

STARPOINT Ringmutter



Safety instructions

This safety instruction/declaration has to be kept on file for the whole lifetime of the product and forwarded with the product.

- Translation of the Original instructions -



RUD Ketten
Rieger & Dietz GmbH u. Co. KG
 D-73432 Aalen
 Tel. +49 7361 504-1370
 www.rud.com
 sling@rud.com

RUD-Art.-Nr.: 8502512-EN - V05 / 08.023

STARPOINT-eyenut VRM for bolts with min. quality class 10.9



EG-Konformitätserklärung

entsprechend der EG-Maschinenrichtlinie 2006/42/EG, Anhang II A und ihren Änderungen

Hersteller: **RUD Ketten**
Rieger & Dietz GmbH u. Co. KG
 Friedensinsel
 73432 Aalen

Hiermit erklären wir, dass die nachfolgend bezeichnete Maschine aufgrund ihrer Konzipierung und Bauart, sowie in der von uns in Verkehr gebrachten Ausführung, den grundlegenden Sicherheits- und Gesundheitsanforderungen der EG-Maschinenrichtlinie 2006/42/EG sowie den unten aufgeführten harmonisierten und nationalen Normen sowie technischen Spezifikationen entspricht.
 Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

Produktbezeichnung: StarPoint Ringmutter
VRM

Folgende harmonisierten Normen wurden angewandt:

DIN EN 1677-1 : 2009-03 DIN EN ISO 12100 : 2011-03

_____	_____
_____	_____
_____	_____

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:

DGUV-R 109-017 : 2020-12 _____

_____	_____
_____	_____
_____	_____

Für die Zusammenstellung der Konformitätsdokumentation bevollmächtigte Person:
 Michael Betzler, RUD Ketten, 73432 Aalen

Aalen, den 15.04.2021

Hermann Kolb, Bereichsleitung MA
 Name, Funktion und Unterschrift Verantwortlicher



EC-Declaration of conformity

According to the EC-Machinery Directive 2006/42/EC, annex II A and amendments

Manufacturer: **RUD Ketten**
Rieger & Dietz GmbH u. Co. KG
 Friedensinsel
 73432 Aalen

We hereby declare that the equipment sold by us because of its design and construction, as mentioned below, corresponds to the appropriate, basic requirements of safety and health of the corresponding EC-Machinery Directive 2006/42/EC as well as to the below mentioned harmonized and national norms as well as technical specifications.
 In case of any modification of the equipment, not being agreed upon with us, this declaration becomes invalid.

Product name: STARPOINT Eye nut
VRM

The following harmonized norms were applied:

DIN EN 1677-1 : 2009-03 DIN EN ISO 12100 : 2011-03

_____	_____
_____	_____
_____	_____

The following national norms and technical specifications were applied:

DGUV-R 109-017 : 2020-12 _____

_____	_____
_____	_____
_____	_____

Authorized person for the configuration of the declaration documents:
 Michael Betzler, RUD Ketten, 73432 Aalen

Aalen, den 15.04.2021

Hermann Kolb, Bereichsleitung MA
 Name, function and signature of the responsible person

User instructions

1. Reference should be made to German Standards accord. DGUV rules 109-017 or other country specific statutory regulations and inspections are to be carried out by competent persons only.

2. Before installing and every use, inspect visually RUD lifting points, paying particular attention to any evidence of corrosion, wear and weld cracks and deformations. Please ensure compatibility of bolt thread and tapped hole.

3. STARPOINT-eyenuts should only be used with bolts or threaded studs with a min. quality class 10.9 and who are 100 % crack detected. **Less material characteristics at bolts or set screws are reducing the WLL!** The material construction to which the lifting point will be attached should be of adequate strength to withstand forces during lifting without deformation.

4. The lifting points must be positioned on the load in such a way that movement is avoided during lifting.

a.) For single leg lifts, the lifting point should be vertically above the centre of gravity of the load.

b.) For two leg lifts, the lifting points must be equidistant to/or above the centre of gravity of the load.

c.) For three and four leg lifts, the lifting points should be arranged symmetrically around the centre of gravity in the same plane.

5. Load Symmetry:

The working load limit of individual RUD lifting points are calculated using the following formula and are based on symmetrical loading:

$$W_{LL} = \frac{G}{n \times \cos \beta}$$

W_{LL} = working load limit
 G = load weight (kg)
 n = number of load bearing legs
 β = angle of inclination of the chain to the vertical

The calculation of load bearing legs is as follows:

	symmetrical	asymmetrical
two leg	2	1
three / four leg	3	1

(see table 1)

6. A plane bolting surface must be guaranteed. The internal thread has to be 100 % engaged on the bolt thread. The threaded stud must guarantee that the plane area of the eyenut can completely flat down to the work piece. When using the eyenut perpendicular only, the WLL from table 1 / table 2 can be used.

7. For the installation we recommend to use a matching double ended ring spanner according to Table 3 (note: do not over tighten the hexagon nut insert). The hexagon of the nut insert is not suitable for high torques because of its dimension. Use when available, the head of screws or hex nuts for tightening. The required tightening torque depends on the application. A hand suit with a ring spanner is sufficient for one-time load handling.

8. The STARPOINT-eyenut has to be adjustable through 360° when fitted. Adjust to direction of pull before attaching of the lifting means.

Attention: STAROINT-eyenut are not suited for turning under load!



9. All fittings connected to the STARPOINT-eyenut should be free moving. When connecting and disconnecting the lifting means (sling chain) pinches and impacts should be avoided. Damage of the lifting means caused by sharp edges should be avoided as well.

10. To prevent unintended dismounting through shock loading, rotation or vibration, thread locking fluid such as Loctite (depending on the application, please pay attention to the manufacturer's instruction) should be used to secure the nut.

