KWB
Safety in action

Translation of original operating manual



This product is suitable for the lifting and holding of loads, provided that the instructions of this operating manual and all the national regulations are complied with. This product may only be used, once this operating manual has been read and understood in full.

This introduction provides you with basic information on how to use the product. The complete operating manual for this product can be downloaded from our website (see QR code). Additional information on assembly and use can be found in the document. This operating manual is part of the product and must be made available to users throughout the lifetime of the product.

SAFETY INSTRUCTIONS

Only specially trained personnel are allowed to use this product. They must be familiar with the relevant norms and the country-specific regulations. The product may not be modified in any way. Check for visible damage (deformations, cracks, damaged threads) prior to each use and ensure that the product is functioning correctly – lifting points have to be rotatable (alignable with the load direction).
This product may not be used for the lifting or securing of persons.

Intended use

This product is a lifting point that is screwed onto loads so that lifting chain components (hooks, shackles, straps...) may be attached to enable the load to be lifted. The lifting points may also be used as lashing points. This product may only be used either for lifting or for lashing. Once a lifting point has been used for lashing, it may no longer be used for lifting (and vice versa). This product may only be used and serviced by properly trained personnel, provided that the instructions of this operating manual and all relevant country-specific regulations are complied with. Repairs, regular inspections and the exchange of parts may only be performed by competent personnel.
Loading must always take place in the stated direction (picture 1) with the maximum load capacity according to table 1 and taking into consideration the operating conditions as specified here.
The long-term permitted ambient temperature must be between -20 °C and +200 °C. In case of usage outside this temperature range, the reduction factors outlined in table 2 must be taken into account.
Use only original parts for the assembling of the lifting point.

For exact dimensions, refer to our website.

Restrictions on use

These lifting points are not suitable for use in areas with strong corrosive influences (e.g. in the vicinity of sewage water or chemicals). They must not be exposed to acids or caustic solutions and their vapours.
The ring/bracket is not suitable for edge or corner loading.
For the load capacities to apply, it is assumed that the individual lifting points are placed under load symmetrically. When the load is lifted, this will result in the same angles of inclination of the individual chain legs.

⚠ WARNING **The information contained in this operating manual is based on the assumption that no particularly hazardous conditions apply. Such conditions include offshore use and use in areas with nuclear contamination.**

Mounting instructions

Only use non-defective lifting points. Used lifting points must be checked according to the maintenance instructions prior to each use. Check that the lifting point has been attached according to the assembly instructions during each use. The attached lifting device must be free to move in the ring. The base material of the object to which the lifting points are to be attached must be strong enough to absorb the forces that occur without deformations (proof of safety). Always choose lifting points with the correct dimension acc. to the load capacity table, depending on the size of the load and the arrangement of the lifting devices. Choose the arrangment of lifting points in such a way that symmetrical loading is assured and the centre of the load is positioned under the lifting point(s). Any severe conditions (see restrictions on use) must be taken into account. Always refer to the user manual and mounting instructions for the lifting devices used and, where applicable, also for the load to be lifted. The delivery condition must not be changed. It is not permitted to perform mechanical machining, heat and/or surface treatments with material-damaging effects. Align the lifting point in the expected direction of pull and leave the hazard area before lifting the load.

Maintenance, inspection, repairs

⚠ WARNING **The safety of the user is contingent upon the effectiveness and durability of the equipment used. For this reason, ensure that inspections are performed regularly. Damaged lifting points may fail during normal conditions of use, causing the load to fall. Such lifting points may not be used.**

This product must be inspected by a competent person at least once a year and in accordance with the manufacturer's instructions. Depending on the conditions of use and legal stipulations, this interval may be shorter. During inspection, all parts must be checked for damage that could impact safety and function. Load testing all the way up to the proof force is not permitted for these lifting points. Regular inspections must be performed by the manufacturer or a competent person, in strict accordance with the manufacturer's instructions.



