

**SAFETY RING BOLTS, ROTATABLE SN1598
OPERATING MANUAL**



STRACK®
NORMALIEN

Operating manual - Safety ring bolts, rotatable SN1598

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Information about this operating manual



This manual addresses to the operating- and maintenance staff.

It contains all the important information which is necessary for the safe handling of this device. The machine operator has to take care that this operating manual is available for the operating- and maintenance staff in an understandable language.

In addition to the operating manual also further information for a safe handling with this device are essential:

- Read the respective guidelines for your country.

STRACK NORMA recommends adding all relevant guidelines and regulations for accident prevention to this operating manual.

If, despite of this, concerning this device, problems should occur or if questions arise, we are of course always at your disposal.

About the document

The language of the original operating manual is German. All other languages of this manual are a translation of the original operating manual. It has to be placed at every time in the near of the product. The strict observance of this manual is a precondition for the intended use and the correct operation of the product.

The operating manual corresponds to the design of the product and the state of the based technical safety regulations and standards.

Definition qualified personnel

Qualified personnel are persons who, in view of their expert training and experience, have sufficient knowledge in the use of lifting means and is sufficiently familiar with the relevant norms and national regulations so that they can judge the safe-for-working state of the product being used.

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Grade 10

These lifting points are designed considering this manual as well as the national regulations for lifting and holding the load. Read the manual carefully before using the lifting points. The user must have access to the operating manual until withdrawal of the connecting links from service.

The manual is updated continuously and valid only in the latest version. The manual is available as a download under the following link: www.strack.de



Method of lifting No. of legs Angle of inclination													
	Code	Thread [mm]	Tightening torque [Nm]	Load capacity [kg]									
	SN1598-M8	M8	Can be tightened manually	800	300	1600	600	400	300	600	400	300	300
	SN1598-M10	M10		1100	500	2200	1000	700	500	1000	700	500	500
	SN1598-M12	M12		2000	700	4000	1400	1100	700	1400	1000	700	700
	SN1598-M16	M16		4000	1500	8000	3000	2100	1500	3000	2200	1500	1500
	SN1598-M20	M20		5000	2300	10000	4600	3200	2300	4800	3400	2300	2300
	SN1598-M24	M24		6500	3200	13000	6400	4500	3200	6700	4800	3200	3200
	SN1598-M30	M30		12000	4900	24000	9800	6900	4900	10300	7300	4900	4900
	SN1598-M36	M36		15000	7000	30000	14000	9800	7000	14700	10500	7000	7000
	SN1598-M42	M42		22000	9000	44000	18000	12600	9000	18900	13500	9000	9000
	SN1598-M48	M48		30000	12000	60000	24000	16800	12000	25000	18000	12000	12000
Safety factor 4 Attention: Subject to technical changes!													

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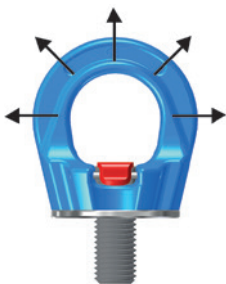
Intended use

Load capacity: working load limit according to test certificate or working load limit table in the given directions of tension - see picture 1.

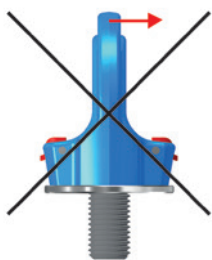
Admissible operating temperature: -20° to 200°.

Impacts: impacts which occur because of e.g. acceleration during lifting and lowering can be unconsidered.

Other: Lifting points have to be mounted only with the included screw. The body is rotatable 360° and must be aligned in the permitted direction of tension before use.



Picture 1: permitted



Picture 2: not permitted

Information for use

- Lifting points should be used by a competent authorised person.
- Visual inspection before first usage (see maintenance instruction)
- Before every usage check for damages on screw and thread - lifting points must be rotatable.
- Load only in the specified direction (see picture 1) with WLL acc. to table.
- Make sure before each use that the lifting point is hand tight (by the lock system or an Allen key).
- Please note restriction in application for eventually appearing difficulties in load.
- Connected lifting gear (e.g. hook) must be flexible in the ring.
- Lifting points must be stored in a clean and dry area.
- SN1598 lifting points are not designed to be rotated under load.



