



Swivel Lifting Device - PHILIPP Wirbelstar

Using Instruction



07/07 - EN

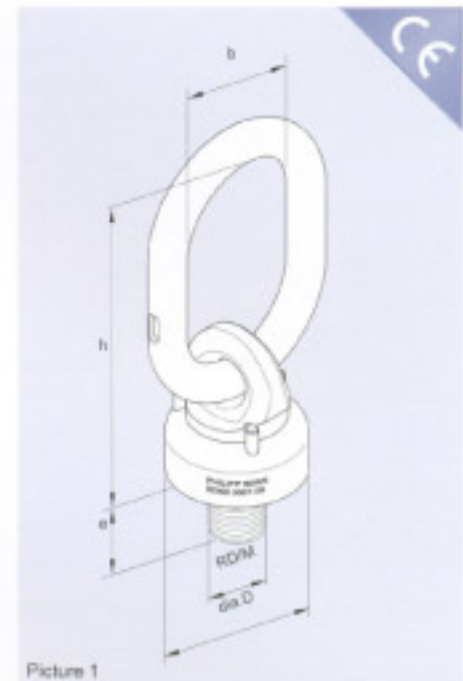
USING INSTRUCTION OF PHILIPP WIRBELSTAR (STANDARD)

The **PHILIPP Wirbelstar** is part of the **PHILIPP Transport Anchor System** and complies with the „Safety Rules for Transport Anchors and -Systems for Precast Concrete Units“ (German regulation, BGR 106).

On use of the **PHILIPP Wirbelstar** attention must be paid to this using instruction, the installation instructions of the **PHILIPP Threaded Anchors Systems** as well as the general installation instruction.

Table 1: Permissible Load Bearing Capacities and Dimensions

Art.-No. RD- Thread	Art.-No. M- Thread	Type	Permissible Load Bearing Capacity F_z 0°-90° [kN]	Dimensions			
				dia.D [mm]	b [mm]	h [mm]	e [mm]
62WS12	62WS12M	12	5.0	47	35	125	16
62WS14	62WS14M	14	8.0	52	35	126	18
62WS16	62WS16M	16	12.0	56	35	151	21
62WS18	62WS18M	18	16.0	59	60	152	23
62WS20	62WS20M	20	20.0	70	60	158	26
62WS24	62WS24M	24	25.0	74	75	187	31
62WS30	62WS30M	30	40.0	90	90	219	39
62WS36	62WS36M	36	63.0	101	100	255	47
62WS42	62WS42M	42	80.0	110	100	256	55
62WS52	62WS52M	52	125.0	130	140	344	68



Picture 1

Version: standard

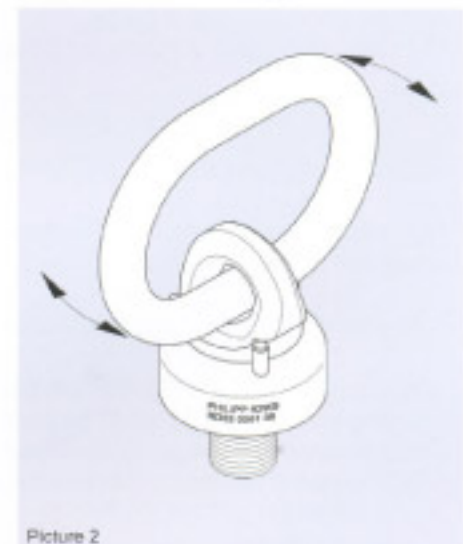
The weight of 1.0ton results in 10kN.

1. Material

The **PHILIPP Wirbelstar** consists of a forged ring bolt with a chain link and a bottom part made of special hardened steel. The inside construction consists of a bearing inlay.

