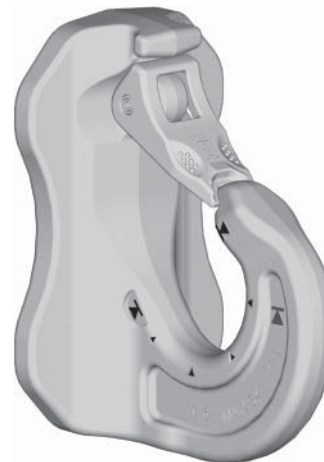


# Excavator hook

## VABH-W - for welding

### Safety instructions

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



**RUD Ketten**  
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RUD-Art.-Nr.: 8502223-EN / 12.009

Excavator hook - for welding  
**VABH-W**



#### 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: Anbauhaken  
 VABH-B / VABH-W / VCGH-G / VCGH-S

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      DIN 15428

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: Bolt on / Weld on hook  
 VABH-B / VABH-W / VCGH-G / VCGH-S

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      DIN 15428

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, ect.

The Material of the VABH-W is 1.6541 (23MnNiCrMo52 / SAE 8620)

The installation should be in the direction of pull.  
(See picture 1 : Possible use area.)

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

- For single leg lifts, the lifting point should be vertically above the centre of gravity of the load.
- For two leg lifts, the lifting points must be equidistant to/or above the centre of gravity of the load.
- 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  
 $\beta$  = 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. All fittings connected to the VABH-W 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. Effect of temperatur:

During use in overheated areas the WLL of the VABH-W has to be reduced according the chart:

-40° up to 200°C	no reduction
200° up to 300°C	minus 10% (392°F up to 572°F)
300° up to 400°C	minus 25% (572°F up to 752°F)

Temperatures above 400°C (752°F) are not allowed.

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

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

11. 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 11:

- 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 .
- 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 damages to the welding.

*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 <math>\beta</math>	0°	90°	0°	90°	0-45°	45-60°	unsym.	0-45°	45-60°	unsym.
Factor	1	1	2	2	1,4	1	1	2,1	1,5	1
Type	<b>WLL &gt;G&lt; (total weight)</b>									
VABH-B 1,5 t	1,5 t 3300 lbs	1,5 t 3300 lbs	3,0 t 6600 lbs	3,0 t 6600 lbs	2,1 t 4620 lbs	1,5 t 3300 lbs	1,5 t 3300 lbs	3,15 t 6900 lbs	2,25 t 4950 lbs	1,5 t 3300 lbs
VABH-B 2,5 t	2,5 t 5500 lbs	2,5 t 5500 lbs	5,0 t 11000 lbs	5,0 t 11000 lbs	3,5 t 7700 lbs	2,5 t 5500 lbs	2,5 t 5500 lbs	5,25 t 11550 lbs	3,75 t 8250 lbs	2,5 t 5500 lbs
VABH-B 4t	4,0 t 8800 lbs	4,0 t 8800 lbs	8,0 t 17600 lbs	8,0 t 17600 lbs	5,6 t 12320 lbs	4,0 t 8800 lbs	4,0 t 8800 lbs	8,4 t 18500 lbs	6,0 t 13200 lbs	4,0 t 8800 lbs
VABH-B 6,5t	6,5 t 14300 lbs	6,5 t 14300 lbs	13,0 t 28600 lbs	13,0 t 28600 lbs	9,1 t 20000 lbs	6,5 t 14300 lbs	6,5 t 14300 lbs	13,65 t 30000 lbs	9,75 t 21450 lbs	6,5 t 14300 lbs

Table 1

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

**Welding sequence:**

- Tack Weld at the right position. Before carrying out the top run, carefully clean the root.
- The welding process must not be interrupted for such a time that the welding plate loses the welding temperature
- The fillet welding process had to be carried out circulated

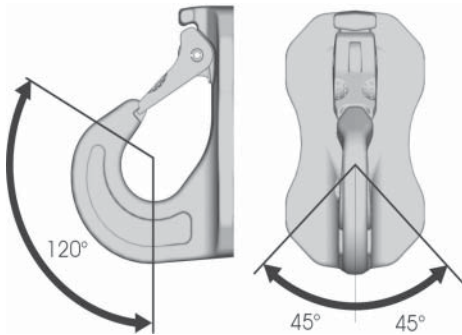
Type	welding beam		
	size fillet weld	length	volume
VABH-W 1,5 t	a = 4	322 mm	5,2 cm <sup>3</sup>
VABH-W 2,5 t	a = 5	409 mm	10,2 cm <sup>3</sup>
VABH-W 4 t	a = 6	481 mm	17,3 cm <sup>3</sup>
VABH-W 6,5 t	a = 6	574 mm	20,6 cm <sup>3</sup>

