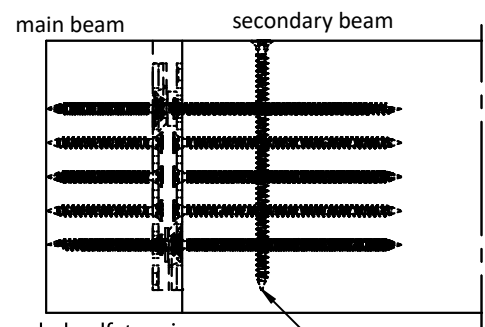
| Secondary beam height $H_N$ | RICON® S 140x60                      |  |
|-----------------------------|--------------------------------------|--|
|                             | Length L without shear reinforcement |  |
| [mm]                        | [mm]                                 |  |
| 160                         | 155                                  |  |
| 180                         | 170                                  |  |
| 200                         | 180                                  |  |
| 220                         | 200                                  |  |
| 240                         | 210                                  |  |
| 260                         | -                                    |  |
| 280                         | -                                    |  |
| 300                         | -                                    |  |
| 320                         | -                                    |  |
| 360                         | -                                    |  |

Edge distance of the positioning holes  $t_1$  in the main and secondary beam depending on the secondary beam height  $H_N$

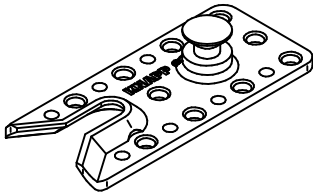
| Secondary beam height $H_N$ | RICON S 140x60                    |  |
|-----------------------------|-----------------------------------|--|
|                             | Distance $t_1$ for secondary beam |  |
|                             | Distance $t_1$                    |  |
| [mm]                        | [mm]                              |  |
| 160                         | 55                                |  |
| 180                         | 70                                |  |
| 200                         | 80                                |  |
| 220                         | 100                               |  |
| 240                         | 110                               |  |
| 260                         | -                                 |  |
| 280                         | -                                 |  |
| 300                         | -                                 |  |
| 320                         | -                                 |  |
| 360                         | -                                 |  |

## Important Note:

If lower secondary beam heights are used, a shear force verification must be carried out. The cross-section can be reinforced for shear force with fully-threaded screws. The shear force reinforcement has to be verified by a structural engineer (EN 1995-1-1, NAD)!



Fully treaded, self-tapping screw for shear reinforcement of the connection



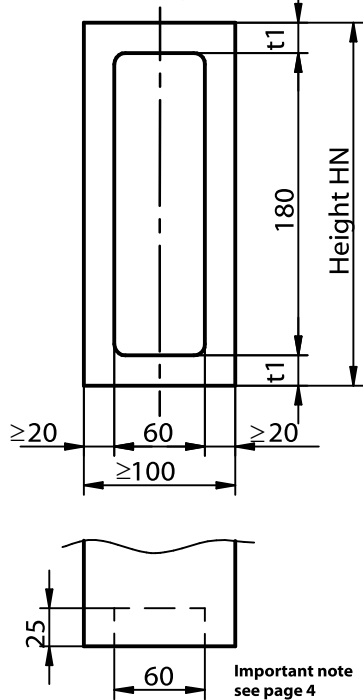
# Assembly instructions RICON® S 140/60 VS

Welded collar bolt  
Milling the secondary beam

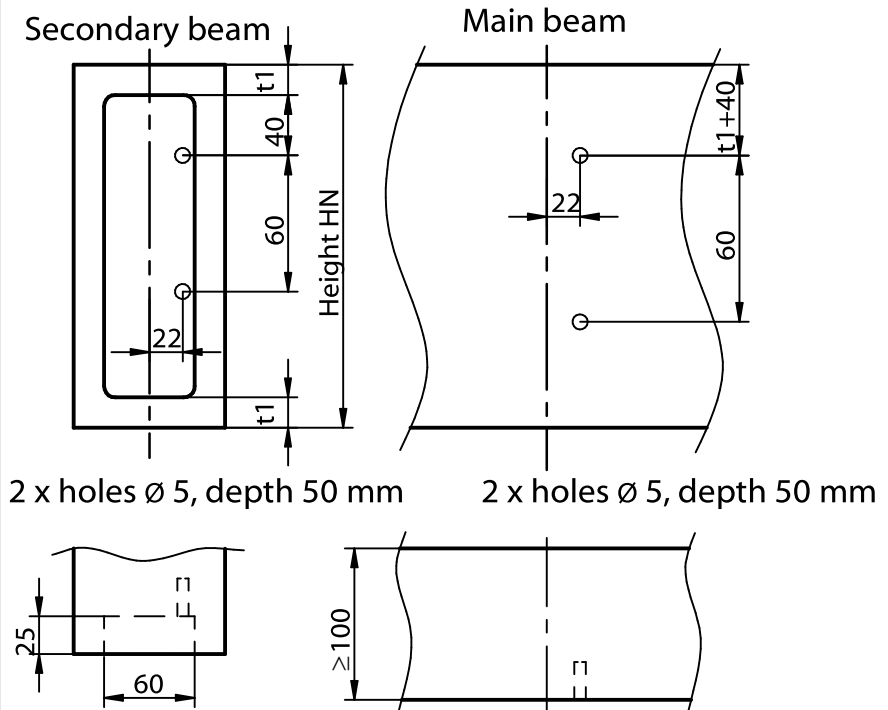
CE  
ETA-10/0189

Art.-No. K126

## 1. Milling pattern secondary beam

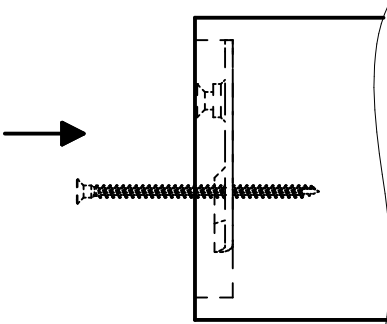


## 2. Pre drilling centered installation of connector



## 3. Screw connection:

1. Fasten the connector using pre drilled positioning holes for 2 screws.
2. Screw in all other self-tapping screws according to the screw pattern (see right).