2. Application

The **PHILIPP Wirbelstar** is used as a lifting device within the **PHILIPP Threaded Transport Anchor Systems**. The **PHILIPP Wirbelstar** is available with metric or special RD thread (with metric pitch) and can be screwed in the suitable threaded anchor like a normal screw. The chain link is used to tighten or loose **PHILIPP Wirbelstar**. Therefore the chain link must be pulled through the ring bolt so that its recess fits to one of the three pins located at the circumference of the **PHILIPP Wirbelstar** (Picture 2). This efficient lever arm enables convenient tightening and removing without any tool. The **PHILIPP Wirbelstar** must be screwed in a way that the bottom plate has throughout contact with the concrete surface. This is particularly important because on lifting the **PHILIPP Wirbelstar** a deviation is initiated and spalling is largely prevented (Picture 3). Due to that bending and damage to the thread can be avoided. The use of products of the **PHILIPP Threaded Anchor System** requires **PHILIPP Recess Formers** (72SAT12K until 72SAT52K or 72SATM12K until 72SATM52K). Thus the vertical location of **PHILIPP Wirbelstar** is guaranteed.



Picture 2

The **PHILIPP Wirbelstar** is especially suitable for lateral and diagonal tension and is therefore excellently convenient for tilt-up of flat manufactured panels.

USING INSTRUCTION OF PHILIPP WIRBELSTAR (STANDARD)

The use of **PHILIPP Wirbelstar** in a sunk position with nailing plates with too small diameters is inadmissible (Picture 4). Because of its ball-bearing, the hanger moves after achievement of the nominal load bearing itself into the right force direction without removing the bottom part of the **PHILIPP Wirbelstar**.

3. Safety Advice

The **PHILIPP Wirbelstar** counts as a lifting device and is therefore subject to an annual inspection (BGR 500 Section 2.8). This inspection must be executed by an expert and lies in the field of responsibility of the user. The **PHILIPP Wirbelstar** is maintenance-free. Because of its ball-bearing, penetration of dirt can be largely excluded.

In general the particular accident prevention regulations (UVV) must be taken into account.

The right hook size and form should be considered because thus the durability can be extended.

The component parts of the **PHILIPP Wirbelstar** are manufactured with a special thermal procedure.



Welding and other strong heating influences on the **PHILIPP Wirbelstar** are inadmissible.

If it occurs during use or inspection that chain link and bottom plate heavily twist against each other, send it to **PHILIPP Group** for a correct maintenance.

If the **PHILIPP Wirbelstar** was loaded by exceptional loads (e.g. overstraining), which causes negative influence, an extraordinary inspection must be carried out by an expert (German regulation, BGR 500).

The inspection should consider the below mentioned criteria (Section 4).



The use of damaged load equipment or items which are already in replacement state is inadmissible.

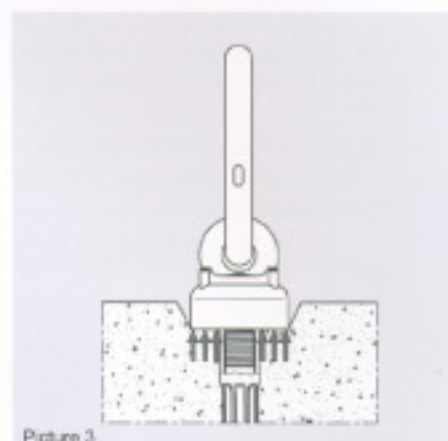
The replacement state of the **PHILIPP Wirbelstar** is determined according to the German regulation (BGR 500 section 2.8).

4. Replacement State and Inspection

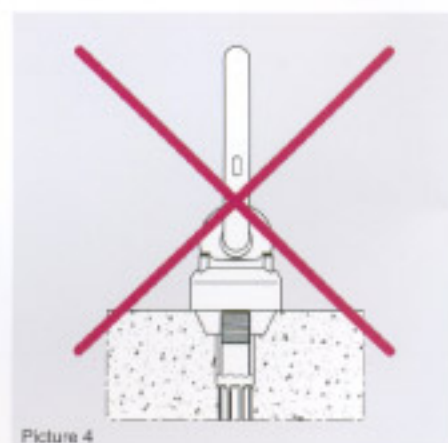
Prior inspection the **PHILIPP Wirbelstar** must be cleaned and the following points must be taken into account.