- Do not overload lifting points. A falling down load may lead to injuries or death!
- Do not use damaged lifting points (see maintenance instruction) - they can fail in operating conditions - load can fall down!

Limits of use

When lifting points are used under other conditions than the one mentioned in Intended use (see above), restrictions on used must be applied.

- Do not use lifting points in connection with acids, bases or their steams. For application in chemical environments, please contact our technical service.
- Do not load lifting points when they come into contact with corners or sharp edges!
- Do not lift people!
- If the load distribution is asymmetrical (sling legs subtend different angles to the vertical), only load the 2-leg sling with the WLL of a 1-leg sling. In the case of a 3- or 4-leg lifting sling, it is only allowed to load it with a maximum WLL of a 2-leg lifting sling. In case of doubt, it must be supposed that only one of the legs will carry the entire load.

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Mounting instruction

Mounting only by competent authorized person.

Tool-free assembly and disassembly

The cap in pos. 1 (assembly position) has contact with the screw:



The cap in pos. 2 (input position) does not have any contact with the screw:



- The equipment, where the lifting points are mounted on, has to meet the requirements of the Machinery Directive 2006/42/EC.
- Choose adjustment of lifting points so that you have a symmetric load. Center of gravity must be under the lifting point.
- The base material must be of sufficient strength that the force induced can be absorbed without deformation.
- Choose lifting points with adequate WLLs - see table.
- The screwing area must be flat and be provided with a diameter not smaller than the bottom part of the lifting point. The threaded hole with adequate depth must be in the middle and in a square to ensure that the screw can be screwed in correctly (blind hole).

- Minimum screw penetration:
1 x M in steel (M = thread size e.g. M20 = 20 mm)
1.25 x M in cast steel
2 x M in aluminum
- Threaded hole must be cleaned before screwing.
- SN1598 lifting points can also be fixed with an Allen key.
- If necessary (e.g. if vibrations occur), use liquid thread adhesives (please note manufacturer's instructions).
- Make sure that the adjustment of the lifting point will not lead to improper loading, e.g. if:
- There is no possibility to align in the direction of tension
- The direction of tension is not in the foreseen area acc. to picture 1
- Use only original parts - recognizable by the marking (WLL, thread).
- It is not allowed to modify the lifting point, e.g. welding, heat treatments and surface treatments (galvanising) are prohibited. Also shortening of screw is forbidden.
- Mount only lifting points free from defects.
- Check used lifting points acc. to maintenance instruction before application.
- After assembling, lifting points must be able to rotate properly.
- Do not use any extension when assembling.

Maintenance, Checks, Repairs

- An inspection in accordance with the national standards must be carried out annually by a technical expert. If used frequently under a full load these inspections can be implemented regularly. We also recommend a crack test every two years. The screw must be taken out from the body.
- The parts must be free from oil, dirt and rust for inspection and crack test. Adequate cleaning procedures are the ones, which do not overheat, hide failures on surface and cause hydrogen embrittlement or stress crack corrosion.
- During inspection check all parts which can influence safety and function, - e.g.:
- Cracks, notches, deformation, noticeable signs of excessive heat
- Abrasion resp. corrosion of more than 10 % of the cross section

In case of doubt, if the lifting points are damaged, stop using them and have them examined by an expert.

Repairs

- Maintenance of the lifting points should only be carried out by technical experts.
- If small defects like notches or score marks are visible, they can be carefully removed by using grinders or files. The repaired area has to merge smoothly without sudden changes of the cross-section. When repairing, the cross section must not decrease of thickness by more than 5 %.
- Welding procedures and heat treatments are prohibited.

