

# HALFEN HBJ BETOJUSTER

PRODUKTINFORMATION TECHNIK



*HALFEN BETOJUSTER*

HBJ 14.1

FASSADE



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YOUR BEST CONNECTIONS

## HALFEN HBJ-W BETOJUSTER

### Advantages at a Glance

#### HALFEN HBJ-W – Betojuster for precast concrete wall elements

The HALFEN HBJ Betojuster is an auxiliary device for adjusting and aligning precast concrete elements; especially suitable for aligning wall elements, prefabricated garages and concrete form shapes.

The HBJ Betojuster provides the building contractor with a simple and therefore a safe method for precise vertical adjustment of walls after initial installation; while simultaneously avoiding injuries to site personnel and avoiding tool damage to concrete elements.

Adjustment requires minimal effort and is done with standard tools.

The minimal construction height ensures the betojuster stays below the final floor height. The screw slots do not need to be grouted.

#### Advantages

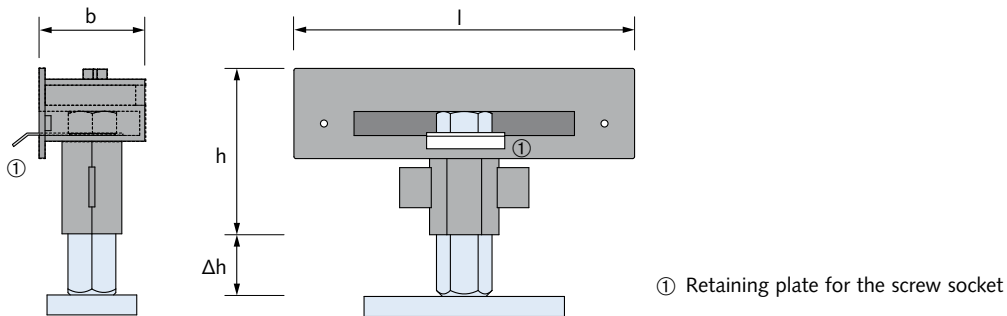
- damage-free screw-adjustable height
- crane time optimization; once the elements are placed and adequately secured and shored, the crane is available to lift the next element
- adjustment range up to 35 mm
- requires only standard tools
- minimal effort required
- especially designed for applications where access is restricted



# HALFEN HBJ-W BETOJUSTER

## Product Overview

### Product data



HALFEN HBJ-W		
construction height (without pressure-distribution block)	h [mm]	75
adjustment range	Δh [mm]	+35
construction depth	b [mm]	53
construction length	l [mm]	170
minimum wall thickness	d [mm]	60
adjustment wrench size	SW [mm]	24
load capacity for each betojuster	F [kN]	50
	F <sub>D</sub> [kN]	67.5

### Order information

HALFEN HBJ-W Betojuster		
	Item name	Article no.
	HBJ-W Betojuster	0420.010-00001



#### Installation note

We recommend using a ratchet spanner-wrench for efficient adjustment.  
For example: article no. 503.5924  
from KS TOOLS.

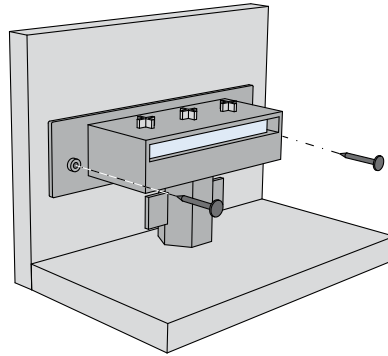


# HALFEN HBJ-W BETOJUSTER

## Assembly and Application

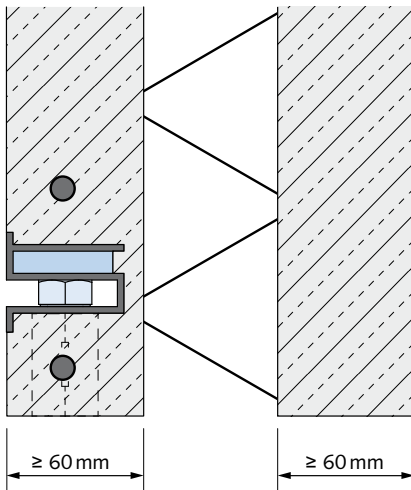
### Precast plant assembly

Two betojusters are installed flush with the underside of the concrete wall element. The screw socket is fully recessed in delivery state and during the initial installation.