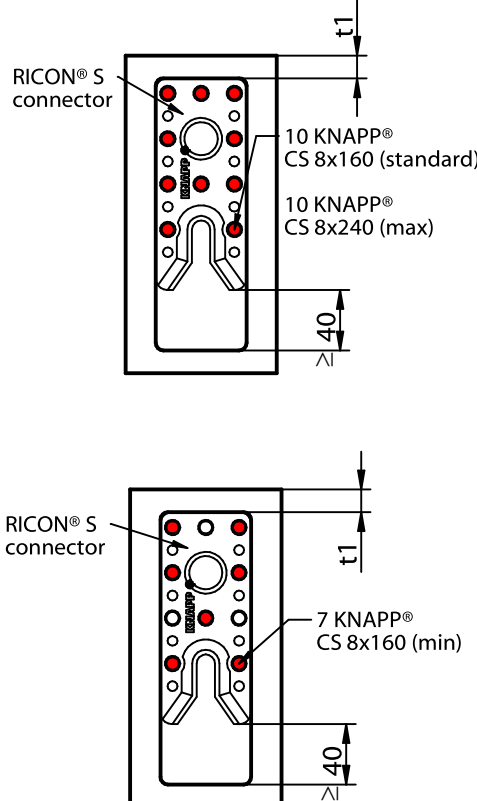


| RICON S Screw | Breaking Torque<br>Mtu,k [ Nm] | tightening torque<br>[ Nm] |
|---------------|--------------------------------|----------------------------|
| 8x80          | 30                             | 22                         |
| 8x160         | 30                             | 24                         |
| 8x240         | 30                             | 24                         |

**Note:**  
Impact drills and impulse screwdrivers are not suitable for fastening screws according to EC5!

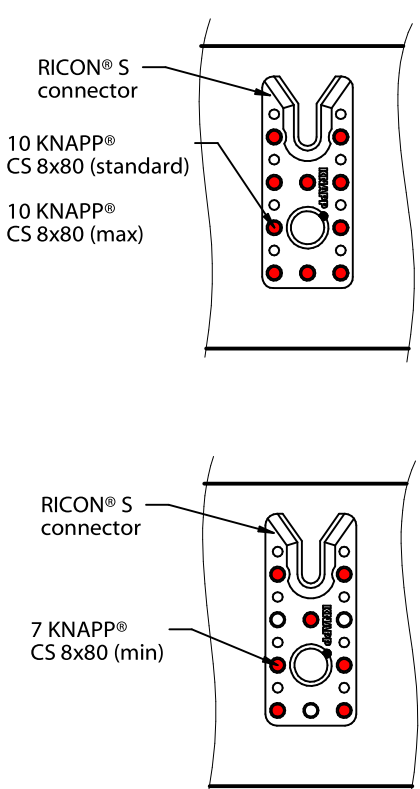
### Screw pattern secondary beam

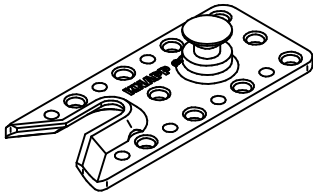
Number and position of screws :



### Screw pattern main beam

Number and position of screws :





# Assembly instructions

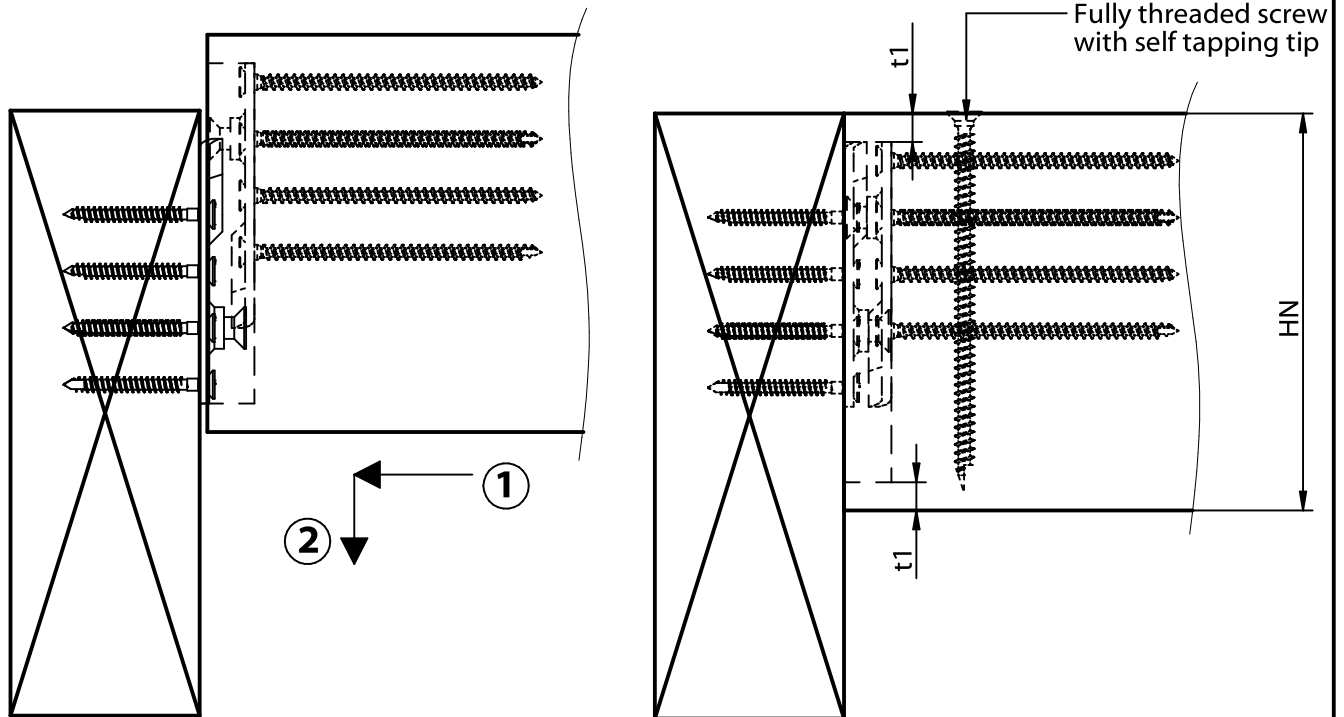
## RICON® S 140/60 VS

Welded collar bolt

### Milling the secondary beam



Art.-No. K126



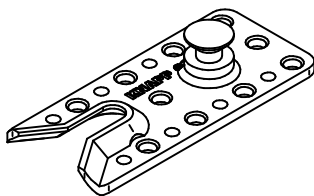
#### Important NOTE:

When assembling the secondary beam between two main beams or posts, the recess must be milled through on the lower side of the beam in order to be able to hang the beam.

| Secondary beam height<br>$H_N$<br>[mm] | Distance $t_1$ with respect to secondary beam height $H_N$ |
|----------------------------------------|------------------------------------------------------------|
|                                        | RICON® S 140x60                                            |
|                                        | Distance $t_1$<br>[mm]                                     |
| 200                                    | 10                                                         |
| 220                                    | 20                                                         |
| 240                                    | 30                                                         |
| 260                                    | -                                                          |
| 280                                    | -                                                          |
| 300                                    | -                                                          |
| 320                                    | -                                                          |
| 340                                    | -                                                          |
| 360                                    | -                                                          |

#### Important NOTE:

If lower secondary beam heights are used, a shear force verification must be carried out. The cross-section can be reinforced for shear force with fully- threaded screws. The shear force reinforcement has to be verified by a structural engineer (EN 1995-1-1, NAD)!



# Assembly instructions **RICON® S 140/60 VS**

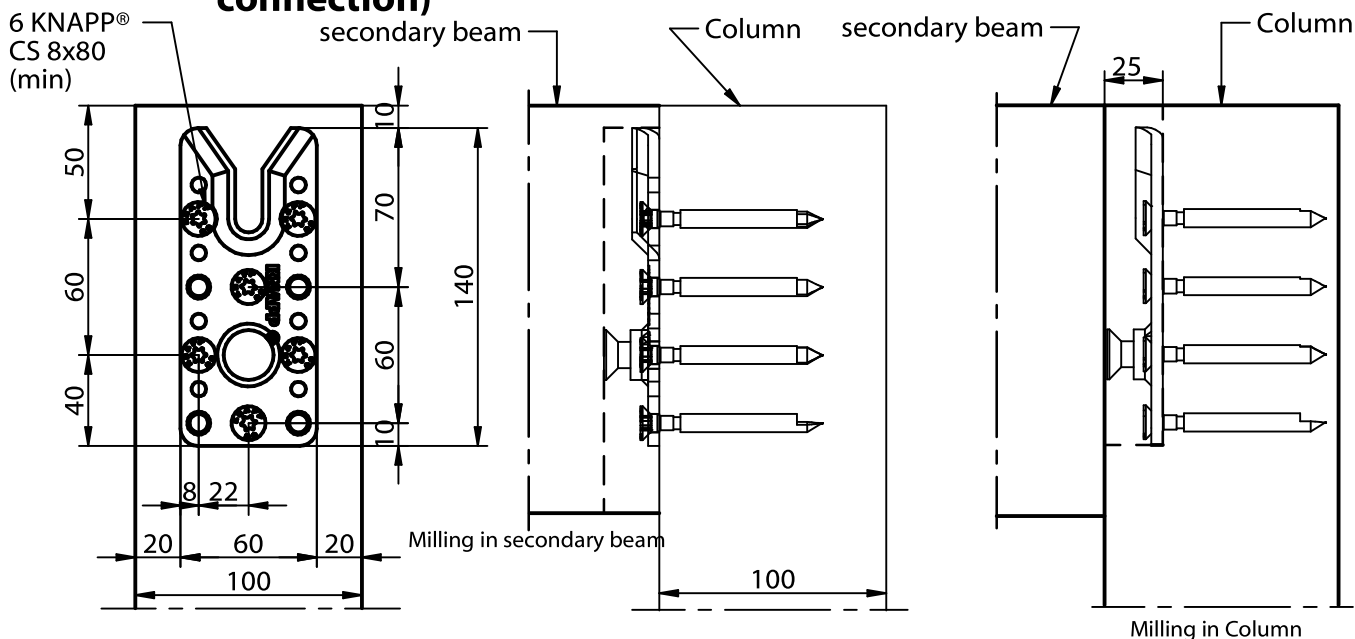
Welded collar bolt

CE  
ETA-10/0189

Art.-No. K126

Column connection

## Number of screws and position ( min . screw connection)

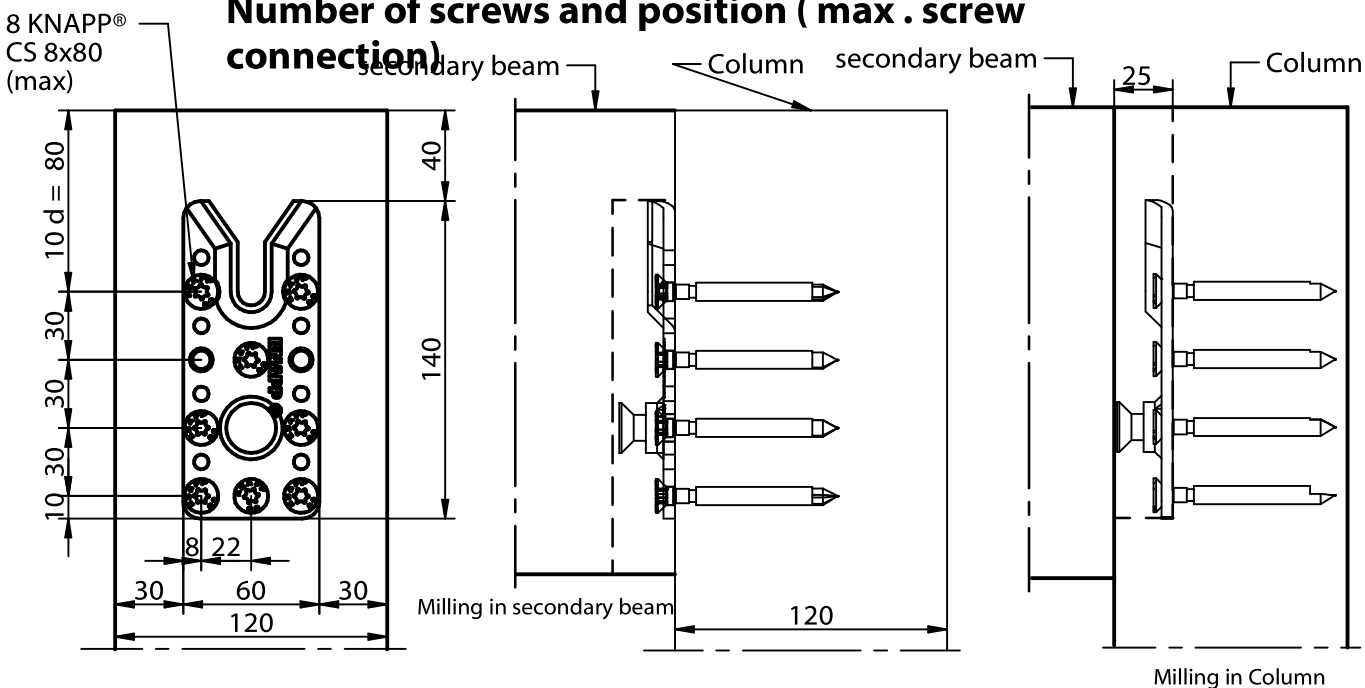


Minimum cross section for min. column screw connection

Minimum cross-sections apply to glulam.

In solid softwood, the 8x80 mm screws with diameter 5 mm must be pre-drilled over their full length!

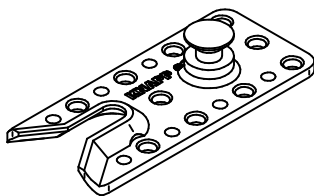
## Number of screws and position ( max . screw connection)



Minimum cross section for max. column screw connection

Minimum cross-sections apply to glulam.

In solid softwood, the 8x80 mm screws with diameter 5 mm must be pre-drilled over their full length!



# Assembly instructions **RICON® S 140/60 VS**

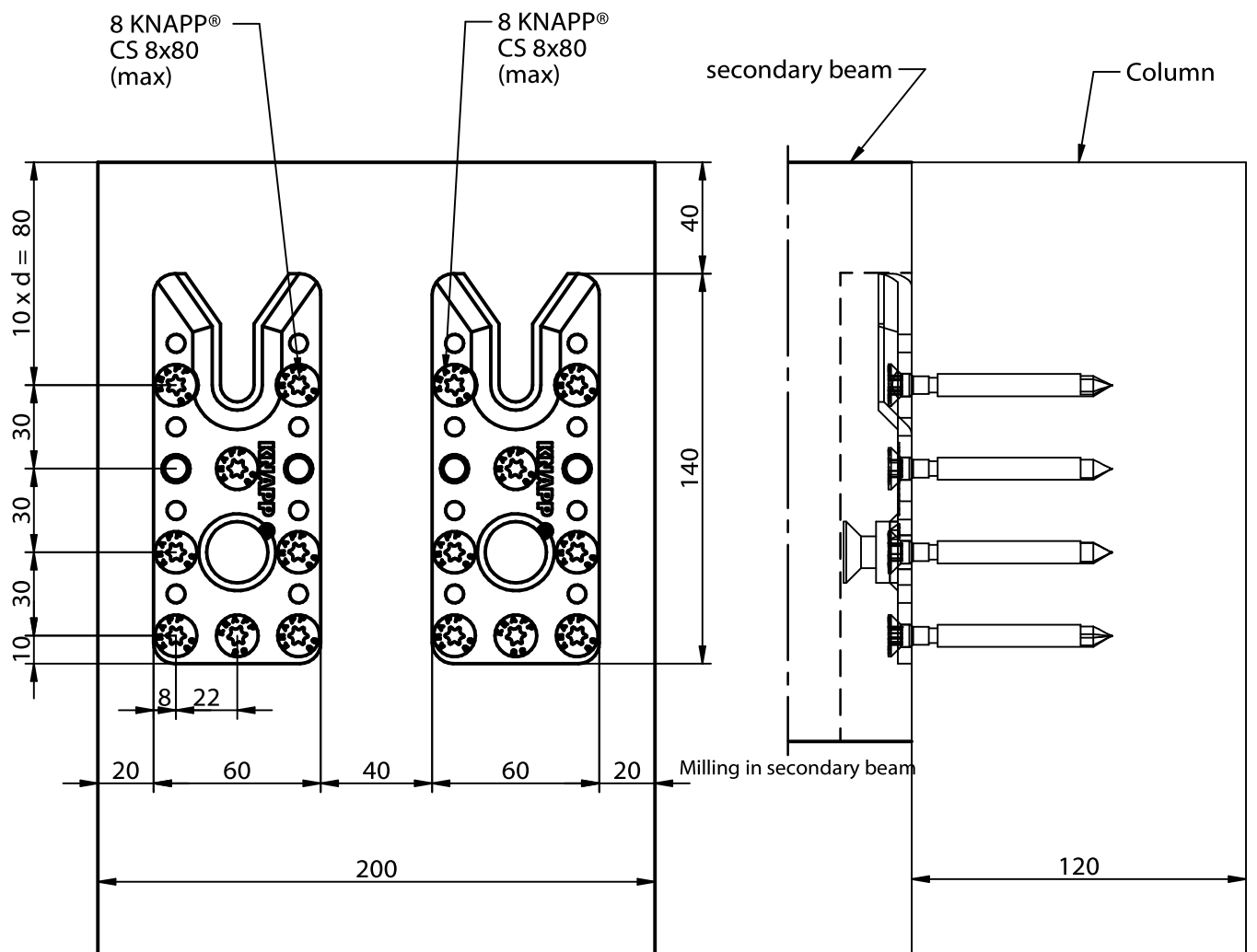
Welded collar bolt

**CE**  
ETA-10/0189

**Art.-No. K126**

Column connection

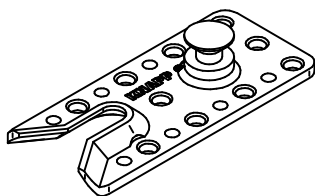
## Number of screws and position ( max . screw connection)



Minimum cross section for column connection 2 RICON S 140x60 VS side by side

Minimum cross-sections apply to glulam.

