

> STARPOINT <

Safety instructions

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



Another generation of eyebolt



MO
045119



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EG-Herstellererklärung

im Sinne der EG-Maschinenrichtlinie 98/37/EG,
 Anhang II B und ihre Änderungen

Hiermit erklären wir (unterstützt durch die Zertifizierung nach ISO 9001), dass die nachfolgend bezeichnete Ausrüstung aufgrund ihrer Konzipierung und Bauart, sowie der von uns in Verkehr gebrachten Ausführung, den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der EG-Richtlinie entspricht. Bei einer nicht mit uns abgestimmten Änderung der Ausrüstung verliert diese Erklärung ihre Gültigkeit. Weiterhin verliert diese Erklärung ihre Gültigkeit, wenn die Ausrüstung nicht entsprechend den in der Betriebsanleitung aufgezeigten bestimmungsmäßigen Fällen eingesetzt wird und die regelmäßig durchzuführenden Überprüfungen laut BGR 500, Kapitel 2.8 „Betreiben von Lastaufnahmeeinrichtungen im Hebezeugbetrieb“, und den entsprechenden landesspezifische Vorschriften, nicht vorgenommen werden.

Hinweis: Die Inbetriebnahme der Maschine, an die die gelieferten Bauteile angebaut werden, ist solange untersagt, bis festgestellt wurde, dass sie den Bestimmungen der Maschinenrichtlinie 98/37/EG der Europäischen Gemeinschaft entspricht. Bei STARPOINT angewendete harmonisierte Normen DIN EN ISO 12100 T1 und T2 sowie in Anlehnung an EN 1677. Dies gilt nur für Mitgliedstaaten der EU und EFTA.

Bezeichnung der Ausrüstung:

Anschlagpunkt

Type: Ringschraube STARPOINT - VRS

Herstellerzeichen:

EC-Declaration of the manufacturer

according to the Machinery Directive 98/37/EC,
 annex II B and amendments

We hereby declare (supported by certification as per ISO 9001) that the equipment, as mentioned below, corresponds to the appropriate, basic requirements of safety and health of the corresponding EC regulation in the design as it is sold by us because of its design and construction. In case of any modification of the equipment, not being agreed upon with us, this declaration becomes invalid. Furthermore, this declaration will become invalid if the equipment is not used according to the prescriptions mentioned in the manual and if the necessary examinations are not carried out regularly as per BGR 500.

Hint: The commissioning of the machine in which the delivered components of this consignment will be installed is only permitted if it can be stated that the machine corresponds to the machine directive 98/37/EC of the European Community. Applied standards: DIN EN ISO 12100 T1 and T2 in particular EN 1677. This is only valid for countries which are member of the EC and of the EFTA.

Designation of the equipment:

Lifting point

Type: eyebolt STARPOINT - VRS

Manufacturer's sign:

User Instructions

1. Reference should be made to German Standards accord. BGR 500 or other country specific statutory regulations and inspections are to be carried out by competent persons only.

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

3. The material construction to which the lifting point will be attached should be of adequate strength to withstand forces during lifting without deformation. For steel S235JR (1.0037) or Cast iron GG 25 (0.6025 - without blowhole) the bolt length should be 1,5xM (=L).

When lifting light metals, nonferrous metals and gray cast iron or other materials the thread has to be chosen in such a way that the WLL of the thread corresponds to the requirements of the corresponding base material. The German testing authority BG, recommends the following minimum for the bolt lengths:

2 x M in aluminium
2,5 x M in aluminium-magnesium alloys

(M = thread Ø, e.g. M 20)

4. The lifting points must be positioned to the load in such a way that movements are 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 symmetrical around the centre of gravity, in the same plane if possible.

5. Load symmetry:

The required WLL of the individual RUD lifting point 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	2

(see table 1)

6. Planar bolting surface (E) must be guaranteed. Countersink of thread hole = nominal thread diameter. The holes must be drilled with sufficient depth in order to guarantee compatibility with the supporting surface.