Table 2

**Welding procedure + Welding filler metals:**

	Europe ( DE, GB, FR, ... )		USA, Canada, ...
	Mild steel, Low alloyed steel		Mild steel, Low alloyed steel
<b>MAG / MIG</b> (135)	EN 440: G4 Si 1 z.B. Castolin 45250	<b>GAS SHIELDED WIRE WELDING</b>	AWS A 5.18 : ER 70 S-6 z.B. Eutectic MIG-Tec A88
<b>E-Hand Direct current</b> = (111)	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 6666N *	<b>Stick Electrode Direct Current</b>	AWS A 5.5 : E 8018-G * AWS A 5.1 : E 7016 * z.B. Eutectic Castolin 6666 / 6666N / 35066
<b>E-Hand Alternating current</b> (111)	DIN 8556: E- 18 8 6 B (1.4370) DIN EN 1600: EZ 21 8 Cu R1 2 DIN 8555: E- 8-UM-200-400 CKZ z.B. Castolin 640 Castolin 33033	<b>Stick Electrode Alternating Current</b>	AWS A 5.4 : E 309 Mo L-16 z.B. Castolin 33700 CP
<b>WIG</b> (141)	EN 1668: W3 Si 1 z.B. Castolin 45255W	<b>TIG Tungsten Arc Welding</b>	AWS A 5.18 : ER 70 S-G z.B. Eutectic TIG-Tec-Tic A 88

Table 3 \* Follow the drying instructions !

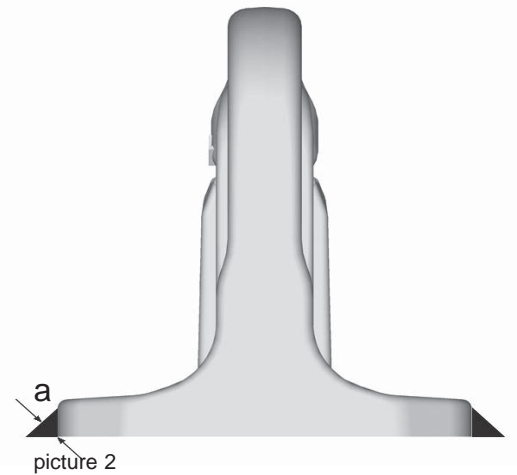


picture 1. Possible use area

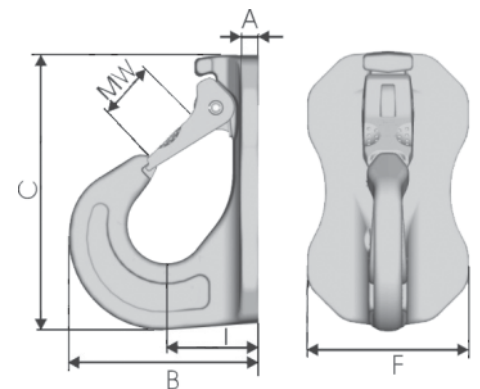
Type	WLL	weight	A	B	C	F	I	MW	ref-no.
VABH-W 1,5t	1,5 t	0,8 kg	7,5	78	117	70	38	25	8502195*
VABH-W 2,5t	2,5 t	1,8 kg	8,5	101	148	85	49	30	8502144*
VABH-W 4t	4 t	3,2 kg	11	122	171	104	59	35	8502222**
VABH-W 6,5t	6,5 t	5,9 kg	13	156	208	120	70	40	8502239
VABH-W 1,5t	3300 lbs	1,8 lbs	19/64"	3 1/16"	4 5/8"	2 3/4"	1 1/2"	1"	8502195*
VABH-W 2,5t	5500 lbs	4 lbs	11/32"	4"	5 13/16"	3 11/32"	1 5/16"	1 3/16"	8502144*
VABH-W 4t	8800 lbs	7 lbs	7/16"	4 13/16"	6 3/4"	4 3/32"	2 5/16"	1 3/8"	8502222**
VABH-W 6,5t	14300 lbs	13 lbs	1/2"	6 1/8"	8 3/16"	4 3/4"	2 3/4"	1 9/16"	8502239

Table 4 \*package unit = 4 pcs \*\*package unit = 2 pcs

**Welding seam definition:**



picture 2



picture 3