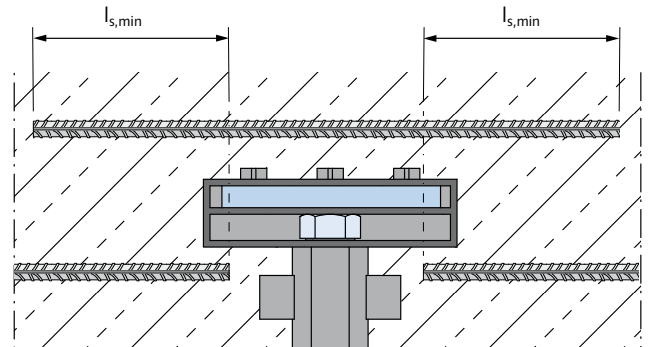


Attach to timber formwork with nails or to steel formwork using hot glue.

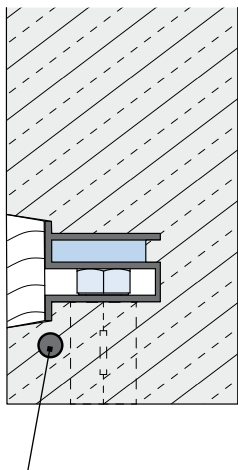
### Variant 1: sandwich-walls, post-filled with concrete



In sandwich-walls the HBJ is installed only in one shell (preferably in the inner shell). The required edge reinforcement is installed off-set behind the HBJ.



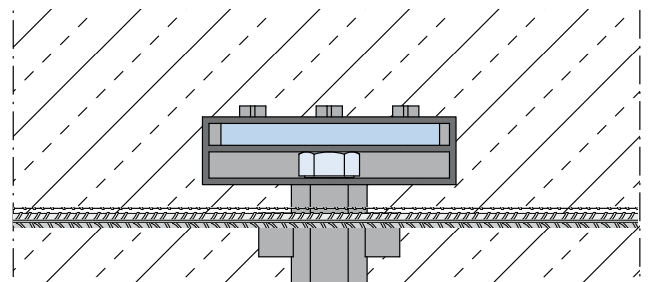
### Variant 2: monolithic walls



Continuous edge reinforcement

The betojuster is fixed to the formwork with an additional wood batten; this forms a deeper recess. More installation depth allows continuous edge reinforcement in front of the HBJ.

The installation recesses in walls can be filled after final adjustment if no interior floors are planned and an aesthetical finish is required.



# HALFEN HBJ-W BETOJUSTER

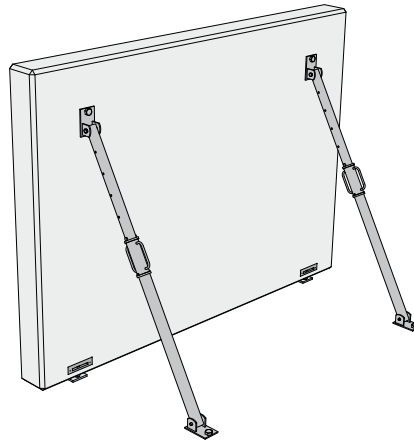
## Assembly and Application

### On-site assembly

► The wall is initially installed by crane and secured with shoring. The shoring elements support the stresses caused by eccentric forces during installation. The provided pressure distribution blocks are placed under the individual HBJ.



