

# PFEIFER



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## PFEIFER HK Assembly Anchor System

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# Push and Click

## Previous solutions take time

- Climbing the ladder with bolt, washer, spanner, reduction ring and cordless screwdriver.
- Exact positioning of the support plate of the brace over the plastic sockets
- Placing the washer and bolt through the hole in the support plate of the brace
- Tightening the bolt hand tight
- Fully tightening using the spanner

Waiting in the meantime are:

- the crane
- the second worker
- the lorry with further precast panels
- the site foreman

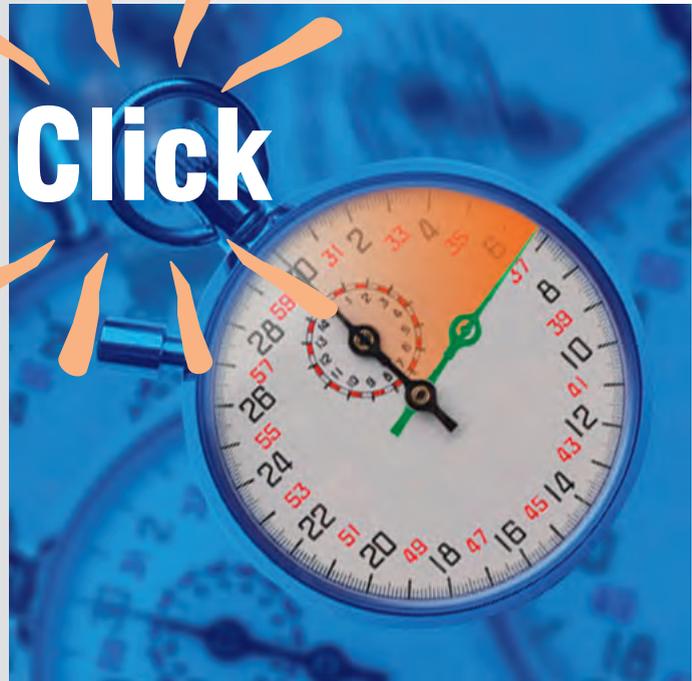
In short, the whole construction site is waiting.

**This costs money that you could be saving using the Push and Click system.**

## Safety?

12 mm wood screws are often used with plastic sockets. The fixing plates of the braces are not designed for such small steel cross sections.

When using plastic sockets with 12 mm wood screws, the site worker might overtighten the screws. Or he might not have screwed them in far enough so that there is still some play. Neither can be detected from the outside.



## Advantage:

### Push and Click and ready

- Climb the ladder with the HK Assembly Bolt and the associated taper key, locking pin included.
- The HK Assembly Bolt is inserted in the HK Assembly Anchor, locked through 90° and the support plate of the brace then slide over the bolt.
- The taper key is inserted through the slot and secured with the locking pin – finished.

