

PHILIPPGROUP

PHILIPP Lifty



VB3-T-017-en - 05/18

Application Instruction

PHILIPP Lifty

The Lifty is part of the PHILIPP Transport anchor system and complies with the VDI/BV-BS Guideline "Lifting inserts and lifting insert systems for precast concrete elements" (VDI/BV-BS 6205). The use of the Lifty requires the compliance with this Installation Instruction, the installation instructions for threaded anchor systems as well as the General Installation Instruction. The Lifty is suitable for axial, diagonal and lateral tension.

Table 1: Permissible load bearing capacities and dimensions

Ref.-No. RD thread ①	Type	Perm. F 0°- 90° [kN]	Dimensions					Weight [kg/pc.]
			h [mm]	b [mm]	e [mm]	h ₁ [mm]	Ød [mm]	
62LI12	RD 12	5.0	150	50	18	38	13	0.47
62LI14	RD 14	8.0	150	50	20	38	13	0.47
62LI16	RD 16	12.0	150	50	23	38	13	0.48
62LI18	RD 18	16.0	162	50	26	53	16	1.10
62LI20	RD 20	20.0	162	50	29	53	16	1.20
62LI24	RD 24	25.0	162	50	34	53	16	1.30
62LI30	RD 30	40.0	177	50	43	72	22	3.40
62LI36	RD 36	63.0	177	50	51	72	22	3.60
62LI42	RD 42	80.0	218	65	60	92	26	6.80
62LI52	RD 52	125.0	218	65	73	92	26	7.40

① Also available with M thread (Ref.-No. 62LI__M)
- The weight of 1.0 t corresponds to 10.0 kN.

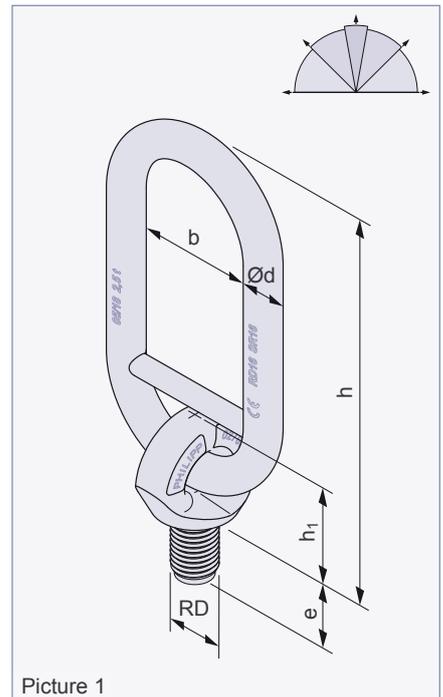
Materials

The Lifty consists of a forged ring bolt with a welded chain link. Both parts are galvanised.

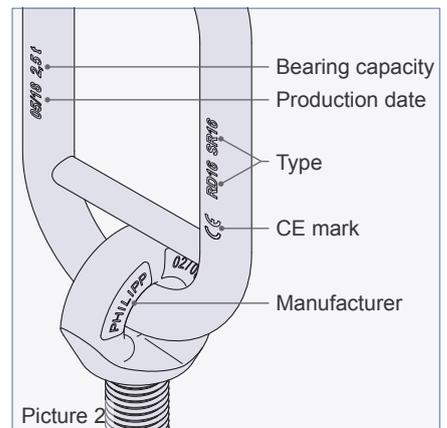
Marking

Liftys are marked as follows:

- Manufacturer (PHILIPP)
- CE mark ②
- Type (system / load class)
- Bearing capacity (e.g. 2.5 t)
- Production date (month / year)
- Colour code (colour painted)



Picture 1



Picture 2



② The EC Declaration of Conformity (DoC) of the Lifty is available on request or can be downloaded from our website www.philipp-group.de.

