EXCAVATOR HOOK - VABH-W

Complies with the machinery directives 2006/42/EC

NB: Please ensure that the safety instructions have been fully read and understood before initial use of the ABA weld-on lifting point. Failure to do so may result in serious injuries and/or material damage and eliminates manufacturers warranty.

User Instructions - Part 1

Safety instructions

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

ATTENTION: Please inspect all lifting points prior to use. Damage, incorrect assembly or improper use can result in serious injuries and/or material damage.

EC-Declaration of the manufacturer

According to the Machinery Directive 2006/42/EC, annex II B and amendments.

We hereby declare that the design and construction of the equipment detailed within this document, adheres to the appropriate level of health and safety of the corresponding EC regulation.

Any un-authorised modification and/or any incorrect use of the equipment not adhered to within these user instructions waivers this declaration invalid.

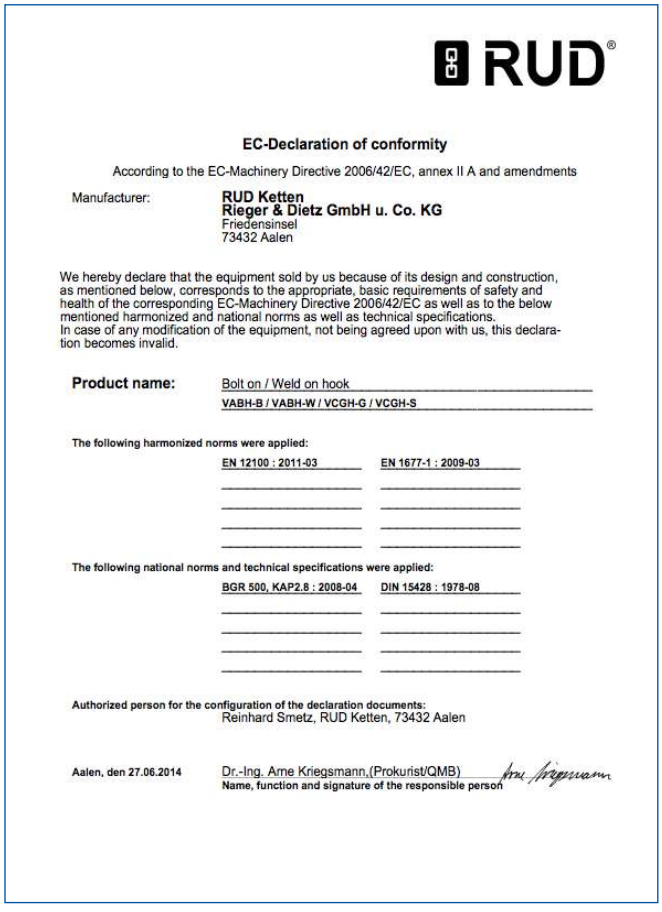
The equipment must be regularly tested and inspected as per BGR 500. Failure to carry out the recommended maintenance and testing waivers this declaration invalid.

Designation of the equipment:

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

Manufacturer's mark:

Drawings (iges, dxf and step), product information and other support material can be downloaded from www.rud.com.au.



RUD

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

The following harmonized norms were applied:
EN 12100 : 2011-03 — EN 1677-1 : 2009-03

The following national norms and technical specifications were applied:
BGR 500, KAP2.8 : 2008-04 — DIN 15428 : 1978-08

Authorized person for the configuration of the declaration documents:
Reinhard Smetz, RUD Ketten, 73432 Aalen

Aalen, den 27.06.2014 — Dr.-Ing. Arne Kriegsmann,(Prokurist/QMB)
Name, function and signature of the responsible person

EXCAVATOR HOOK - VABH-W

User Instructions - Part 2

1. Reference should be made to relevant standards and other statutory regulations. Inspections should be carried out by competent persons only.

2. Before installing and at every use, visually inspect RUD lifting points, with 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. Preheat the structure according to AS 1554 if required.

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

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.

The installation should be in the direction of pull (picture 3).

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} = required of lifting point/individual leg (kg)
G = load weight (kg)
n = number of load bearing legs
ß = angle of inclination of the individual leg

NOTE: For WLL Calculations

- ß angle is taken from the vertical plane.
- Included angle is the angle between the sling legs.