7. For fitting without tools and for inspection of the compatibility of bolt thread and tapped hole the STARPOINT can be delivered with a tempered key (type: VRS-F). Simply engage the Hexagon socket bolt with the star profile key - use your fingers to respectively tighten or untighten the arrangement. Disengage the key before you hook in the lifting mean - STARPOINT must be rotatable! Do not use an elongation piece.

For a long term application the VRS should be tightened with torque according table 1 (+/- 10%).

8. Shock loading or vibrations can cause unintentional dismantling. To protect against this: liquid thread locker such as Loctite (depending on the application, please pay attention to the manufacturer's instruction).

Attention: Ring Body has to be free to rotate.

9. The STARPOINT has to be adjustable through 360° when fitted and with key disengaged. Adjust to direction of pull before attaching of the lifting means.

Attention: STARPOINT's are not suited for turning under load!



10. All fittings connected to the STARPOINT 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.

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

11. Effects of temperature:

Due to the DIN/EN bolts that are used with the STARPOINT the working load limit should be reduced accordingly:

-40° to 100°C no reduction	-40°F to 212°F
100° to 200°C minus 15%	212°F to 392°F
200° to 250°C minus 20%	392°F to 482°F
250° to 350°C minus 25%	482°F to 662°F

Temperatures above 350°C (662°F) are not permitted.

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 position where the lifting points should be attached should be clearly 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 compatibility of bolt thread and tapped hole.
- 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.
- Evidence of cracks.
- Damage to the bolt and/or thread.
- The body of the STARPOINT must be free to rotate.

Type metric	Type Inch	Torque
VRS-M8		10 Nm
VRS-M10	VRS-3/8"-16UNC	10 Nm
VRS-M12	VRS-1/2"-13UNC	25 Nm
VRS-M16	VRS-5/8"-11UNC	60 Nm
VRS-M20	VRS-3/4"-10UNC	115 Nm
	VRS-7/8"-9UNC	125 Nm
VRS-M24	VRS-1"-8UNC	190 Nm
VRS-M30	VRS-1 1/4"-7UNC	330 Nm
VRS-M36	VRS-1 1/2"-6UNC	590 Nm
VRS-M42	VRS-1 3/4"-5UNC	925 Nm
VRS-M48	VRS-2"-4,5UNC	1400 Nm

Table 1

Method of lift										
Number of legs	1	1	2	2	2	2	2	3 and 4	3 and 4	3 and 4
Angle of inclination α	0°	90°	0°	90°	0-45°	45-60°	unsymm.	0-45°	45-60°	unsymm.
Factor		1		2	1,4	1	1	2,1	1,5	1

		STARPOINT -WLL in metric tons, bolted and adjusted to the direction of pull									
Type metric	Type Inch										
VRS-M8		1 t	0,4 t	2 t	0,8 t	0,56 t	0,4 t	0,4 t	0,84 t	0,6 t	0,4 t
VRS-M10	VRS-3/8"-16UNC	1 t	0,4 t	2 t	0,8 t	0,56 t	0,4 t	0,4 t	0,84 t	0,6 t	0,4 t
VRS-M12	VRS-1/2"-13UNC	2 t	0,75 t	4 t	1,5 t	1,0 t	0,75 t	0,75 t	1,6 t	1,12 t	0,75 t
VRS-M16	VRS-5/8"-11UNC	4 t	1,5 t	8 t	3 t	2,1 t	1,5 t	1,5 t	3,15 t	2,25 t	1,5 t
VRS-M20	VRS-3/4"-10UNC	6 t	2,3 t	12 t	4,6 t	3,22 t	2,3 t	2,3 t	4,83 t	3,45 t	2,3 t
	VRS-7/8"-9UNC	6 t	2,3 t	12 t	4,6 t	3,22 t	2,3 t	2,3 t	4,83 t	3,45 t	2,3 t
VRS-M24	VRS-1"-8UNC	8 t	3,2 t	16 t	6,4 t	4,48 t	3,2 t	3,2 t	6,7 t	4,8 t	3,2 t
VRS-M30	VRS-1 1/4"-7UNC	12 t	4,5 t	24 t	9 t	6,3 t	4,5 t	4,5 t	9,4 t	6,7 t	4,5 t
VRS-M36	VRS-1 1/2"-6UNC	16 t	7 t	32 t	14 t	9,8 t	7 t	7 t	14,7 t	10,5 t	7 t
VRS-M42	VRS-1 3/4"-5UNC	24 t	9 t	48 t	18 t	12,6 t	9 t	9 t	18,9 t	13,5 t	9 t
VRS-M48	VRS-2"-4,5UNC	32 t	12 t	64 t	24 t	16,8 t	12 t	12 t	25,2 t	18,0 t	12 t

