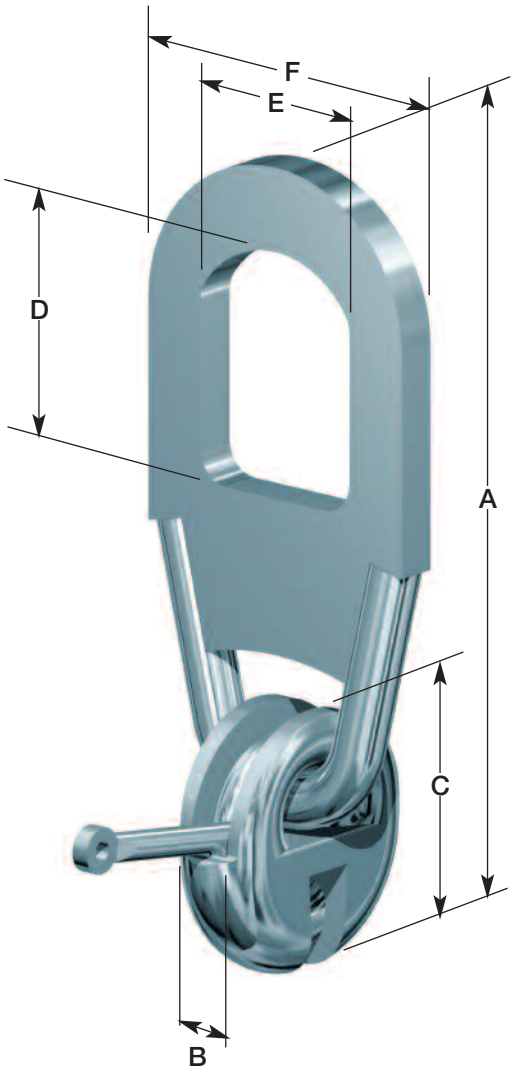
Rapid Lift System Ring Clutches

RL-35 RING CLUTCH
2/2.5-Ton, 4/5-Ton, 8/10-Ton and 22/26-Ton

The RL-35 Ring Clutch is an assembly consisting of a main clutch body, a curved bolt/handle and bail. The design of the ring clutch allows a full 360° rotation of the bail around the main body. The installation of the unit is quick and easy; simply rotate the curved bolt/handle to the open position, drop the main body into the anchor recess and rotate the bolt/handle to the closed position. See page 48 for ring clutch bolt. See page 12 for ring clutch maintenance information.



RL-35 RAPID LIFT RING CLUTCH DATA

Ring Clutch Systems	Clutch I.D.	Item Number	A	B	C	D	E	F	Weight Per Piece (lbs)	Clutch Capacity (ton)
2T/2.5T	2.5T	79001	10 7/16”	1 1/16”	3 1/8”	2 3/4”	2 1/4”	3 5/8”	3.65	2.5
4T/5T[1]	5T	79002	13”	1 7/16”	4 1/8”	3 3/16”	2 9/16”	4 1/2”	8.65	5
8T/10T**	10T	79003	16 3/4”	2”	5 15/16”	4 9/16”	3 9/16”	5 13/16”	19.87	10
22T/26T[2]	26T	79170	23 7/8”	2 13/16”	8 1/4”	7 1/4”	4 3/4”	8 13/16”	55.0	22

1) Super Lift II Ring Clutch may be used, if a longer handle is required.
2) Available on special order or limited to quantity on hand. Special orders take 8 to 10 weeks.
** May be used with DTA (Double Tee Anchor), page 45.
3) Clutch capacities are rated at a 5:1 safety factor; and apply only to clutches manufactured after 1/1/2000.

To Order, Specify: quantity, name and item number.

Description of the system

The FRIMEDA lifting anchor system consists of a steel component inset into the concrete (the anchor) and a lifting component (the ring clutch). The prefabricated concrete component is lifted and transported by means of a ring clutch, which is locked to the anchor casted into concrete. The design and shape of the ring clutch and anchor enable the lifting of the load in almost any load direction. The ring clutch can be unlocked either manually, direct at the clutch head, or by remote release.