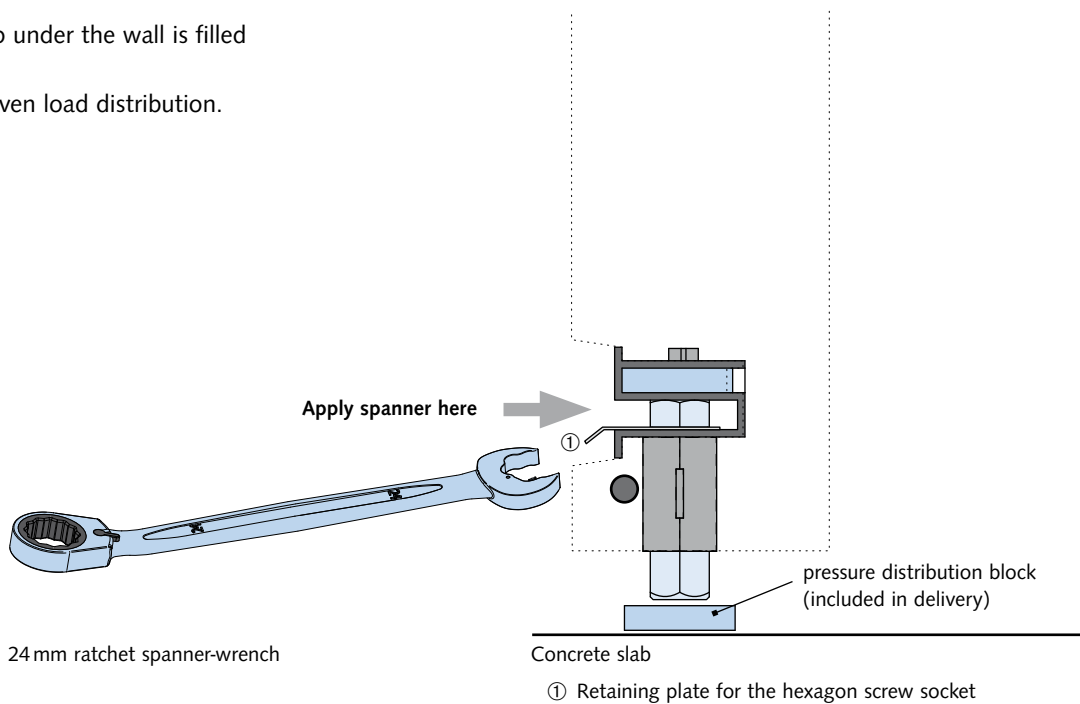
Construction elements must be properly secured



► Both HBJ are adjusted until the side joints are parallel, the wall is horizontal aligned and the desired wall height has been reached. Finally the gap under the wall is filled with grout. This ensures even load distribution.



Construction elements must be properly secured



# HALFEN HBJ-S BETOJUSTER

## Advantages at a Glance

### HALFEN HBJ-S - Betojuster for columns

The HALFEN HBJ-S Betojuster is the ideal device for adjusting and aligning concrete elements:

- precast reinforced concrete columns with formed foundation
- road surface- and railway-platform slabs
- stairs
- precast foundations

The HBJ Betojuster provides the building contractor with an easy and therefore a safe method for precise vertical adjustment of columns and slabs without using shims or wedges.

Two variants of HBJ-S Betojuster are available. HBJ-S-V for vertical assembly and HBJ-S-H for horizontal assembly into formwork.

**Both variants are available in two load ranges:**

- HBJ-S-V-6,0 and HBJ-S-H-6,0: load range 6.0 for columns up to approximately 26 t
- HBJ-S-V-10,0 and HBJ-S-H-10,0: load range 10.0 for columns up to approximately 50 t

In stairs or railway-platform and road slabs the nominal load capacity should be 6.0 (10.0) t for each betojuster.

### Advantages:

- less excavation required for column foundations
- less work and material required for grouting
- smaller auxiliary space required; less backfill and compacting required
- once in position, elements can be aligned without a crane; crane-time is optimised
- precise adjustment with minimal effort
- adjustable range approx. 100 mm
- adjustment is with a standard hexagon socket
- narrow section foot fits between dense reinforcement
- top-adjustment means hazard safe installation
- straightforward assembly near to building extensions and edges

### HBJ-S Betojuster

Article no. 0420.040- .....

