



Load ring - for welding - with locking device - VRBSS

Safety instructions

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



Load ring - for welding - with locking device - VRBSS



MO 075105



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RUD-Art.-Nr.: 8503158-EN / 12.009



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 weiteren EG-Richtlinien entspricht. Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

Produktbezeichnung: Ringbock
VRBS / VRBG / VRBK / VRBSS

Folgende harmonisierten Normen wurden angewandt:
EN 12100-1 EN 12100-2
EN 14121-1 EN 1677-1

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:
BGR 500, KAP2.8

Für die Zusammenstellung der Konformitätsdokumentation bevollmächtigte Person:
Daniel Klose, RUD Ketten, 73432 Aalen

Aalen, den 14.12.2009 Dr. Ing. Rolf Sinz, (Prokurist/QMB)
Name, Funktion und Unterschrift Verantwortlicher



EG-Declaration of the manufacturer

According to the EG-Machinery Directive 2006/42/EG, annex II B and aand amendments

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

We hereby declare that the equipment, as mentioned below, corresponds to the appropriate, basic requirements of safety and health of the corresponding EG-Machinery Directive 2006/42/EG as well as to the below mentioned EG-Directive 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.

Product name: Load ring
VRBS / VRBG / VRBK / VRBSS

The following harmonized norms were applied:
EN 12100-1 EN 12100-2
EN 14121-1 EN 1677-1

The following national norms and technical specifications were applied:
BGR 500, KAP2.8

Authorized person for the configuration of the declaration documents:
Daniel Klose, RUD Ketten, 73432 Aalen

Aalen, 14.12.2009 Dr. Ing. Rolf Sinz, (Prokurist/QMB)
Name, function and signature of the responsible person

User Instructions

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

2. Before installing and every use, visually inspect RUD lifting points, paying particular attention to any evidence of weld cracks, corrosion, wear, deformations, etc.

3. The material construction to which the lifting point will be attached should be of adequate strength to withstand forces during lifting without deformation. The contact areas must be free from impurities, oil, colour, etc.

The material of the forged welding block is S355J2G3 (St52-3 1.0570), B.S. 4360.50 D or AISI 1019

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 limits 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	2

(see table 1+5)

6. All fittings connected to the VRBSS 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.

7. Suitability of temperature use: RUD-Lifting points VRBSS are suitable for the temperature range from -20°C up to 400°C.

For the use within the following temperature range, the WLL must be reduced by the following factors:

200°C up to 300°C: by -10 % and

300°C up to 400°C: by -25 %

The lifting points VRBSS can be stress-relieved one-time in an unloaded condition, together with the load (e.g. welded construction): Temperature < 600°C (1100°F)

The evidence of the suitability of the used weld metal must be mentioned by the respective filler material manufacturer.

8. The distance lugs assist in achieving the correct root weld (approx. 3 mm = 0.1 inch). They may not be removed

9. 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.

10. The inside lying spring is pressing the load ring against the welding block. Due to the friction, the load ring will stay in the requested position. When assembled in vertical position the load ring can be fold flat so that the danger of accidents will be reduced drastically as well as an unintended hook in. The RUD VRBSS fulfill the guide lines of the RAG No. 815001 „Lifting points on loads Part 1 and 2“.

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

12. If the lifting points are used **exclusively** for lashing the value of the working load limit can be doubled:

$$LC = 2 \times WLL$$

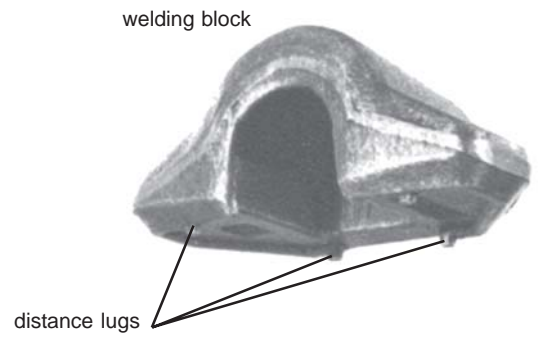
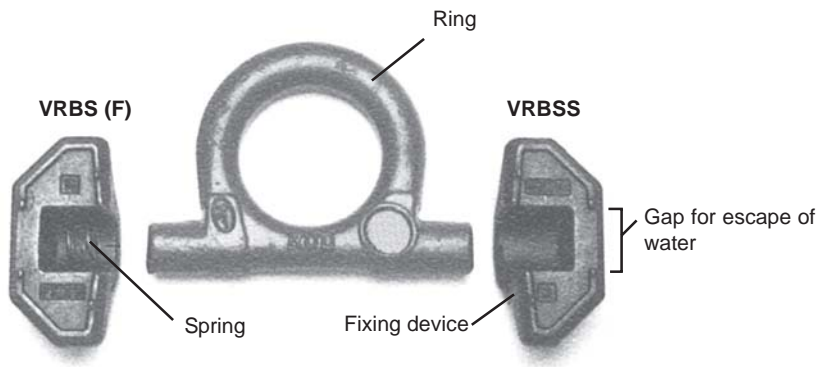
13. After welding, an annual inspection or sooner if conditions dictate should be undertaken by a competent person examining the continued suitability. Also after damage and special occurrences.