6. Safety: When lifting points are used in a multileg assembly, care should be taken to calculate the WLL (Working Load Limit) due to the deration caused by forces acting in multiple directions. The reduction in WLL (Working Load Limit) for multileg assemblies should be checked with relevant Standards e.g. AS 3775-2004 - Chain Slings-Gr t (8)

The lifting points should be mounted in such a way that they may easily be accessed for inspection and assembly/ disassembly of the sling.

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

-10° 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. 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 also be avoided.

9. The complete design can be annealed stress-free several times up to <600°C (1100°F) without reduction of WLL.

10. At outdoor sites or in case of special danger of corrosion, the welds should only be designed as continuous, fillet welds. The HV weld at the VABH-W guarantees a connection via the whole cross section of the material. This corresponds to a closed weld showing no signs of corrosion.

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

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

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

Inspection criteria regarding paragraphs 2 and 14:

- 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 damages to the welding.

Any non-adherence to this advice may result in damages of persons and/or materials!

EXCAVATOR HOOK - VABH-W

User Instructions - Part 3

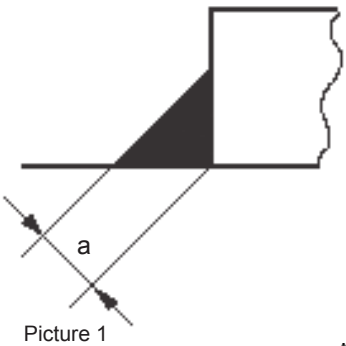
Type	Size	Approx Volume
VABH-W 1.5t	a = 4	5.2cm³
VABH-W 2.5t	a = 5	10.2cm³
VABH-W 4t	a = 6	17.3cm³
VABH-W 6.7t	a = 6	20.6cm³

Table 1

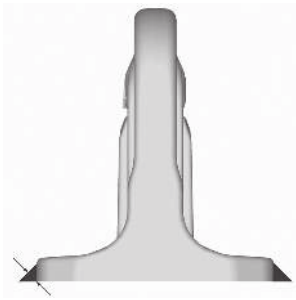
WORKING LOAD LIMITS (G - in tonnes)				
PRODUCT DESCRIPTION	Single Leg	2 , 3 or 4 Legs		
		60°	90°	120°
		Maximum Included Angle (Degrees)		
VABH-W 1.5t	1.5	2.6	2.1	1.5
VABH-W 2.5t	2.5	4.3	3.5	2.5
VABH-W 4t	4.0	6.9	5.6	4.0
VABH-W 6.7t	6.7	11.6	9.4	6.7

Table 2

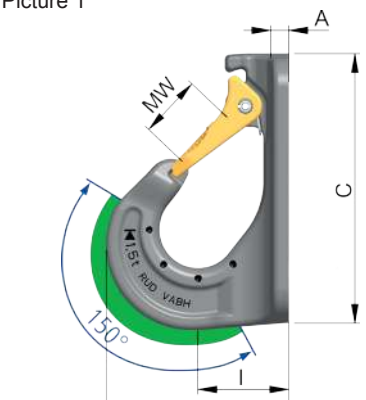
Weld Seam Defination



Picture 1



Picture 2



Picture 3

Type	WLL (t)	MW	A	B	C	F	I	Weld (a)	Weight (kg)	Ref.-No.
VABH-W 1.5t	1.5	25	7.5	78	117	70	38	3	0.8	7991208
VABH-W 2.5t	2.5	30	8.5	101	148	85	49	3	1.8	7991209
VABH-W 4t	4	35	11	122	171	104	59	4	3.1	7991210
VABH-W 6.7t	6.7	40	13	156	208	120	70	5	5.9	8502239

Table 3

WELDING PROCESS	
MILD STEEL / LOW ALLOYED STEEL	
MIG GAS SHIELDED WIRE WELDING	AWS A5.18 eg: WIA - Austmig ES6 or Hobart XL 525) or equivalent. (Flux Cored for material >24mm).
MMA MANUAL ELECTRIC WELDING	AWS A5.5 : E8018-G. AWS A5.1 : E7018. eg: WIA - Austarc 16TC or Weldwell PH77 or equivalent.
NB. Please refer to the consumables manufacturer for user instructions and further information.	

Table 4

Welding Sequence

The welding should only be carried out by an authorised welder, according to AS1554 or EN287 or relevant AWS Standards.

1 Prepare surface and ensure all contact areas are clean. Check preparation and welding consumables for conformance.

2 Carefully clean the root run before carrying out subsequent runs.

3 Apply fillet weld (see above table 1). The welding process must not be interrupted for such a time that the welding plate loses the welding temperature.

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