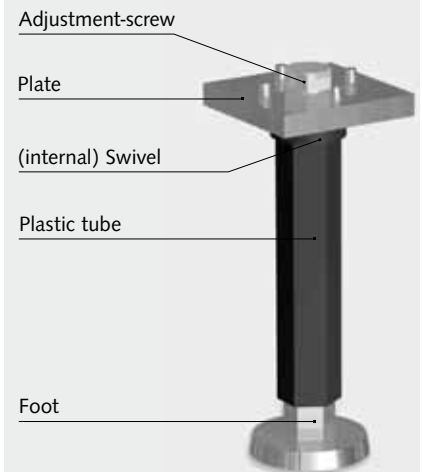
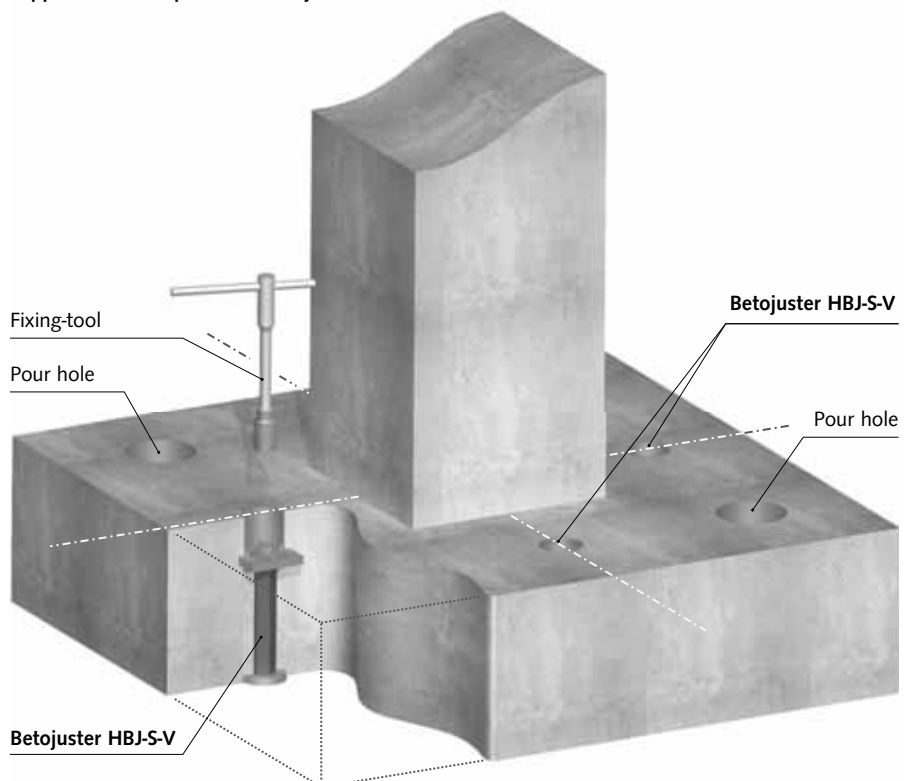


Fig.: HBJ-S-V

### Application example HBJ-S Betojuster in columns



### Recess-tube for screw-access

Article no. 0420.059-00001



Fig.: Length according to customer's specifications Pipe 63 x 2 mm

# HALFEN HBJ-S BETOJUSTER

## Product Overview

### Technical data

HALFEN HBJ-S			
types		HBJS-V-6,0	HBJS-V-10,0
		HBJS-H-6,0	HBJS-H-10,0
element height	h [mm]	183	
adjustment range	$\Delta h$ [mm]	+100	
minimum foundation height	$D_f$ [mm]	250	280
minimum blinding layer height	$d_n$ [mm]	120	150
maximum column weight	[kN]	260	500
minimum width	$b_{min}$ [mm]	30	42
wrench size (adjustment-screw)	SW [mm]	24	30
load capacity for each Betojuster	F [kN]	60	100
	$F_D$ [kN]	81	135