Exact dimensions can be found in the Operating manual of this product on our website www.strack.de

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Service instructions

General information

The lifting point SN1598 operator must perform a risk assessment test and take measures to ensure the safe use of the safety ring bolt, including the determination of the kind of test to be performed on the safety ring bolt and its scope. STRACK NORMA recommends that such a test is carried out annually by a qualified person.

Depending on the conditions of use, tests may also be performed more frequently. In case of frequent use, we recommend to perform a cracking test every two years.

To perform this test, the screw must be removed from the main casting. For regular checks and for the cracking test, all parts must be free from oil, dirt and rust. Only choose a cleaning procedure that does not overheat, cover up surface defects or cause hydrogen embrittlement or stress-corrosion cracking.

When performing a test, all parts must be checked for damages that could impair safety or function; e.g. breakages, notches, cracks, distortion, improper heat impact, wear and tear and/or corrosion of more than 10 % of the cross-section.



If any doubts remain with regard to functionality or safety, the lifting point must be decommissioned.

Checking

Safety ringbolts SN1598 must be checked as follows:

1. Check that all parts are in their original condition – may be seen from the stamping (load capacity, screw, thread).

Check that the condition of the product upon delivery has remained unchanged; i.e. no soldering, heat treatments or surface treatments have been carried out. Check that the screw has not been shortened.

In all cases, changes must be agreed to determine whether the lifting point remains suitable for use.

2. Mount the lifting point according to the operating instructions

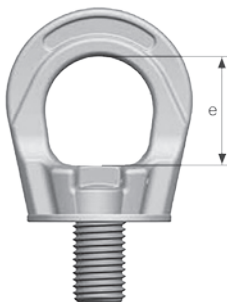
Check that the screw-on surface is in full contact with the mounting surface. If in doubt, check the screw and the sleeve for distortions or other signs of over-stressing and exchange if necessary.

3. Distortion of the ring caused by excessive vertical stress

If the ring exceeds the measure "e" (inside dimension of the screw head ring), the lifting point must be decommissioned.

SN1598-

	e max.
M8 / M10	29.20 mm
M12	34.70 mm
M16	39.10 mm
M20	44.60 mm
M24	55.20 mm
M30	66.00 mm
M36	77.00 mm
M42	79.20 mm
M48	96.80 mm



4. Distortion of the ring caused by excessive lateral stress

In case of any noticeable distortion, the lifting point must be decommissioned.



5. Checking the flap function

Check the flaps for distortion, wear and fault-free functioning. Both flaps must be fully functional - it must be possible to tighten and disassemble the lifting point by hand. When fully assembled, it must be possible to turn the ring smoothly (towards the loading direction). The flaps must be held in position by the spring and the pins must not be bent.

In case of malfunctioning exchange the flap set.

6. Screw cracking test

Disassemble the lifting point in accordance with the operating instructions. The screw must be cleaned and the thread must be checked for damage, distortion and correct functioning (thread gauge). The marking must be clearly legible and a magnetic surface crack test must be performed. Smaller cracks on the screw head may be repaired by filing, grinding etc. Care must be taken not to reduce the cross-section by more than 10 %. If in doubt, the screw must be replaced.

7. Checking the sleeve

Check the sleeve for distortion and wear. If any doubts remain regarding functionality or safety of the lifting point, we suggest to exchange the sleeve or decommission the lifting point.

Check that all parts have been mounted correctly and that the lifting point may once again be released for safe operation.

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Declaration of conformity

According to Annex II A of the Machinery Directive 2006/42/EG and Machinery Safety Regulation 2010 for lifting devices:

Description/ Denomination:

Ring bolt, rotatable
with the article designation SN1598

We declare in our sole responsibility that the product mentioned in this certificate fulfills the relevant conditions of the Machinery Directive 2006/42/EG and that the mentioned standards have been applied. In case of any not by us approved changes of the product this declaration gets invalid.

The following standards were applied:

EN 16777-1, DIN ISO 9001

It is a precondition to put the product into service that the instruction for use has been read and understood.

This declaration is binding for the manufacturer

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Date: 30.07.2018


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