



Pallet Racking



Cantilever Racking



Drive-in Racking



Pallet-handling Systems



Mobile racking for pallets and storage of long items



High bay, narrow-aisle system



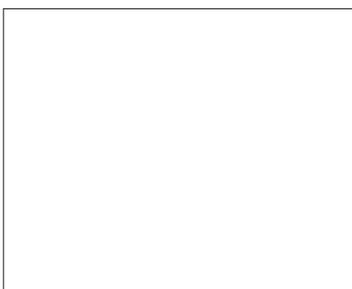
KDR Carton Live Storage



Long span shelving



Multi Tier Systems



SSI SCHAEFER developed the water-based paint coating system for large-scale series-production purposes. This ensures an attractive high-quality defect-free coating surface that is both ecological and cost-efficient - without emissions or toxic waste. This is why the European Community has asked us to participate in its LIFE Project.



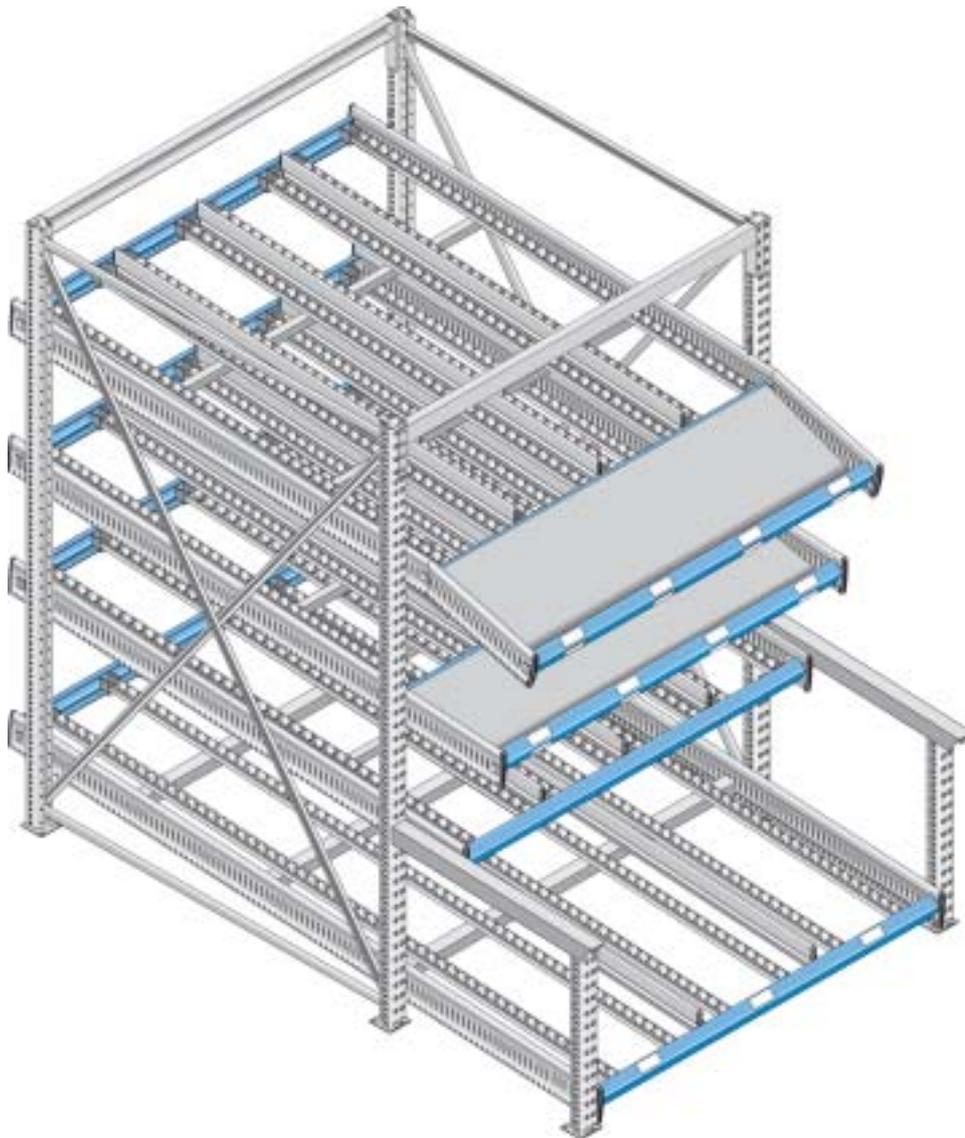
### SSI SCHAEFER LTD.

Suppliers of warehouse, general plant and office equipment, and waste-handling and recycling technology

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## INSTALLATION INSTRUCTIONS

### KDR Carton Live Storage System



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We reserve the rights to make technical changes to any shown products,

Warning symbols	
	<b>Caution! Danger!</b> Danger of serious injury!
	<b>Please note!</b> Read carefully!
	<b>Help required!</b>

## 1) Introduction

 The SSI SCHAEFER system is manufactured to the highest technical standards and meets all applicable regulations. For absolute safety please ensure:

- The rack is correctly assembled
- It is not changed or modified without advice
- Only genuine accessories are used
- All safety regulations are observed

 **All installers should be provided with a copy of the regulations and a signature should be obtained to confirm receipt.**

Other Safety Regulations, which apply include:

- Accident prevention
- General Company Safety Regulators
- Installation Rules
- Current statute law and related regulations

## 2) Important information

 Please observe the assembly instructions. Please ask for these documents if you do not have them available.

These shelving systems are designed for installation in fully enclosed spaces with normal ambient temperatures (5°C).

Load bearing capacity values can be taken from the load notices. If you require any expert assistance, please do not hesitate to contact us.

## 3) Notes on Safety



Please check the following details to avoid injury to persons or property:

- Work place regulations
- Safety Officer Instructions
- Load bearing capacity of the slab floor
- All materials must be in perfect condition. Damaged components must be replaced immediately. If in doubt stop work, secure the area and notify your Safety Officer.
- Do not use racking until all assembly work is complete
- Storage of food directly on the galvanised chute plates is not permitted.
- All persons involved in assembly or dismantling work must use harnesses or other means to prevent falling when working at a height of 2 m and above.
- Protective clothing such as hard hat, gloves, safety boots must be worn during dismantling and conversion work.
- The racking must be sufficiently protected against impact with forklift trucks and other vehicles with rack protectors.

All genuine construction parts, which are designed to stabilise the storage equipment, must be fitted. This applies to horizontal and diagonal bracing, floor fixings and screws.

## 4) Preparation for the erection of racking

### Required tools

- Tape measure
- Pencil
- Plumb bob
- Spirit level
- Plastic- or rubber-faced mallet
- Open end spanners and socket wrenches, SW 10, 13, 17, (16), 24
- Hammer drill
- Drill bits Ø 10, Ø 18
- Masonry Steel Drill bit Ø 4.2
- Rivet gun

### Planning the assembly

Before commencing the assembly of the racks, take measurements of the area to be used and mark the position of the racks. A tape measure and string lines are the most suitable tools for this work. You should note that normally the live storage beds protrude beyond the supporting frames by 115 mm on the replenishment side and the 130 mm on the picking side. Also the storage beds can be adjusted horizontally within the frame which should be taken into consideration when determining aisle widths. Main aisle widths for pedestrians should be at least 1250 mm with transfer aisles at least 750 mm.



#### Notes for stacking equipment and pallets

The forks of the forklift truck must be of sufficient length for the dimension of the pallets. The forks must not protrude over the outer edges of the pallet, but they should safely reach under the last board of the pallet. The permitted load for the pallet must not be exceeded.



#### Checking the floor and floor tolerances

Before erecting the rack please check:

- Whether the load bearing capacity of the floor is sufficient to carry the planned loads. If in doubt, ask a specialist and have the load bearing capacity examined. The customer is fully responsible for checking this information.
- The surface of the floor. The prerequisite is a reinforced concrete slab with a minimum thickness of 200mm, concrete quality B25 according to DIN 1045. On a magnesite cast plaster floor surface insulating slab, special anchors are required to avoid corrosion. If the conditions deviate from these pre-requisites you should inform the manufacturer for alternatives.

- The floor must be level. Depending on the height of the structure, the following tolerances are valid: The adherence to the maximum loads specified by SSI SCHAEFER is the sole responsibility of the customer. The specified loads apply for evenly distributed loads.

#### Storing of palletised stock

The pallets must rest completely on the beams. The pallets must not be pushed across the beams or dropped down in a heavy manner. Only flat pallets, which are in accordance with the quality regulations and in good condition, must be used. Rack faces, which are not designed for replenishment and picking, must be provided with anti collapse mesh. The customer is responsible for ensuring that the permissible loads are not exceeded.

#### Load

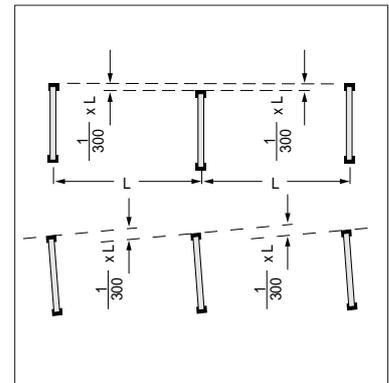
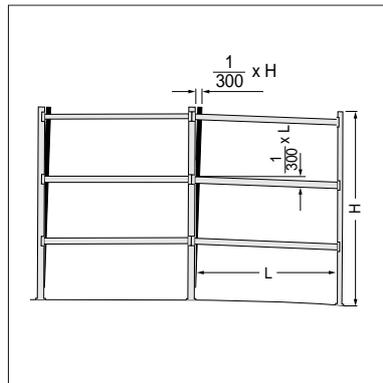
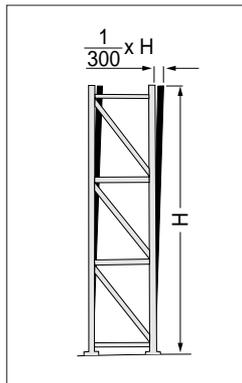
Distance between measuring points (in metres)	0,1	0,6	1,0	1,5	2,0	2,5	3,0	3,5	4,0	10
Unit tolerances (in mm)	2	3	4	5	6	7	8	9	10	12
Available floor area for storage facilities of up to 6m in height.										
Distance between measuring points (in metres)	0,1	0,6	1,0	1,5	2,0	2,5	3,0	3,5	4,0	10
Unit tolerances (in mm)	2	3	4	5	6	7	8	9	9	10
Available floor area for storage facilities of over to 6m in height.										

## 5) Floor levelling

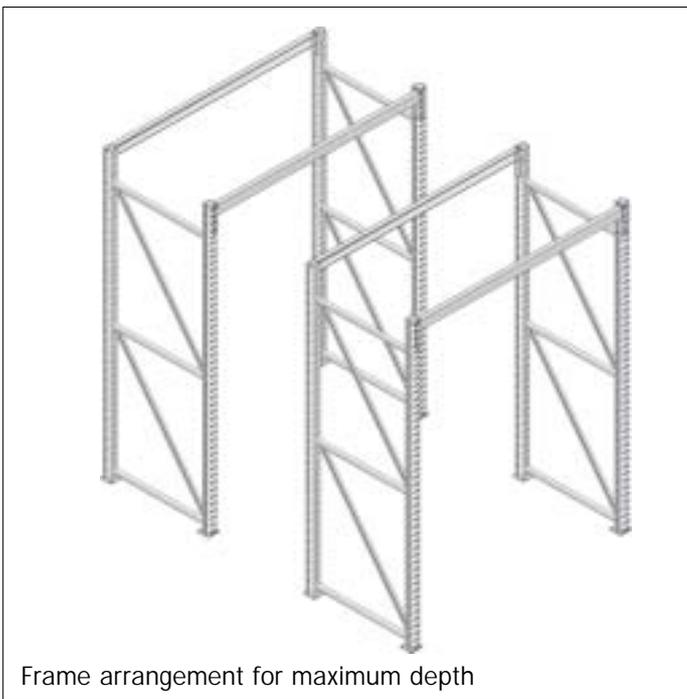
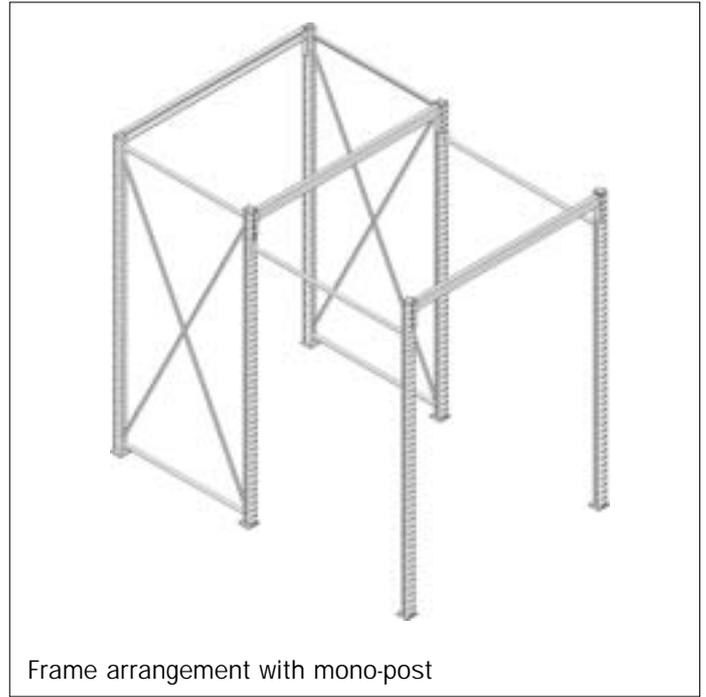
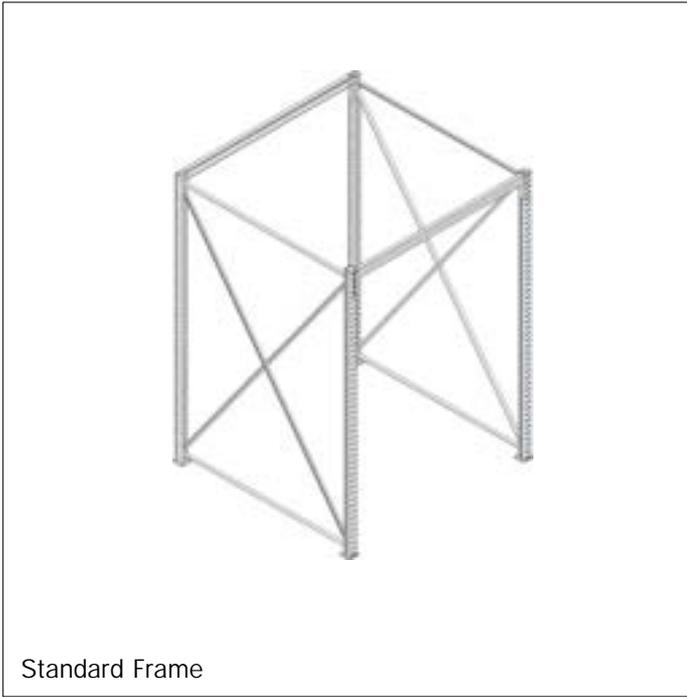
#### Plum-bob deviation

Ensure while setting up the shelving system that the plum bob does not deviate by more than 1/300 at any upright height (either longitudinally or transversely). The total maximum deviation of the individual levels is 1/300, and the frames may not be displaced longitudinally by more than 1/300 relative to each other. Compensate for any unevenness in the floor by placing shims of adequate thickness and size under the feet of the frames.

The individual frames corresponding to each row of bays must form a single, smooth line. The frames may not be displaced by more than 1/300 relative to each other (measured at the centre of each upright).

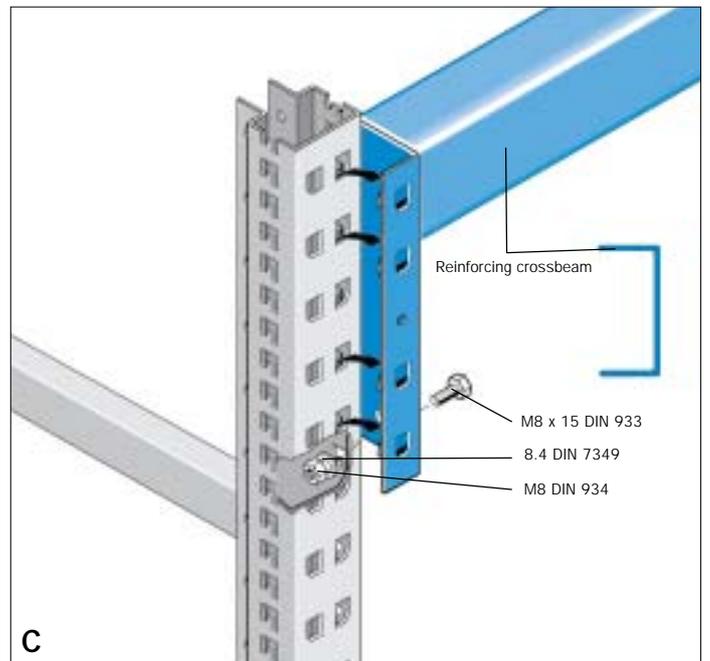
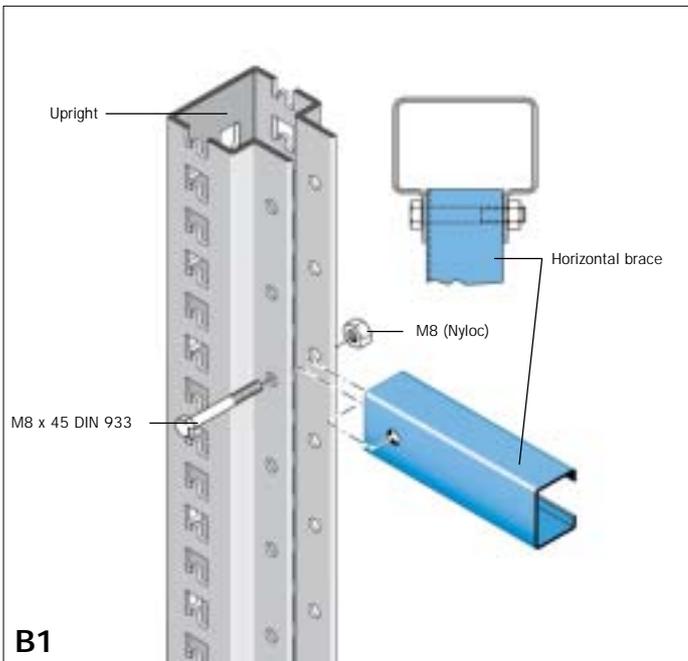
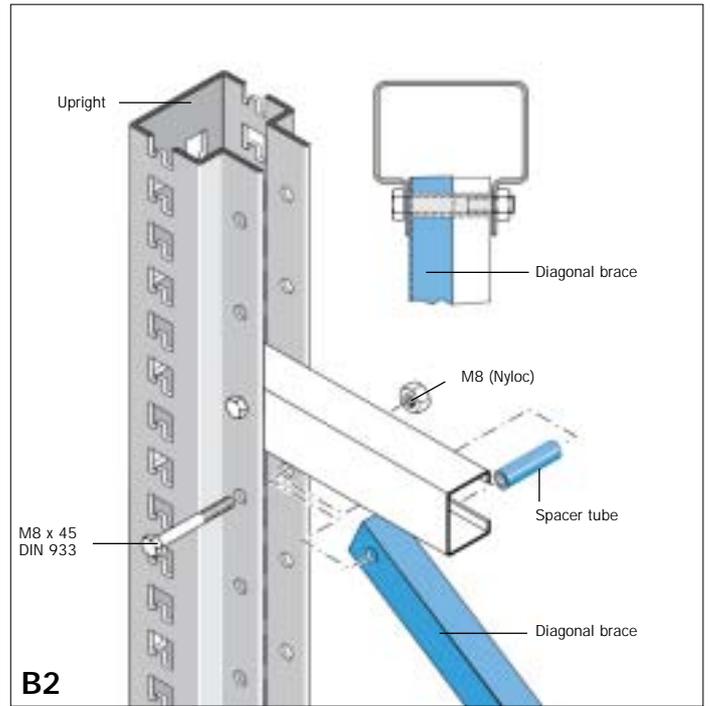
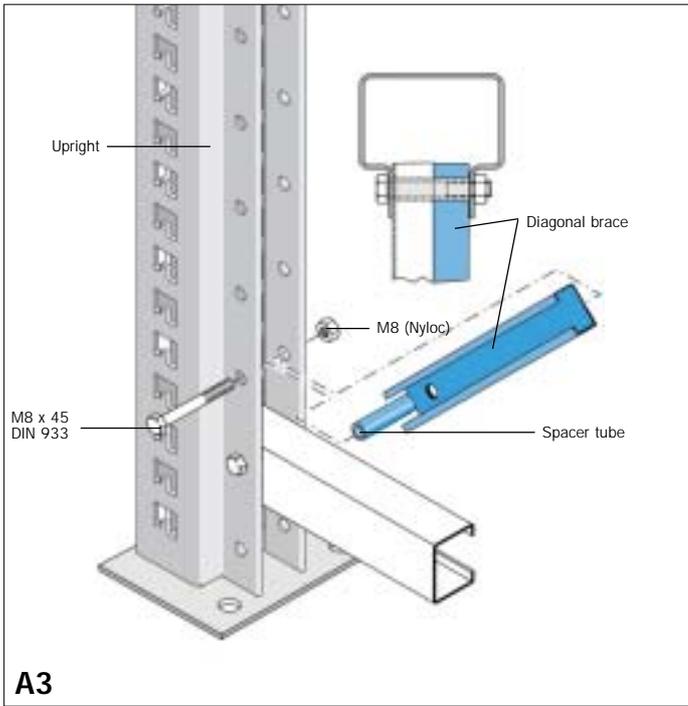


## 6) Frame Combinations

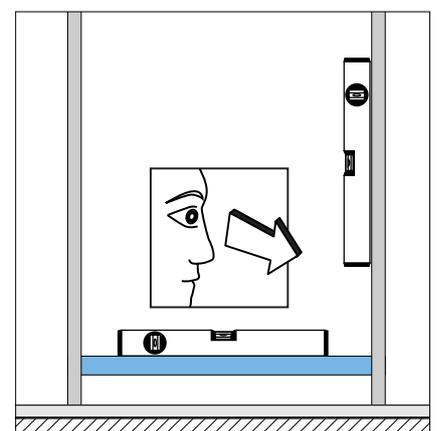
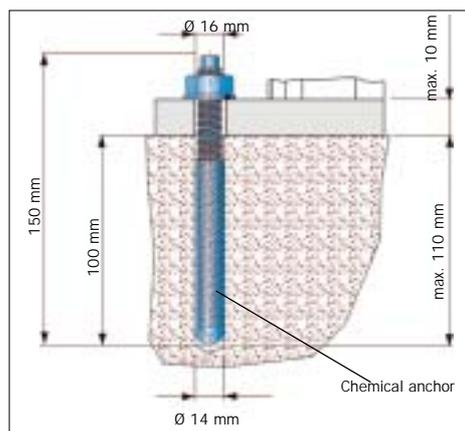
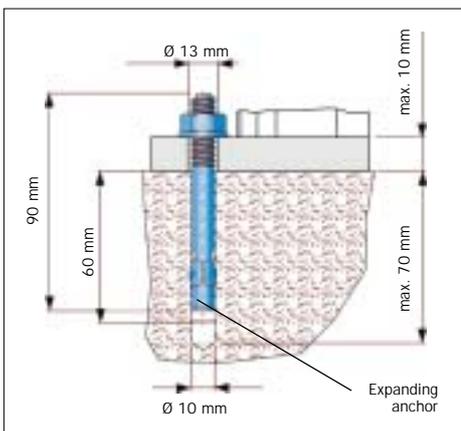