\*with C30/37

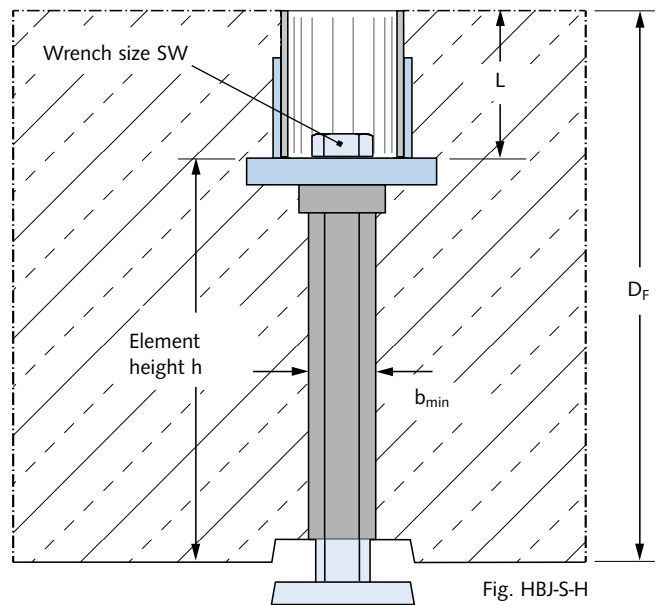


Fig. HBJ-S-H

### Order information

HALFEN HBJ-S Betojuster		
	Item name	Article no.
	HBJS-V-6,0	0420.040-00001
	HBJS-V-10,0	0420.040-00002
	HBJS-H-6,0	0420.040-00003
	HBJS-H-10,0	0420.040-00004
	<b>Recess-tube</b> Length L [mm] state details please: $L = D_f - 183$ mm, $D_f$ = Foundation height	0420.059-00001
	Locking cap	0420.050-00001



# HALFEN HBJ-S BETOJUSTER

## Assembly and Application

### Precast plant assembly

#### Placement in the column foundation

- Ideal placement of the HBJ-S elements is in the adjustment axes. Four per column centred between column-edge and foundation-edge.

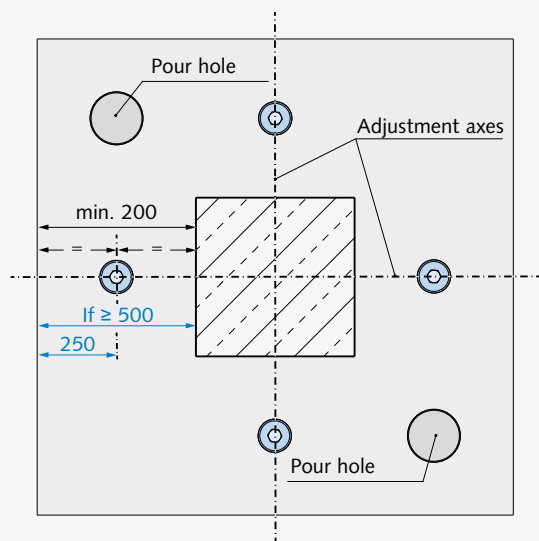


Fig.: HBJ-S-H [mm]

#### Arrangement of reinforcement bars

Depending on the load range, the HBJ-S requires a gap of  $b_{min}$  between the reinforcement bars in the column foundation.

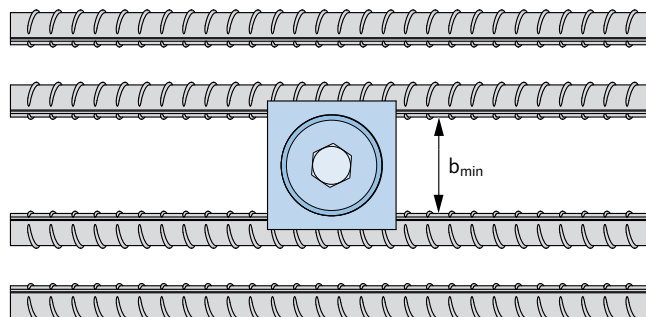


Fig.: HBJ-S-H

#### Reinforcement distance $b_{min}$ HBJ-S

Load range	$b_{min}$ [mm]
6.0	30
10.0	42

- Application with three HBJ-S parts is also possible.