In solid softwood, the 8x80 mm screws with diameter 5 mm must be pre-drilled over their full length!



# Notice de montage RICON® S 140/60 VS

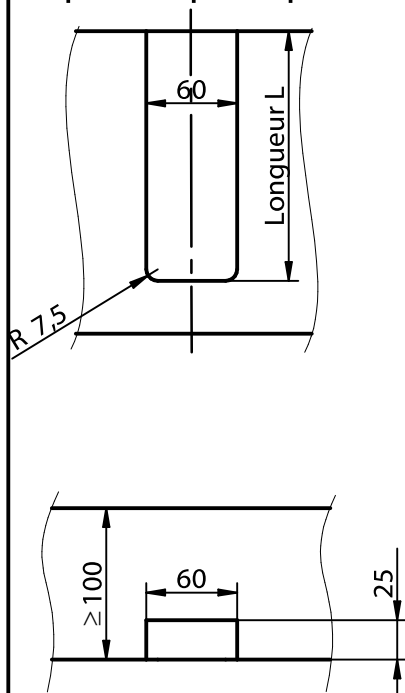
Goujon d'accroche soudé



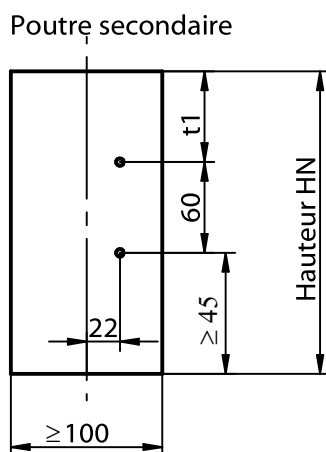
Réf. K126

## Encastrement sur la poutre principale

### 1. Fraiser la poutre principale

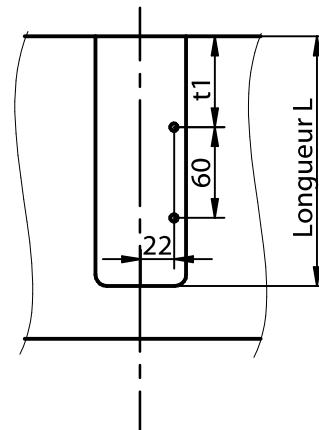


### 2. Percer



2 perçages de position Ø 5 mm en bout de poutre, profondeur 50 mm

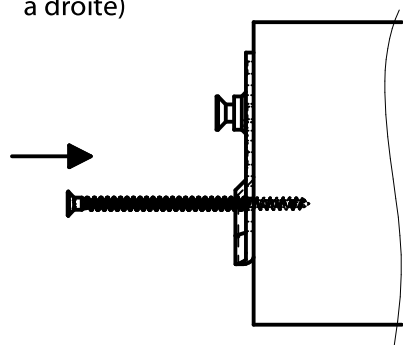
Poutre principale



2 perçages de position Ø 5 mm sur la face de la poutre, profondeur 50 mm

### 3. Visser

1. Visser la ferrure sur les perçages de position
2. Visser le reste des vis suivant le schéma (cf. dessins à droite)



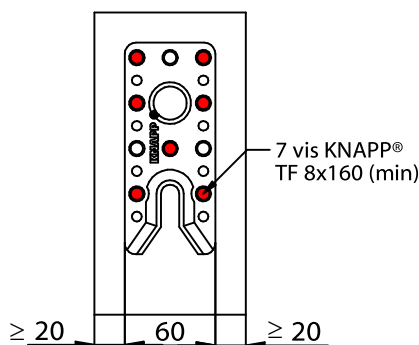
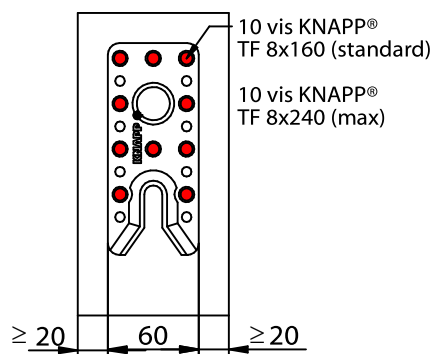
| Vis RICON S | Couple de rupture<br>Mtu,k [ Nm] | Couple de serrage<br>[ Nm] |
|-------------|----------------------------------|----------------------------|
| 8x80        | 30                               | 22                         |
| 8x160       | 30                               | 24                         |
| 8x240       | 30                               | 24                         |

#### Remarque :

D'après l'EC5, les visseuses à chocs ou à impulsions ne sont pas appropriées pour le vissage !

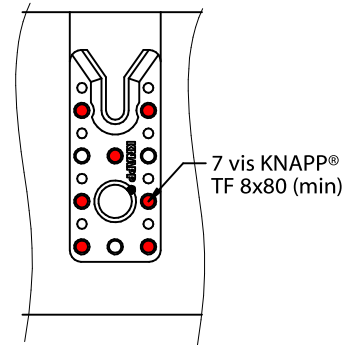
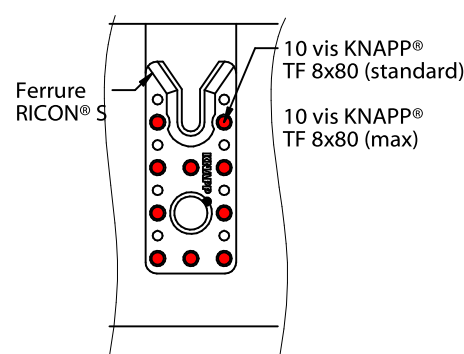
#### Fixation sur la poutre secondaire (PS)

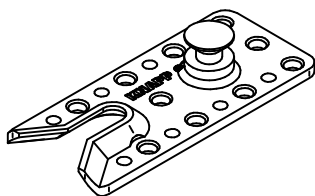
Nombre et position de vis :



#### Fixation sur la poutre principale (PP)

Nombre et position de vis :