Upright profile sections							
Standard Frame	●	●	●				
Frames with mono-posts	●	●	●	●	●	●	●
Frames for maximum depth	●	●	●	●	●	●	●
Frame for palletised buffer stock			●	●	●	●	●

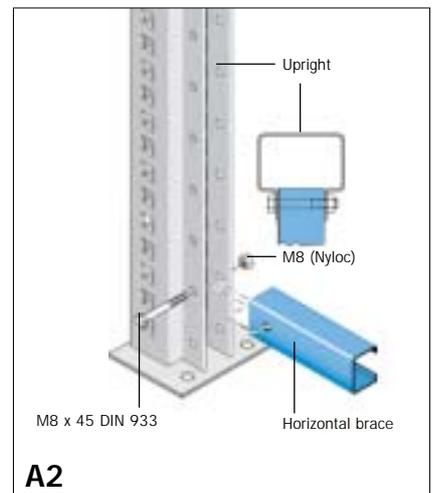
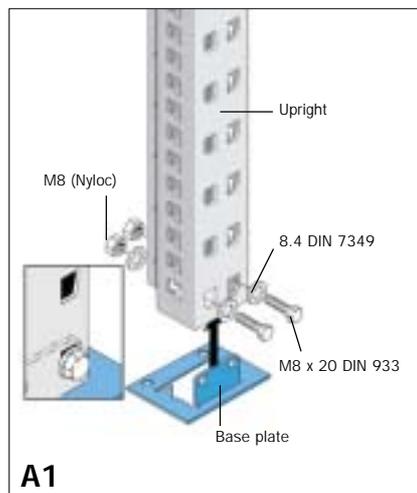
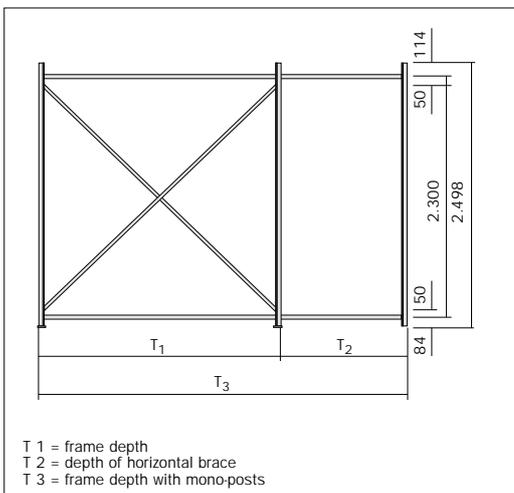
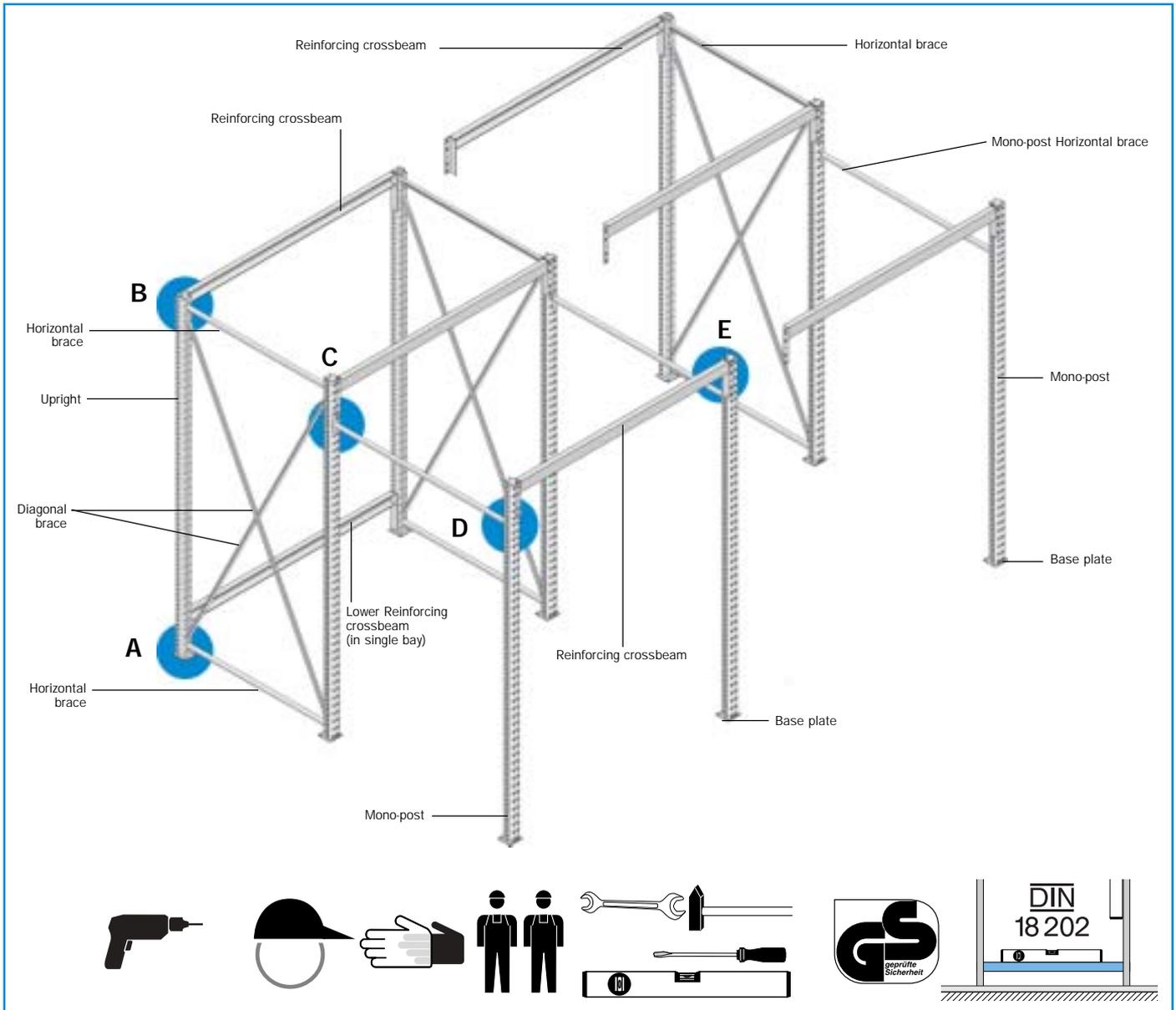


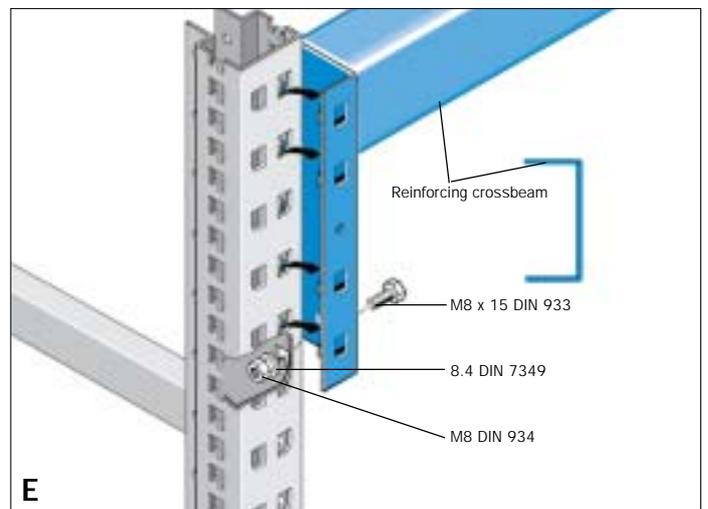
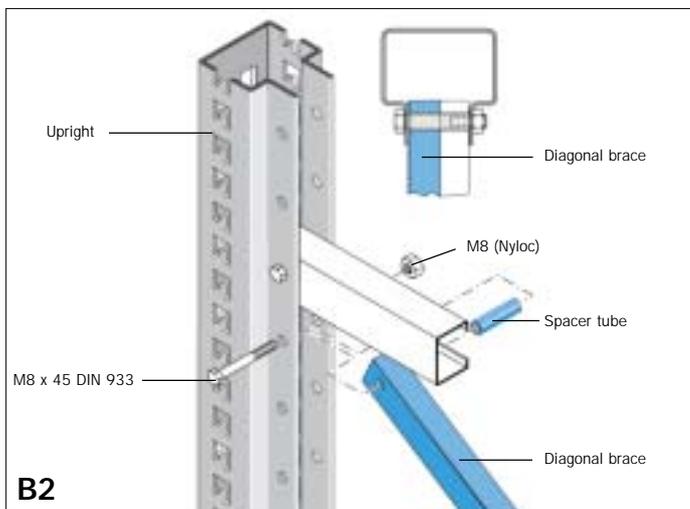
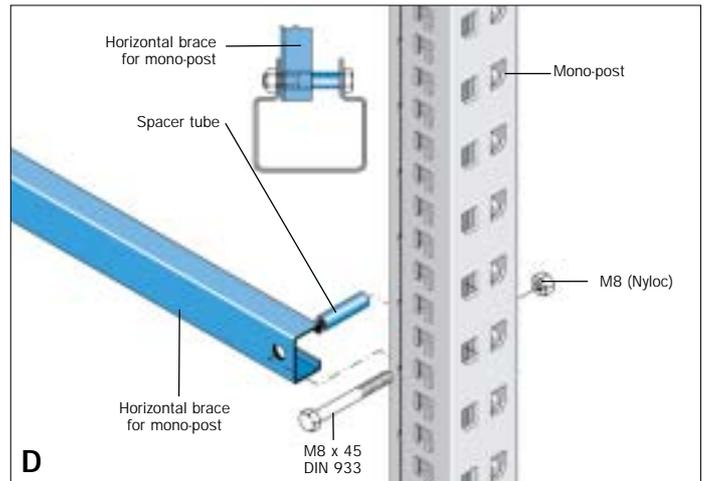
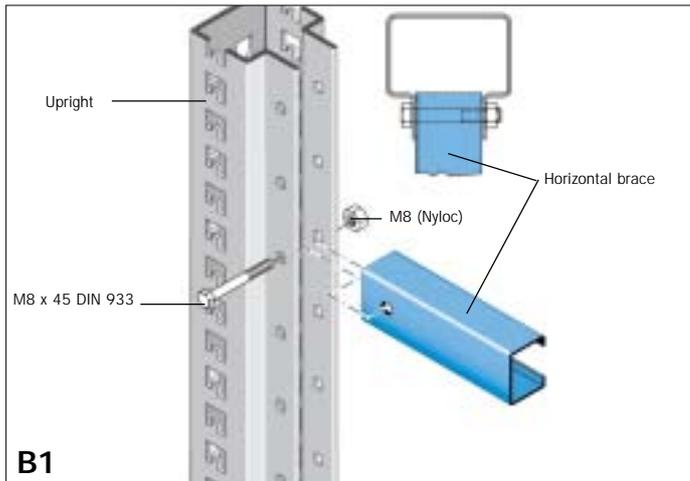
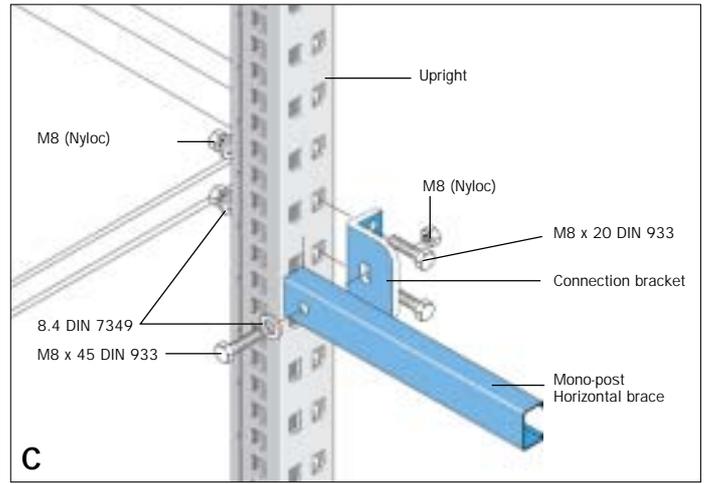
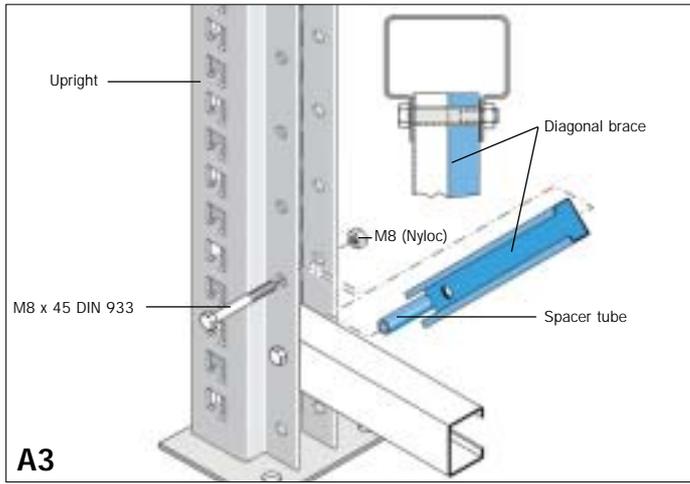


## 7.1) Floor fixing

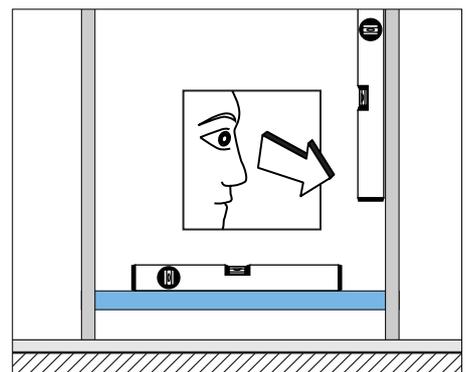
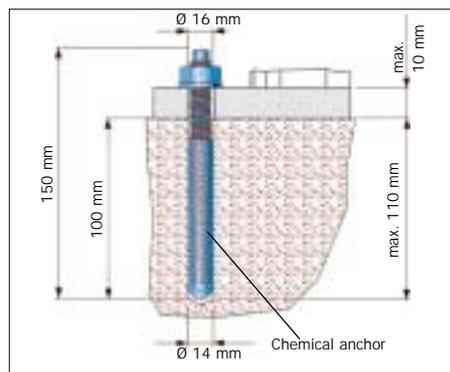
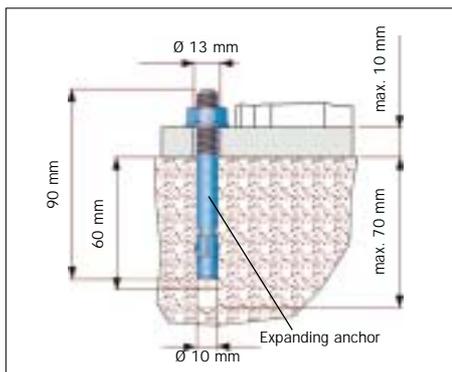


## 8) Assembly of frame with mono-posts – Upright P 63 and P 65

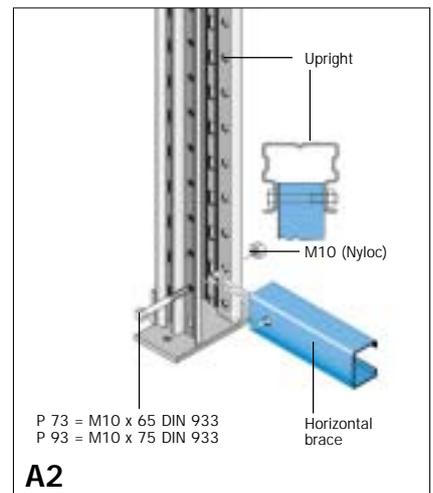
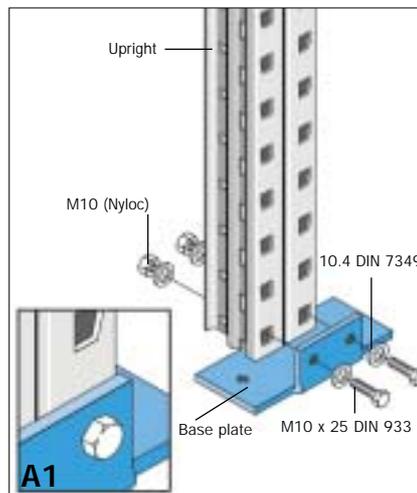
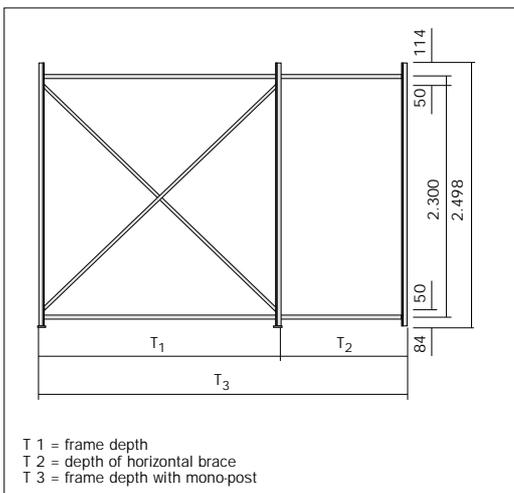
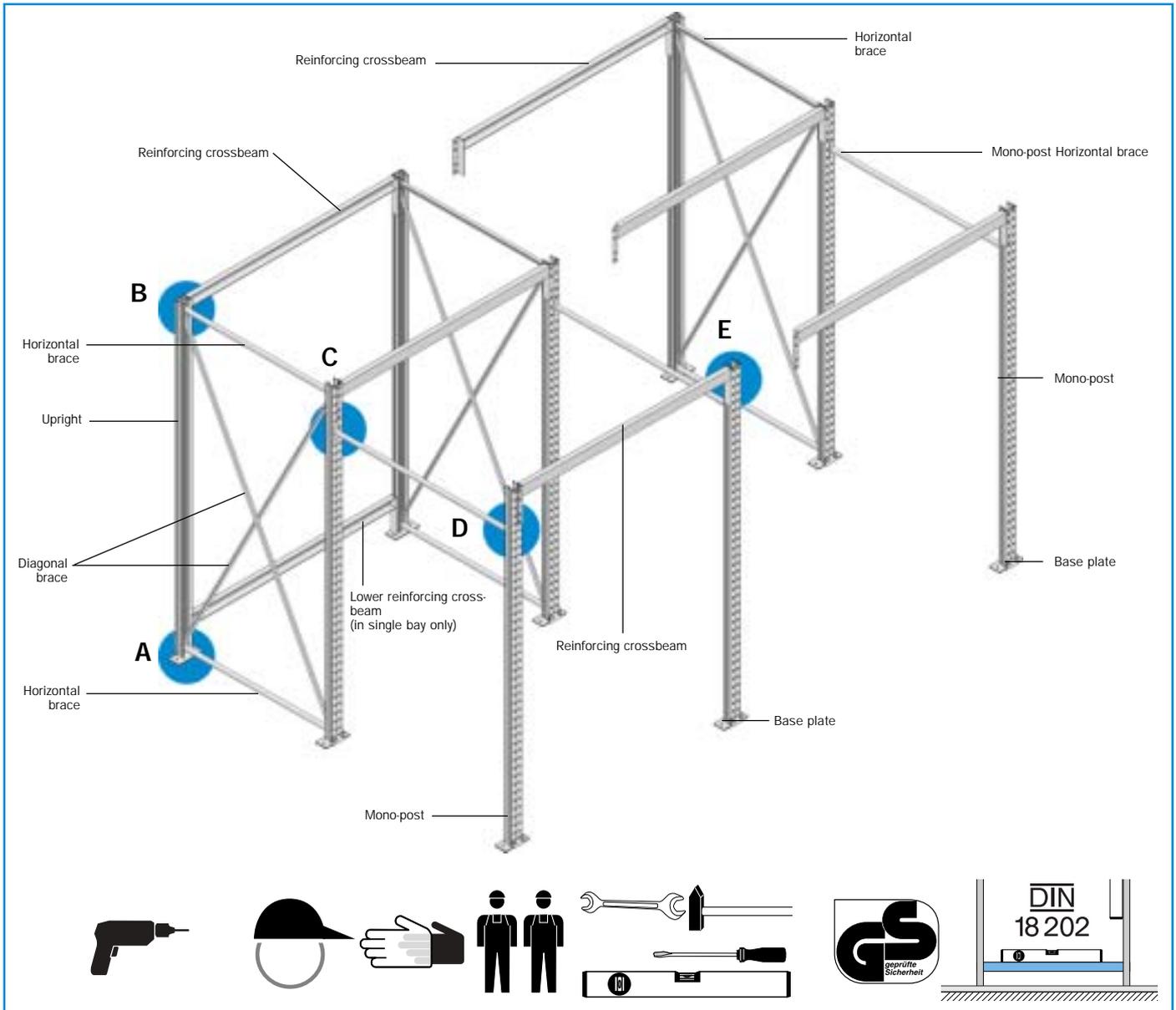