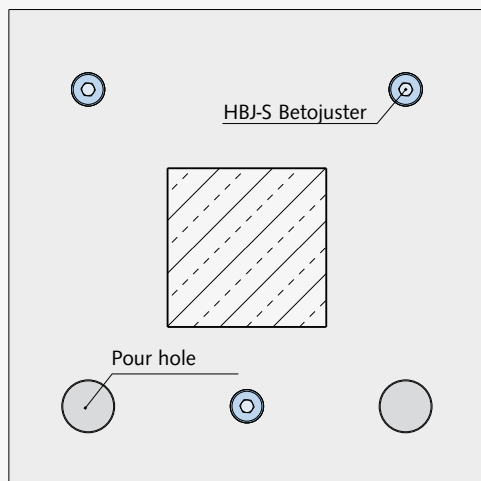
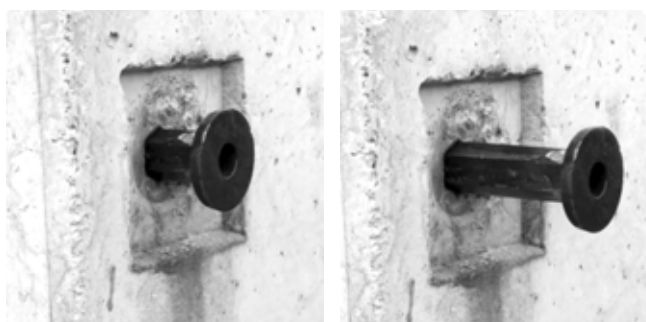


Fig.: HBJ-S-H

#### Easy to use – Freely adjustable





# HALFEN HBJ-S BETOJUSTER

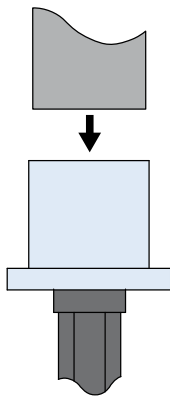
## Assembly and Application

### Precast plant assembly – variants

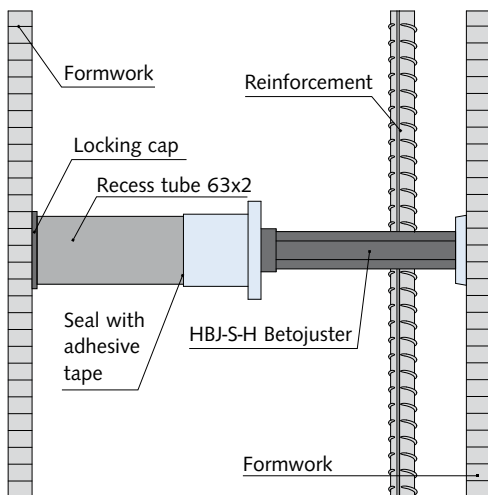
#### Horizontal assembly HBJ-S-H

- Fix the recess tube 63x2 into the sleeve on the top of the HBJ-S-H Betojuster

HBJ-S-H



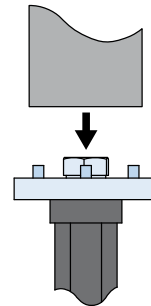
- The preassembled element is fixed between the column foundation formwork.



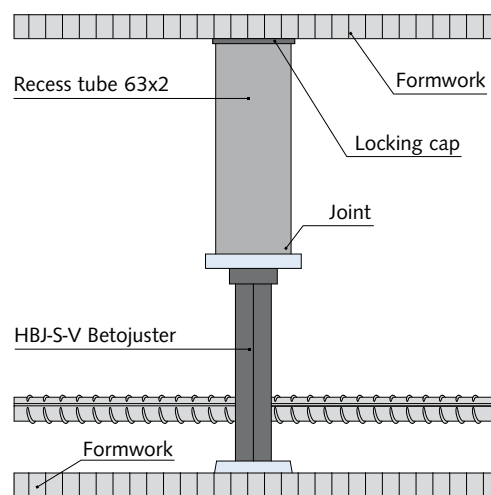
#### Vertical assembly HBJ-S-V

- Fix the recess tube 63x2 to the four bolts on the HBJ-S-V Betojuster

HBJ-S-V



- The preassembled element is fixed between the column foundation formwork.