		STARPOINT -WLL in lbs, bolted and adjusted to the direction of pull									
Type metric	Type Inch										
VRS-M8/M10	VRS-3/8"-16UNC	2200 lbs	880 lbs	4400 lbs	1760 lbs	1235 lbs	880 lbs	880 lbs	1850 lbs	1320 lbs	880 lbs
VRS-M12	VRS-1/2"-13UNC	4400 lbs	1650 lbs	8800 lbs	3300 lbs	2200 lbs	1650 lbs	1650 lbs	3460 lbs	2470 lbs	1650 lbs
VRS-M16	VRS-5/8"-11UNC	8820 lbs	3300 lbs	17640 lbs	6610 lbs	4630 lbs	3300 lbs	3300 lbs	6940 lbs	4960 lbs	3300 lbs
VRS-M20	VRS-3/4"-10UNC	13250 lbs	5070 lbs	26500 lbs	10140 lbs	7100 lbs	5070 lbs	5070 lbs	10650 lbs	7600 lbs	5070 lbs
	VRS-7/8"-9UNC	13250 lbs	5070 lbs	26500 lbs	10140 lbs	7100 lbs	5070 lbs	5070 lbs	10650 lbs	7600 lbs	5070 lbs
VRS-M24	VRS-1"-8UNC	17630 lbs	7050 lbs	35260 lbs	14100 lbs	9880 lbs	7050 lbs	7050 lbs	14800 lbs	10580 lbs	7050 lbs
VRS-M30	VRS-1 1/4"-7UNC	26450 lbs	9920 lbs	52900 lbs	19840 lbs	13880 lbs	9920 lbs	9920 lbs	20800 lbs	14880 lbs	9920 lbs
VRS-M36	VRS-1 1/2"-6UNC	35270 lbs	15430 lbs	70540 lbs	30860 lbs	21600 lbs	15430 lbs	15430 lbs	32400 lbs	23150 lbs	15430 lbs
VRS-M42	VRS-1 3/4"-5UNC	52900 lbs	19480 lbs	105800 lbs	39680 lbs	27700 lbs	19840 lbs	19840 lbs	41600 lbs	29760 lbs	19840 lbs
VRS-M48	VRS-2"-4,5UNC	70550 lbs	26450 lbs	141100 lbs	52910 lbs	37000 lbs	26450 lbs	26450 lbs	55500 lbs	39680 lbs	26450 lbs