ULD lifting point

Mounting

Although the upper part has a ball bearing and rotatable 360°, before usage you should adjust the ring in the correct direction of tension (picture 1).



Pic. 1: Permitted directions of load that occur during correct use. * Ring may not touch the ringholder

May not be rotated continuously under load. The ring may not be folded up and down continuously while under load.
The length of the thread may not be shortened. Do not use an extension when assembling. Only use the lifting points in a nut thread that is true to gauges.
Additional elements (such as washers) between the lifting point and the load are not permitted.

The screw-on surface must be level and have at least the diameter of the contact surface of the lifting point.
The sufficiently deep, threaded hole must be at the centre of the contact surface, at a right angle. It must be possible to insert the screw fully (with blind holes).
Clean the threaded hole prior to each use and check for damage.

The minimum screw penetration values are:
M8 to M20:
- 1,5 x M for steel (Rm > 360N/mm²)
- 1.75 x M for cast steel
- 2.5 x M for aluminium

from M24 up:
- 1,2 x M for steel (Rm > 360N/mm²)
- 1.5 x M for cast steel
- 2.2 x M for aluminium

(M = thread size, e.g. M20 = 20 mm)

For one-off transport, it is admissible to tighten the screw by hand using a spanner. If the lifting point is intended to remain permanently attached to the load, it must be tightened with an appropriate tool with a torque as listed in table 1. If necessary (i.e. in case of vibrations), the thread must be secured with a liquid threadlock (e.g. Loctite). Should the lifting point be rotated under load when used, please ensure that it is properly fastened with torque.

Before each use, the following checks should be performed:
- The lifting points were selected correctly, based on the size of the load and the lifting devices used (chain sling, angle of inclination, etc.).
- Flawless functioning (rotating and/or folding of the ring) and appearance of parts and the thread.
- After screwing in, the contact surface must fully rest on the load.
- The ring of the lifting point used must be aligned with the expected load direction.
- The locking screw must be in place and must not have become loose.

Elimination criteria

Breakage, deformations, sharp notches or cracks of any kind. Illegible markings. Wear or excessive corrosion, if the admissible cross-sectional reduction of 10 % is exceeded.
If it is not possible to freely rotate and/or fold the ring after assembly.
If there is any doubt on the correct functioning/ safety of the lifting point, it must be discarded!

Method of lifting										
Number of legs	**1**	**1**	**2**	**2**	**2**	**2**	**3+4**	**3+4**	**2**	**3+4**
Angle of inclination	**0°**	**90°**	**0°**	**90°**	**0-45°**	**45°-60°**	**0°-45°**	**45°-60°**	**asymm.**	**asymm.**

Code	Thread [mm]	Torque [Nm]	Working load limit (G) [kg]									
ULD 0.75t	M12	15	1,200	750	2,400	1,500	1,060	750	1,590	1,120	750	750
ULD 1.5t	M16	30	2,600	1,500	5,200	3,000	2,120	1,500	3,180	2,250	1,500	1,500
ULD 2.5t	M20	70	4,000	2,500	8,000	5,000	3,500	2,500	5,300	3,750	2,500	2,500
ULD 4t	M24	150	7,000	4,000	14,000	8,000	5,600	4,000	8,400	6,000	4,000	4,000
ULD 6t	M30	230	10,000	6,000	20,000	12,000	8,480	6,000	12,720	9,000	6,000	6,000

Table 1: Static test coefficient = 1,5 (acc. to MD Pt.4.1.2.3); Working coefficient = 4 (acc. to MD Pt. 4.1.2.4)

Reduction factors					
Temperature range	below -20°C	-20°C to 200°C	200°C to 300°C	300°C to 350°C	more than 350°C
Reduction factors	Not permitted	1	0,9	0,75	Not permitted

Shock loading	Light shocks	Moderate shocks	Strong shocks
Reduction factors	1	0.7	Not permitted

Table 2

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