- on plastic deformation replacement state of wear of the **PHILIPP Wirbelstar** is reached. Those deformations can be:
 - deformed chain link (Picture 5)
 - deformation of threaded bolt
 - stretching caused by overload (Picture 6 and 7, and Table 2)
- on exceeding permissible wear measures, replacement state of wear is also reached.

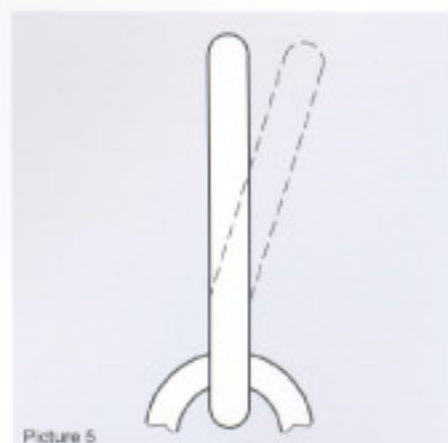
If you wish a proper and documented inspection please don't hesitate to contact our **PHILIPP Inspection Service** under the following telephone number: +49 (0) 6021/ 4027-0.



Picture 3



Picture 4

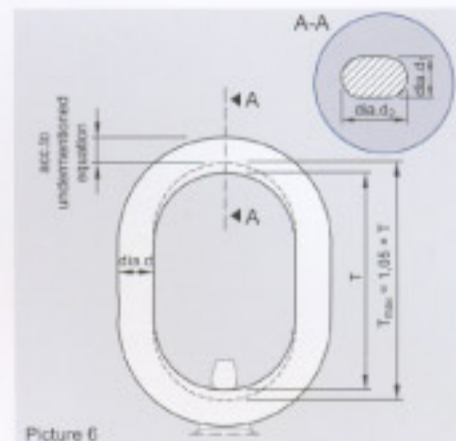


Picture 5

Table 2: Inspection Measures of the Chainlink

Type	Pitch T [mm]	$T_{max}=1.05 \times T$ [mm]	dia. d [mm]	$0.9 \times \text{dia. d}$ [mm]
12	85	89	10.0	9.0
14	85	89	10.0	9.0
16	110	116	10.0	9.0
18	95	100	16.0	14.4
20	102	107	16.0	14.4
24	125	131	18.0	16.2
30	148	155	22.0	19.8
36	160	168	26.0	23.4
42	160	168	26.0	23.4
52	220	231	36.0	32.4

Furthermore the radius of the chain link diameter should be observed during inspection. The replacement state for this part is reached, if the chain link has a diminution by 10% (Picture 6 and Table 2).

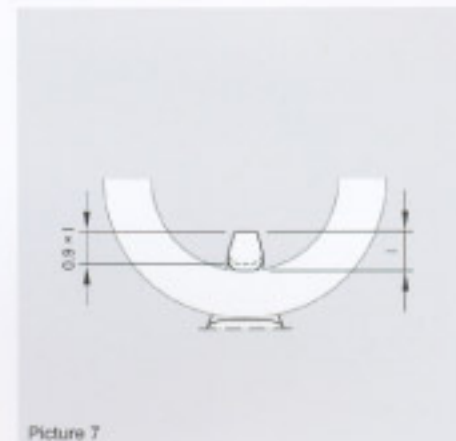


Picture 6

$$\frac{\text{dia. } d_1 + \text{dia. } d_2}{2} > 0,9 \times \text{dia. } d$$

Table 3: Inspection Measures of the Ring Bolt

Type	l [mm]	$l \times 0.9$ [mm]
12	10.0	9.0
14	10.0	9.0
16	10.0	9.0
18	17.0	15.3
20	17.0	15.3
24	17.0	15.3
30	22.0	19.8
36	28.0	25.2
42	28.0	25.2
52	30.0	27.0



Picture 7

5. Marking

The PHILIPP Wirbelstar is marked as follows:

- manufacturer
- year of manufacturing
- load bearing capacity
- type/ thread size
- serial number
- CE marking