For lifting points which remains on the construction we basically recommend to secure with liquid locking device.

Attention: Body must still be turnable!

11. Effects of temperature:

Starpoint nuts can be used in a temperature range of -40°C to max 100°C (-40°F up to 210°F).

12. RUD-Lifting points must not be used under chemical influences such as acids, alkaline solutions and vapours e.g. in pickling baths or hot dip galvanising plants. If this cannot be avoided, please contact the manufacturer indicating the concentration, period of penetration and temperature of use.

13. The places where the lifting points are fixed should be marked with colour.

14. After fitting, an annual inspection or sooner if conditions dictate should be undertaken by a competent person examining the continued suitability. Also after damage and special occurrences.

Inspection criteria concerning paragraphs 2 and 14:

- Ensure tightness
- The plane area of the eyenut must properly flat down on the work piece.
- The lifting point should be complete.
- The working load limit and manufacturers stamp should be clearly visible.
- Deformation of the component parts such as body and bolt.
- Mechanical damage, such as notches, particularly in high stress areas.
- Wear should be no more than 10 % of cross sectional diameter.
- Evidence of corrosion.
- Damage to the bolt, nut and/or thread.
- The body of the STARPOINT-eyenut must be free to rotate

A non-adherence to this advice may result damages of persons and materials!

Method of lift											
Number of legs	1	1	2	2	2	2	2	3 / 4	3 / 4	3 / 4	
Angle of inclination < β	0-7°	90°	0-7°	90°	0-45°	>45-60°	Un-symm.	0-45°	>45-60°	Un-symm.	
Factor	1	1	2	2	1.4	1	1	2.1	1.5	1	
Safety factor 4:1	for max. total load in tons. bolted and adjusted to the direction of pull										
Safety factor 4:1	VRM-M 6	0.5	0.1	1	0.2	0.14	0.1	0.1	0.21	0.15	0.1
	VRM-M 8	1	0.3	2	0.6	0.42	0.3	0.3	0.63	0.45	0.3
	VRM-M 10	1	0.4	2	0.8	0.56	0.4	0.4	0.84	0.6	0.4
	VRM-M 12	2	0.75	4	1.5	1	0.75	0.75	1.57	1.12	0.75
	VRM-M 16	4	1.5	8	3	2.1	1.5	1.5	3.15	2.25	1.5
	VRM-M 20	6	2.3	12	4.6	3.22	2.3	2.3	4.83	3.45	2.3
	VRM-M 24	8	3.2	16	6.4	4.5	3.2	3.2	6.7	4.8	3.2
VRM-M 30	12	4.5	24	9	6.3	4.5	4.5	9.5	6.75	4.5	
At a lift with one strand and two parallel strands where the inclination angles are at the max. ± 7°, the lifting method can be assumed as a vertical lift.					When lifting with two, three or four leg lifting means, inclination angles of less than 15° shall be avoided, if possible (Risk of instability).						

Method of lift											
Number of legs	1	1	2	2	2	2	3 / 4	3 / 4	3 / 4		
Angle of inclination β	0-7°	90°	0-7°	90°	0-45°	>45-60°	Un-symm.	0-45°	>45-60°	Un-symm.	
Factor	1	1	2	2	1.4	1	1	2.1	1.5	1	
Safety factor 4:1	WLL in lbs, for max. total load lbs, bolted and adjusted to the direction of pull										
Safety factor 4:1	VRM-M 6	1100	220	2200	440	310	220	220	460	330	220
	VRM-M 8	2200	660	4400	1320	930	660	660	1400	990	660
	VRM-M 10	2200	880	4400	1760	1240	880	880	1860	1320	880
	VRM-M 12	4400	1650	8800	3300	2330	1650	1650	3500	2470	1650
	VRM-M 16	8820	3300	17640	6600	4660	3300	3300	7000	4950	3300
	VRM-M 20	13230	5070	26460	10140	7170	5070	5070	10750	7600	5070
	VRM-M 24	17630	7050	35260	14100	9970	7050	7050	14950	10570	7050
	VRM-M 30	26450	9920	52900	19840	14020	9920	9920	21040	14880	9920
At a lift with one strand and two parallel strands where the inclination angles are at the max. $\pm 7^\circ$, the lifting method can be assumed as a vertical lift.					When lifting with two, three or four leg lifting means, inclination angles of less than 15° shall be avoided, if possible (Risk of instability).						

Table 2

Subject to technical alterations

Type	WLL [t]	weight [kg/pc.]	T [mm]	B [mm]	C [mm]	D [mm]	E [mm]	F [mm]	G [mm]	H [mm]	I [mm]	K [mm]	L [mm]	M	N [SW]	torque [Nm]	reference
VRM M6	0.1	0.06	28	9	7	20	23	16	28	17	13	37	11	M6	9	5	7900786
VRM M8	0.3	0.11	35	11	9	25	25	21	30	21	16.3	47	14	M8	12	10	7992989
VRM M10	0.4	0.11	35	11	9	25	25	21	30	21	16.3	47	14	M10	12	10	7990311
VRM M12	0.75	0.18	42	13	10	30	30	24	34	25	19.8	56	17	M12	14	25	7990312
VRM M16	1.5	0.32	49	15	13	35	36	30	40	29	23.6	65	21	M16	19	60	7990314
VRM M20	2.3	0.48	58	17	16	40	41	37	50	35	29.3	76	23	M20	24	115	7990315
VRM M24	3.2	0.83	70	20	19	49	51	45	60	41	35.2	92	29	M24	30	190	7990316
VRM M30	4.5	1.32	87	26	24	60	66	56	75	51	44	114	36	M30	36	330	7993008

Table 3

Subject to technical alterations