The load group system

The components of the FRIMEDA lifting anchor system are classified in terms of load groups. Every load group corresponds to the permissible load of a ring clutches to which anchors of the different load rates of a load group can be connected. The anchor loads available in each load are shown in the table below.
Incorrect connection is safely prevented, since the ring clutches cannot be connected to anchors of the wrong load group.

Load group system

Load group Ring clutches [t]	Anchor loads [t]
2.5	0.7 1.4 2.0 2.5
5.0	3.0 4.0 5.0
10.0	7.5 10.0
26.0	12.5 14.0 17.0 22.0 26.0

The anchors

The anchors are made of special-quality flat steel. The shape of the anchor foot is described under the corresponding anchor types. The anchor head is provided with a hole, into which is fitted the locking bolt of the ring clutch. Each anchor carries a clearly visible, stamped manufacturer's designation, which designates the product brand FRIMEDA (FR) and the system designation (F), the anchor type (e.g. S), the anchor length (e.g. 13) and the anchor load (e.g. 2.0).

The ring clutches

The ring clutch is inserted into the recess of the cast-in anchor and the locking bolt is closed by hand. The ring clutch is thus secured to the anchor in a matter of seconds. The ring clutch can now be subjected to loads in any direction: turning, rotating and tilting can all be carried out. There is no preferred direction of pull (Fig. 1). To disengage, the locking bolt is simply opened to free the ring clutch. If the access is more difficult (see German safety code „Unfallverhütungsvorschriften" (UVV)) ring clutches with pneumatic or manual remote-control release can be usedeasily (TPA-F1, TPA-F2).

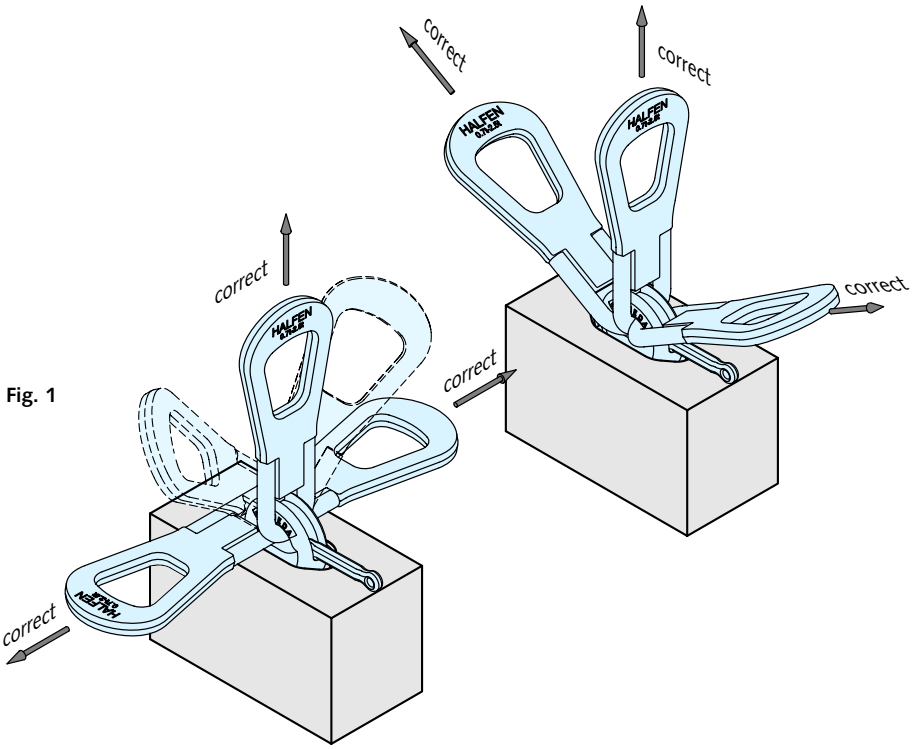


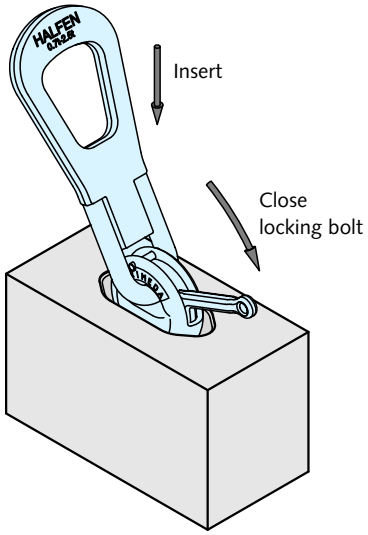
Fig. 1

The load range shows the maximum load bearing of the anchor at the point of steel failure.

