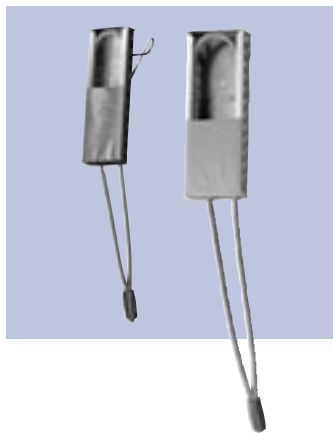


Lifting without any additional lifting device



10/2012

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PFEIFER-Lifting-Box

Make more profit with the cost effective and safe PFEIFER-Lifting-Box



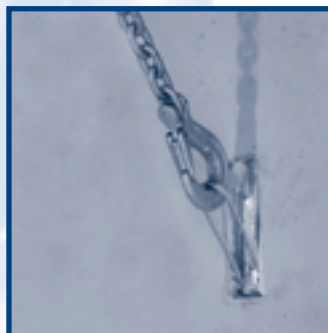
+ Extremely simple to handle

+ No expensive circulation system has to be used where lifting devices can be lost.

+ Lifting devices have not to be drilled in and out

+ Cheaper lifting solution

+ No loss of lifting device possible



+ No additional lifting device required

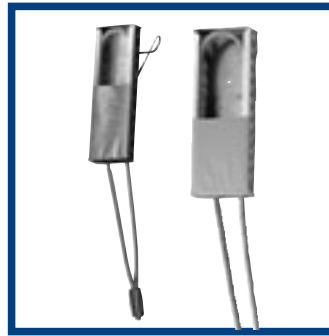


+ Elements can be offered more competitive



PFEIFER-Lifting-Box

Item-No. 05.022



PFEIFER

BS System
Lifting Anchors

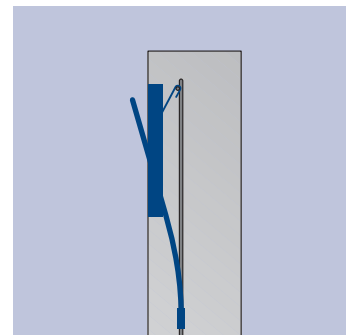
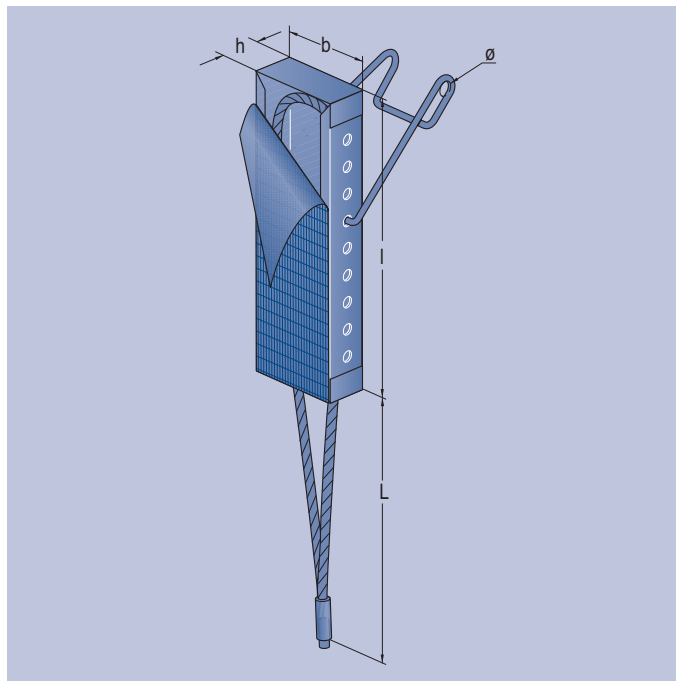
The PFEIFER-Lifting-Box has been designed for simple and safe lifting of precast concrete shaft elements. The particular advantage of the PFEIFER-Lifting-Box is that it is uncomplicated to install by simply attaching it to the reinforcement as well as the fact that it can be used on the thinnest wall thicknesses. The element can be transported using the lifting box without any additional lifting device as early as the next day.

Consequently, no complicated circulating system is necessary for the lifting devices.