Table 2

Type	WLL	weight	A	B	C	D	E	G	K	L	M	N	S	reference		
														VRS	VRS-F	Key
VRS-M 8	0,4 t	0,1 kg	34	11	8,5	25	25	28	47	12	8	6	15	7100554	8500911	7983986
VRS-M 10	0,4 t	0,1 kg	34	11	8,5	25	25	28	47	15	10	6	15	7982219*	7982213*	7983986
VRS-M 12	0,75 t	0,2 kg	42	13	10	30	30	34	56	18	12	8	18	7982220*	7982214*	7983987
VRS-M 16	1,5 t	0,3 kg	49	15	14	35	35	40	65	24	16	10	22	7982221**	7982215**	7983988
VRS-M 20	2,3 t	0,5 kg	57	17	16	40	40	50	75	30	20	12	27,5	7982222**	7982216**	7983989
VRS-M 24	3,2 t	0,9 kg	70	21	19	48	50	60	90	36	24	14	33	7982223**	7982217**	7983990
VRS-M 30	4,5 t	1,7 kg	86	26	24	60	60	75	112	45	30	17	41,5	7982224***	7982218***	7983991
VRS-M 36	7 t	2,9 kg	103	32	29	72	75	90	135	54	36	22	49,5	7100562	7104030	7983992
VRS-M 42	9 t	4,6 kg	120	38	34	82	85	105	158	63	42	24	58	7100563	7104031	7983993
VRS-M 48	12 t	7,0 kg	137	43	38	94	100	120	180	72	48	27	66	7100564	7104032	7983994
VRS-3/8"-16UNC	880 lbs	0,22 lbs	1 5/16"	7/16"	5/16"	1"	1"	1 1/8"	1 7/8"	3/4"	3/8"	1/4"	9/16"	7103959	7984214*	7983995
VRS-1/2"-13UNC	1650 lbs	0,44 lbs	1 5/8"	1 1/2"	3/8"	1 3/16"	1 3/16"	1 5/16"	2 3/16"	3/4"	1/2"	5/16"	1 1/16"	7103960	7984215*	7983996
VRS-5/8"-11UNC	3300 lbs	0,66 lbs	1 15/16"	9/16"	9/16"	1 3/8"	1 3/8"	1 9/16"	2 9/16"	15/16"	5/8"	3/8"	7/8"	7103961	7984216**	7983997
VRS-3/4"-10UNC	5070 lbs	1,1 lbs	2 1/4"	1 1/16"	1 1/16"	1 9/16"	1 9/16"	2"	2 15/16"	1 1/8"	3/4"	1/2"	1 1/16"	7103962	7984217**	7983998
VRS-7/8"-9UNC	5070 lbs	1,1 lbs	2 1/4"	1 1/16"	1 1/16"	1 9/16"	1 9/16"	2"	2 15/16"	1 5/16"	14/16"	1/2"	1 1/16"	7103963	7984218**	7983998
VRS-1"-8UNC	7050 lbs	2,0 lbs	2 3/4"	1 3/16"	1 3/16"	1 7/8"	1 7/8"	2 3/8"	3 9/16"	1 1/2"	1"	9/16"	1 5/16"	7103964	7984219**	7983999
VRS-1 1/4"-7UNC	9920 lbs	3,7 lbs	3 3/8"	1"	1"	2 3/8"	2 3/8"	2 15/16"	4 7/16"	1 7/8"	1 1/4"	5/8"	1 5/8"	7103965	7984220***	7984000
VRS-1 1/2"-6UNC	15430 lbs	6,4 lbs	4 1/16"	1 1/4"	1 1/4"	2 13/16"	2 15/16"	3 9/16"	5 5/16"	2 1/8"	1 1/2"	7/16"	1 15/16"	7103966	7104487	7984001
VRS-1 3/4"-5UNC	19480 lbs	10,2 lbs	4 3/4"	1 1/2"	1 1/2"	3 1/4"	3 3/8"	4 1/8"	6 1/4"	2 1/2"	1 3/4"	1"	2 1/2"	7103967	7104488	7984002
VRS-2"-4,5UNC	26450 lbs	15,4 lbs	5 3/8"	1 11/16"	1 11/16"	3 11/16"	3 15/16"	4 3/4"	7 1/16"	2 13/16"	2"	1 2/16"	5 5/8"	7103968	7104489	7984003

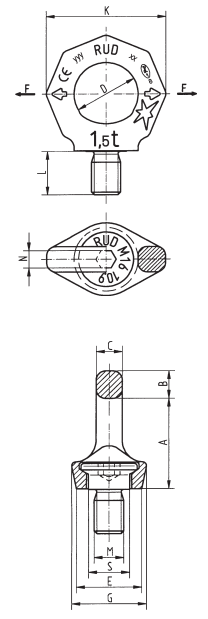


Table 3 * = package unit 20 pieces ** = package unit 10 pieces *** = package unit 4 pieces



Translation of the original instruction manual
 In case of doubts or misunderstandings, the German version of the document is decisive.