# Notice de montage RICON® S 140/60 VS

Goujon d'accroche soudé



Réf. K126

**Encastrement sur la poutre principale**

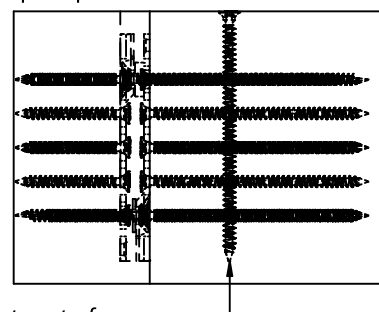
| Longueur de fraisage L sur la poutre principale |                                                  |
|-------------------------------------------------|--------------------------------------------------|
| Hauteur de poutre secondaire $H_N$              | RICON® S 140x60                                  |
|                                                 | Longueur L sans renfort de traction transversale |
| [mm]                                            | [mm]                                             |
| 160                                             | 155                                              |
| 180                                             | 170                                              |
| 200                                             | 180                                              |
| 220                                             | 200                                              |
| 240                                             | 210                                              |
| 260                                             | -                                                |
| 280                                             | -                                                |
| 300                                             | -                                                |
| 320                                             | -                                                |
| 360                                             | -                                                |

| Position de perçage $t_1$ sur la poutre principale et secondaire en relation avec la hauteur de poutre secondaire $H_N$ |                                                    |
|-------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|
| Hauteur de poutre secondaire $H_N$                                                                                      | RICON S 140x60                                     |
|                                                                                                                         | Position de perçage $t_1$ sur la poutre secondaire |
| [mm]                                                                                                                    | Distance $t_1$                                     |
|                                                                                                                         | [mm]                                               |
| 160                                                                                                                     | 55                                                 |
| 180                                                                                                                     | 70                                                 |
| 200                                                                                                                     | 80                                                 |
| 220                                                                                                                     | 100                                                |
| 240                                                                                                                     | 110                                                |
| 260                                                                                                                     | -                                                  |
| 280                                                                                                                     | -                                                  |
| 300                                                                                                                     | -                                                  |
| 320                                                                                                                     | -                                                  |
| 360                                                                                                                     | -                                                  |

## Remarque importante :

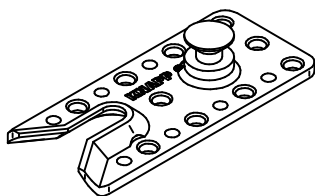
Faire contrôler par un B.E. compétant dans le cas où la hauteur de la poutre secondaire et plus faible qu'indiquée ci-dessus. Une section plus faible peut être renforcée par des vis de renfort transversales. (EN 1995-1-1, NAD)

Poutre principale Poutre secondaire



Vis à filetage total avec pointe auto-forreuse  
Pour le renfort tranchant des poutres secondaires





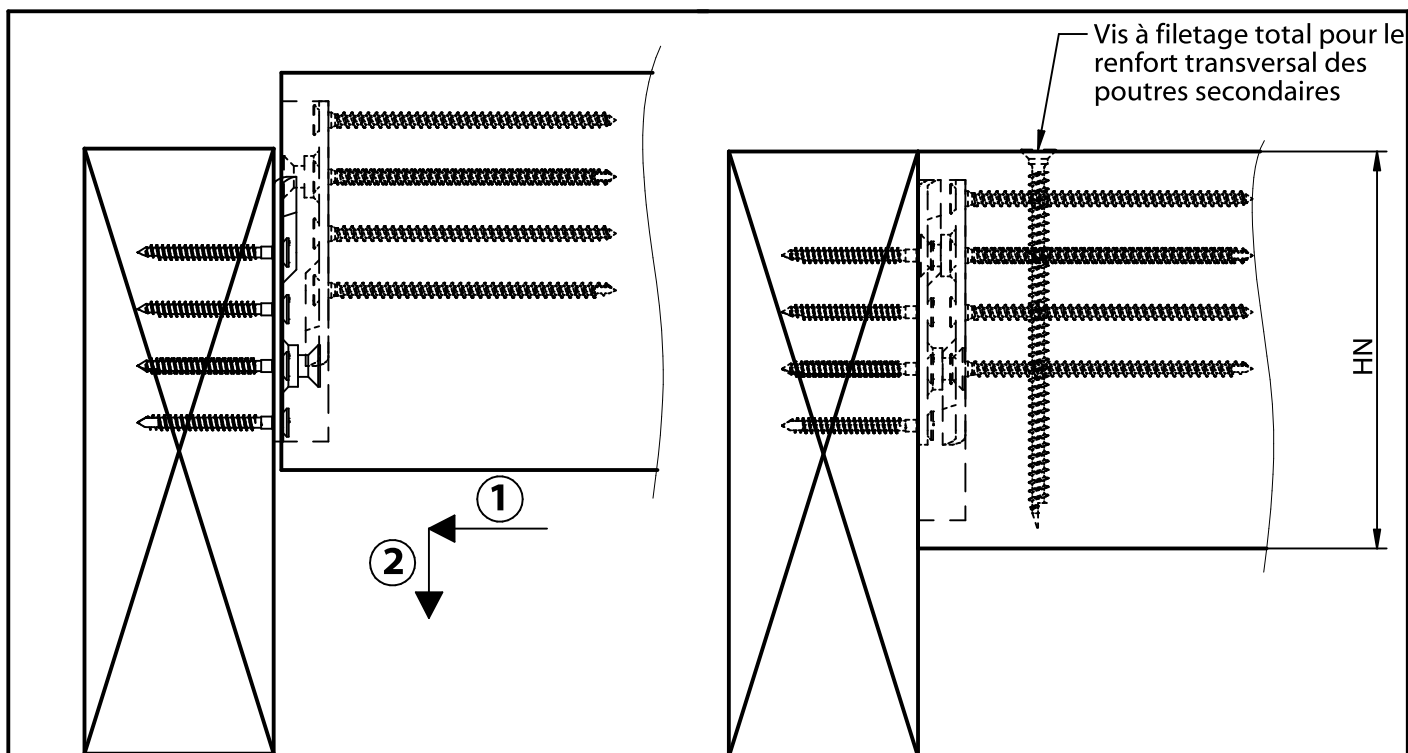
# Notice de montage RICON® S 140/60 VS

Goujon d'accroche soudé



Réf. K126

Variante: Encastrement sur la poutre secondaire



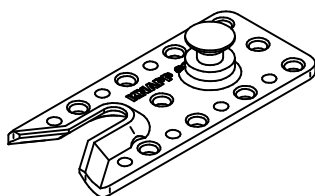
## Remarque importante :