Materials:

Steel sheet, galvanized
steel wire rope, galvanized
tape
steel wire

Type II without clip



Order no. galvanized	Type	N _{R, zul} [kN]	Dimensions in [mm]						Packing unit [Qty.]	Weight approx. [kg/piece]
			l [mm]	L [mm]	b [mm]	d _s [mm]	h [mm]	Δ [mm]		
05.022.010.300	I	9,5/11,5	160	192	50	6	20	6,2	1000	0,24
05.022.020.300	II	13,0/20,5	200	320	70	8	30	-	300	0,54

Ordering example PFEIFER-Lifting-Box Type I:
1000 PFEIFER-Lifting-Boxes Type I Order no. 05.022.010.300

Installation instructions

1. Area of Use

The PFEIFER-Lifting-Box is especially designed for thin-walled components, such as vertical shafts, room cells and suchlike. The lifting box is usually fitted into the prepared reinforcement basket with the securing clip and is pressed into the core formwork when the reinforcement basket is attached. The rope loop and the rope anchor which protrude at the lower end into the concrete are oriented in the direction of the load application (Fig. 1). The Lifting Box is not intended for any other load directions than this direction of pull.

2. Formwork Installation

The PFEIFER-Lifting-Box is fixed with the securing clip on the reinforcement mesh of the shaft element and is pressed against the exterior formwork. The concrete being filled into the formwork causes the PFEIFER-Lifting-Box to be completely pressed onto the formwork (Fig. 2). After the form has been stripped, the covering tape can be simply and quickly removed and the rope loop can be opened out.

For additional security, we recommend that the lower part of the PFEIFER-Lifting-Box is fixed with PFEIFER magnet fixing from the VS®-System or with double-sided adhesive tape. Alternatively, it is also possible to work the press clamp onto the reinforcement. The lifting boxes should ideally be arranged in a place in the component where they cannot permanently affect the usability of the component during its working life.

3. Installation Instructions

The PFEIFER-Lifting-Box is installed as described above by attaching it to the available central wire mesh reinforcement. There are merely a couple of conditions to which attention should be paid and these are shown in the following table (Fig. 3):

The flexible rope anchor at the lower end of the lifting box can be threaded in easily under the component's reinforcement. It should stick into the concrete centrally without bending so that the rope anchor and the opened out rope loop are almost in a straight line. (Fig. 1)

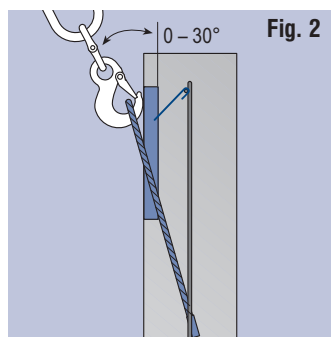
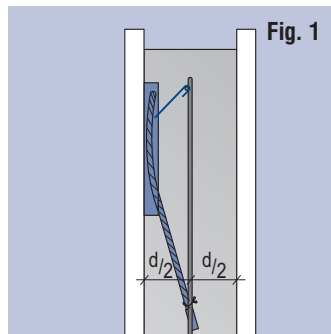


table 1: Reinforcement, Edge distance, minimum panel thickness, adm. force, load direction

	Lifting-Box Type I		Lifting-Box Type II	
	15 N/mm ²	30 N/mm ²	15 N/mm ²	30 N/mm ²
Minimum thickness of component d [mm]	80	80	100	100
Minimum edge distance a [mm]	100	100	100	100
Minimum intermediate distance b [mm]	400	400	500	500
Minimum reinforcement	2 ø 10*	2 ø 10*	2 ø 10*	2 ø 10*
N _{R, zul} 0°-10° [kN]	9,0	11,5	13,0	20,5
N _{R, zul} 10°-30° [kN]	6,5	10,0	11,0	15,0