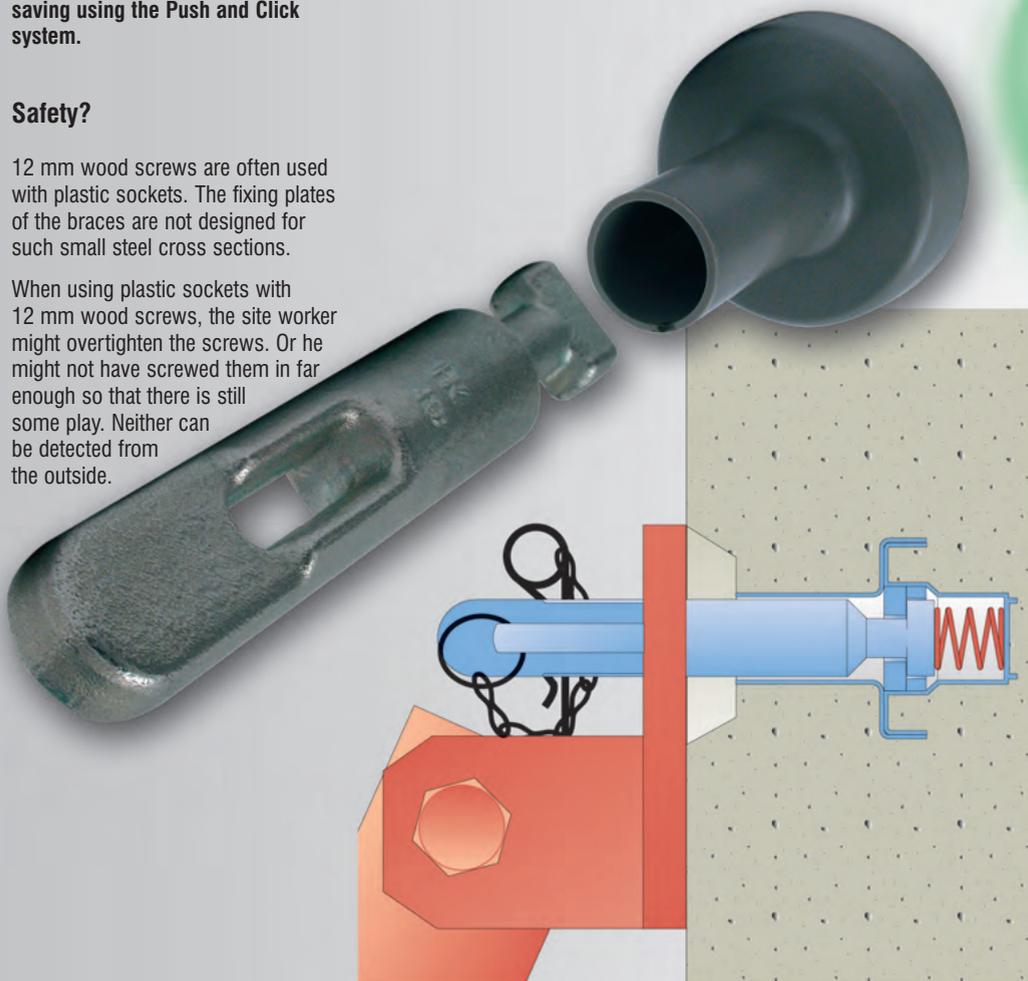
**You save up to £1.50 per anchor!**

## Impressive safety

A 20 mm thick, solid forged HK Assembly Bolt which latches cleanly into place offers security. It either holds reliably or, if there is something wrong, it doesn't latch at all. This is clearly recognizable.

21 mm holes are more commonly found in braces than  $\varnothing 13$  holes, i.e. with HK Assembly Bolts, reduction rings are not usually needed in order to fix the braces securely.

The PFEIFER HK Push and Click system is a self-contained system consisting of HK Assembly Anchors and the associated HK Assembly Bolts. This means that no one can use the components for anything other than their intended purpose, so that they do not tend to disappear from site, unlike the usual wood screws or hexagonal bolts.



# PFEIFER HK Assembly Anchor System

Item-No. 05.196

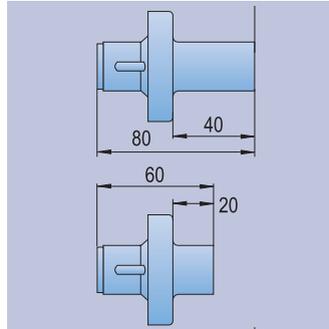


**PFEIFER**

Fixing System

HK Assembly Anchor Systems

Designation	Ref. No.	Pack. unit (Qty.)	Approx. weight (kg/100 pcs)
HK Assembly Anchor 80 mm	05.196.140.080	250	6.8
HK Assembly Anchor 60 mm	05.196.140.060	250	6.7



## Brief description

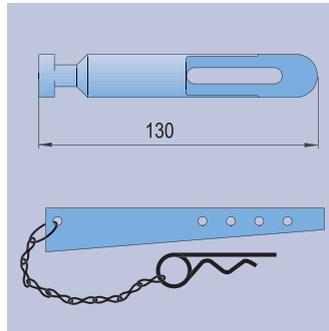
Plastic anchor with locking mechanism for casting in

Short version for double wall panels



A 20 mm-thick distance part has to be used between Toper keys and braces fixing plate.