Inspection criteria concerning paragraphs 2 and 13:

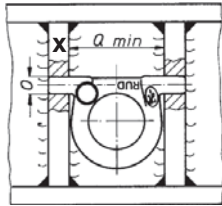
- The lifting point should be complete.
- The working load limit and manufacturers stamp should be clearly visible.
- Deformation of the component parts such as body and load ring.
- Mechanical damage, such as notches, particularly in high stress areas.
- Wear should be no more than 10 % of cross sectional diameter.
- Evidence of corrosion.
- Evidence of cracks.
- Cracks or other damage to the weld.

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 and 4	3 and 4	3 and 4
Angle of inclination β	0°	90°	0°	90°	0-45°	45-60°	unsymm.	0-45°	45-60°	unsymm.
Factor	1	1	2	2	1,4	1	1	2,1	1,5	1
Type	WLL in metric tonnes (total weight)									
VRBSS 6,7 t	6,7 t	6,7 t	13,4 t	13,4 t	9,4 t	6,7 t	6,7 t	14 t	10 t	6,7 t
VRBSS 10 t	10 t	10 t	20 t	20 t	14 t	10 t	10 t	21 t	15 t	10 t
VRBSS 16 t	16 t	16 t	32 t	32 t	22,4 t	16 t	16 t	33,6 t	24 t	16 t



Ring integrated in the construction:



Weld size (per welding block):

	welding beam		
	size	length	volume
VRBSS 6,7 t	HV 5,5 + a 3 Δ	2 x 165 mm	ca. 8 cm ³
VRBSS 10 t	HV 6 + a 4 Δ	2 x 190 mm	ca. 12 cm ³
VRBSS 16 t	HV 8,5 + a 4 Δ	2 x 250 mm	ca. 26 cm ³

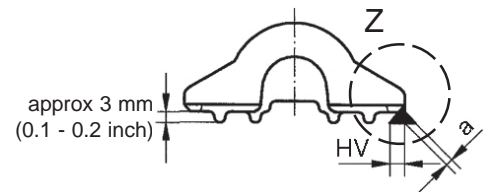
Table 3

Welding procedure + Welding filler metals:

	Europa (DE, GB, FR,)	USA, Canada, ..
	structural steel Low alloyed steel	
pulsed MIG arc welding MAG	EN 440: G4 Si 1 z.B. Castolin 45250	AWS A 5.18 : ER 70 S-6 z.B. Eutectic MIG-Tec Tic A88
electric manual DC =	EN ISO 2560-A - E 42 6 B 3 2; EN ISO 2560-A - E 38 2 B 12 H10 z.B. Castolin 6666 * Castolin 6666 N*	AWS A 5.5 : E 8018-G AWS A 5.5 : E 7016 EN ISO 2560-A - E 42 6 B 3 2; EN ISO 2560-A - E 38 2 B 12 H10 z.B. Eutectic 6666/ 35066 CP *
electric manual AC ~	EN ISO 2560-A - E 38 0 RR 1 2 EN ISO 2560-A - E 42 0 RR 1 2; z.B. Castolin 6600 Castolin 35086 no-load voltage 35-48 (max.) V	AWS A 5.1 : E 6013 EN ISO 2560-A - E 38 0 RR 1 2 EN ISO 2560-A - E 42 0 RR 1 2; z.B. Eutectic Beauty Weld II
TIG (tungsten inert-gas shielded) welding	EN 1668: W3 Si 1 z.B. Castolin 45255W	AWS A 5.18 : ER 70 S-6 z.B. Eutectic TIG-Tec-Tic: A 88

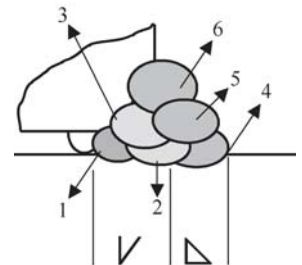
Table 2 * Follow the drying instructions!

Welding seam definition:



schematic diagram item „Z“

Welding position PB



The specific processing informations of the welding fillers have to be attended.