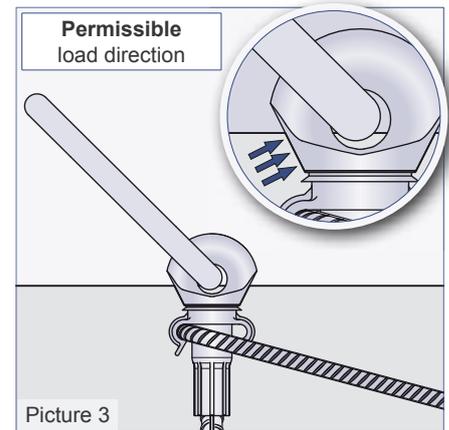


Application / safety

Application

The Lifty is a lifting device of the threaded transport anchor system and is supplied with a round thread (with metric pitch) or a metric thread. The Lifty can only be used with the appropriate recess formers 72KHN12 to 72KHN52, 72KHN-12STK to 72KHN52STK and 72MAXKHN12 to 72MAXKHN52. A Lifty must be screwed in the Threaded transport anchor tightly until the bottom part of the ring-bolt has continuous pressure in the recess created before in the concrete unit.

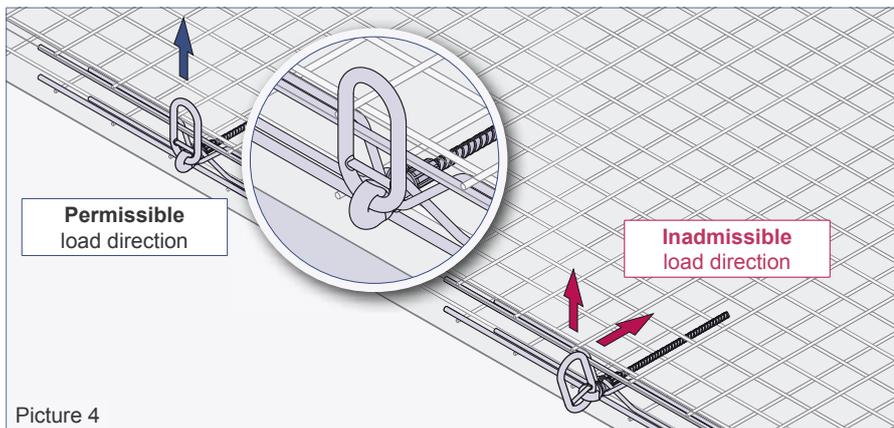
Therefore an optimal load transfer into the cast-in anchor is given, as the ring bolt is supported by the concrete in case of loading (picture 3). During rigging the welded chain link must point to the tensile direction all the time. In order to align the Lifty into the correct position it is allowed to screw it back for a half a turn at the most.



Picture 3



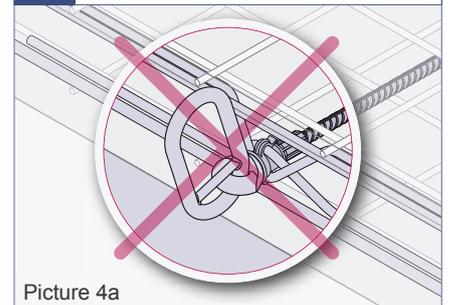
Loading the Lifty is only admissible in the tension direction of the ring bolt axis according to picture 4.



Picture 4



Loading the Lifty right-angled to the ring bolt axis is inadmissible.



Picture 4a



Using only one Lifty in order to lift concrete elements attention must be paid that the Lifty is protected against unscrewing (e.g. by using a tension wire rope at the concrete element).

Safety notice

As each other lifting equipment and lifting device the Lifty is subject to an annual inspection according to the DGUV regulation 100-500, chapter 2.8. par. 3.15.4. This inspection has to be done by an expert and lies within the responsibility of the owner. Depending on the working conditions inspections might be necessary in a shorter interval than once a year. This might be caused by frequent use, increased wear, corrosion or heat treatment. In general, the current accident prevention regulations must be observed.

The correct hook size and form should be considered in order to extend the durability. If the Lifty is loaded with extreme loads (e.g. by an event causing damage) which may have influenced the bearing capacity it must be examined extraordinarily by an expert. The criteria are given in section „Replacement criteria and inspection“.