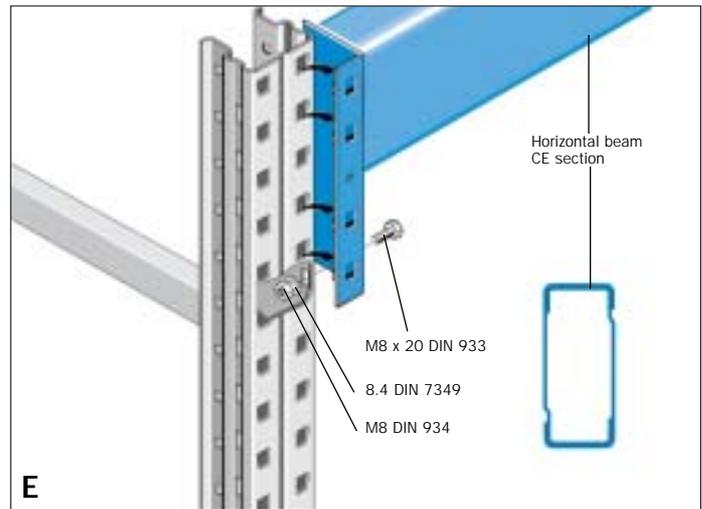
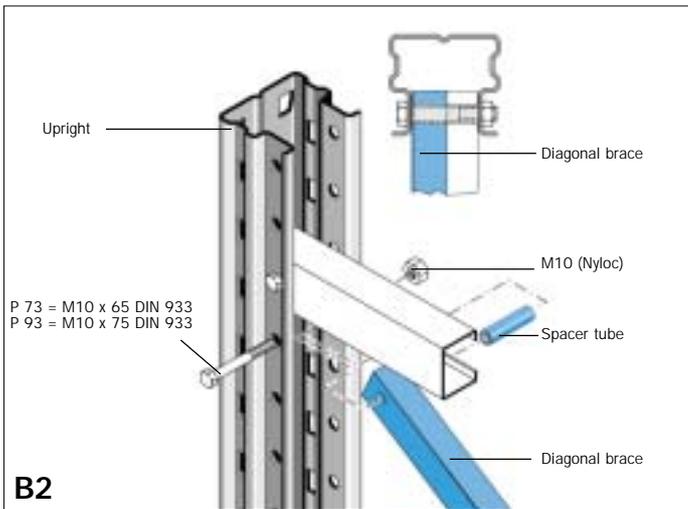
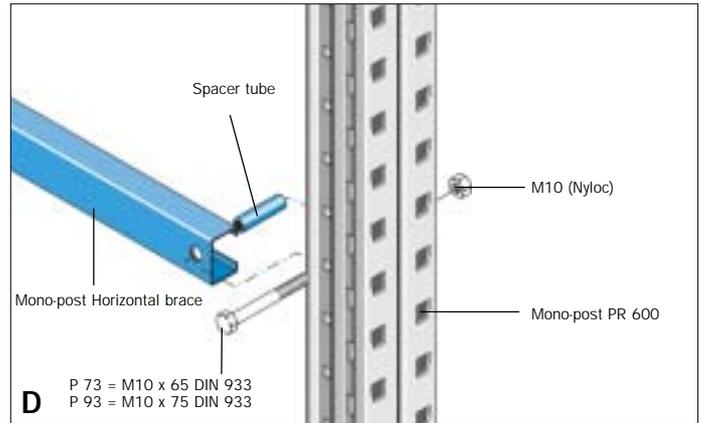
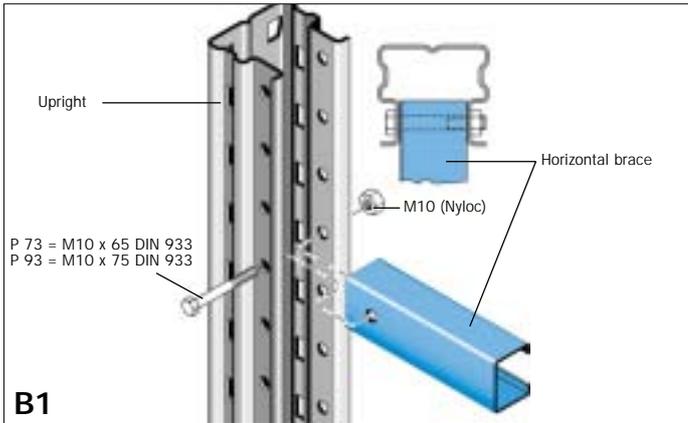
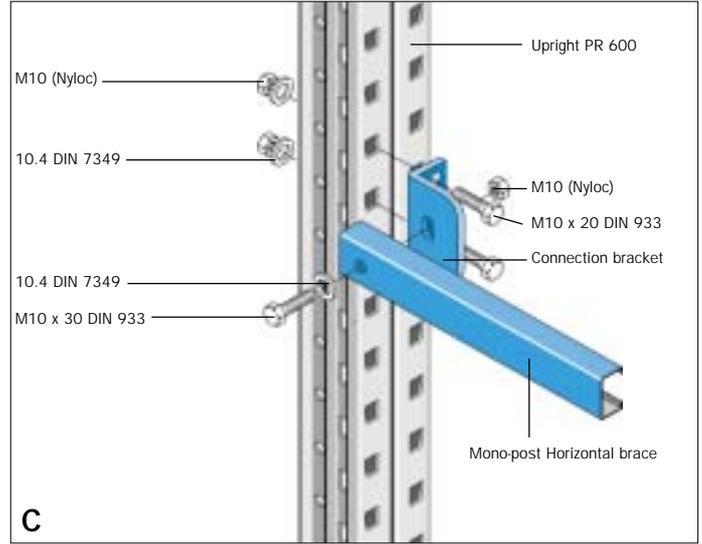
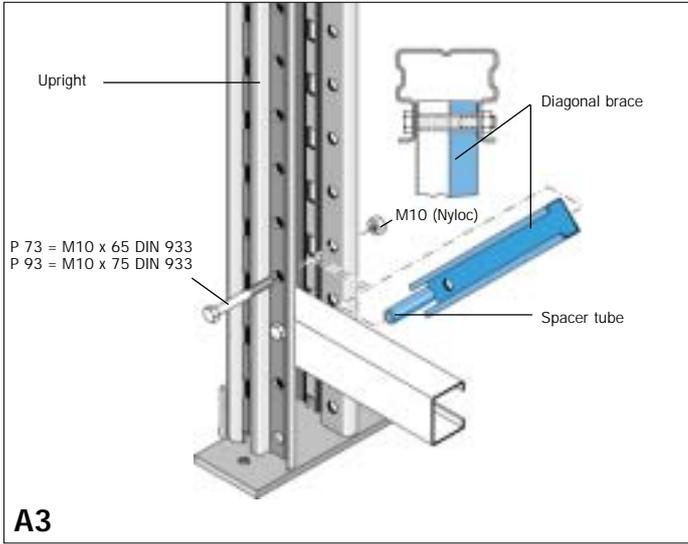


## 8.1) Floor fixings

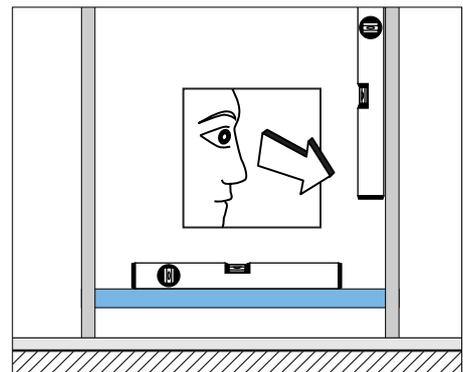
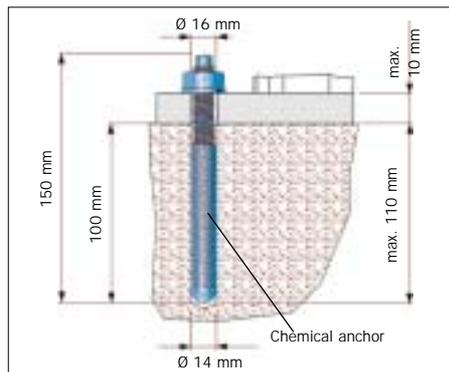
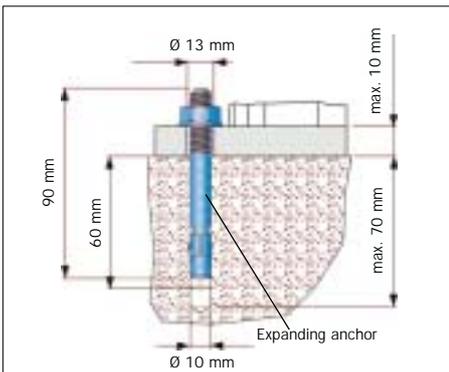


## 9) Assembly of frames with mono-posts – Upright P 73

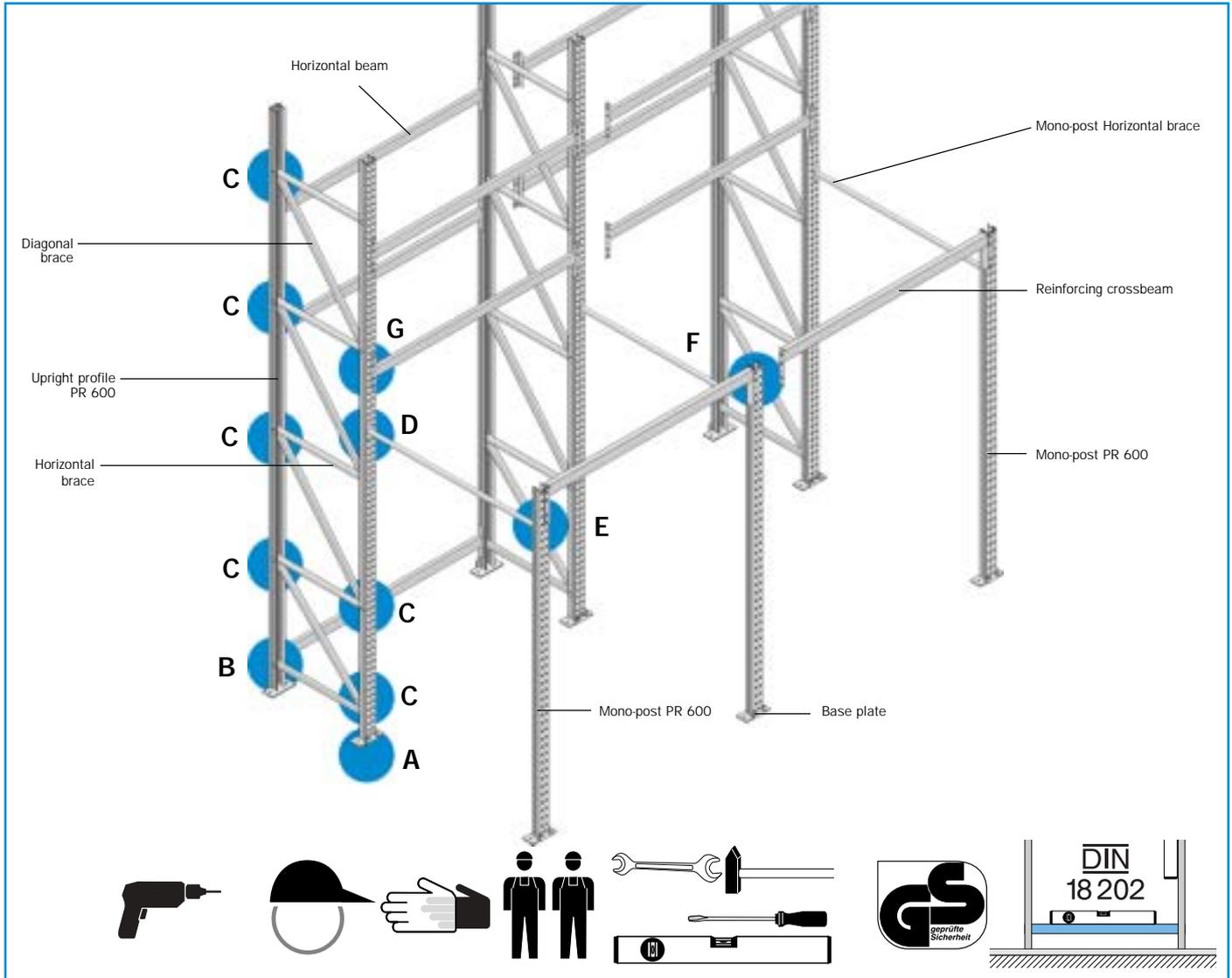




## 9.1) Floor fixings

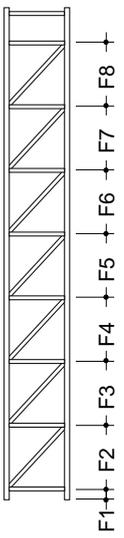


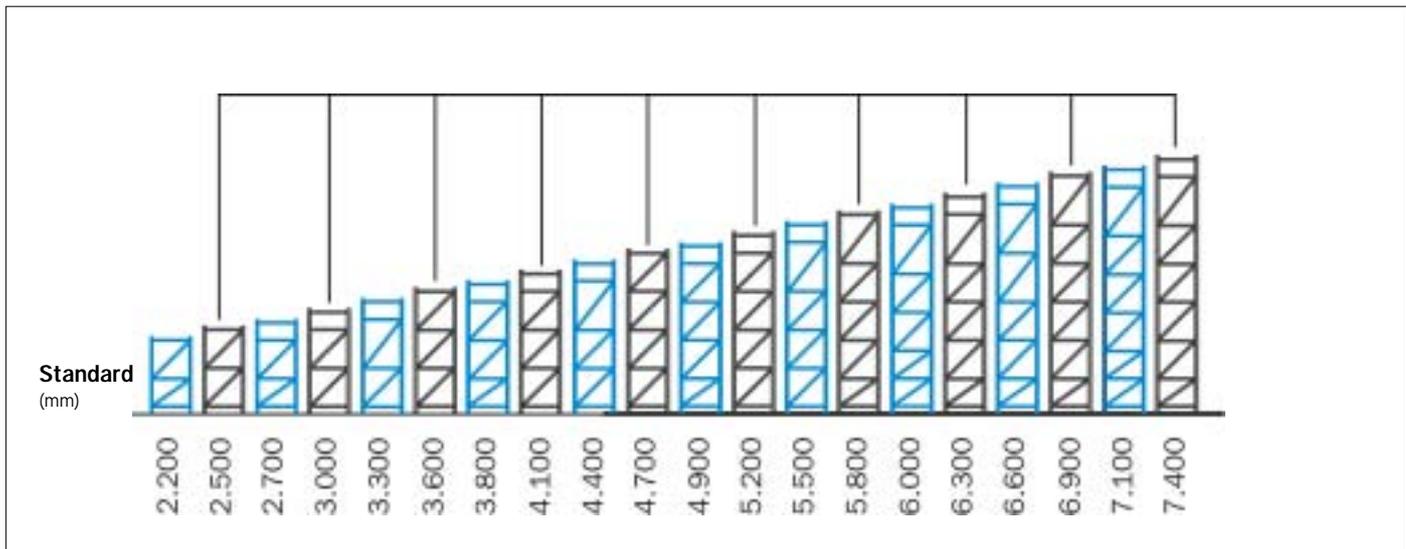
# 10) Assembly of frames for palletised buffer stock and multiple frames for maximum depth - Upright P 73 and P 93



**Assembly of frames PR 600**

Frame-height mm	Horizontal brace spacing (F) mm								
	F 1	F 2	F 3	F 4	F 5	F 6	F 7	F 8	
2,200	163	800	1,100	-	-	-	-	-	
2,500	163	1,100	1,100	-	-	-	-	-	
2,700	163	800	1,100	500	-	-	-	-	
3,000	163	1,100	1,100	500	-	-	-	-	
3,300	163	1,100	1,400	500	-	-	-	-	
3,600	163	1,100	1,100	1,100	-	-	-	-	
3,800	163	800	1,100	1,100	500	-	-	-	
4,100	163	1,100	1,100	1,100	500	-	-	-	
4,400	163	1,100	1,100	1,400	500	-	-	-	
4,700	163	1,100	1,100	1,100	1,100	-	-	-	
4,900	163	800	1,100	1,100	1,100	500	-	-	
5,200	163	1,100	1,100	1,100	1,100	500	-	-	
5,500	163	1,100	1,100	1,100	1,400	500	-	-	
5,800	163	800	1,100	1,100	1,100	1,400	-	-	
6,000	163	800	800	1,100	1,100	1,400	500	-	
6,300	163	800	1,100	1,100	1,100	1,400	500	-	
6,600	163	800	1,100	1,100	1,400	1,400	500	-	
6,900	163	800	1,100	1,100	1,100	1,100	1,400	-	
7,100	163	800	800	1,100	1,100	1,100	1,400	500	
7,400	163	800	1,100	1,100	1,100	1,100	1,400	500	

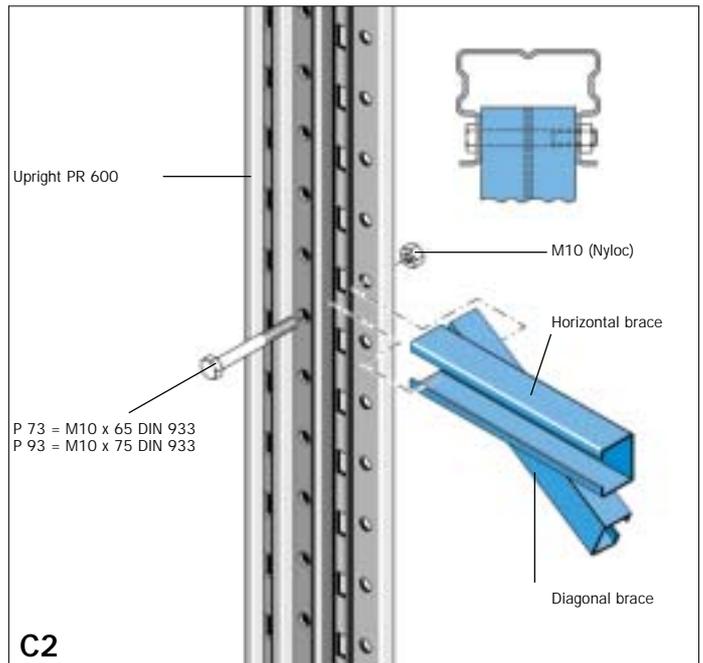
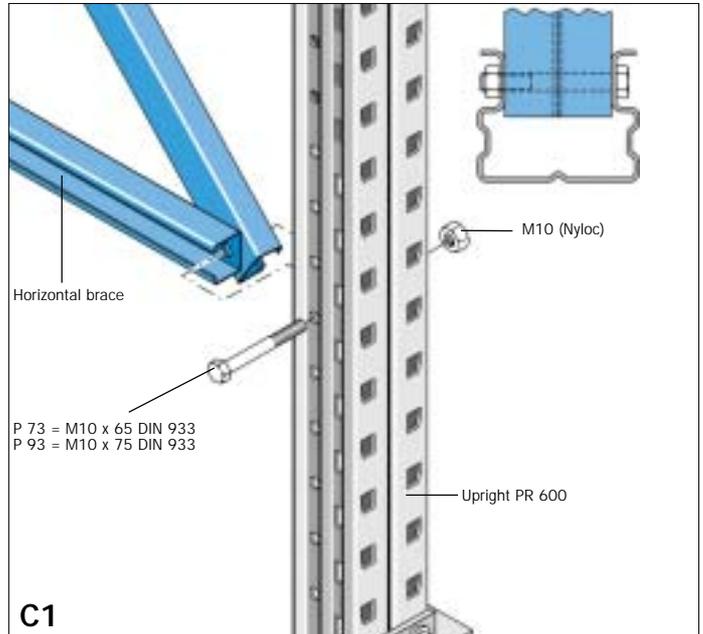
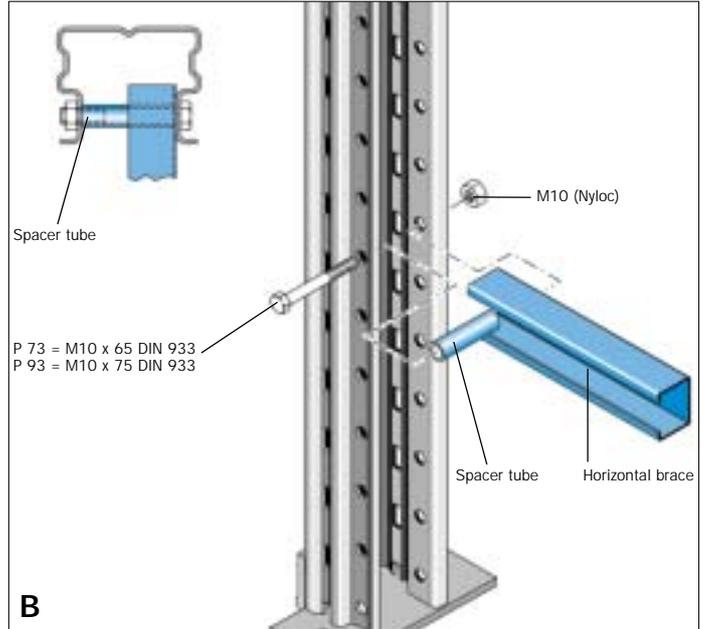
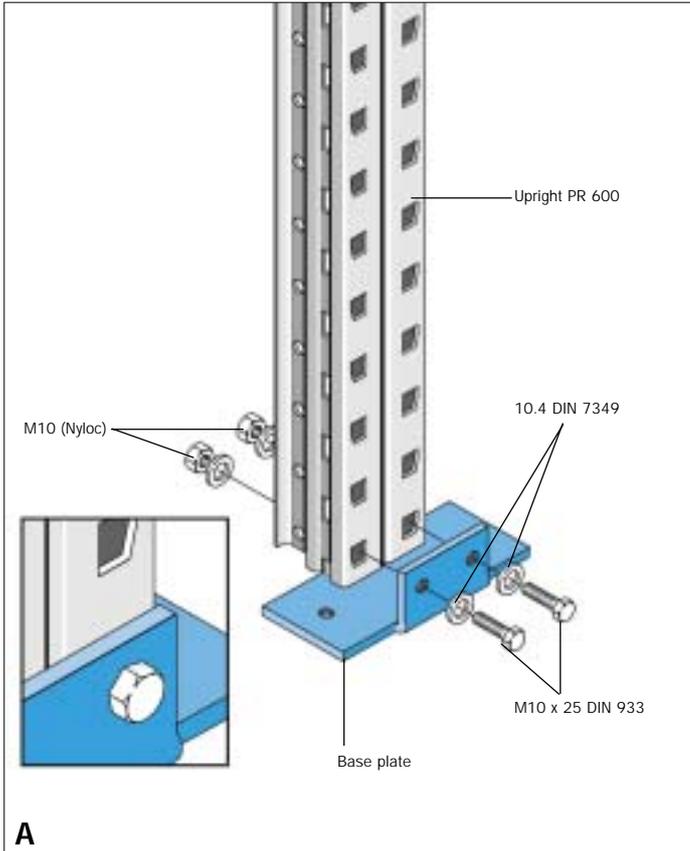
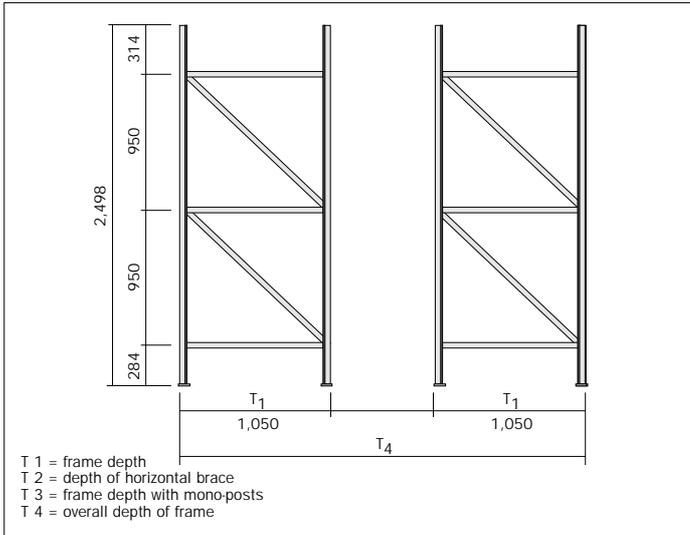
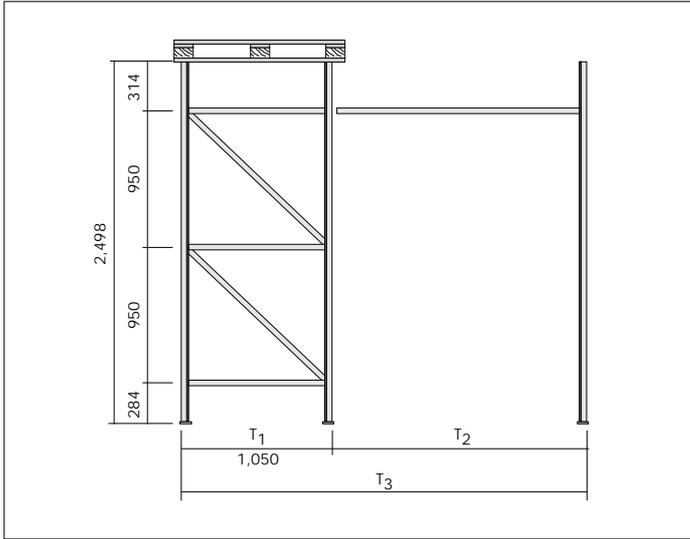