Lors de montage de poutres secondaires entre 2 poutres principales ou 2 poteaux, il est nécessaire de réaliser les usinages débouchants par-dessous pour permettre l'emboîtement.

| Hauteur de poutre secondaire | Distance du bord $t_1$ en relation avec la hauteur de la poutre secondaire $H_N$ |
|------------------------------|----------------------------------------------------------------------------------|
|                              | RICON® S 140x60                                                                  |
| $H_N$                        | Distance $t_1$                                                                   |
| [mm]                         | [mm]                                                                             |
| 200                          | 10                                                                               |
| 220                          | 20                                                                               |
| 240                          | 30                                                                               |
| 260                          | -                                                                                |
| 280                          | -                                                                                |
| 300                          | -                                                                                |
| 320                          | -                                                                                |
| 340                          | -                                                                                |
| 360                          | -                                                                                |

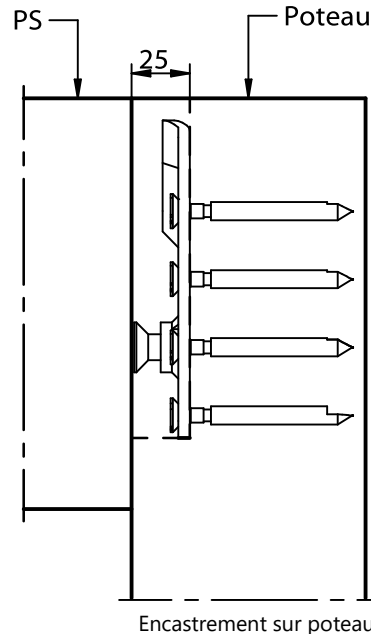
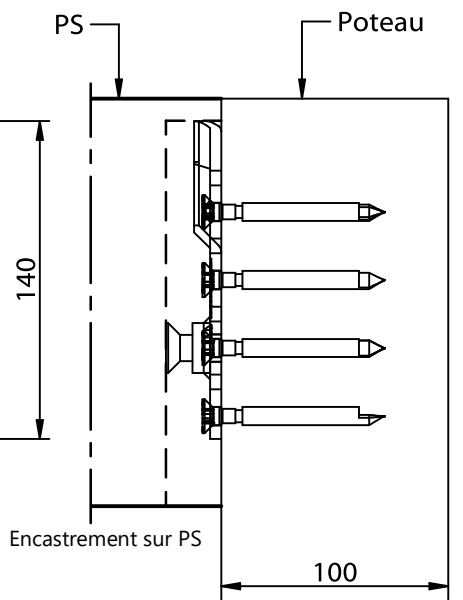
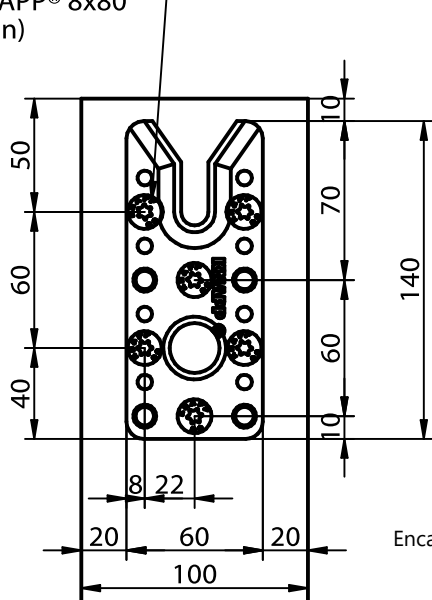
## Remarque importante :

Faire contrôler par un B.E. compétant dans le cas où la hauteur de la poutre secondaire et plus faible qu'indiquée ci-dessus. Une section plus faible peut être renforcée par des vis de renfort transversales. (EN 1995-1-1, NAD)



## Position et nombre de vis (vissage minimum)

6 vis TF  
KNAPP® 8x80  
(min)



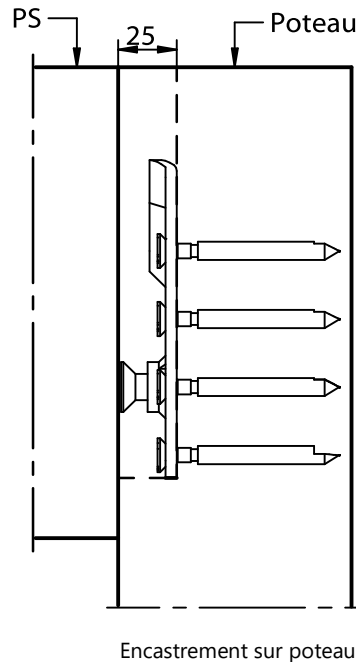
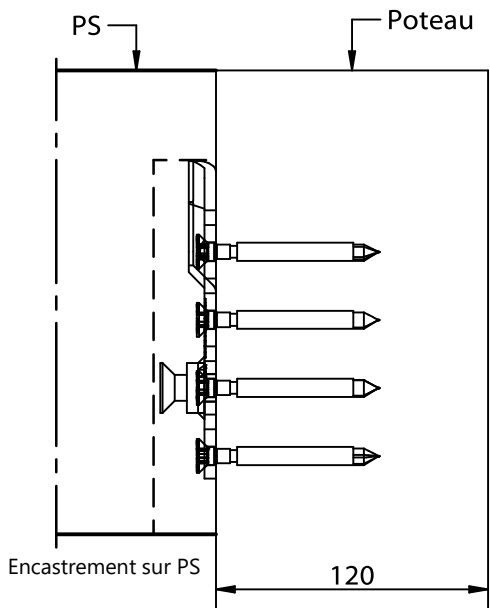
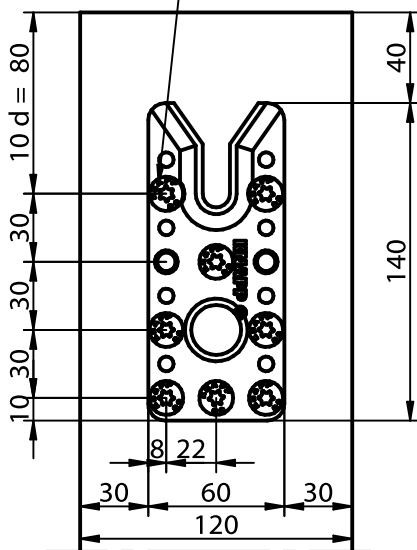
Sections minimums en configuration de vissage min.