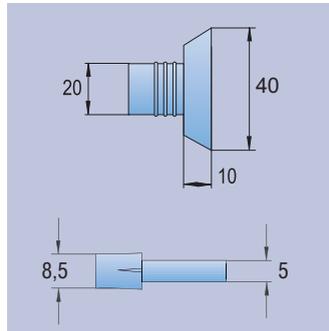
Designation	Ref. No.	Pack. unit (Qty.)	Approx. weight (kg/100 pcs)
HK Bolt with Taper Key Chain/locking pin	05.196.140.095	100	35.0
HK Replacement Taper Key Chain/locking pin	05.196.140.015	100	12.8



Forged bolts, galvanized, for latching into HK Assembly Anchors

Taper Key, galvanized, for securing the supporting plate of the brace to the bolt

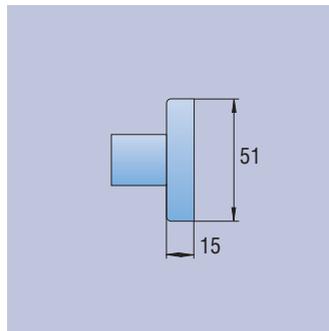
Designation	Ref. No.	Pack. unit (Qty.)	Approx. weight (kg/100 pcs)
HK Plugs	05.196.140.030	500	1.0
HK Plastic Pin	05.196.140.025	500	0.1



Plastic Plug for fixing the HK Assembly Anchor to the formwork

Plastic Pin for fixing the plug by means of holes in the formwork

Designation	Ref. No.	Pack. unit (Qty.)	Approx. weight (kg/100 pcs)
HK Magnetic Disc	05.196.140.001	1	13.0



Magnetic Disc, galvanized, for fixing the HK Assembly Anchor to steel formwork

# Application information for the PFEIFER HK Assembly Anchor System

## 1. Purpose

The HK Assembly Anchor System is used to secure precast wall panels with the help of braces as mounting supports (Fig. 1). For this purpose, mounting points on the ground and on the precast panel to be stayed are connected by the brace. Secure mounting points for fixing the braces are created at both ends by using HK Assembly Anchors. The anchors can easily be fixed to the formwork with the help of the HK Plug or the HK Magnet Disc.

After stripping the shuttering, the cast in HK Assembly Anchor can now receive the HK Bolt. This is secured in the HK Assembly Anchor with a bayonet action, i.e. insert, turn and latch. The fixing plate of the brace can then be placed onto the bolt and secured by means of the Taper Key. The support plate is now firmly fixed to the precast concrete panel by means of the HK Assembly Anchor System.

## 2. How it works

Forces from the brace are transmitted to the HK Assembly Bolt via the head plate. Both transverse and axial forces as well as diagonal components can be transmitted. The load capacity is subject to a circular interaction, i.e. the same forces, adm. F, can be transmitted regardless of the angle at which they act (Fig. 2).

The transmission of tension forces to the concrete takes place via the HK Assembly Anchor in which the HK Assembly Bolt is latched. The force is transferred to the surrounding concrete by means of the plate-like anchoring of the HK Assembly Anchor in the concrete. The embedment depth of the anchor as shown in Fig. 3 is 50 mm. When using the shortened HK Assembly Anchor for double wall elements, the reduced anchoring depth amounts to 30 mm. (In this case a 20 mm spacer has to be inserted below the taper key.) The provision of an appropriate surface reinforcement (mesh) is recommended.

On account of the different embedment depths resulting from the anchor lengths, different admissible forces are specified for the short and the long HK Assembly Anchors.

Admissible Forces	
Type	adm. F
HK anchor 80 mm	9.1 kN
HK anchor 60 mm	5.6 kN

A prerequisite for secure anchoring is the use of a concrete with a quality of at least C20/25 as well as a good compacting of the concrete around the HK Assembly Anchor. The minimum distances from the edge and intermediate distances can be seen from Fig. 4.

The HK Bolt has a diameter of 20 mm and is thus designed for holes in the plate of the brace of 21 mm maximum. For larger holes, the appropriate reduction rings are to be used.