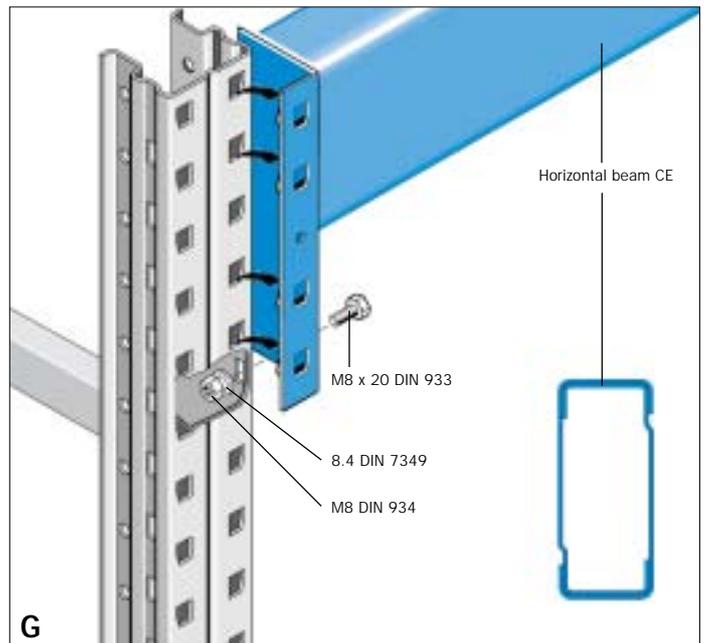
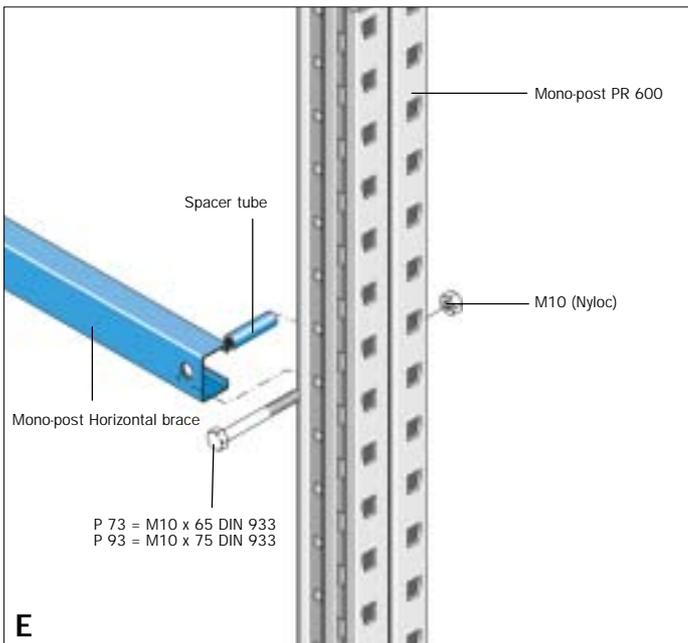
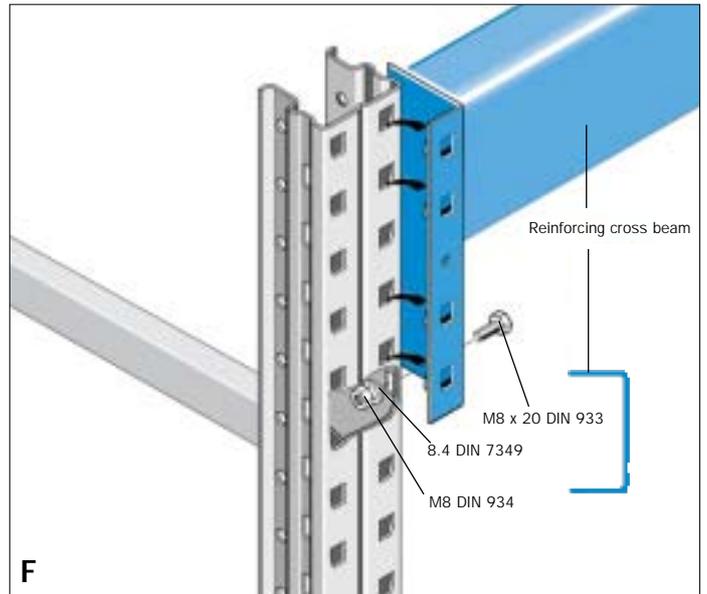
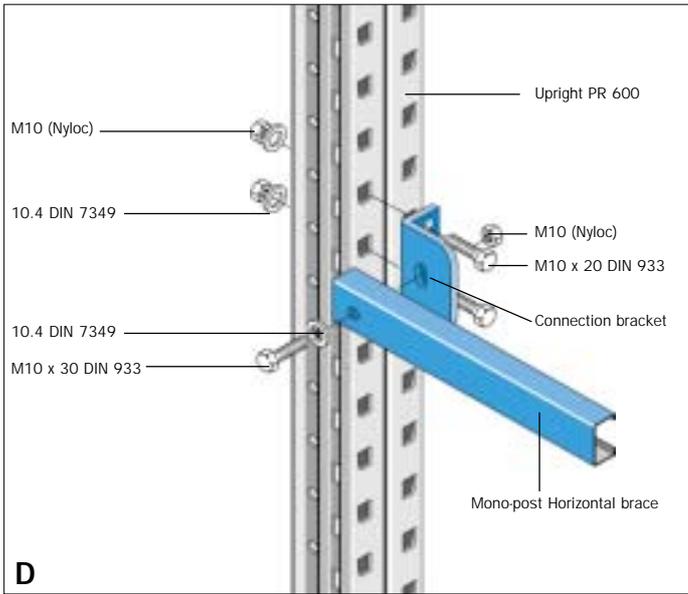


**Parts list PR 600**

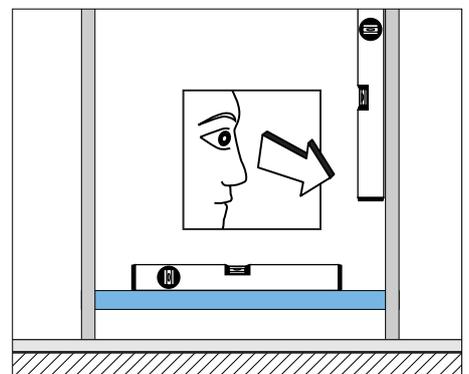
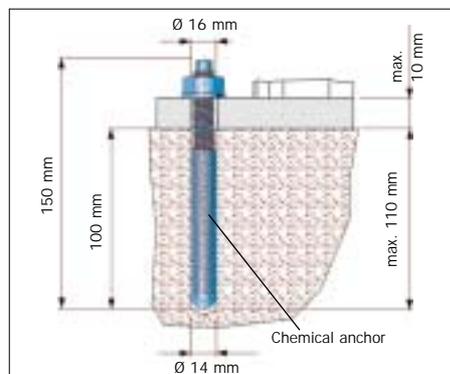
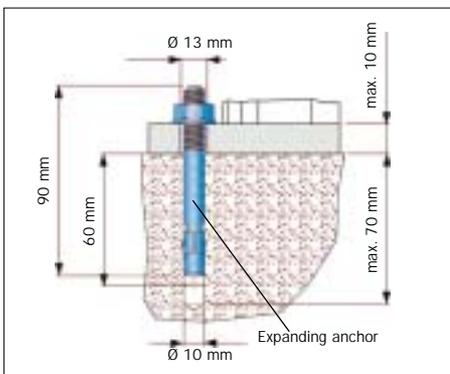
Frame:	consisting of 2 uprights and 2 standard feet
Frame depth:	850 mm, 1,050 mm und 1,250 mm
Upright width:	75 mm, 90 mm, 100 mm, 140 mm
Material thickness of upright section according to load capacity:	1.75 mm; 2.00 mm; 2.50 mm; 2.75 mm; 3.00 mm

Frame-height	Diagonal braces			Cross brace	Bolts M10x75mm	Bolts M10x30mm	Nylc nuts	Washers	Spacer tube
	800 mm	1,100 mm	1,400 mm						
2,200	1	1	-	3	6	4	10	8	2
2,500	-	2	-	3	6	4	10	8	2
2,700	1	1	-	4	8	4	12	8	4
3,000	-	2	-	4	8	4	12	8	4
3,300	-	1	1	4	8	4	12	8	4
3,600	-	3	-	4	8	4	12	8	2
3,800	1	2	1	5	10	4	14	8	4
4,100	-	3	-	5	10	4	14	8	4
4,400	-	2	-	5	10	4	14	8	4
4,700	-	4	-	5	10	4	14	8	2
4,900	1	3	-	6	12	4	16	8	4
5,200	-	4	-	6	12	4	16	8	4
5,500	-	3	1	6	12	4	16	8	4
5,800	1	3	1	6	12	4	16	8	2
6,000	2	2	1	7	14	4	18	8	4
6,300	1	3	1	7	14	4	18	8	4
6,600	1	2	2	7	14	4	18	8	4
6,900	1	4	1	7	14	4	18	8	2
7,100	2	3	1	8	16	4	20	8	4
7,400	1	4	1	8	16	4	20	8	4

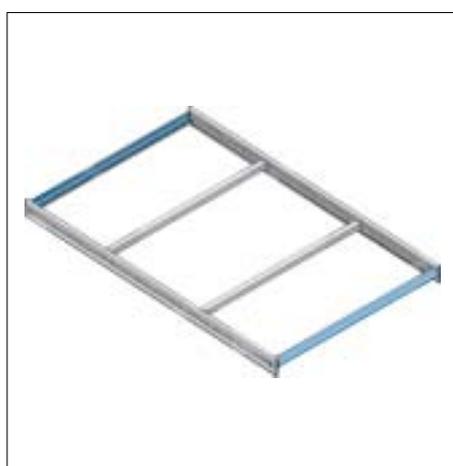
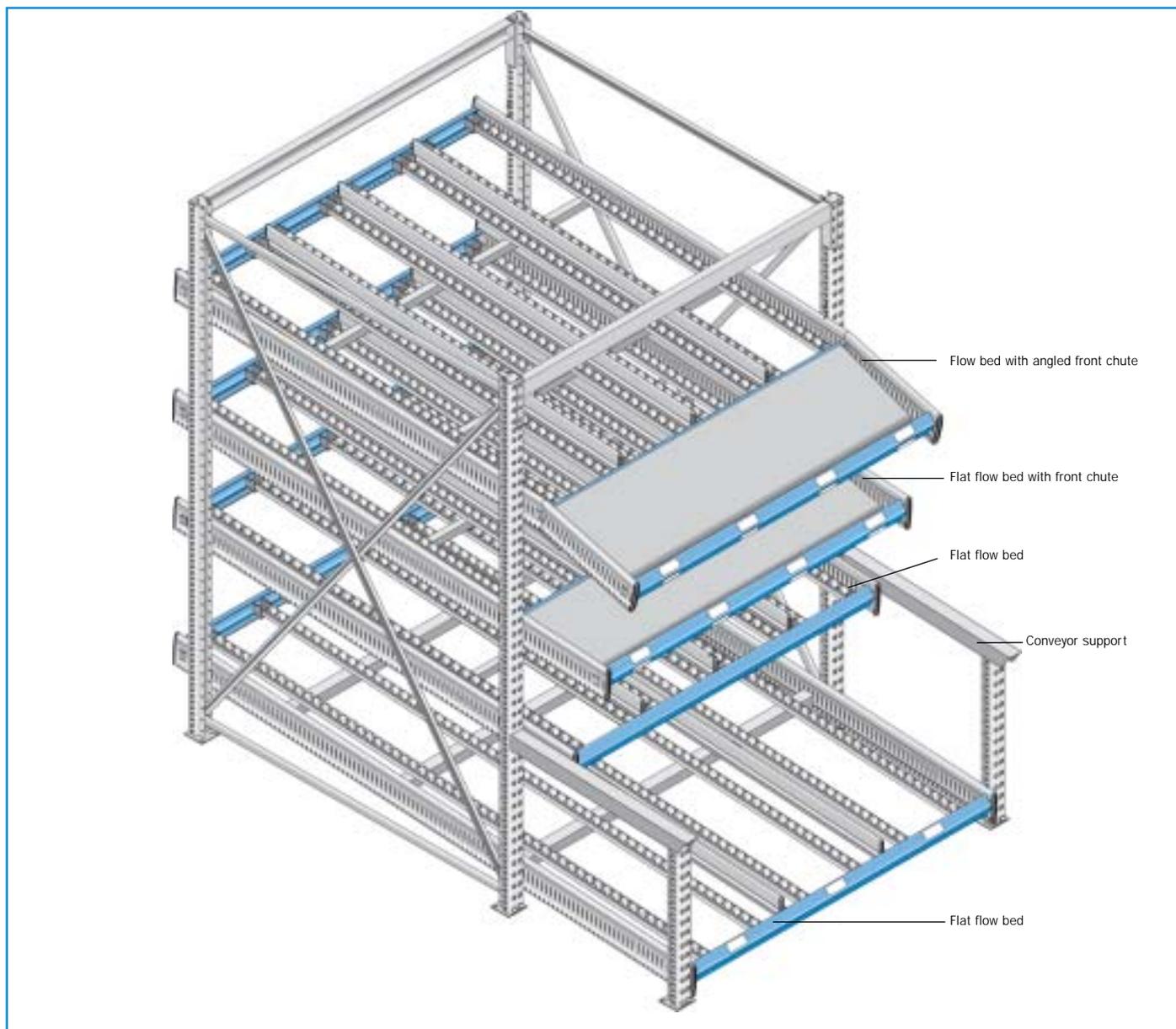




## 10.1 ) Floor attachment



## 11) Assembly of flow beds



Flat flow bed

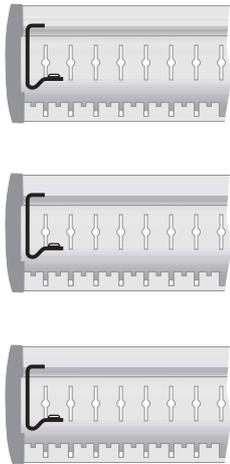
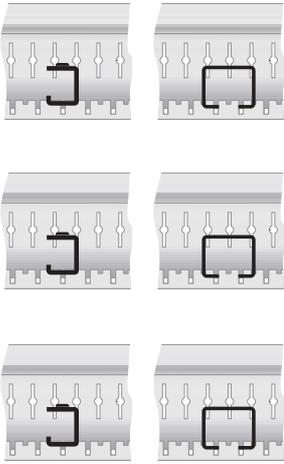
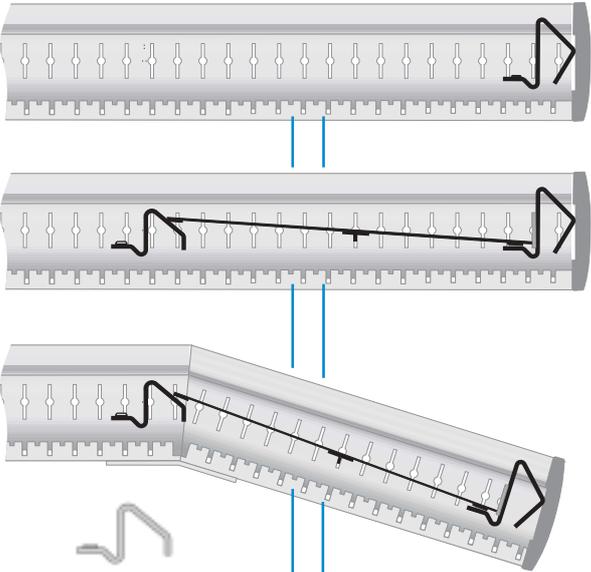
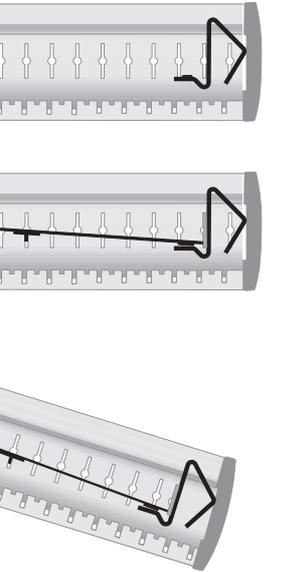


Flat flow bed with front chute

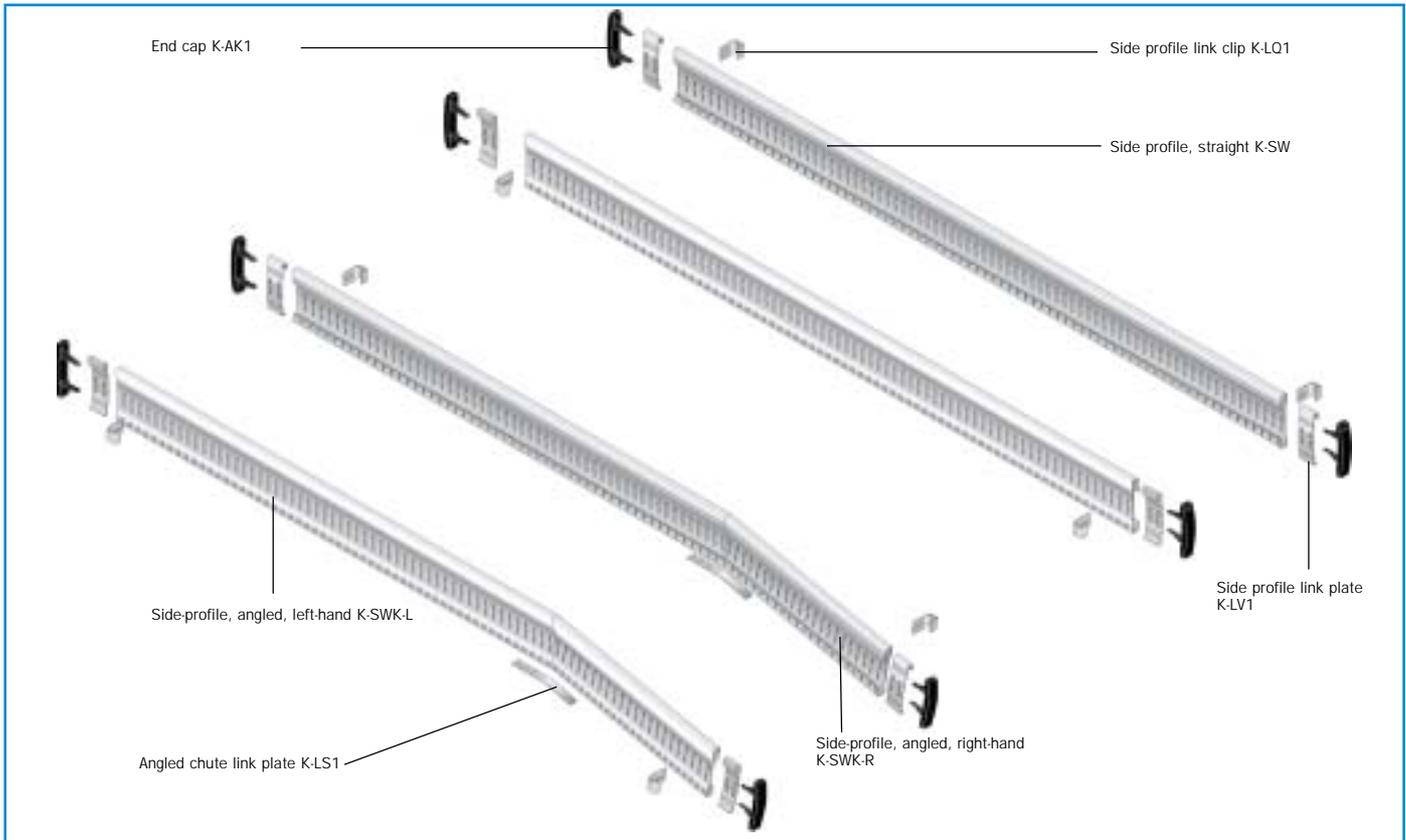


Flow bed with angled front chute

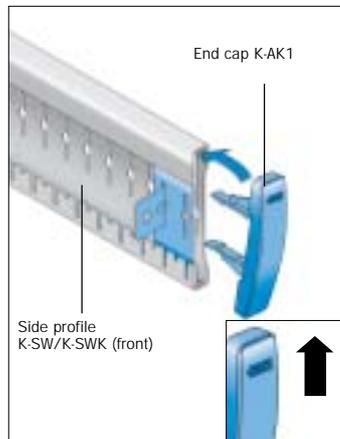
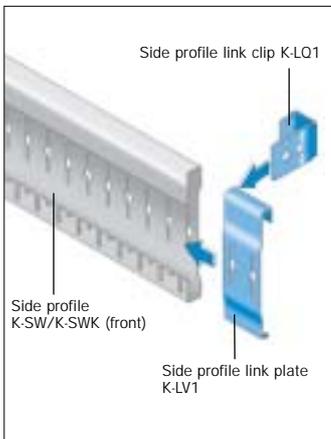
## 11.1) System components for KDR Carton Live Storage System – Flow bed modules

Rear profile	Central/inner cross support	Chute profile	Front profile
			
			
<p><b>Rear profile K-QH</b> with wide lower edge for track support.</p>	<p><b>Internal Cross support K-QI</b> Support for roller tracks. The number of cross profiles determines the load capacity of the flow bed.</p>	<p><b>Chute profile K-QK</b> For use on angled chutes. For attaching roller track / guides to outlet chute.</p>	<p><b>Front profile K-QV</b> With end-stop</p>
			
<p><b>Rear profile K-QH-KLT</b> With lengthened upper edge. This ensures that the KLT container on the track does not become jammed.</p>	<p><b>Central Cross support K-QM</b> In the case of flow beds of over 3,100 mm in length, this profile section - used in conjunction with Retainer clips - can provide extra stability to the roller tracks and guide rail.</p>	<p><b>Profile reinforcer K-QKV</b> This profile section can be used to provide extra reinforcement for wider, heavily loaded flow beds.</p>	<p><b>Front profile for pick-by-light K-QV-PBL</b> For attachment of a pick-by-light indicator. This profile can be supplied in three angle settings.</p>
	<p><b>Angled cross profile K-QK</b> For use in automatic loading, e.g. with RGB</p>		
<p><b>Front cross profile K-QV</b> This profile with end-stop edge can also be attached at the rear.</p>		<p><b>Cross profile K-QH step</b> Built in auxiliary step on loading side. The side-profile must be extended correspondingly to suit. For added safety, the bedside profile must be bolted to the upright.</p>	<p><b>Profile K-QV step</b> Built in step on picking side. The side-profile must be extended correspondingly to suit this purpose. For added safety, the side-profile must be bolted to the upright.</p>

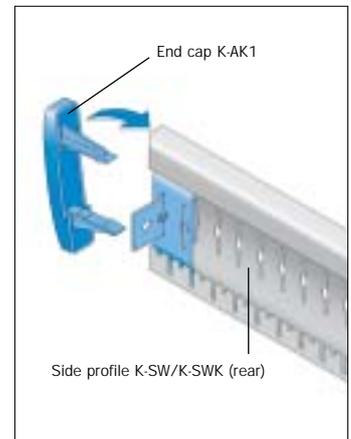
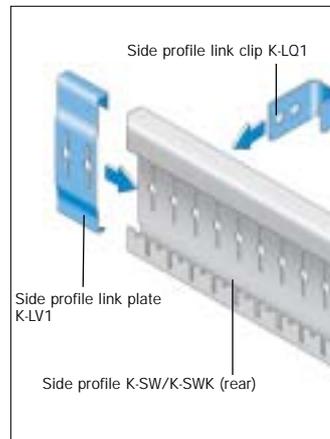
## 12) Pre-assembly of side-profiles