Dimensions valables pour l'utilisation sur bois lamellés collés.

Pour les résineux massifs, il est recommandé de pré-percer les vis de 8x80 mm à un Ø 5 mm sur toute la longueur

## Position et nombre de vis (vissage maximum)

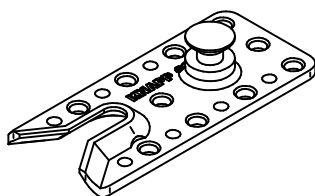
8 vis TF  
KNAPP® 8x80  
(max)



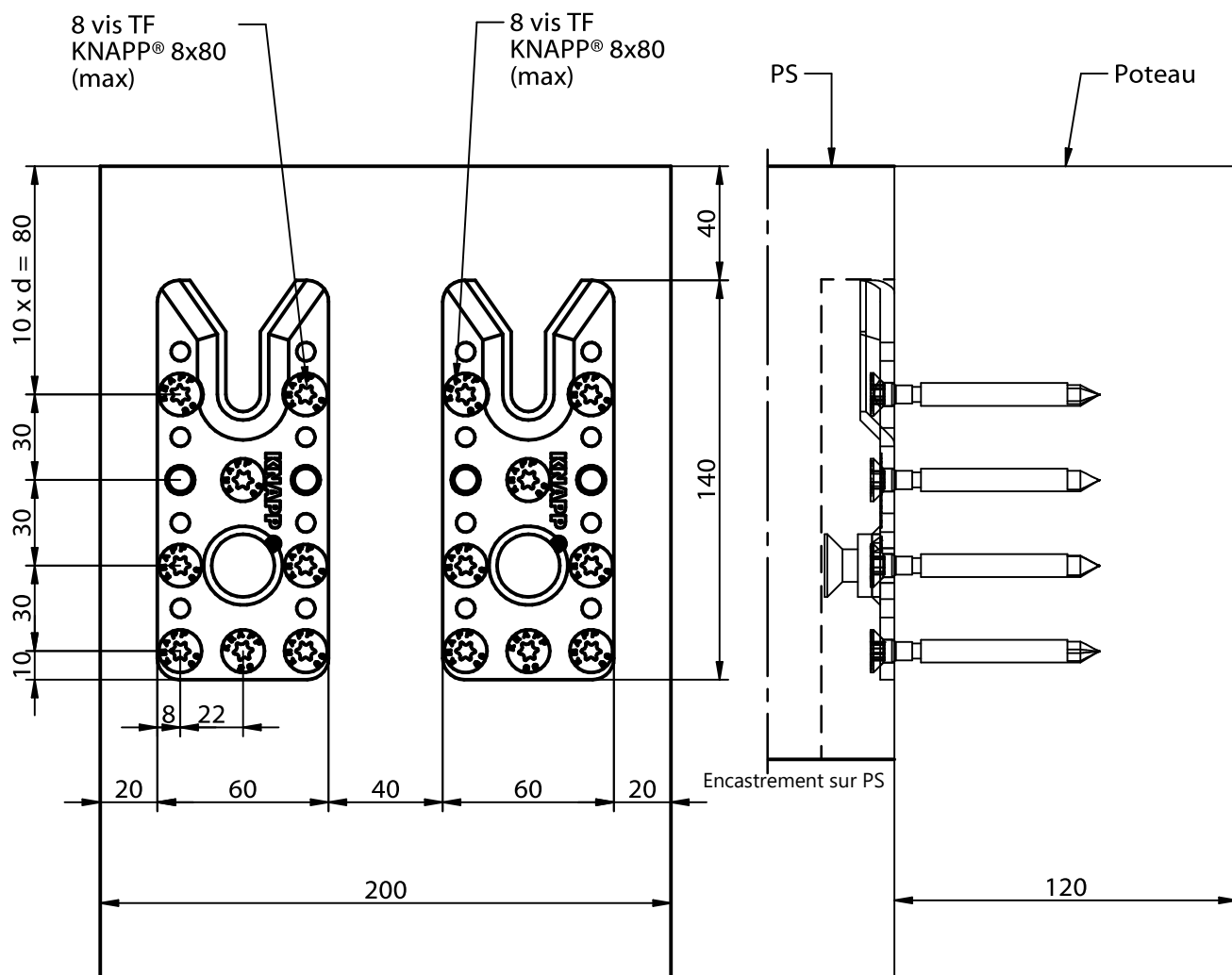
Sections minimums en configuration de vissage max.

Dimensions valables pour l'utilisation sur bois lamellés collés.

Pour les résineux massifs, il est recommandé de pré-percer les vis de 8x80 mm à un Ø 5 mm sur toute la longueur



### Position et nombre de vis (vissage maximum)



### Section minimum en configuration 2 RICON S 140x60 VS juxtaposés

Dimensions valables pour l'utilisation sur bois lamellés collés.

Pour les résineux massifs, il est recommandé de pré-percer les vis de 8x80 mm à un Ø 5 mm sur toute la longueur !



Knapp GmbH ■ Wassergasse 31 ■ A-3324 Euratsfeld ■ Tel.: +43 (0)7474 / 799 10 ■ Fax: +43 (0)7474 / 799 10 99  
Knapp GmbH ■ Vertrieb Deutschland ■ Föhrenweg 1 ■ D-85591 Vaterstetten ■ Tel.: +49 (0)8106 / 99 55 99 0 ■ Fax: +49 (0)8106 / 99 55 99 20 ■ E-Mail: [info@knapp-verbinder.com](mailto:info@knapp-verbinder.com)  
Knapp GmbH Sàrl ■ Filiale France ■ 1A Rue du Stade ■ F - 67880 Innenheim Tel. : +33 (0)3 88 48 17 87 ■ Fax: +33 (0)9 70 62 81 87 ■ E-Mail : [france@knapp-connectors.com](mailto:france@knapp-connectors.com)