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
FD [kN] 67.5

Order information

HALFEN HBJ-W Betojuster

<table>
<thead>
<tr>
<th>Item name</th>
<th>Article no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>HBJ-W Betojuster</td>
<td>0420.010-00001</td>
</tr>
</tbody>
</table>

Installation note

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

**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**

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.
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.

► 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.

24 mm ratchet spanner-wrench

Concrete slab

Retaining plate for the hexagon screw socket

Construction elements must be properly secured
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

Application example HBJ-S Betojuster in columns
HALFEN HBJ-S BETOJUSTER

Product Overview

Technical data

<table>
<thead>
<tr>
<th>HALFEN HBJ-S</th>
<th>HBJ-S-V-6,0</th>
<th>HBJ-S-V-10,0</th>
<th>HBJ-S-H-6,0</th>
<th>HBJ-S-H-10,0</th>
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</thead>
<tbody>
<tr>
<td>element height</td>
<td>h [mm]</td>
<td>183</td>
<td>183</td>
<td>183</td>
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<tr>
<td>adjustment range</td>
<td>Δh [mm]</td>
<td>+100</td>
<td>+100</td>
<td>+100</td>
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<tr>
<td>minimum foundation height</td>
<td>Df [mm]</td>
<td>250</td>
<td>280</td>
<td>250</td>
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<tr>
<td>minimum blinding layer height</td>
<td>d_n [mm]</td>
<td>120</td>
<td>150</td>
<td>120</td>
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<tr>
<td>maximum column weight</td>
<td>[kN]</td>
<td>260</td>
<td>500</td>
<td>260</td>
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<tr>
<td>minimum width</td>
<td>b_{min} [mm]</td>
<td>30</td>
<td>42</td>
<td>30</td>
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<tr>
<td>wrench size (adjustment-screw)</td>
<td>SW [mm]</td>
<td>24</td>
<td>30</td>
<td>24</td>
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</tbody>
</table>

Load capacity for each Betojuster

- F [kN] 60 100
- F_D [kN] 81 135

*with C30/37

Order information

<table>
<thead>
<tr>
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<th>Article no.</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>HBJ-S-V-6,0</td>
<td>0420.040-00001</td>
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<tr>
<td></td>
<td>HBJ-S-V-10,0</td>
<td>0420.040-00002</td>
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<td></td>
<td>HBJ-S-H-6,0</td>
<td>0420.040-00003</td>
</tr>
<tr>
<td></td>
<td>HBJ-S-H-10,0</td>
<td>0420.040-00004</td>
</tr>
</tbody>
</table>

Recess-tube

Length L [mm] state details please:

L = \(D_f - 183\) mm,

\(D_f\) = Foundation height

0420.059-00001

Locking cap

0420.050-00001
**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.

![Diagram](image)

**Arrangement of reinforcement bars**

Depending on the load range, the HBJ-S requires a gap of \(d_{\text{min}}\) between the reinforcement bars in the column foundation.

![Diagram](image)

<table>
<thead>
<tr>
<th>Load range</th>
<th>(b_{\text{min}}) [mm]</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td>30</td>
</tr>
<tr>
<td>10.0</td>
<td>42</td>
</tr>
</tbody>
</table>

**Easy to use – Freely adjustable**

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

![Image](image)
Fix the recess tube 63 x 2 into the sleeve on the top of the HBJ-S-H Betojuster.

The preassembled element is fixed between the column foundation formwork.

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

Fix the recess tube 63 x 2 to the four bolts on the HBJ-S-V Betojuster.

The preassembled element is fixed between the column foundation formwork.
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 6.0 t (10.0 t)!