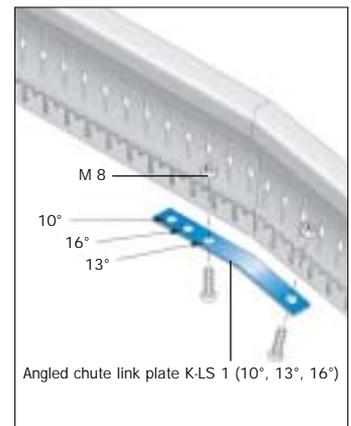
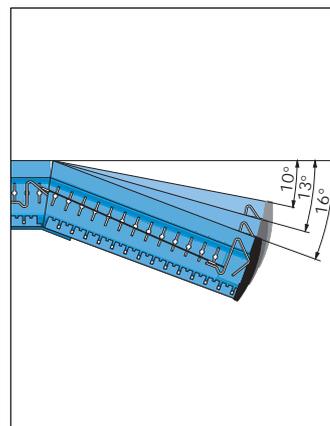
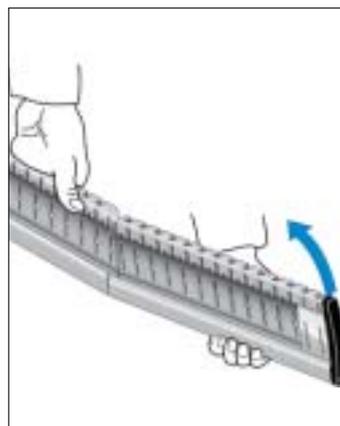
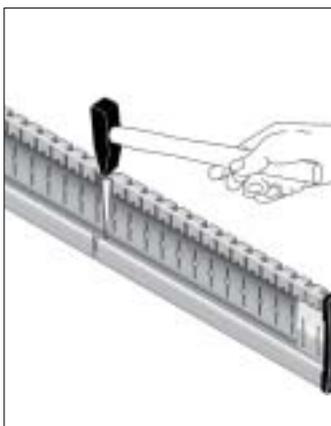
### 12.1) Side profile (front)



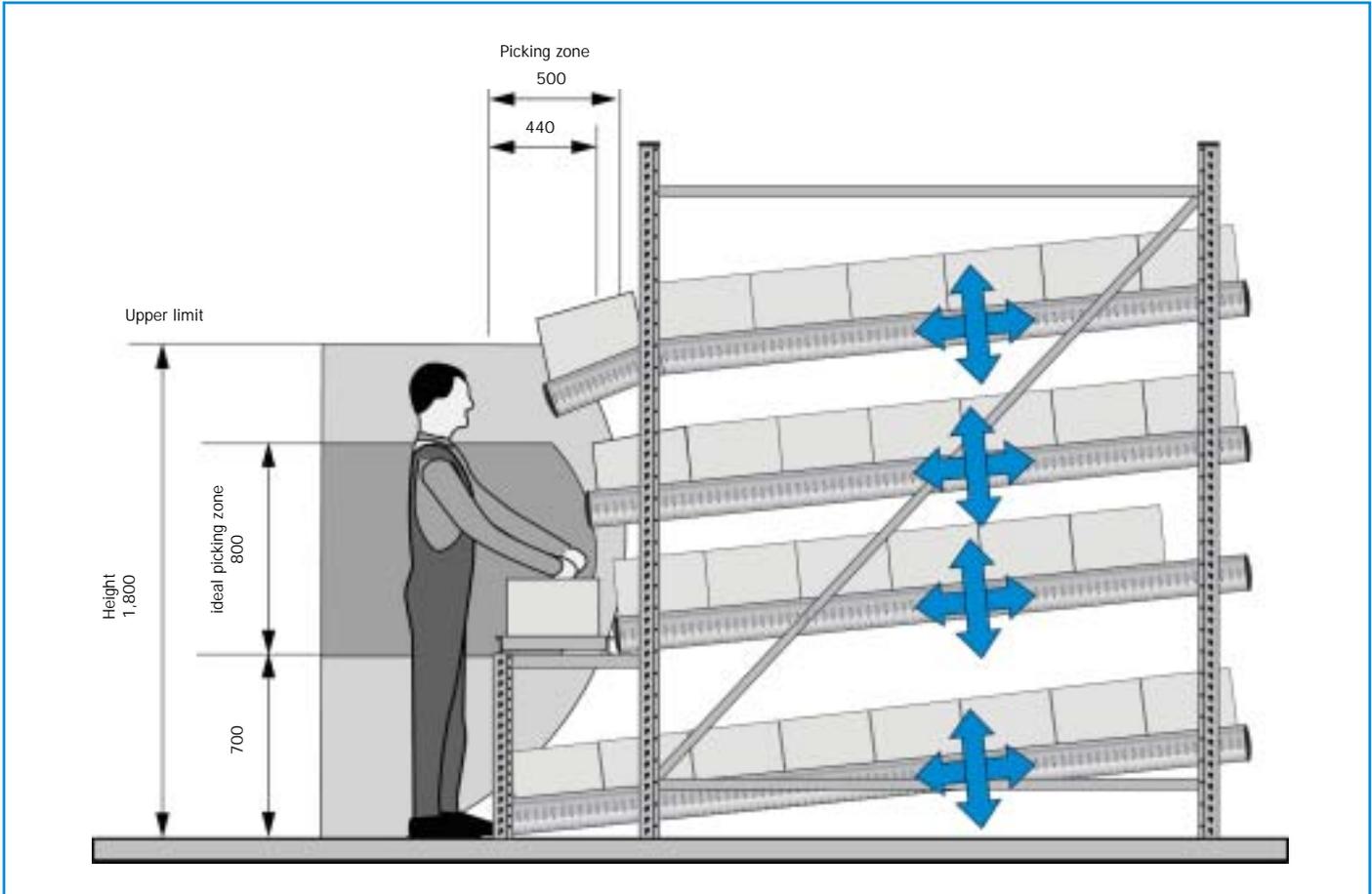
### 12.2) Side profile (rear)



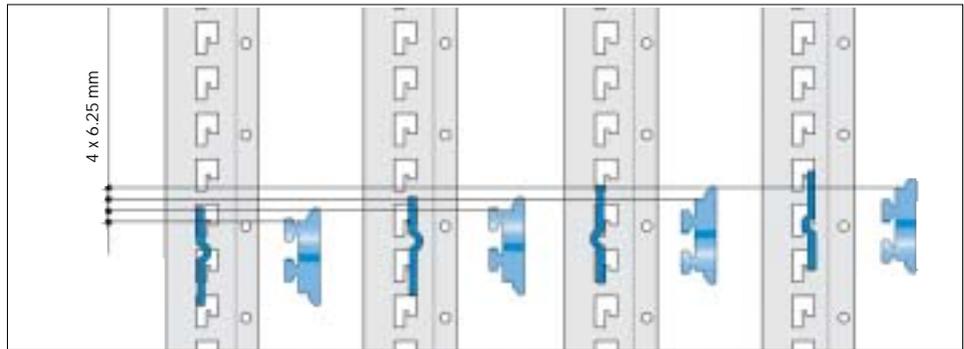
### 12.3) Forming the angled side-profile



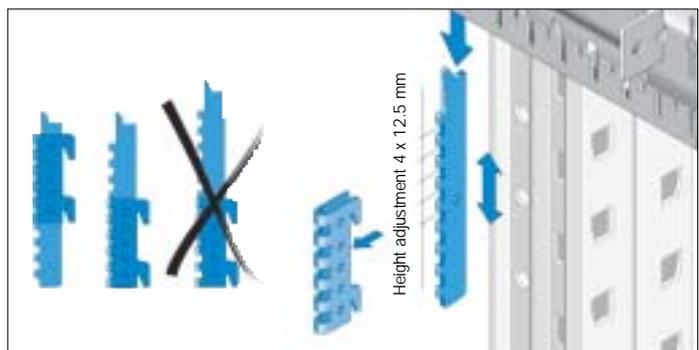
### 13) Samples of ergonomic configurations of flow beds



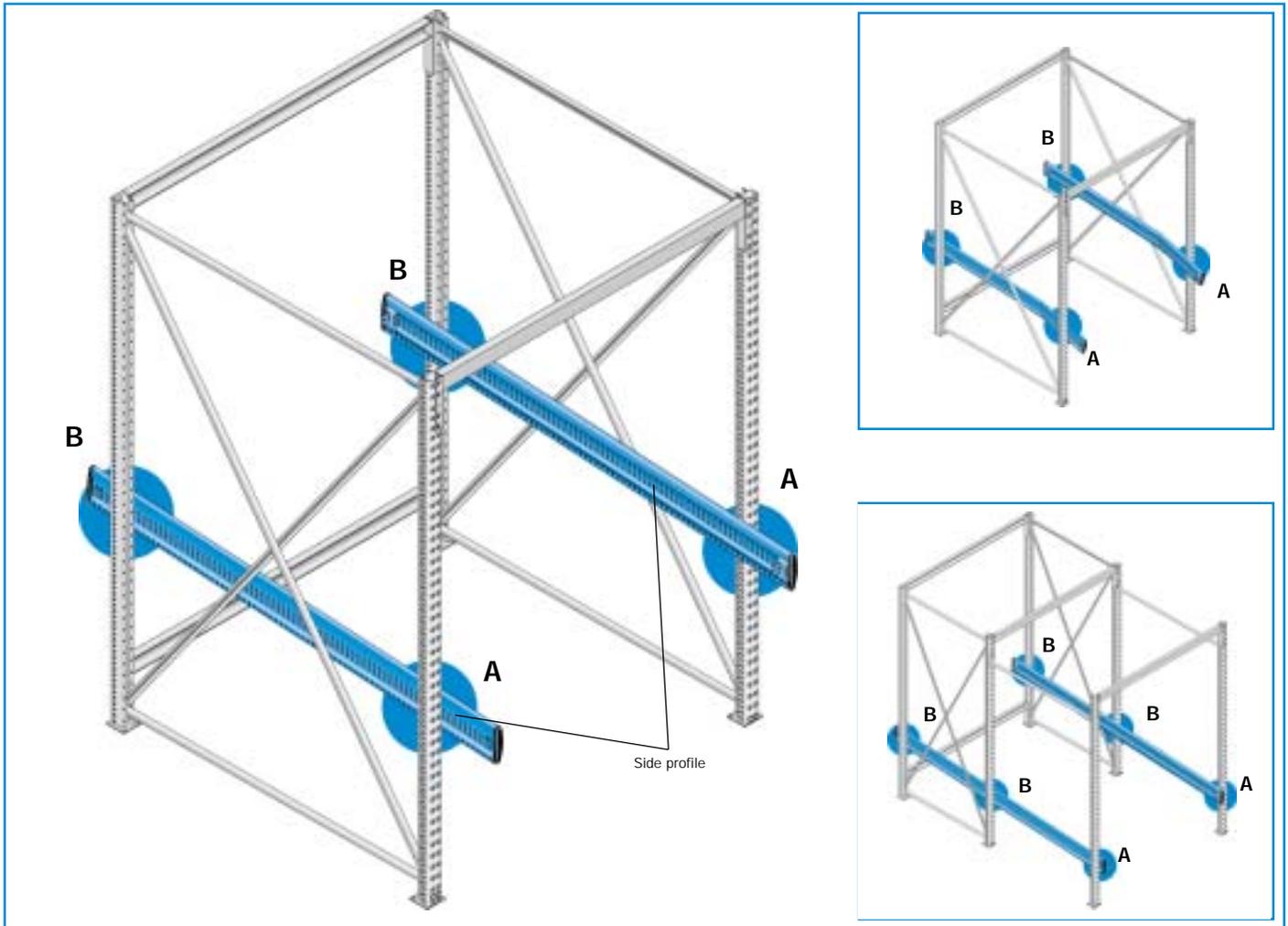
#### 13.1) Upright profile P 63 and P 65



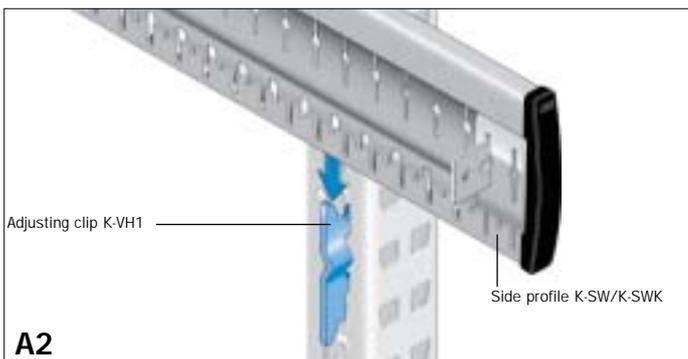
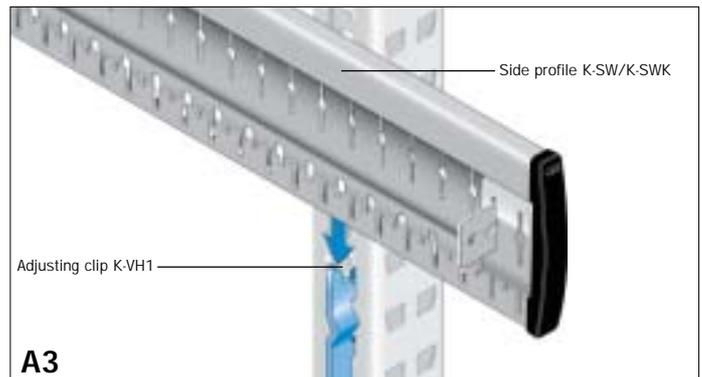
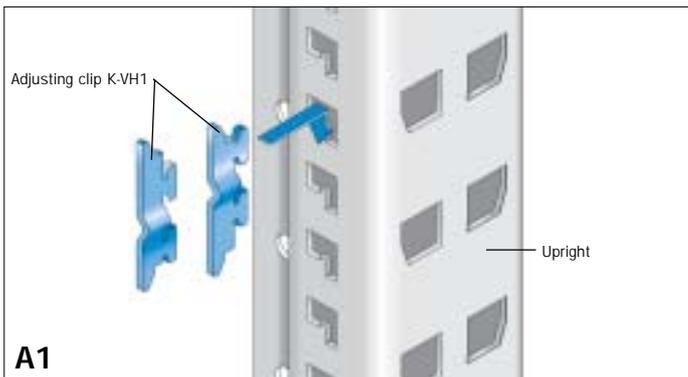
#### 13.2) Upright profile P 73 and P 93



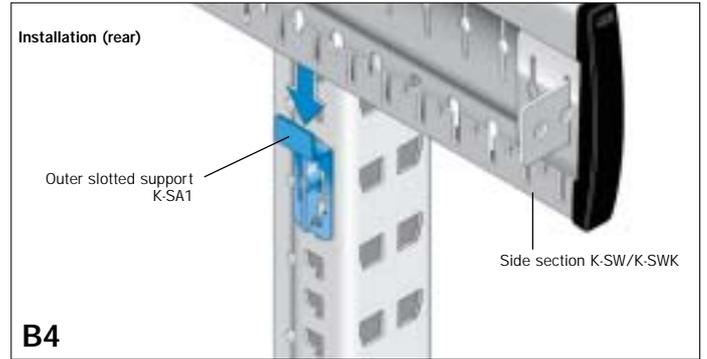
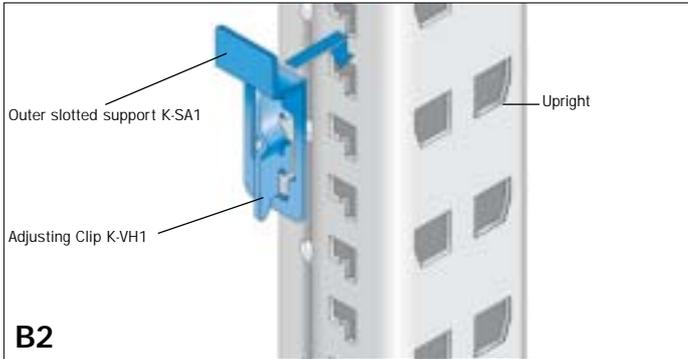
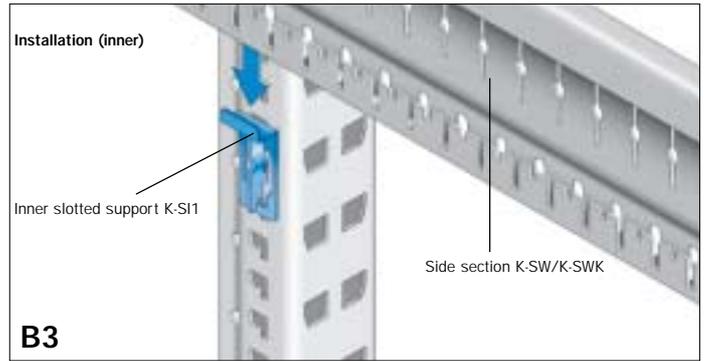
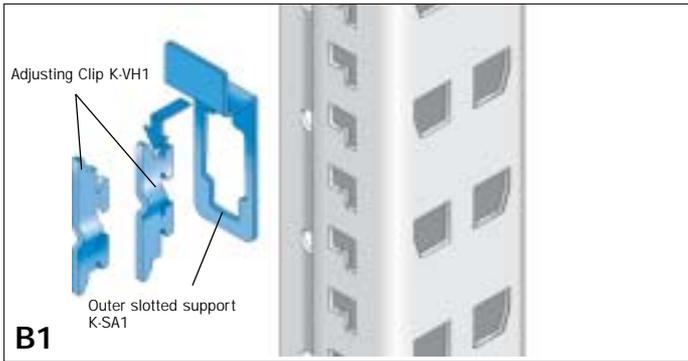
14) Positioning the side profiles within the bay – Upright profile P 63, P 65, P 73 and P 93



14.1) Positioning the side profiles within the bay – Upright profile P 63 and P 65

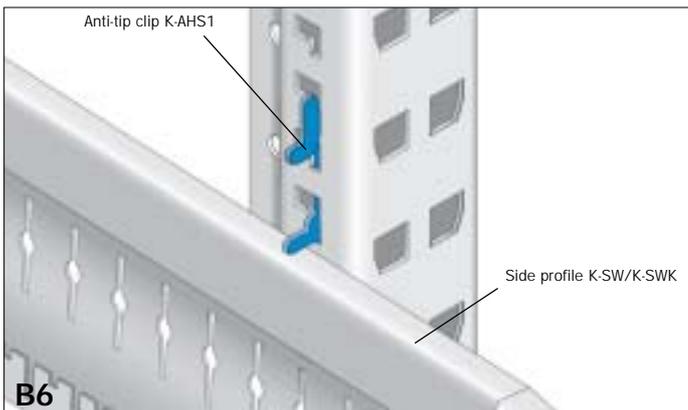
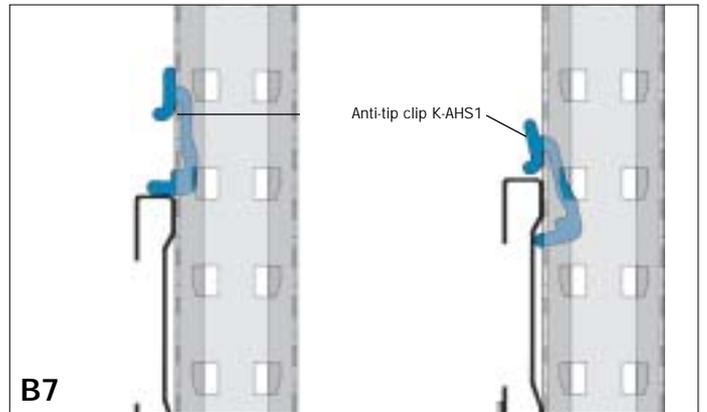
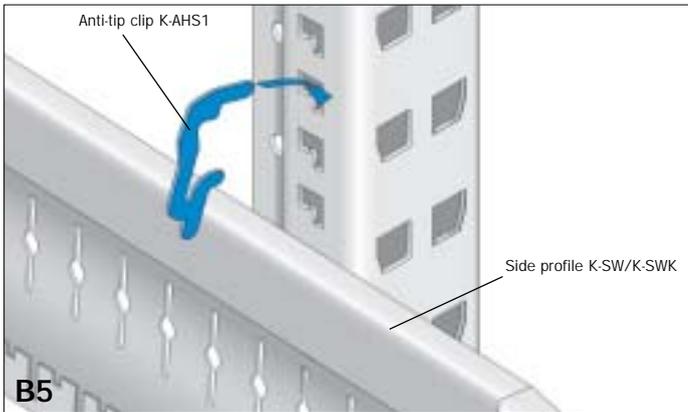


## 14.2) Positioning the profiles within the bay – rear and inner, Upright P 63 and P 65

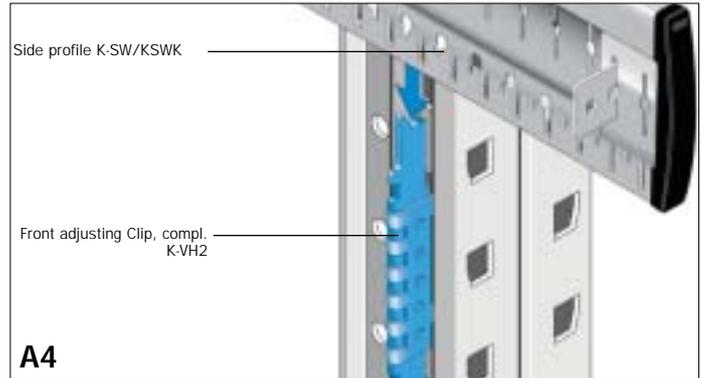
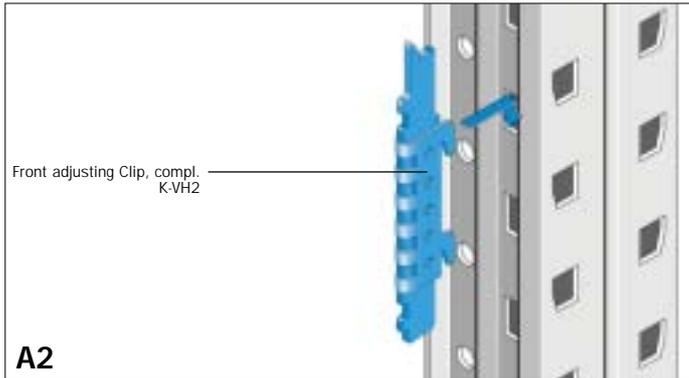
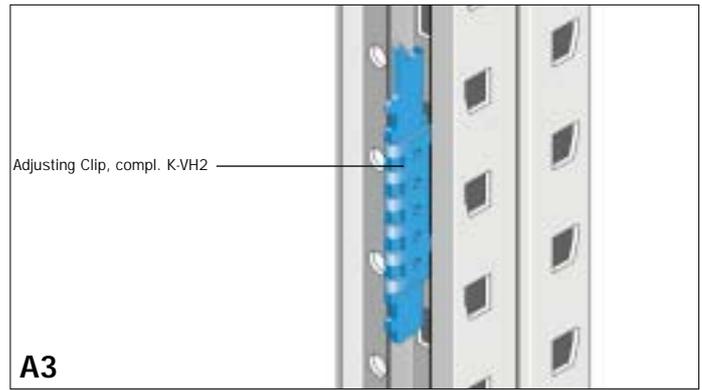
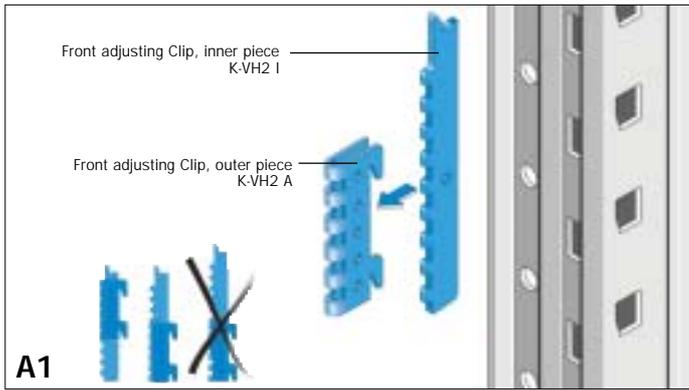


## 14.3) Anti-tip clip – Upright profile P 63 and P 65

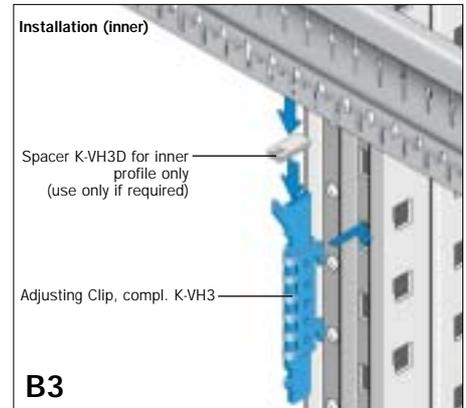
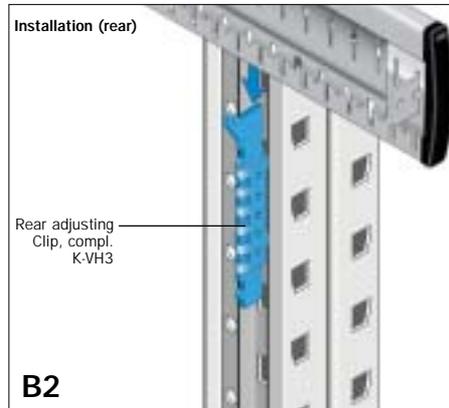
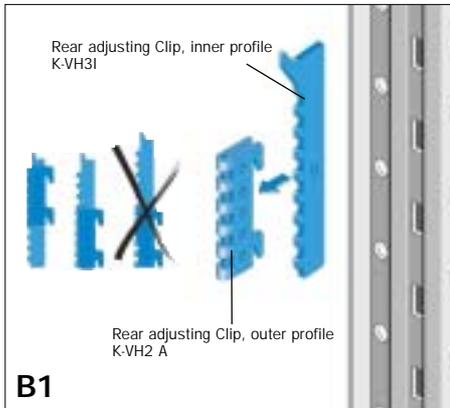
Each flow bed is fitted with two anti-tip clips. They are fitted at the rear and/or where, when fitted will prevent tipping.