* revolving reinforcement bar at top and bottom

Fig. 4

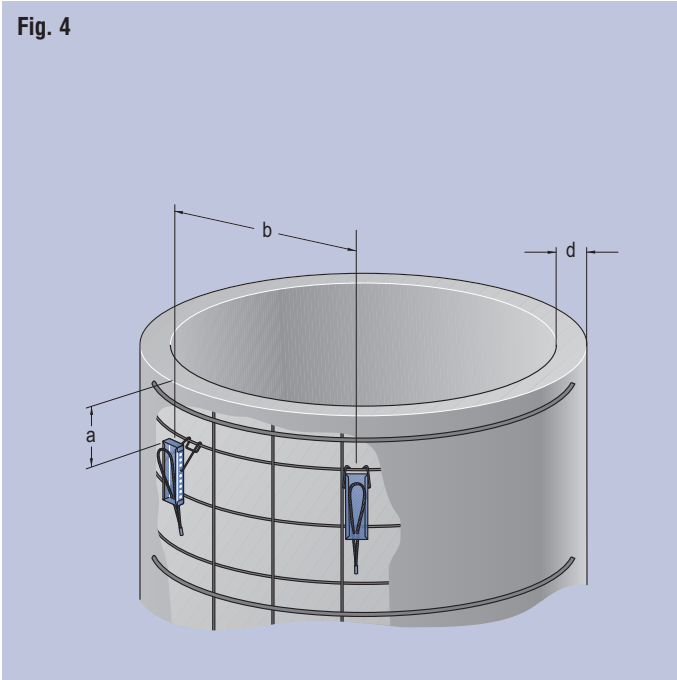
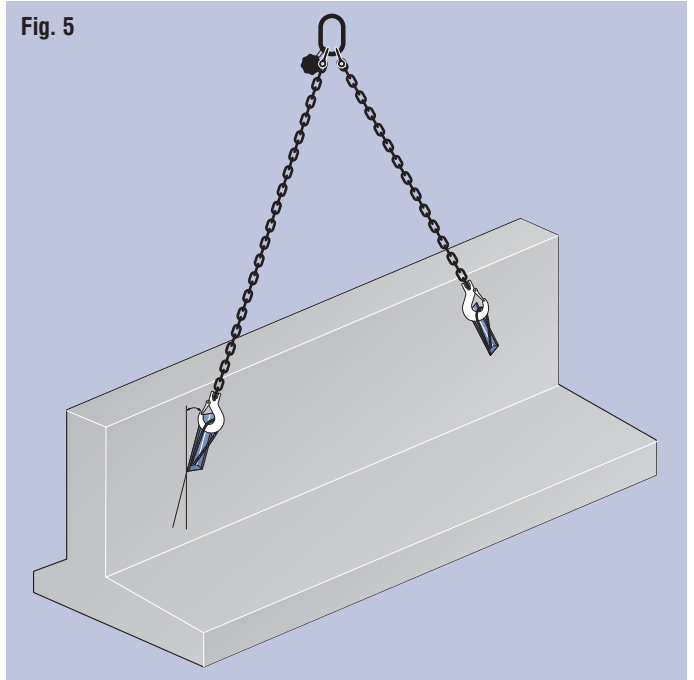


Fig. 5



4. Attaching

Commercially available crane hooks can be used for attaching the rope loop from the PFEIFER-Lifting-Box. When doing this, attention should be paid that the hooks are not sharp-edged and have a deflection radius of at least 2 x rope diameter. The sling hook can be attached directly into the rope loop

which opens out from the box. The different ways of attachment can be seen in Fig. 4, 5 and 6. The loops are designed in such a way that they are loadable in the direction of pull according to Fig. 1. Turning the load on the rope or changing the load's direction must be avoided.

Fig. 6

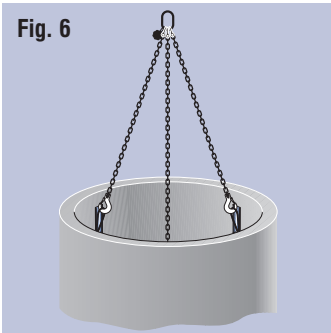


Fig. 7

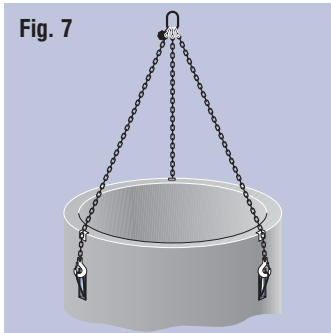
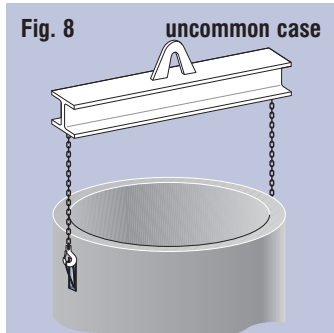


















Fig. 8



Damaged rope loops in which there are several broken single wires near one another or even entire broken strands or ropes with extreme deformations are not allowed to be used for attaching since the ropes could suddenly fail.



Hooks which are too large can likewise damage the ropes due to the leverage and hooks which are too small can lead to premature rope failure due to local compression.

-  Lifting Anchor Systems
Thread System
-  Lifting Anchor Systems
BS Anchor System
-  Lifting Anchor Systems
WK Anchor System
-  Fixing Systems
DB Anchor 682
for Permanent Fixing
-  Fixing Systems
Socket Dowels
Polyamide Sockets
-  Fixing Systems
HK Assembly Anchor System
-  Connection Systems
Column Shoe System
Wall Shoe System
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Stell Bearing
Staircase Bearing VarioSonic
-  Connection Systems
Sandwich Anchor System
Delta Anchor System
-  Connection Systems
Concrete Earthing System BEB
-  Reinforcement Systems
VS®-Wire Rope Loop System
-  Reinforcement Systems
PH Reinforcement Continuity System
-  Cable Tension Members
Tension Rod System
-  Attachment Materials
(Wire Ropes, Chains, Textiles)
-  Lashing Systems
-  Grabs for Reinforcing Steel
Balancing Spreader Beams

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