



PFEIFER Lifting Anchors:

- The **original** as standard for quality and a maximum of safety.

PFEIFER bolt anchor

Item-No. 05.016



PFEIFER

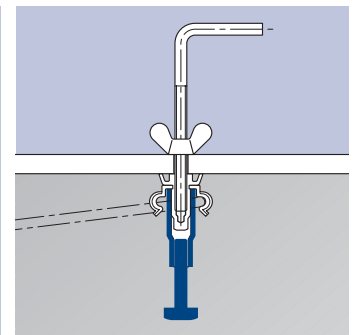
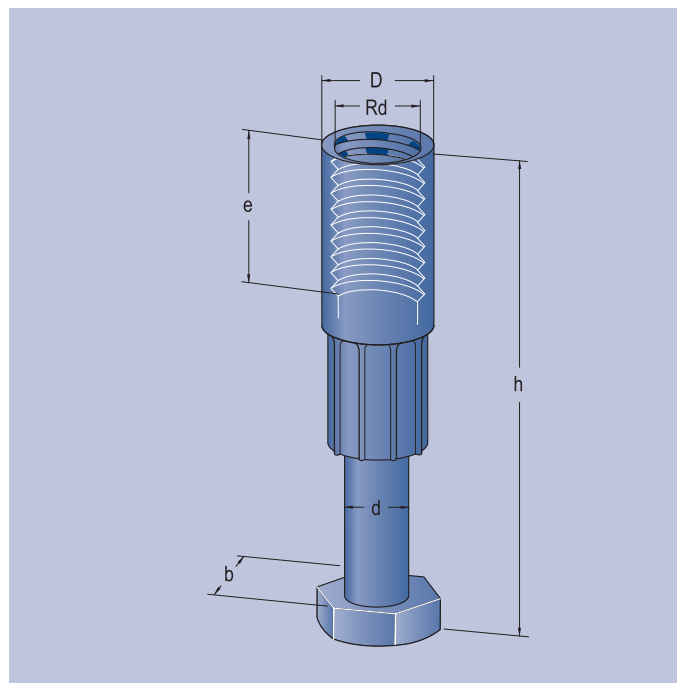
Thread System
Lifting Anchor

PFEIFER Bolt Anchors are Thread System lifting anchors. The Bolt Anchor is a special short anchor for flat precast concrete slabs. The length is orientated between the length of the PFEIFER Waved Anchor, short and the PFEIFER Flat Steel Anchor. The forces are concentrated at the bolt head and transferred deeply into the concrete.

Material:

Sockets high grade precision steel tube, zinc-plated or stainless steel, steel bolt, black

Other sizes available on request



| Ref. No. zinc-plated | Ref. No. stainless steel | MWL t | adm. F kN | Rd | Dimensions mm | | | | | Packing Unit Pieces | Weight approx. kg/Packing Unit |
|-------------------------|-----------------------------|----------|--------------|--------------|---------------|----|----|----|-----|------------------------|-----------------------------------|
| | | | | | D | b | d | e | h | | |
| 05.016.123 | 05.016.124 | 0,5 | 5 | Rd 12 x 1,75 | 15 | 13 | 8 | 22 | 70 | 200 | 4,8 |
| 05.016.143 | 05.016.144 | 0,8 | 8 | Rd 14 x 2,0 | 18 | 17 | 10 | 25 | 70 | 100 | 4,2 |
| 05.016.163 | 05.016.164 | 1,2 | 12 | Rd 16 x 2,0 | 21 | 19 | 12 | 27 | 80 | 100 | 7,0 |
| 05.016.183 | 05.016.184 | 1,6 | 16 | Rd 18 x 2,5 | 24 | 22 | 14 | 34 | 100 | 50 | 5,7 |
| 05.016.203 | 05.016.204 | 2,0 | 20 | Rd 20 x 2,5 | 27,2 | 24 | 16 | 35 | 127 | 50 | 8,0 |
| 05.016.243 | 05.016.244 | 2,5 | 25 | Rd 24 x 3,0 | 31 | 30 | 20 | 43 | 140 | 50 | 10,6 |
| 05.016.303 | 05.016.304 | 4,0 | 40 | Rd 30 x 3,5 | 39,5 | 30 | 20 | 56 | 170 | 20 | 14,7 |

(Note: 10kN = 10 Kilonewton = mass of 1ton or 1.000kg)

adm. F: admissible force

MWL: Maximum working load

Sample order: 1000 Bolt Anchors, zinc-plated, MWL 0,8 t
1000 Bolt Anchors, ref. no. 05.016.143

Installation Instructions for PFEIFER Bolt Anchor



The following instructions pertain just to the above article and are important, the additional General Installation Instructions for the PFEIFER Thread System and the General Technical Introduction concerning the PFEIFER Lifting Anchor Systems must also be observed.

The PFEIFER Bolt Anchor is a component of the PFEIFER Thread System which has been tested and is in accordance with the "Safety Regulations for Lifting Anchors and Systems for Precast Concrete Parts".

1. Reinforcement

PFEIFER Bolt Anchors can be installed as from a concrete compressive strength of 15N/mm² with a minimum surface reinforcement, according to Table 1, without any special additional reinforcement – provided that the maximum angle of inclination (see 3.) is not exceeded. The swaged on threaded bolt itself takes over the transmission of forces into the concrete. The user is responsible for the transmission of forces in the precast concrete unit itself.