## 14.4) Positioning the side-profiles within the bay – Upright profile P 73 and P 93

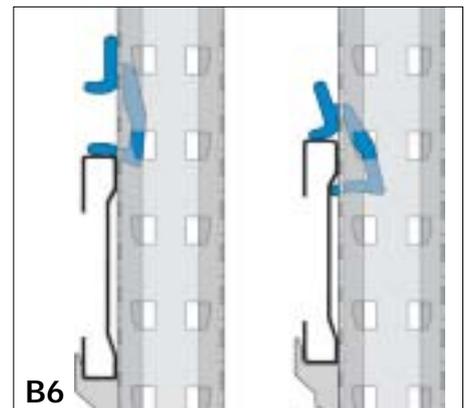
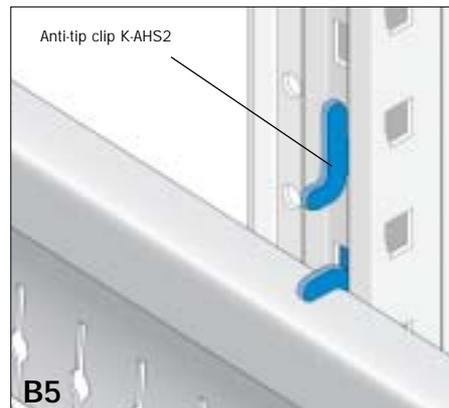
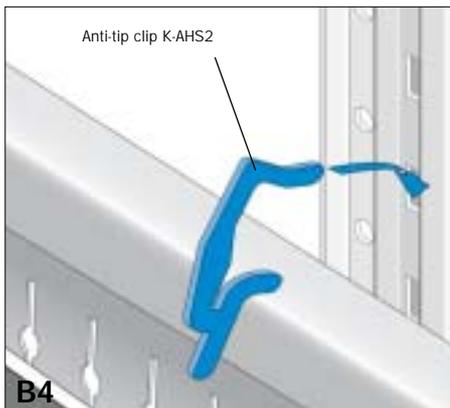


## 14.5) Positioning the side profiles within the bay – Upright P 73 and P 93

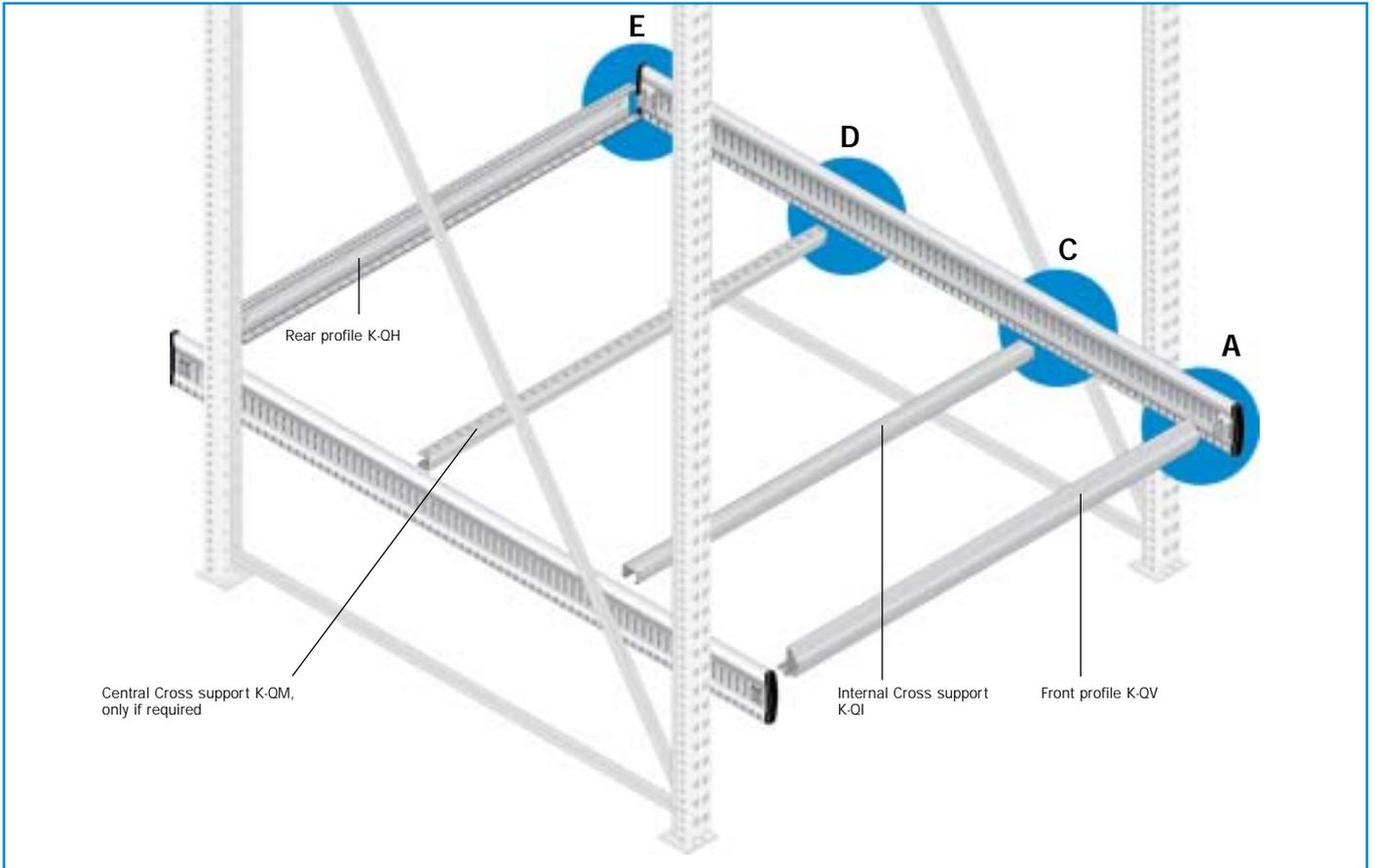


## 14.6) Anti-tip clip

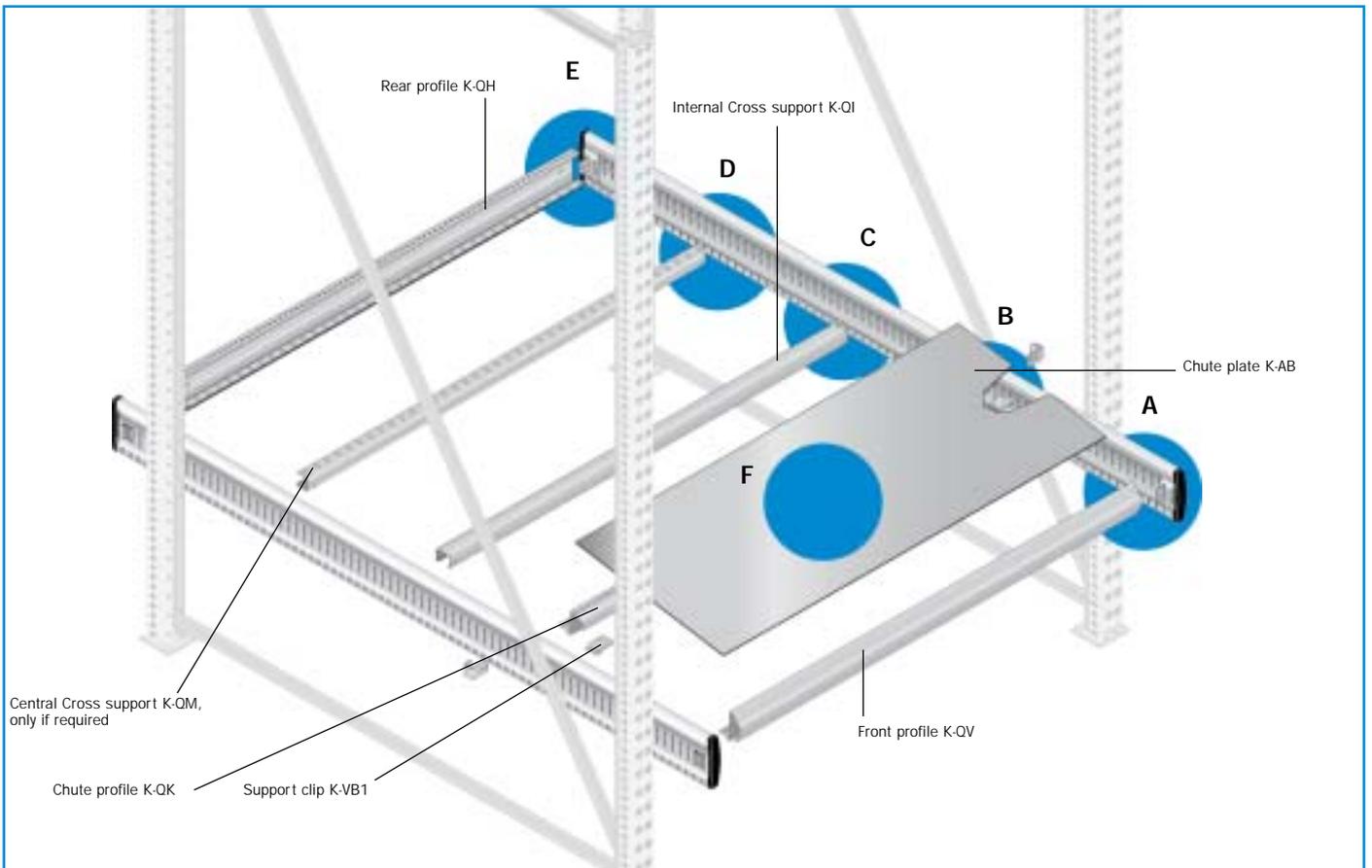
Each flow bed is fitted with two anti-tip clips. They are fitted at the rear and/or where, when fitted will prevent tipping.



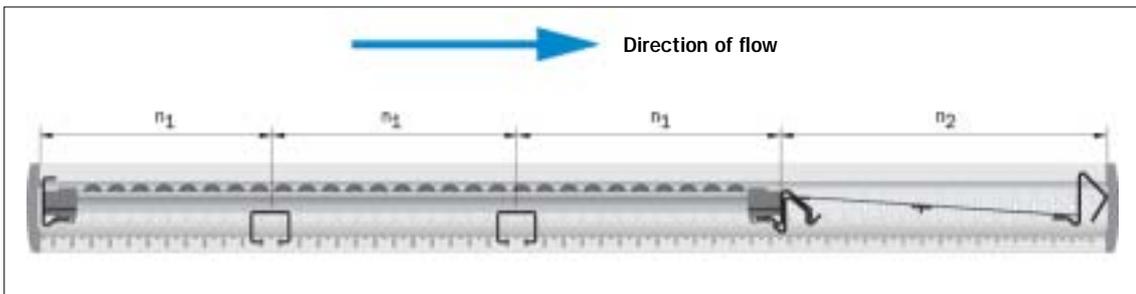
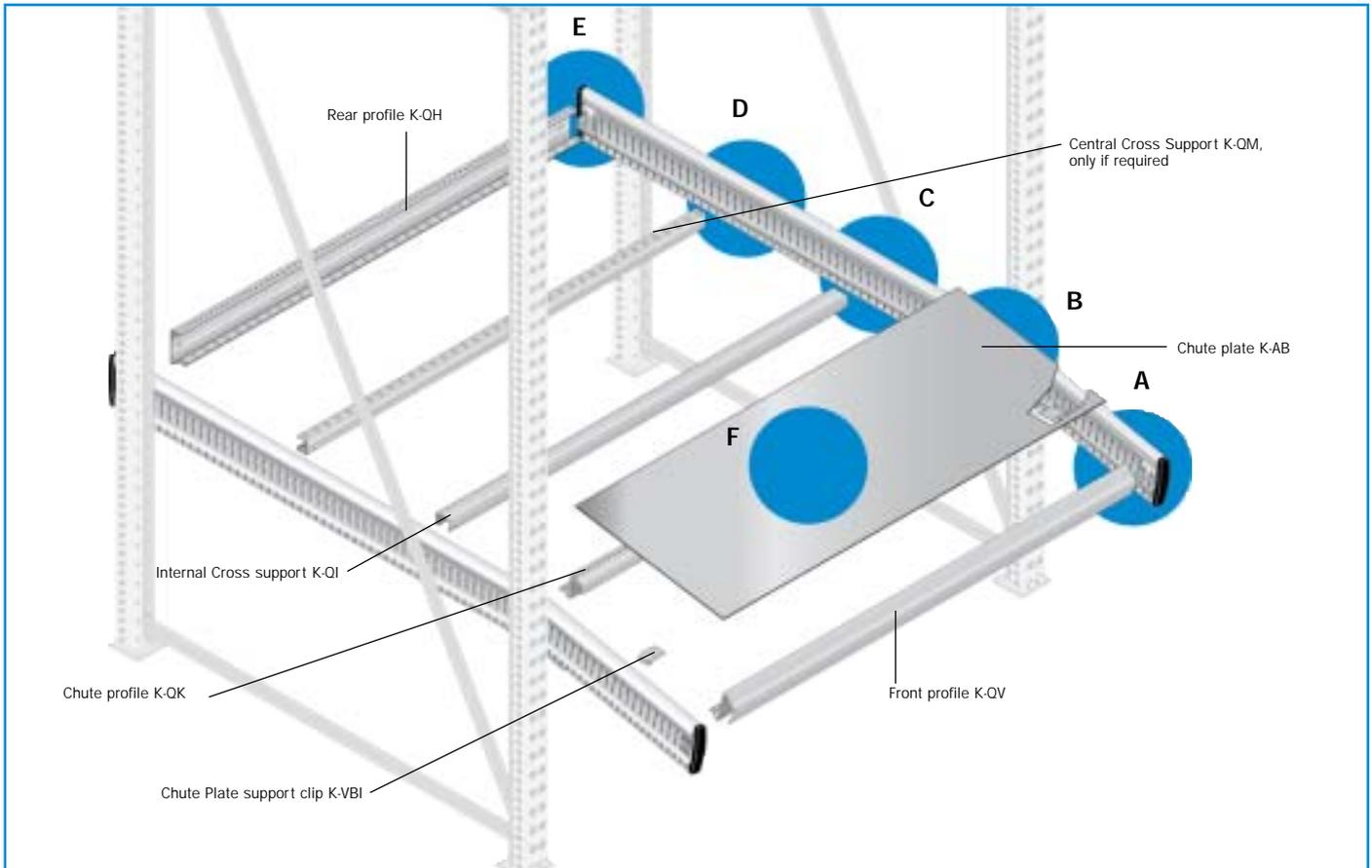
## 15) Overview of flat flow beds



### 15.1) Overview of flat flow beds with front chute

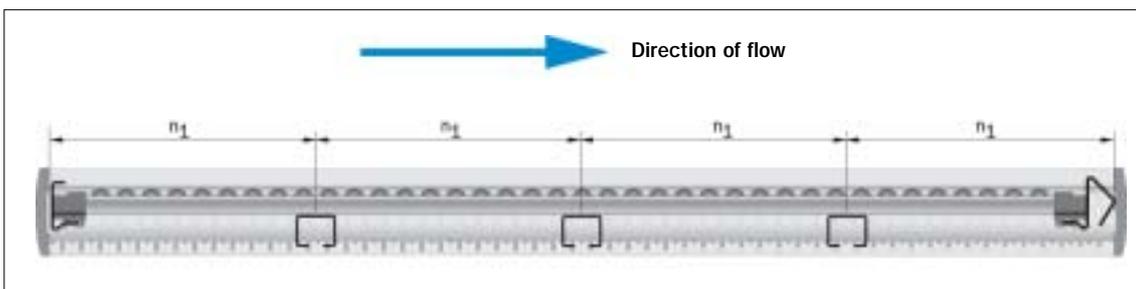
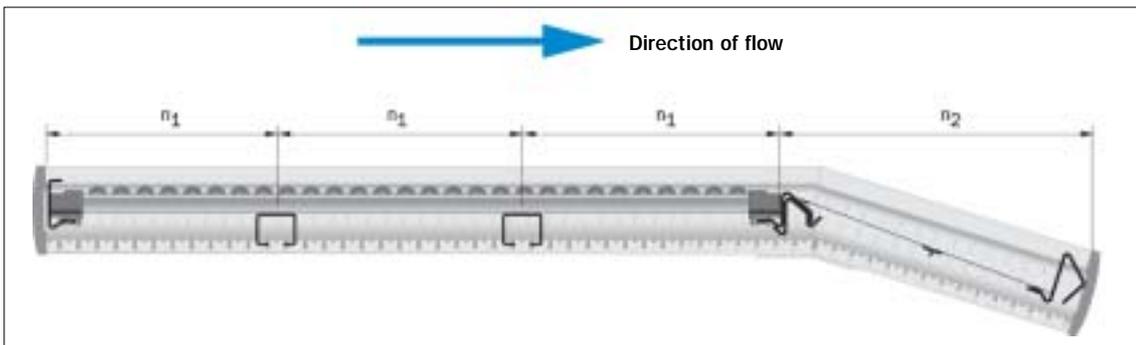


## 15.2) Overview of flow beds with angled front chute

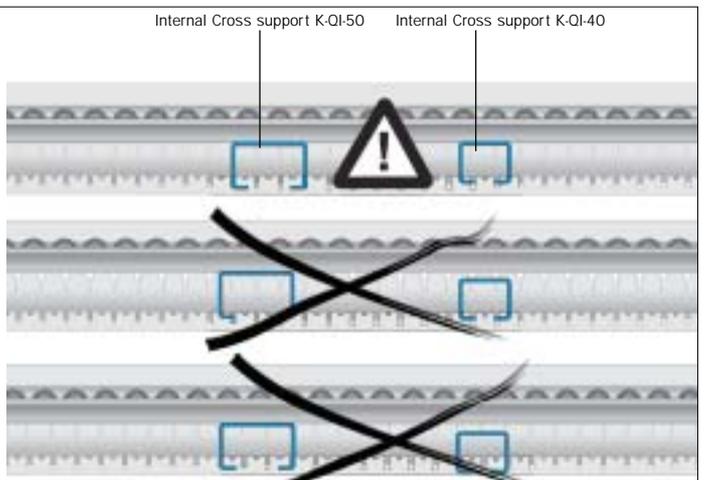
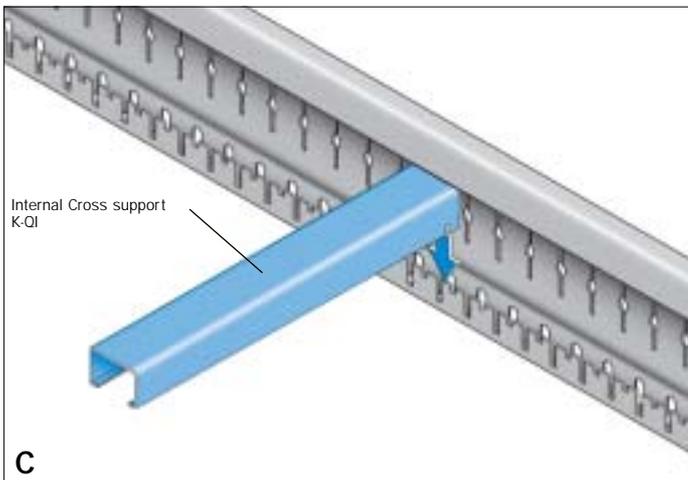
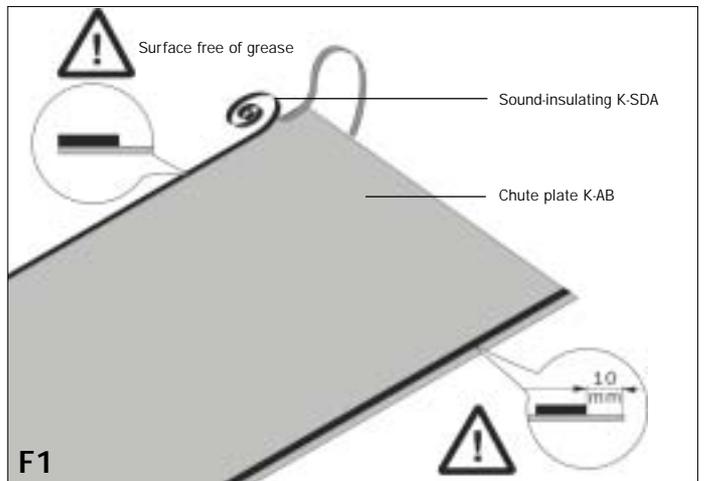
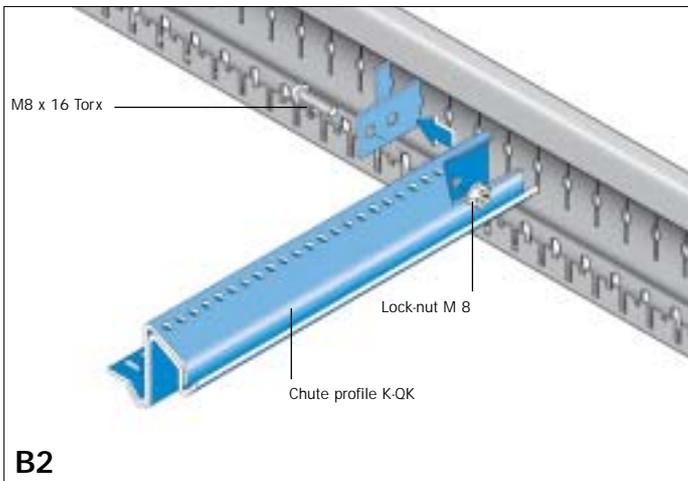
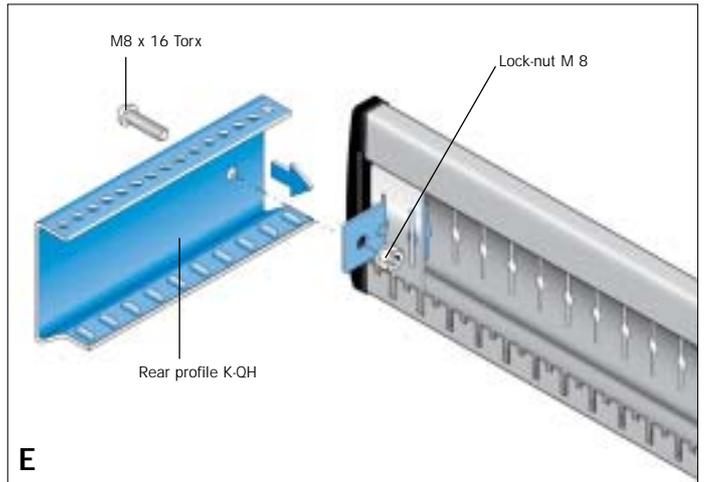
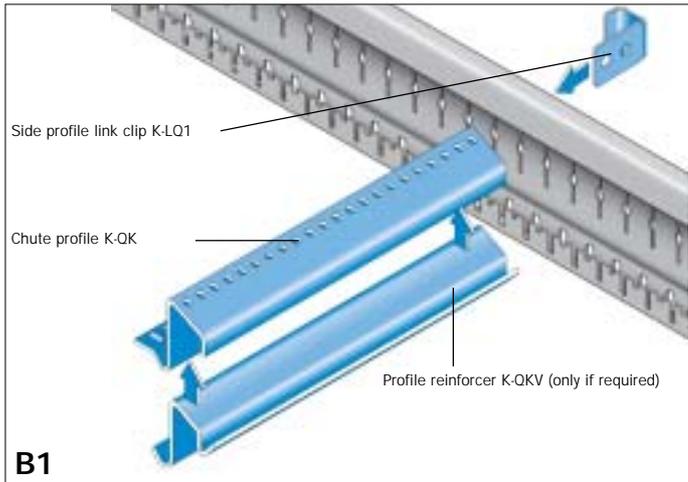
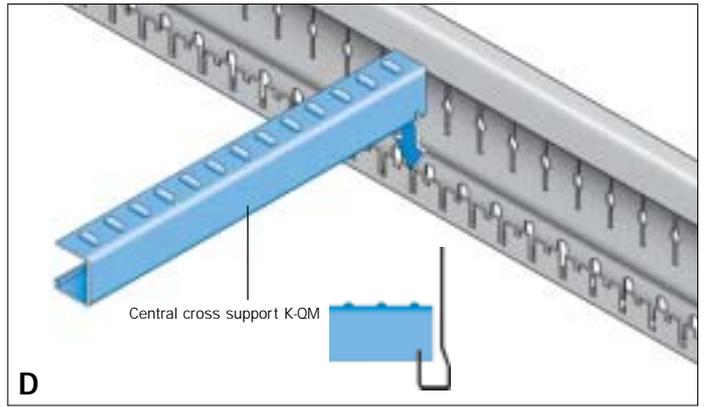
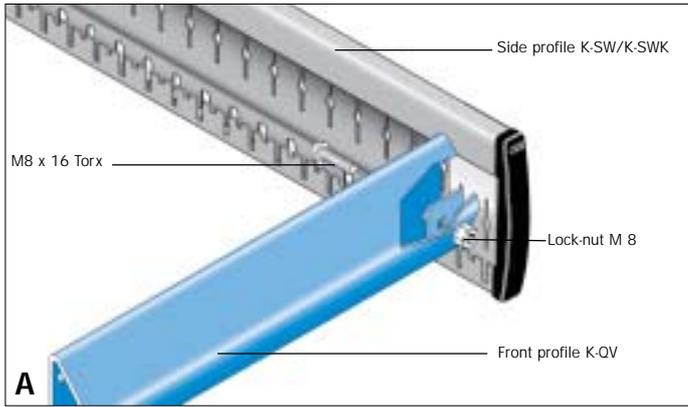