In order to avoid damaging the Lifty caused by lever action the chain link should not be loaded via a sharp concrete edge (Picture 4).



Welding or other strong heat influences on the Lifty are not allowed.



The continued use of damaged lifting devices or equipment already met the discard criteria is not permitted!

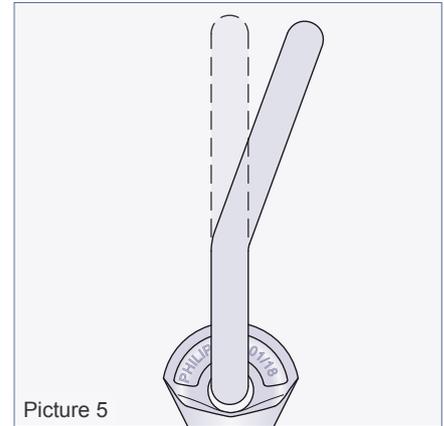
Inspection

Replacement criteria and inspection

The replacement criteria of the Lifty are based on the German DGUV regulation 100-500 (chapter 2.8 section 3.15.4).

Prior inspection the Lifty must be cleaned. During inspection the following points have to be considered. If one of the following points is fulfilled the Lifty has reached its replacement state and must not be used any more.

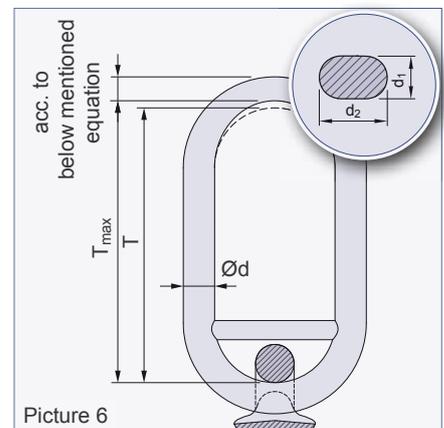
- Breakage of chain link
- Deformed or twisted chain link
- Pressure marks on chain link caused by rigging hardware
- Cracks or the capacity reducing corrosion pits
- Damaged thread
- Deformation of the threaded bolt
- Welding or other strong heat influences
- Marking not readable anymore
- Exceeding of upper or lower test dimensions



Picture 5

Table 2: Test dimensions of the chain link				
Load class	T [mm]	T _{max} [mm]	Ød [mm]	d _{min} [mm]
12 / 14 / 16	115	121	13	11.7
18 / 20 / 24	115	121	16	14.4
30 / 36	115	121	22	19.8
42 / 52	139	146	26	23.4

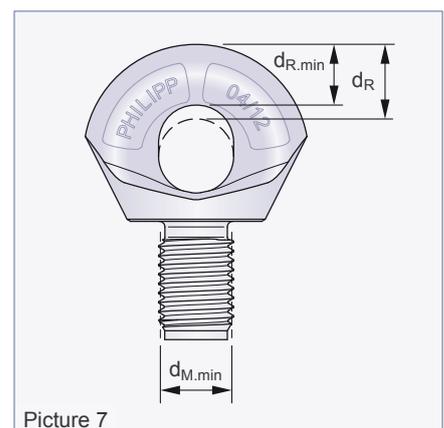
Furthermore the radius of the chain link must be observed during inspection. The replacement state for this part is reached if the chain link has a diminution of 10 % (Picture 7 and Table 3).



Picture 6

$$\frac{d_1 + d_2}{2} > d_{min}$$

Table 3: Test dimensions of the ring bolt			
Load class	d _{M,min} [mm]	d _R [mm]	d _{R,min} [mm]
12	11.50	16	14.4
14	13.50	16	14.4
16	15.45	16	14.4
18	17.40	22	19.8
20	19.40	22	19.8
24	23.40	22	19.8
30	29.40	32	28.8
36	35.40	32	28.8
42	41.20	39	35.1
52	51.20	39	35.1



Picture 7