Table 1 – Surface reinforcement

| Size | Surface* Reinforcement [mm ² /m] | Size | Surface* Reinforcement [mm ² /m] |
|-------|------------------------------------------------|-------|------------------------------------------------|
| Rd 12 | 131 | Rd 18 | 188 |
| Rd 14 | 131 | Rd 20 | 188 |
| Rd 16 | 131 | Rd 24 | 188 |
| | | Rd 30 | 188 |

* The required amount of reinforcement has to be installed in both directions.

2. Edge distance, minimum distance, minimum panel thickness

In order to guarantee the local transmission of force into the concrete, certain distances between the individual anchors and from the edge must be observed. Also, the panel thickness must not fall short of a certain minimum because of the danger of corrosion. The minimum values for the individual anchors are shown in Table 2. See also Fig. 1.

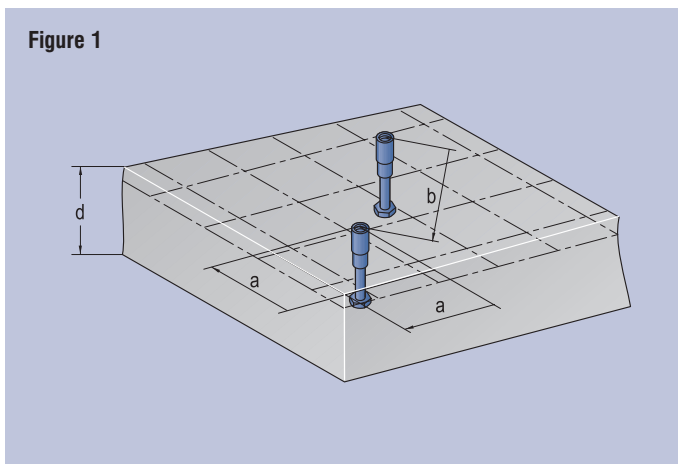
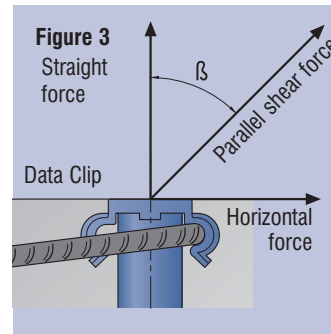


Table 2 – Minimal dimensions

| Size | adm. F kN | Edge Distance a mm | Minimum Distance b mm | Minimum Slab Thickness d mm |
|-------|--------------|--------------------------|-----------------------------|-----------------------------------|
| Rd 12 | 5 | 105 | 200 | 90 |
| Rd 14 | 8 | 110 | 220 | 90 |
| Rd 16 | 12 | 120 | 260 | 100 |
| Rd 18 | 16 | 150 | 300 | 120 |
| Rd 20 | 20 | 190 | 350 | 147 |
| Rd 24 | 25 | 210 | 440 | 160 |
| Rd 30 | 40 | 250 | 510 | 190 |

The minimum panel thickness was determined by taking the concrete cover to 20 mm to section. For other uses and environmental conditions, the concrete cover *c* corresponding to section 6.3 of DIN 1045-1 must be increased so enlarging the panel thickness (Fig. 2). When making a recessed installation with the PFEIFER Recess Disc or the Magnetic Fixing, the minimum panel thickness must be increased by the depth of the recess.

3. Parallel shear pull reinforcement



When Bolt Anchors are stressed by inclined forces, as shown in Fig. 3 and Fig. 4, the ensuing horizontal forces must be taken by the concrete. Therefore, as from a parallel shear pull angle β of more than 12,5°, a parallel shear reinforcement is necessary, running at right angles to the Bolt Anchor according to Table 3 (Fig. 5). This parallel shear reinforcement must be fixed to the Bolt Anchor with the Data Clip (Fig 3). Close contact is important! The parallel shear reinforcement must be installed in the opposite direction to the horizontal component of the shear force.

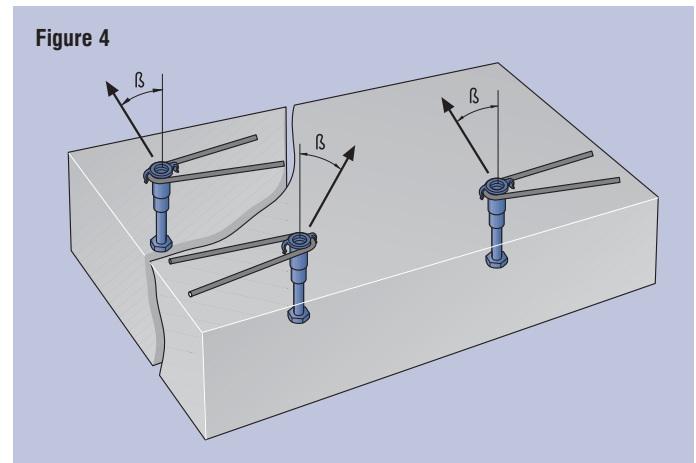


Table 3 – Parallel shear reinforcement at parallel shear pull with an angle of inclination $\beta \geq 12,5^\circ$

| Size | adm. F kN | d_s mm | L mm | d_{BR} mm |
|-------|--------------|-------------|---------|----------------|
| Rd 12 | 5 | 6 | 150 | 24 |
| Rd 14 | 8 | 6 | 200 | 24 |
| Rd 16 | 12 | 8 | 200 | 32 |
| Rd 18 | 16 | 8 | 250 | 32 |
| Rd 20 | 20 | 8 | 300 | 32 |
| Rd 24 | 25 | 10 | 300 | 40 |
| Rd 30 | 40 | 12 | 400 | 48 |

Length (L) according to DIN 1045-1, section 12.6.2 C12/15, good bond condition.