The installation conditions in concrete (concrete grade, edge distances, etc.) can reduce load capacity.

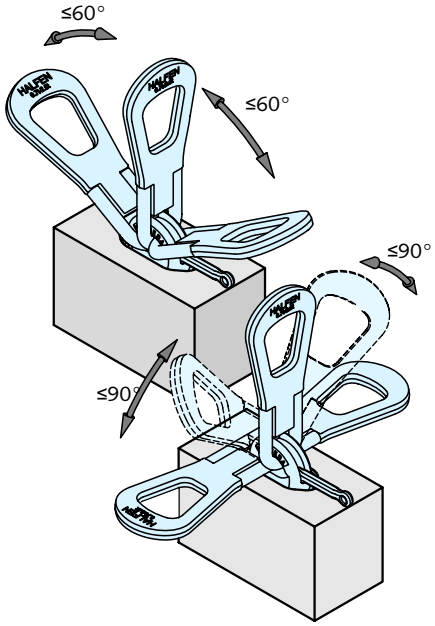
1. Engaging

Insert the ring clutch in the recess in the concrete and close the locking bolt or the slide manually, pushing it to the limit position. Then start the lifting operation.



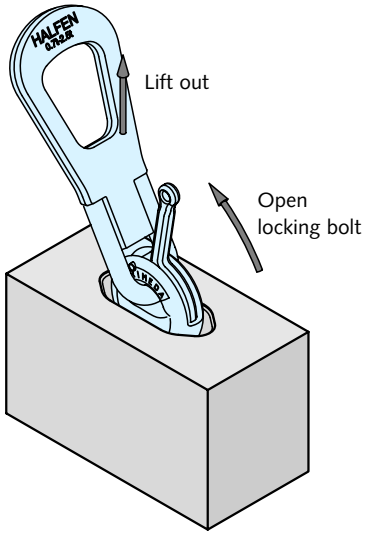
2. Lifting

The ring clutch can be subjected to loads in any direction (do not exceed the load limits of the anchors!). Angled pull of up to 60° due to the use of a spreader is permitted.



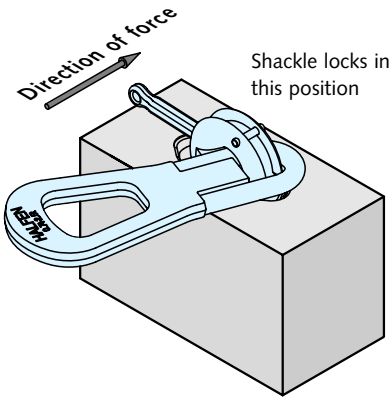
3. Releasing

Manual ring clutch: push back the bolt by hand. Now the ring clutch is free.

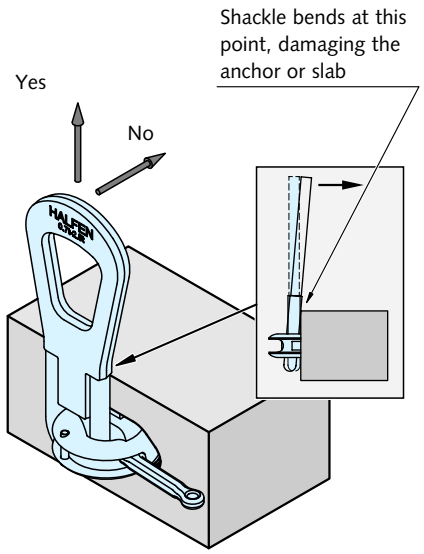


Misuse of the FRIMEDA ring clutch

If the shackle is beneath the clutch head when subjected to the load, it may lock in the position illustrated. The round shackle will become bent then when the load is raised.



If the shackle is pulled towards the top surface of the slab when subjected to the load, it may become bent on the edge of the slab.



In the upper position, the shackle may lock within the clutch housing. A narrow lifting cable angle will cause the shackle to become bent. The problem can be overcome by turning the shackle through approx. 45°.
(lower drawing).