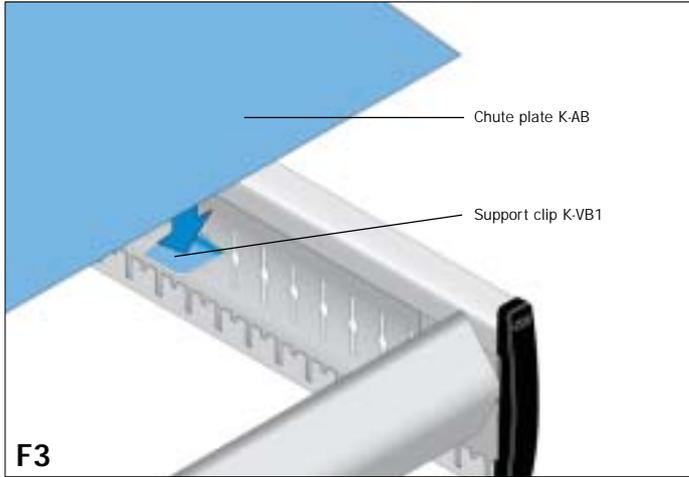
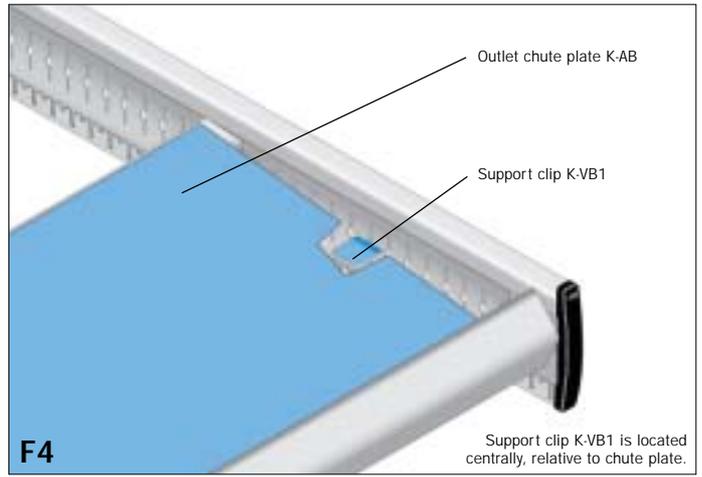
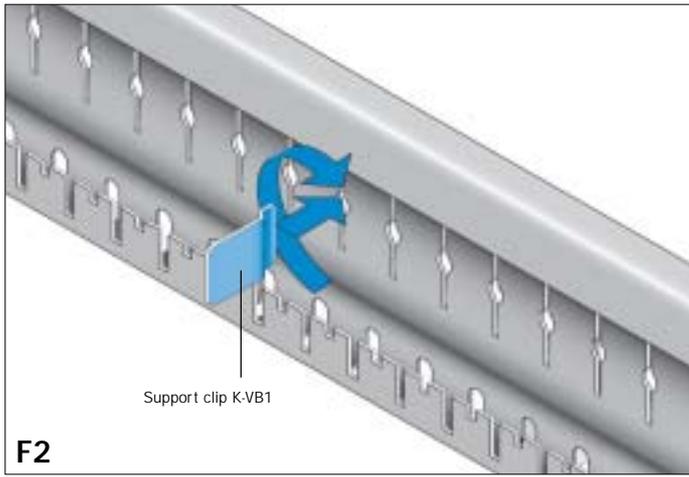
### Caution!

Each flow bed is supplied with its corresponding sketch diagram. Please refer to this sketch diagram for details of position, number and type of cross supports, together with the load capacity of the flow bed.

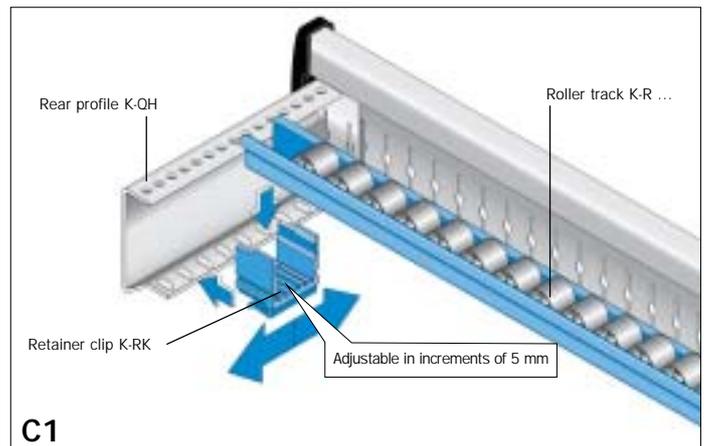
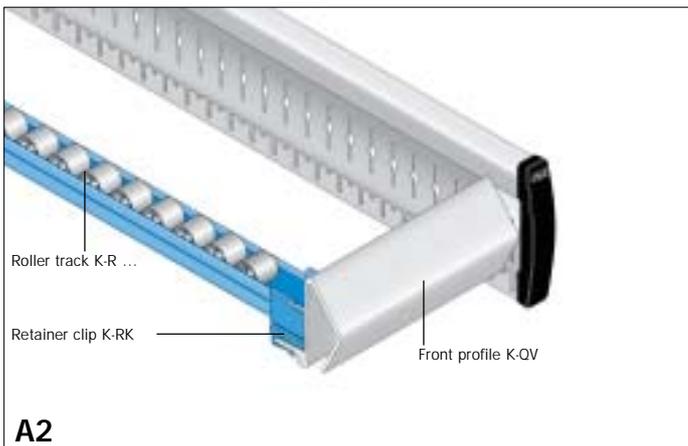
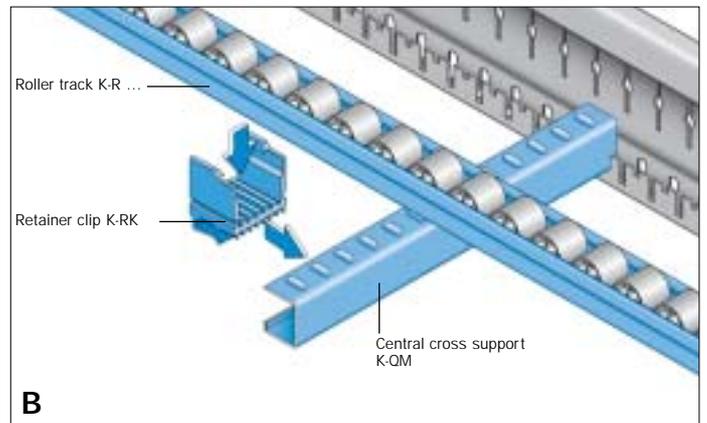
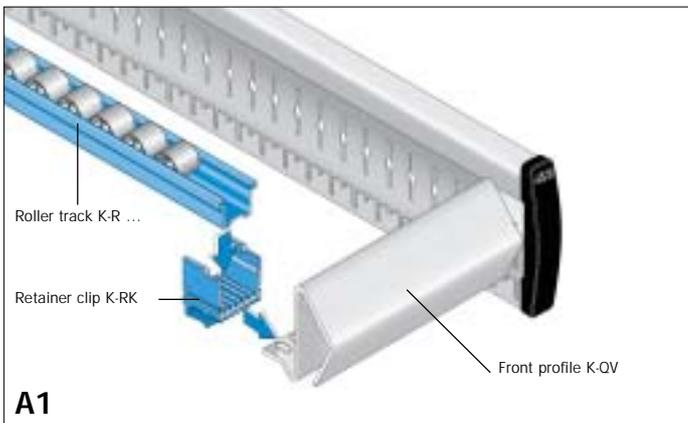
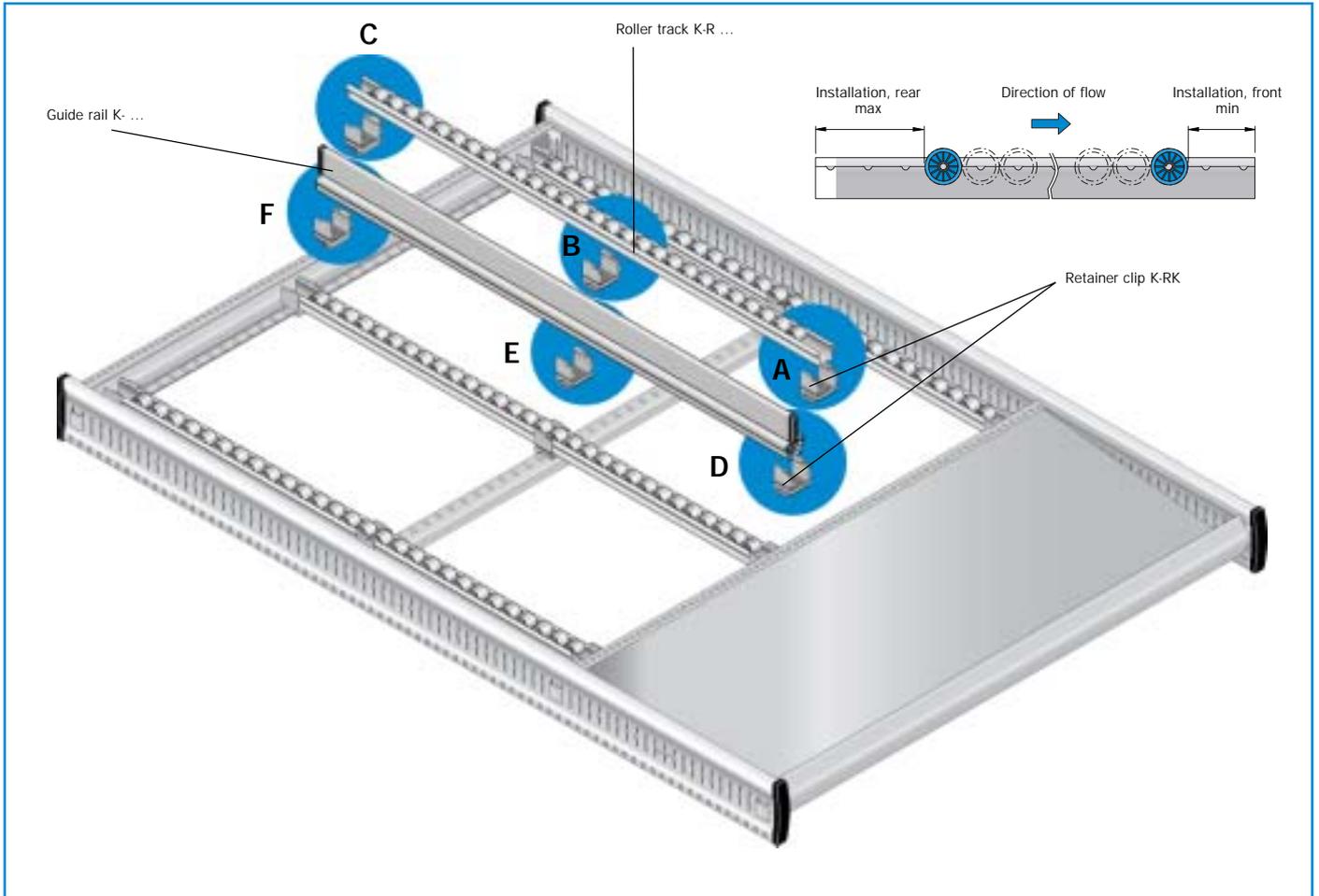


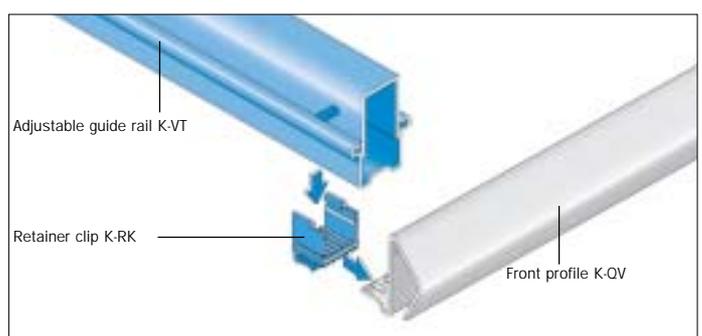
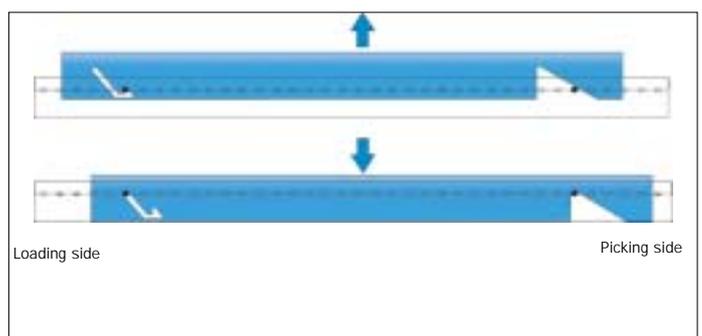
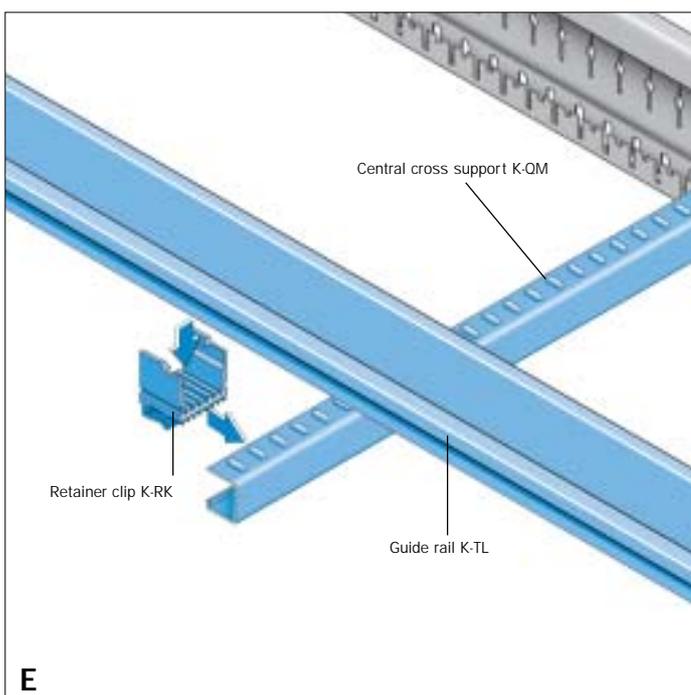
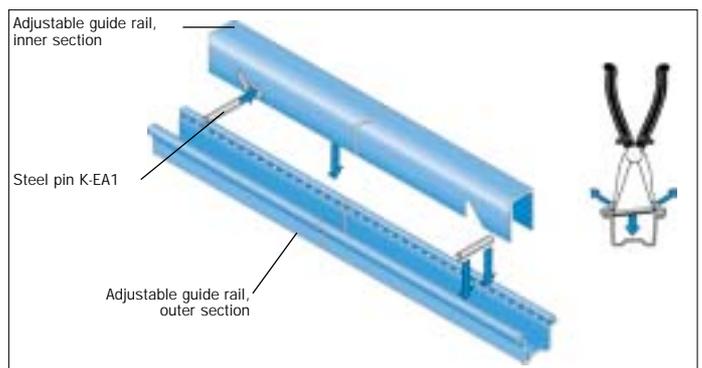
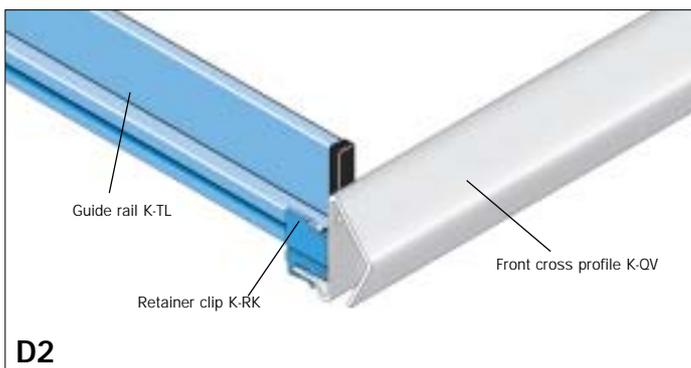
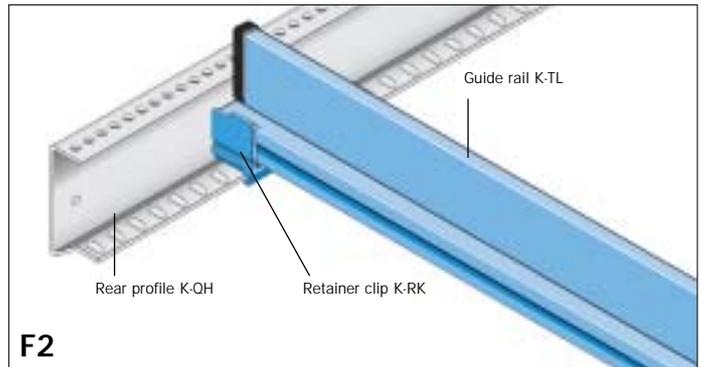
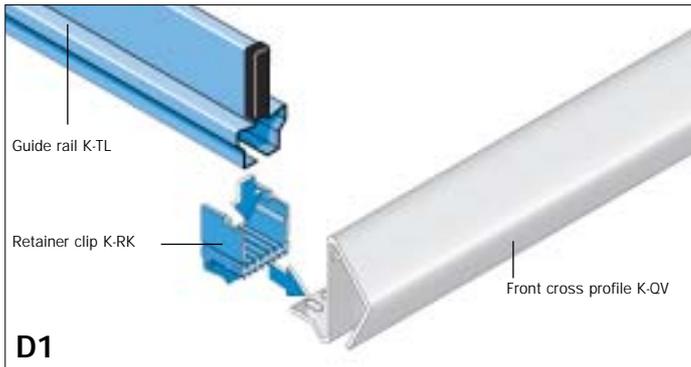
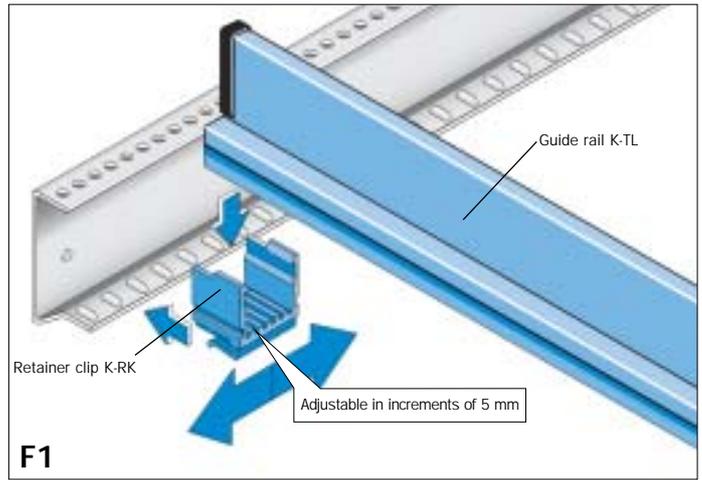
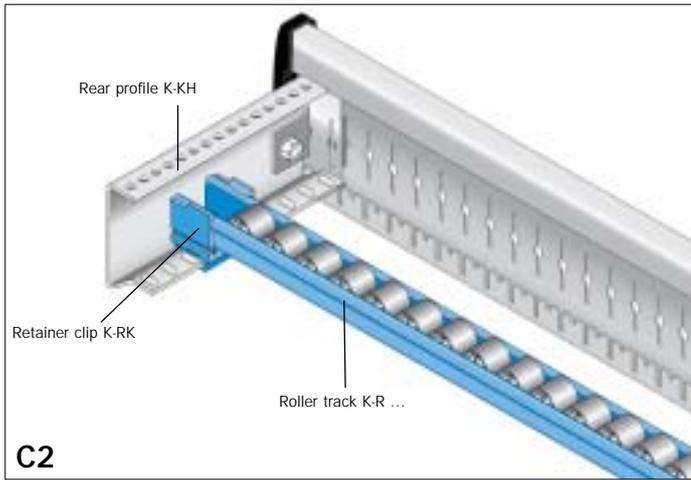
## 16.) Assembly of the flow beds



