EN

Load ring
VRBS
- for welding -

Safety instructions

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

Load ring - VRBS
for welding

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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. Beim Ringbock 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: **Ringbock schweißbar -** VRBS
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: Load ring - VRBS - for welding
Manufacturer's sign:

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 inpurities, oil, colour, etc.

The material of the forged welding block is S355J2+N (St52-3 1.0577+N), 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:

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

W_{LL} = working load limit
G = load weight (kg)
n = number of load bearing legs
ß = 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 VRBS 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. The complete design can be annealed stress-free up to <600°C (1100°F) without reduction of WLL.

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 avoided, please contact the manufacturer indicating the concentration, period of penetration and temperature of use.

10. The places where the lifting points are fixed should be marked with colour. The load ring of the VRBS is pink powder coated.

11. If the lifting points are used **exclusively** for lashing the value of the working load limit can be doubled.
LC = 2 x WLL

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

Inspection criteria concerning paragraphs 2 and 12:

- 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, particulary 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 !

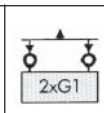
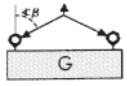
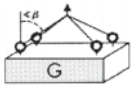
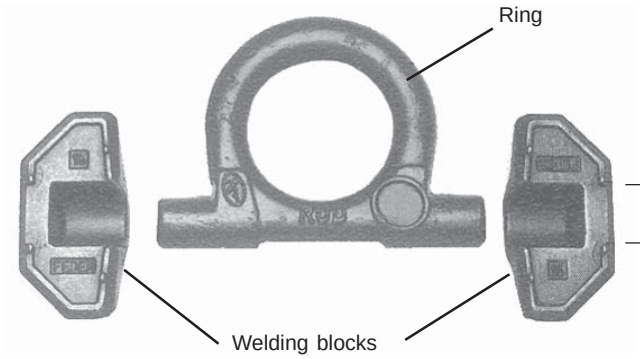
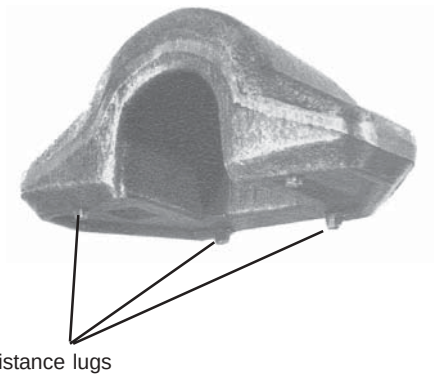
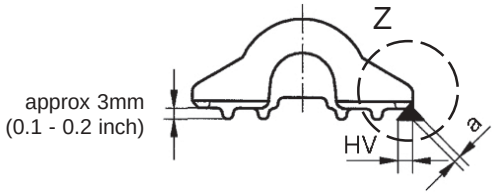
Method of lift										
Number of legs	1	1	2	2	2	2	2	3 and 4	3 and 4	3 and 4
Angle of inclination <ß	0°	90°	0°	90°	0-45°	45-60°	unsymm.	0-45°	45-60°	unsymm.
Factor	1	1	2	2	1,4	1	1	2,1	1,5	1
Type	**max weight of load in metric tonnes**									
 VRBS 4 t	4 t	4 t	8 t	8 t	5,6 t	4 t	4 t	8,4 t	6 t	4 t
VRBS 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
VRBS 10 t	10 t	10 t	20 t	20 t	14 t	10 t	10 t	21 t	15 t	10 t
VRBS 16 t	16 t	16 t	32 t	32 t	22,4 t	16 t	16 t	33,6 t	24 t	16 t
VRBS 30 t	30 t	30 t	60 t	60 t	42 t	30 t	30 t	63 t	45 t	30 t
VRBS 50 t	50 t	50 t	100 t	100 t	70 t	50 t	50 t	105 t	75 t	50 t

Table 1



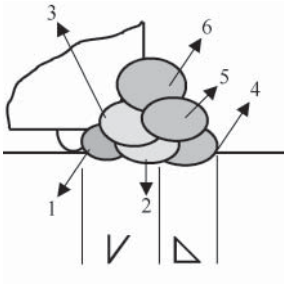


Welding seam definition:



shematic diagramm item „Z“

Welding position PB



Welding procedure + Welding filler metals :