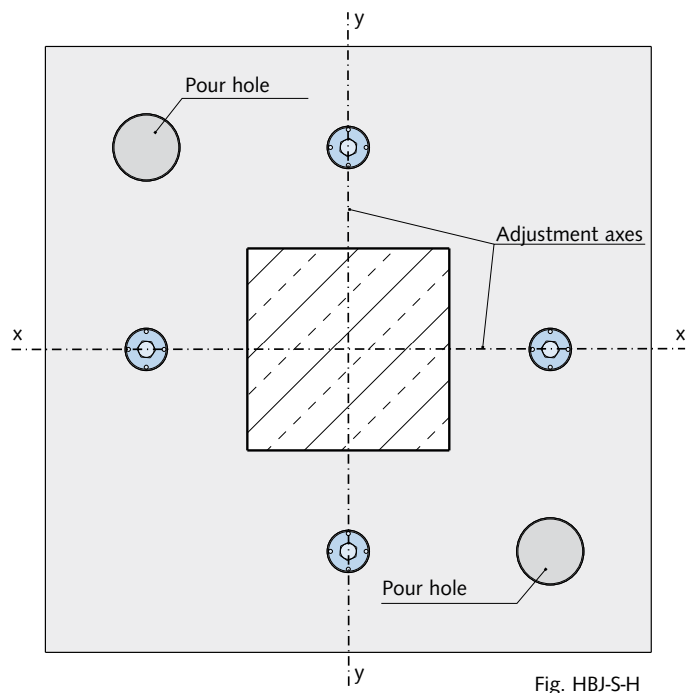
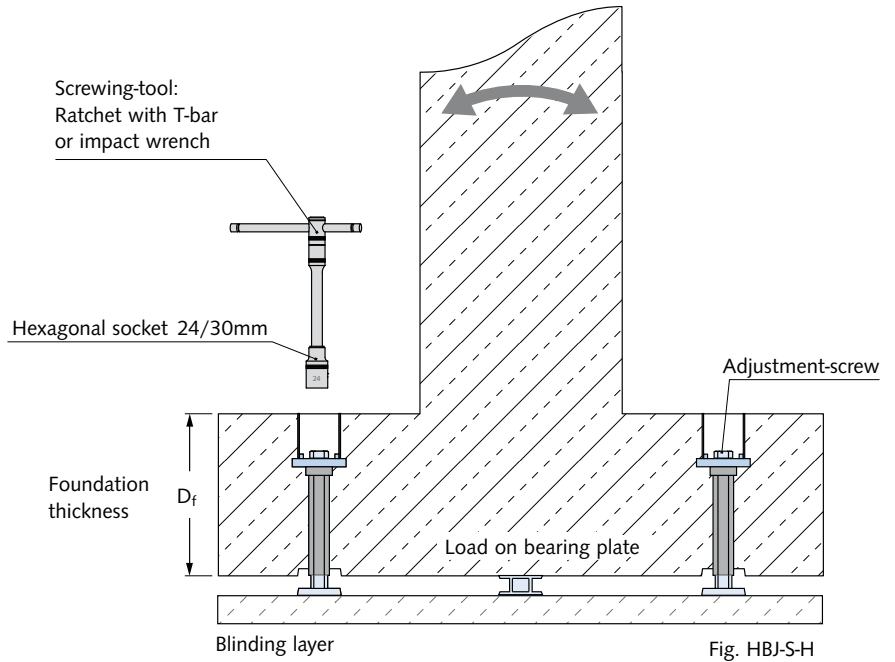
- Prior to pouring concrete the joint between recess tube and plate must be sealed.

# HALFEN HBJ-S BETOJUSTER

## Assembly and Application

### On-site assembly

- ▶ The crane lifts the column into position with the weight of the column resting on a central pin or bearing-plate.
- ▶ Adjustment is carried out by first tilting the column in one axis by turning (clockwise or anti-clockwise) one HBJ-S on this axis. The foot moves out of the tube by turning the adjustment-screw **anti-clockwise**.
- ▶ Next the column position is secured by turning the second HBJ-S on this axis evenly onto the blinding layer. Adjusting in the other axis is done according to the same principle.
- ▶ When adjustment is completed, flowing concrete is poured through one pour hole until the level in the second pour hole increases. After the concrete has cured, a positive connection and even distribution of the load into the substrate is ensured.



**Please note:**

If a blinding layer has not been planned a concrete or a steel-bearing-plate can be used.

**Important: substrate and bearing-plates must be suitable for pressure loads of 6.0t (10.0t) !**

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