Type	WLL t	weight kg	A	B	C	D	E	F	G	H	T	O	Q	X	ref.-no. VRBSS	Ring
VRBSS 6,7	6,7	2,0	88	20	39	60	170	92	98	6	84	23	101	15	7992875	7991923
VRBSS 10	10	2,8	100	22	46	65	195	100	104	8	95	28	106	22	7992876	7991890
VRBSS 16	16	6,6	130	30	57	90	263	134	144	10	127	35	147	28	7992877	7991924

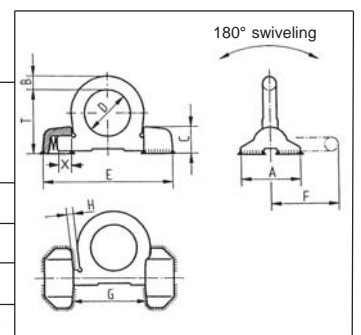


Table 4

The welding should only be carried out according to EN 287 or AWS Standards by an authorized welder.

Welding sequence:

☞ To weld the welding block of the types VRBS resp. VRBS(F) (bottom side shows an „Feder“). Due to the distance lugs at the welding block the required gap for the root welding is guaranteed. Start welding of root seam and top run at point „S“ (see drawing). Before carrying out roof weld (top run), carefully clean root of seam. Append fillet weld (measurement „a“) acc. Chart 3. The whole welding should be carried out at the same temperature. Do not interrupt welding. Keep area of water outlet open.

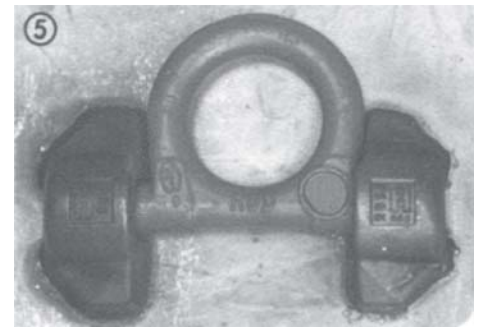
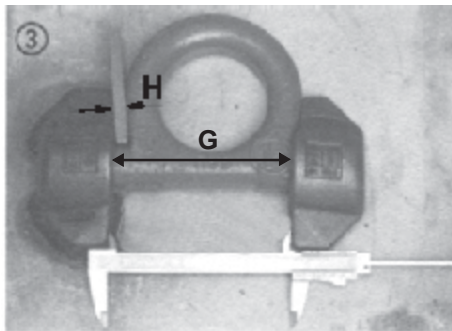
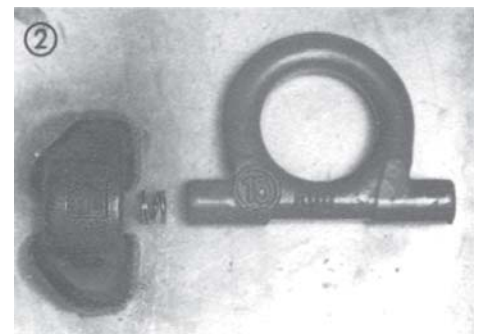
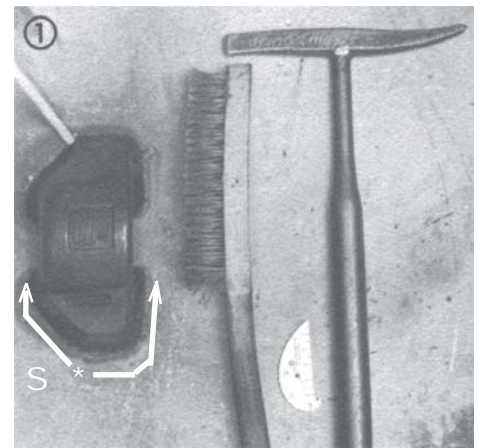
☞ Fit the spring and the load ring into the welded block.

☑ Bring the welding block VRBSS (bottom side shows „Rasten“) over the load ring. Load ring must be able to pivot. According to the chart 4 the dimension „H“ between the load ring and the already welded block have to be adjusted. With the dimension „G“ the second block should be welded.

④ Welding block VRBSS have to be tacked by the distance lugs. Check the function (180° and friction). Eventually correction.

⊗ Welding as mentioned in ①.

● **Attention: Do not weld at the pink powder coated, heat treated load ring.**



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	1	2	2	1,4	1	1	2,1	1,5	1	
Type	WLL in lbs (total weight)										
	VRBSS 6,7	14750 lbs	14750 lbs	29500 lbs	29500 lbs	20650 lbs	14750 lbs	14750 lbs	30900 lbs	22000 lbs	14750 lbs
	VRBSS 10	22000 lbs	22000 lbs	44000 lbs	44000 lbs	30800 lbs	22000 lbs	22000 lbs	46200 lbs	33000 lbs	22000 lbs
	VRBSS 16	35200 lbs	35200 lbs	70400 lbs	70400 lbs	49300 lbs	35200 lbs	35200 lbs	74000 lbs	52800 lbs	35200 lbs

Table 5