	Europe (BRD, GB, F ..)	**USA, Canada,** ..
	Mild steel, Low alloyed steel,	
GAS SHIELDED WIRE WELDING *MAG / MIG*	EN 440 G4Si1 z.B. Castolin 45250	AWS : A 5.18 ER 70 S-6 z.B. Eutectic MIG-Tec Tic A88
Stick Electrode Direct Current	EN 499 E 426 B32 H5 z.B. Castolin 6666 * 6666 N*	AWS : A 5.5 E 8018-G E 7016 z.B. Eutectic 6666/35066 CP*
Stick Electrode Alternating Current	EN 499 E 380 RR 12 z.B. Castolin 35086 CP 6600	AWS : A 5.1 E 6013 z.B. Eutectic Beauty Weld II
TIG Tungsten Arc Welding *WIG*	DIN 8575 WSG CrMo1 z.B. Castolin 45252 W	AWS : A 5.18 ER 70 S-6 z.B. Eutectic TIG-Tec-Tic: A 88

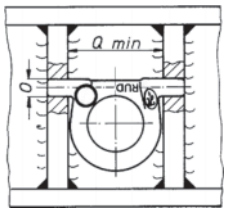
Table 2 ** Follow the drying instructions !*

weld size (per welding block) :

	weld size	length	volume
VRBS 4 t	HV 4 + a 3 ◺	2 x 130 mm	approx. 4,5cm³
VRBS 6,7 t	HV 5,5 + a 3 ◺	2 x 170 mm	approx. 9 cm³
VRBS 10 t	HV 6 + a 4 ◺	2 x 190 mm	approx. 11 cm³
VRBS 16 t	HV 8,5 + a 4 ◺	2 x 250 mm	approx. 26 cm³
VRBS 30 t	HV 15 + a 4 ◺	2 x 365 mm	approx 88 cm³
VRBS 50 t	HV 25 + a 8 ◺	2 x 655 mm	approx 450 cm³

Table 3

Ring integrated in the construction :



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

For welding the VRBS 30 & VRBS 50 the **preheat temperature** must be between 120° & 150° C.

Type	WLL t	weight kg	A	B	C	D	E	F	T	O	Q	ref-no. VRBS	ref-no. Ring	ref-no. welding block
VRBS 4 t	4	0,9	62	16	28	48	135	71	65	17	77	7992826 *	7991922	7992004
VRBS 6,7 t	6,7	2,1	88	20	39	60	170	92	84	23	101	7992827 *	7991923	7992005
VRBS 10 t	10	3,0	100	22	46	65	195	100	95	28	106	7992828**	7991890	7992007
VRBS 16 t	16	6,9	130	30	57	90	256	134	127	35	147	7992491	7991924	7992008
VRBS 30 t	30	19	160	42	78	130	375	195	178	47	220	60267	57775	7987160
VRBS 50 t	50	85	240	70	120	230	620	340	403	65	380	56834	59351	7987161

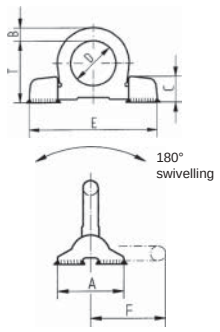
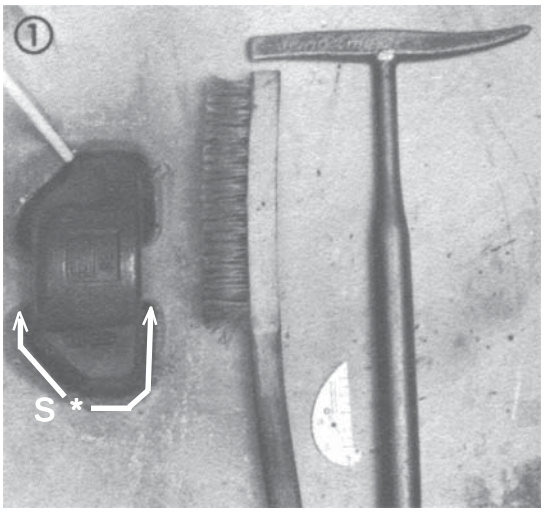