Figure 1

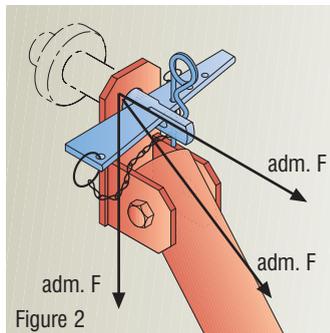


Figure 2

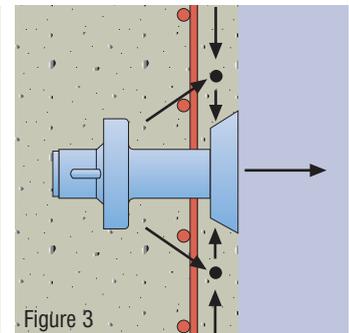


Figure 3

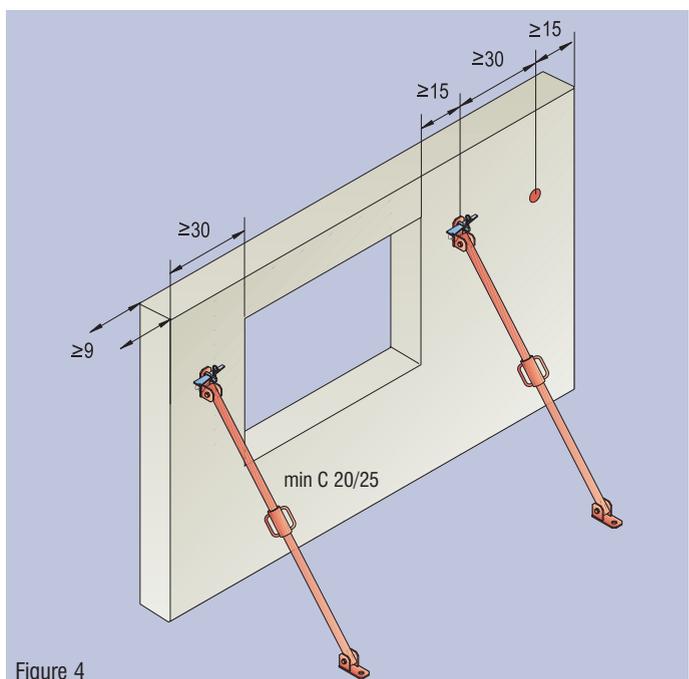


Figure 4

# Installation Instructions for the PFEIFER HK Assembly Anchor System

## 3. Fitting into the formwork

First of all, the HK Plug is fixed to the formwork. Here the user has several different options. On the one hand, normal nails (Fig. 7) or screws (Fig. 8) can be used for this purpose. As an alternative to this, we offer the HK Plastic Pin. The thicker end of this is pushed into a pre-drilled hole. The HK Plug can then simply be pushed onto the protruding end (Fig. 9).

Regardless of the method of fixing, it must be ensured that the HK Assembly Anchor is fixed in the correct orientation. To this end, the two marking points on the rear must lie on a horizontal line (Fig. 5). This ensures that the Taper Key can also be inserted horizontally when the Assembly Bolt is latched in place (Fig. 6). When the formwork is stripped off, the Plug usually remains stuck to the formwork and is removed along with this automatically. The HK Anchor is therefore ready for immediate use.

Alternatively, the HK Assembly Anchor can also be fixed to a steel surface using the HK Magnetic Disc (Fig. 10).

If the precast units first go into intermediate storage after the formwork has been stripped off, it is recommended that a sealing plug be fitted in the HK Assembly Anchor. In this way, the ingress of dirt or water into the anchor (risk of icing) is safely prevented.

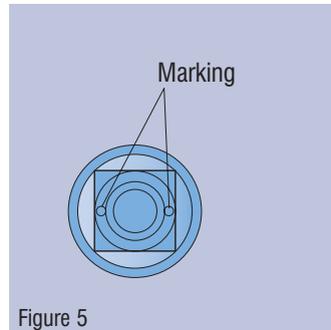


Figure 5

**Note:**  
The HK Assembly Bolt latches into the HK Anchor in such a way that the Taper Key runs in the same direction as the marking on the back (Fig. 5). Therefore, it must be ensured that the marks are horizontal when fitting the HK Anchor in the formwork. At the same time, the later orientation of the wall panel section must be taken into account.