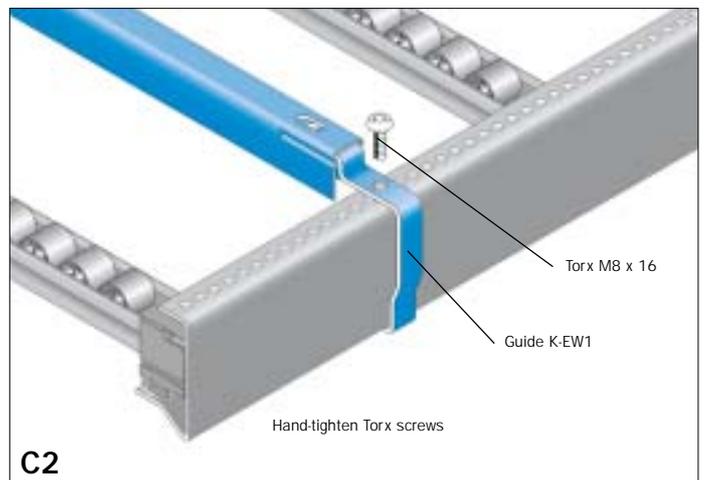
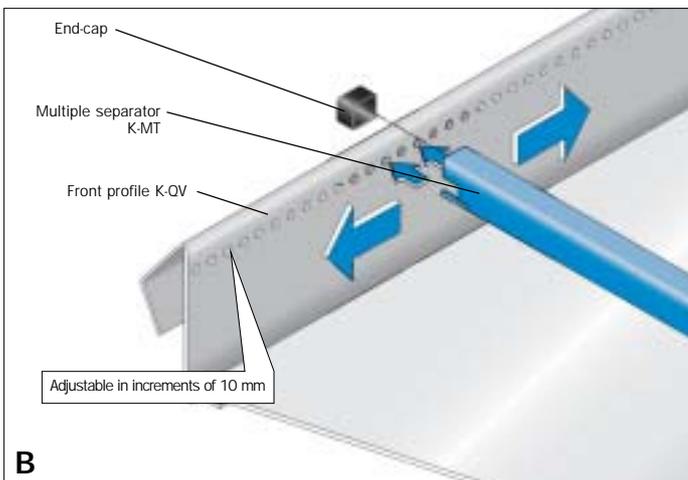
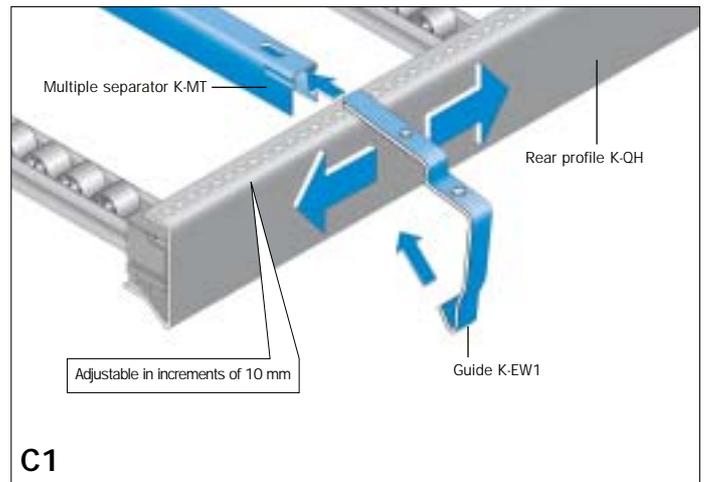
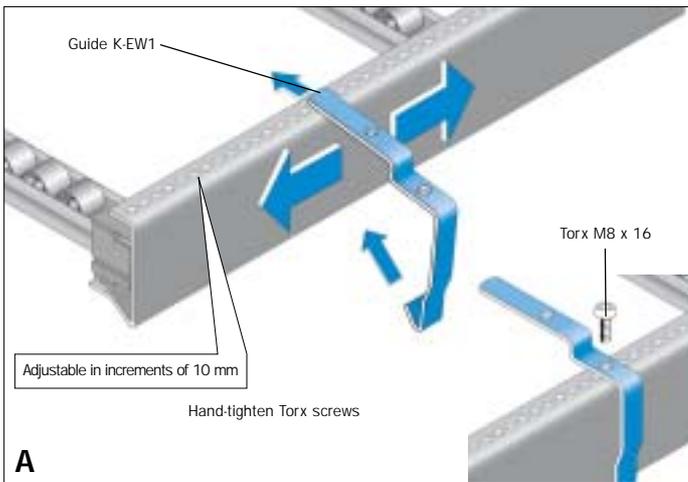
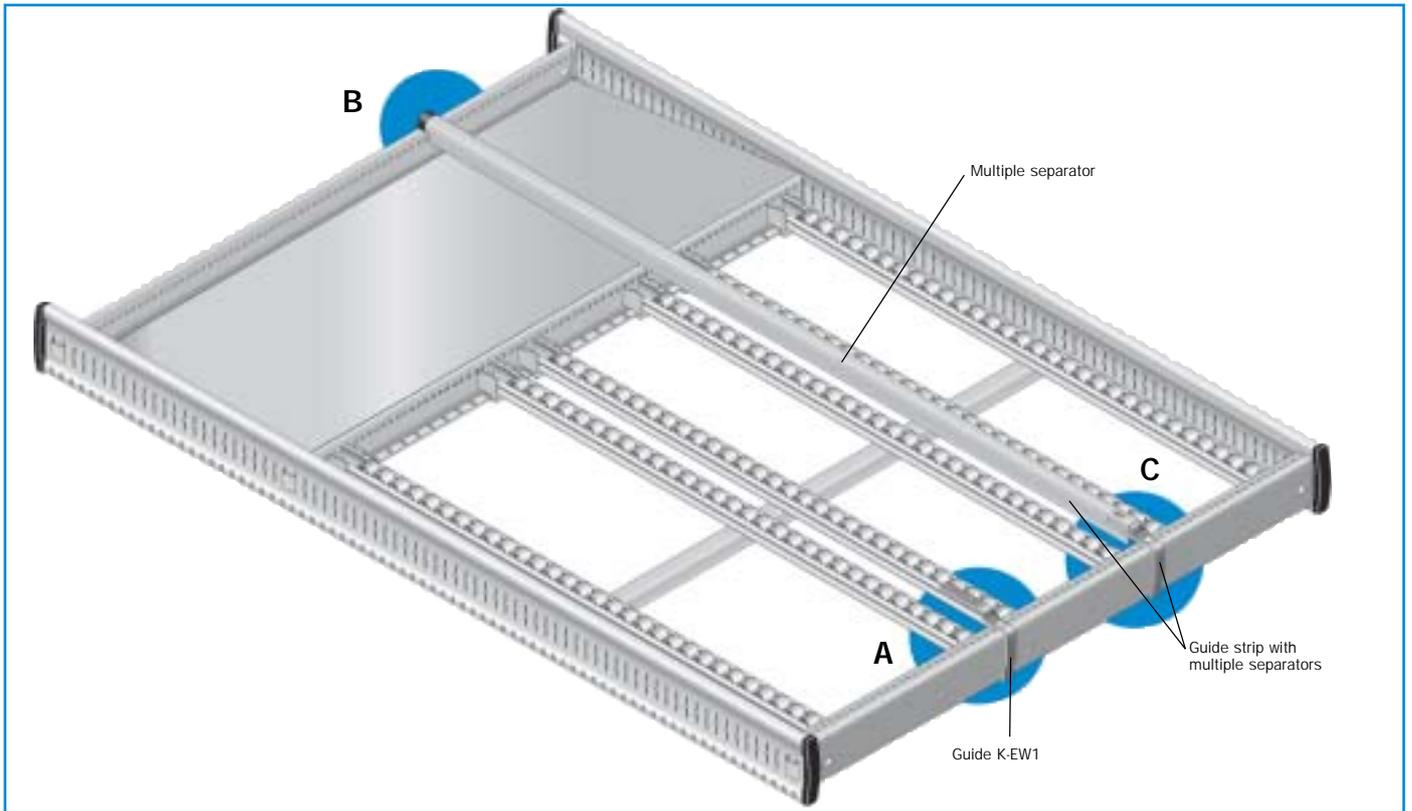


## 17.) Installation of roller track and guide rail

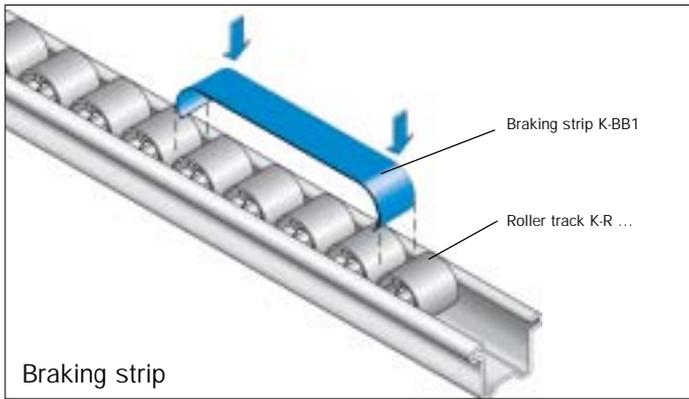




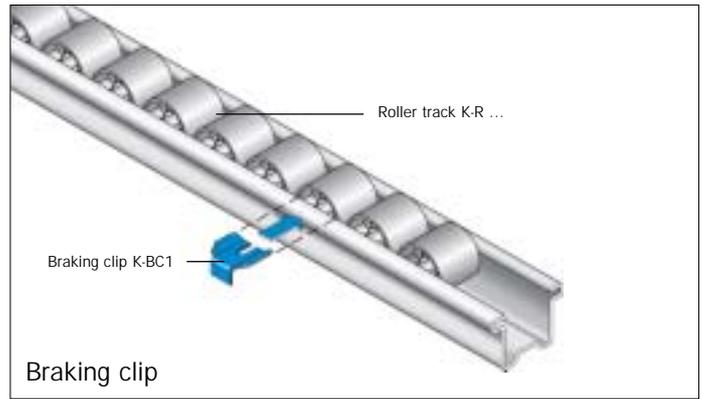
## 18.) Installation of multiple separator and guide



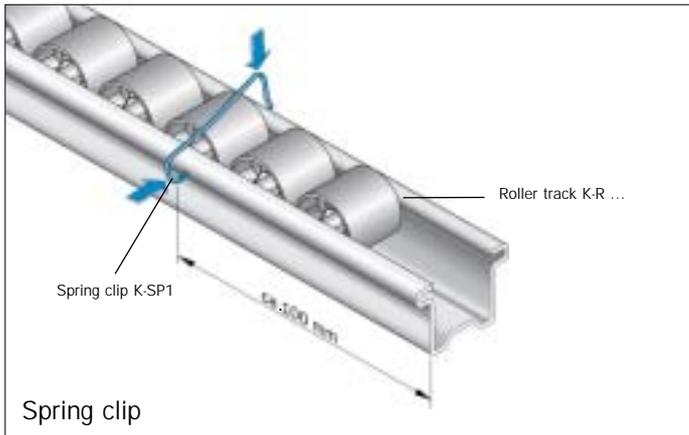
## 19.) Installation of accessories



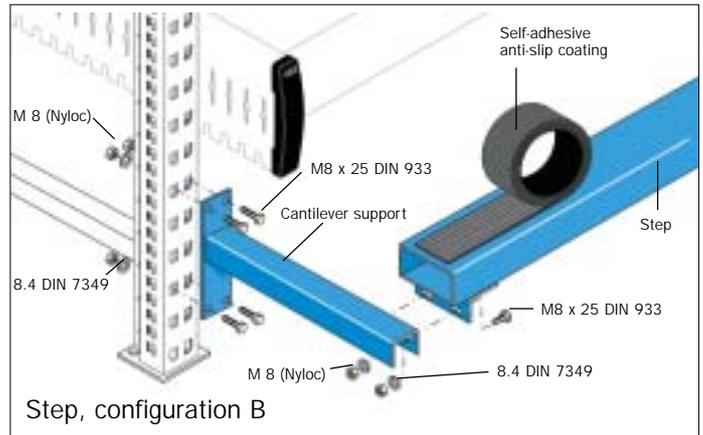
Braking strip



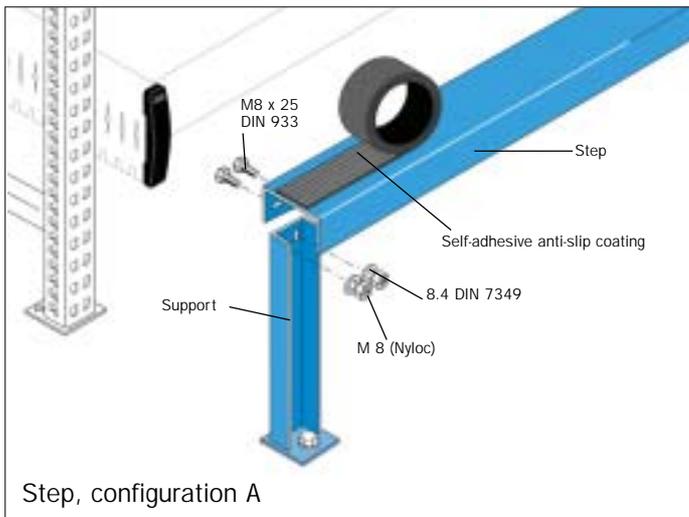
Braking clip



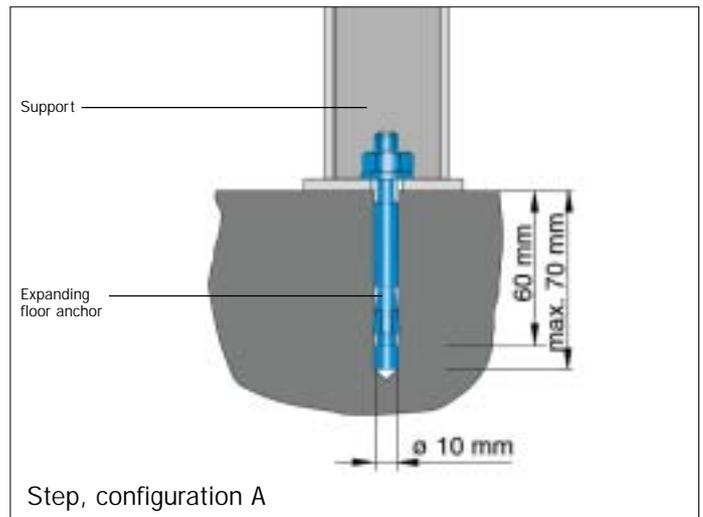
Spring clip



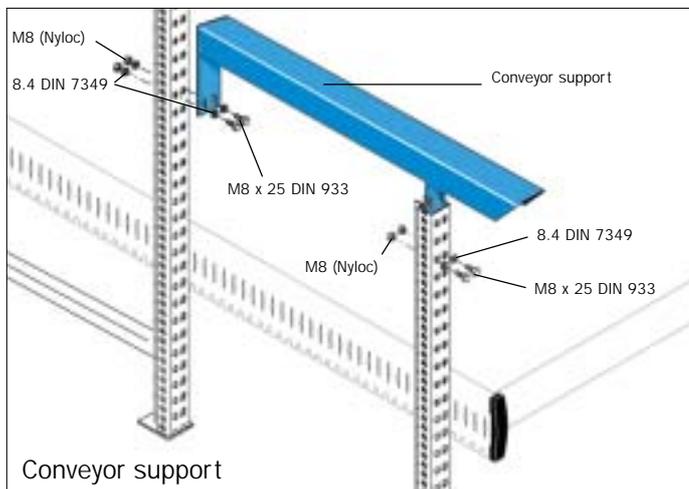
Step, configuration B



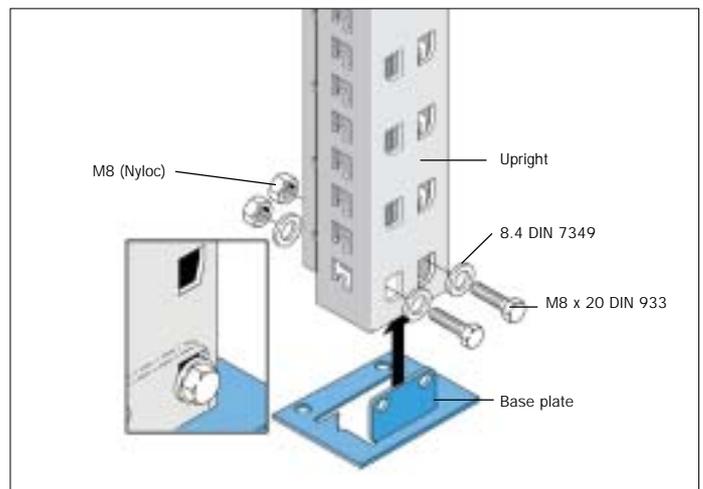
Step, configuration A



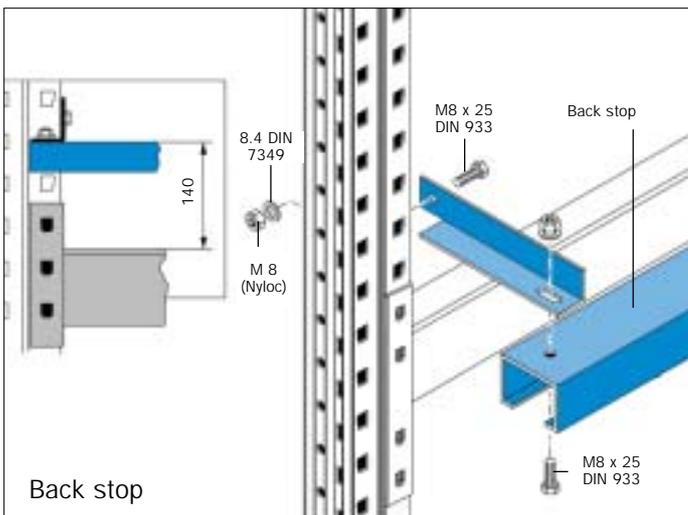
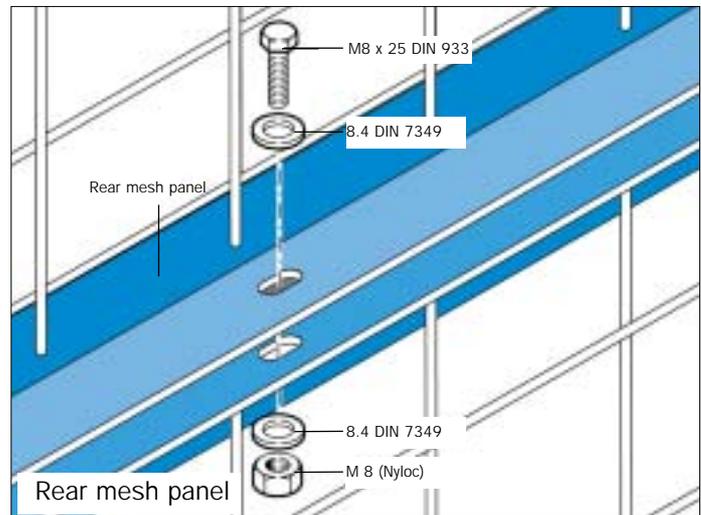
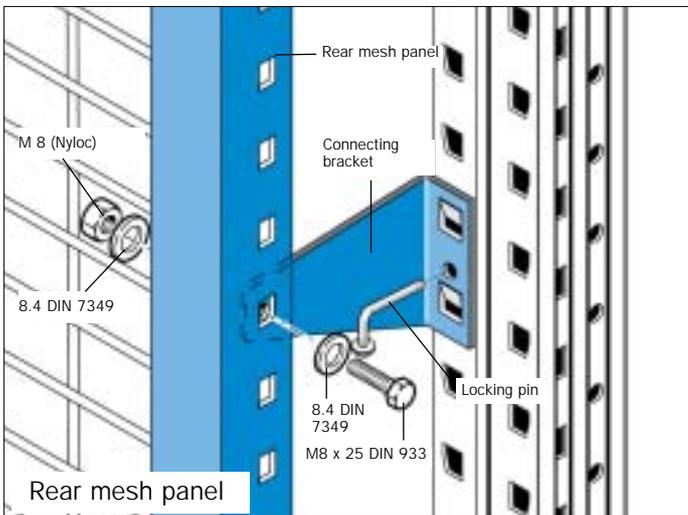
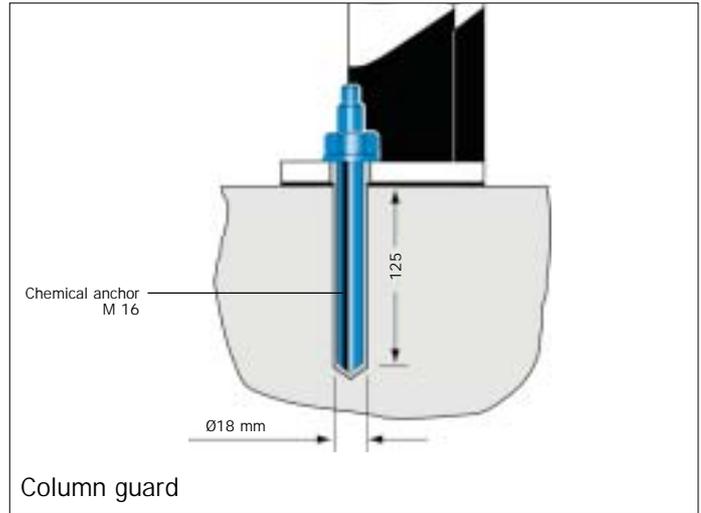
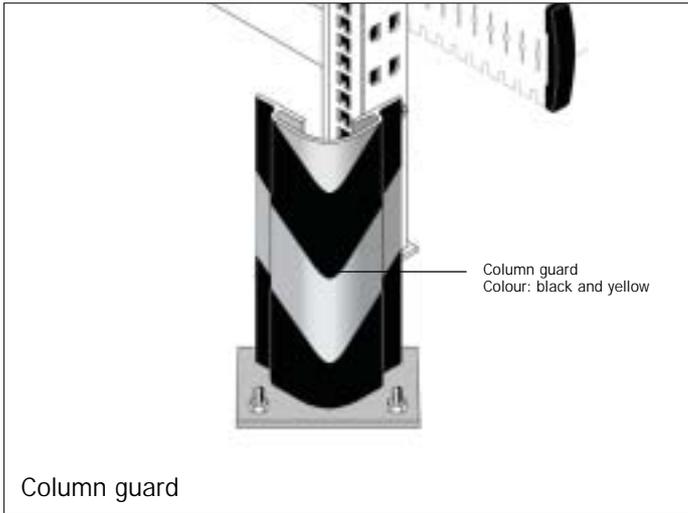
Step, configuration A



Conveyor support



## 20. Installation of accessories



**SSI SCHAEFER**

Shelving system: \_\_\_\_\_

Year of manufacture: \_\_\_\_\_

Shelf type: \_\_\_\_\_

Confirmation no. \_\_\_\_\_

Shelf depth: mm \_\_\_\_\_

No. of storage levels: \_\_\_\_\_

Level	Actual profile-width	Shelf load
mm	mm	kg
mm	mm	kg

max. KDR weight: \_\_\_\_\_

min. KDR weight: \_\_\_\_\_

Shelf capacities apply to evenly distributed loads. Please observe the installation and operating instructions.

**SSI SCHAEFER LTD.**  
83/84 Livingstone Road · Walworth Industrial Estate · GB-Andover, Hants. SP10 5OZ  
Phone 00 44 /12 64 /38 66 00 · Fax 00 44 /12 64 /38 66 11

Load notice (example)