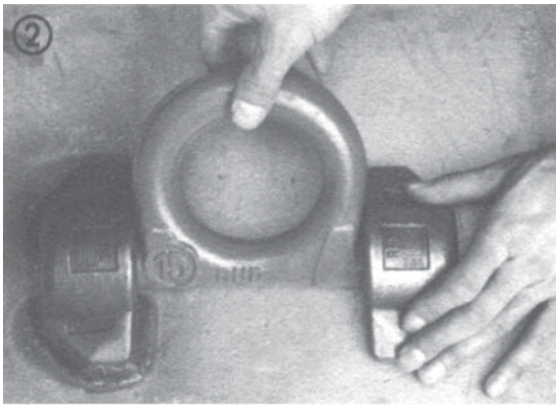
Table 4

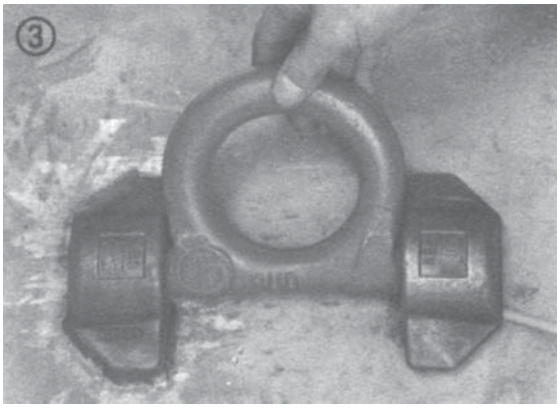
* = package unit : 10 pcs

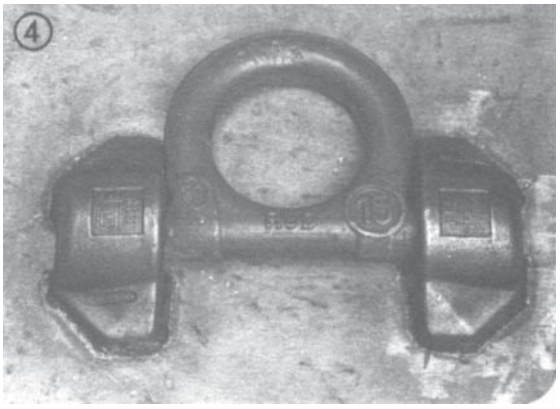
** = package unit : 4 pcs

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









Welding sequence:

① Welding of the block. The distance lugs assist in achieving the correct air gap for the root of seam weld (approx. 3mm, or 1/8") Lugs must not be removed ! 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.

② Insert ring in the welding block. Attach second welding block as tight as possible to the ring, in order to still guarantee moveability of same. Only fasten provisionally.

③ Examine on 180° tilting ability. Possibly make corrections.

④ Weld on second welding block, as described under ①.

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

Method of lift		G1	G	2xG1	G	G		G	G		G
Number of legs		1	1	2	2	2	2	2	3 and 4	3 and 4	3 and 4
Angle of inclination <ß		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		**max weight of load in lbs**									
	VRBS 4 t	8800 lbs	8800 lbs	17600 lbs	17600 lbs	12320 lbs	8800 lbs	8800 lbs	18480 lbs	13200 lbs	8800 lbs
	VRBS 6,7 t	14750 lbs	14750 lbs	29500 lbs	29500 lbs	20650 lbs	14750 lbs	14750 lbs	30900 lbs	22000 lbs	14750 lbs
	VRBS 10 t	22000 lbs	22000 lbs	44000 lbs	44000 lbs	30800 lbs	22000 lbs	22000 lbs	46200 lbs	33000 lbs	22000 lbs
	VRBS 16 t	35200 lbs	35200 lbs	70400 lbs	70400 lbs	49300 lbs	35200 lbs	35200 lbs	74000 lbs	52800 lbs	35200 lbs
	VRBS 30 t	66000 lbs	66000 lbs	132000 lbs	132000 lbs	92400 lbs	66000 lbs	66000 lbs	138600 lbs	99000 lbs	66000 lbs
	VRBS 50 t	110000 lbs	110000 lbs	220000 lbs	220000 lbs	154000 lbs	110000 lbs	110000 lbs	231000 lbs	165000 lbs	110000 lbs

Table 5