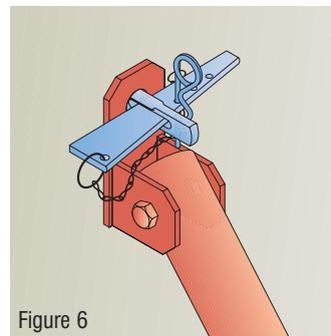


Figure 6

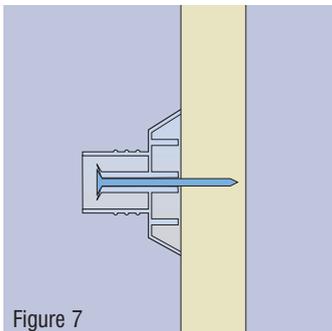


Figure 7

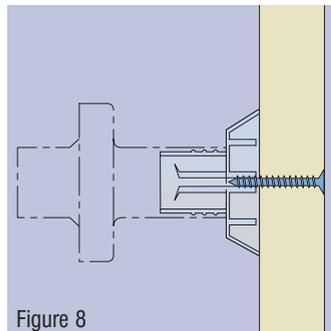


Figure 8

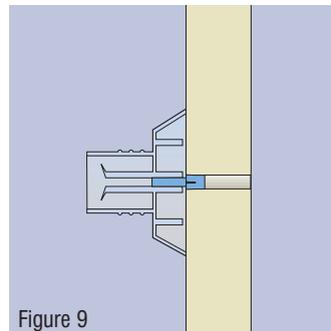


Figure 9

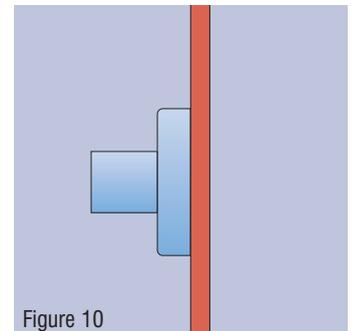


Figure 10

## 4. Assembly on site

On site, the precast elements are lifted to their place of assembly and roughly aligned. Normally, at least two braces per element are to be provided.

When the brace has been set up to suit the precast element after adjusting the length and angle, the HK Assembly Bolt is inserted into the HK Assembly Anchor (Fig. 11). After the mechanism has been pushed into place against the spring, the Assembly Bolt is turned through 90° in a clockwise direction so that, on being released, it latches into place and springs back by a few millimetres (Fig. 12). In this position it is locked and is able to have the loading applied. The fixing plate of the brace is now slid over the HK Assembly Bolt (Fig. 13) and the HK Taper Key pushed through the longitudinal slot in the bolt. The Taper Key is prevented from slipping out with the help of the locking pin (Fig. 14). In this way, the brace is positively joined to the precast element.



Figure 11



Figure 12



Figure 13

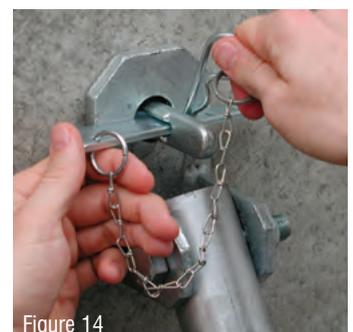


Figure 14

**Warning:**

If the assembly bolt does not engage properly with the anchor and as a result does not spring back, or if the longitudinal slot for the securing pin is not in the right position, this HK Anchor must not be used for fixing.

-  Lifting Anchor Systems  
Thread System
-  Lifting Anchor Systems  
BS Anchor System
-  Lifting Anchor Systems  
WK Anchor System
-  Fixing Systems  
Waved Anchor DB 682  
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-  Fixing Systems  
Socket Dowels  
Polyamide Sockets
-  Fixing Systems  
HK Assembly Anchor System
-  Connection Systems  
Column Shoe System  
Wall Shoe System
-  Connection Systems  
Steel Bearing for TT-Beams  
Staircase Bearings VarioSonic
-  Connection Systems  
Sandwich Anchor System
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Concrete Earthing System BEB
-  Reinforcement Systems  
VS®-Wire Rope Loop System
-  Reinforcement Systems  
PH Reinforcement Continuity System
-  Cable Tension Members  
Tension Rod System
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-  Grabs for Reinforcing Steel
-  Balancing Spreader Beams

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