

> VV-SCH <
> VC-SCH <



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

This user instruction is valid in addition to the safety instructions for RUD Sling chains, RUD Ref. No. 7101649



> VV-SCH <



> VC-SCH <



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RUD-Art.-Nr.: 7900746-EN / 10.018

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 harmonisierten und nationalen Normen sowie technischen Spezifikationen entspricht.
Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

Produktbezeichnung: Schäkel
VV-SCH / VC-SCH / V-SCH / SCH

Folgende harmonisierten Normen wurden angewandt:

<u>DIN EN 1677-1 : 2009-03</u>	<u>DIN EN ISO 12100 : 2011-03</u>
_____	_____
_____	_____
_____	_____

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:

<u>BGR 500, KAP2.8 : 2008-04</u>	_____
_____	_____
_____	_____
_____	_____

Für die Zusammenstellung der Konformitätsdokumentation bevollmächtigte Person:
Michael Betzler, RUD Ketten, 73432 Aalen

Aalen, den 26.09.2016 Dr.-Ing. Arne Kriegsmann (Prokurist/OMB)
Name, Funktion und Unterschrift Verantwortlicher *Arne Kriegsmann*

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: Shackle
VV-SCH / VC-SCH / V-SCH / SCH

The following harmonized norms were applied:

<u>DIN EN 1677-1 : 2009-03</u>	<u>DIN EN ISO 12100 : 2011-03</u>
_____	_____
_____	_____
_____	_____

The following national norms and technical specifications were applied:

<u>BGR 500, KAP2.8 : 2008-04</u>	_____
_____	_____
_____	_____
_____	_____

Authorized person for the configuration of the declaration documents:
Michael Betzler, RUD Ketten, 73432 Aalen

Aalen, den 26.09.2016 Dr.-Ing. Arne Kriegsmann (Prokurist/OMB)
Name, function and signature of the responsible person *Arne Kriegsmann*



Please read user instruction carefully before initial operation of VV-SCH and VC-SCH.

Make sure to understand all volumes. Non-observance of this user's manual can lead to serious physical injury and property damage and eliminates warranty.

In doubt or in misconception please note that the German version of this document is decisive.

This user instruction is valid in addition to the safety instructions for RUD Sling chains, RUD Ref. No. 7101649

1 Application and warning information



ATTENTION

Wrong assembled or damaged lifting means as well as improper usage can lead to physical injury and damage of property while failing.

Inspect lifting means before each use carefully!

- Consider extreme circumstances or shock loading when choosing the utilised product.
- Side loading is due to the design not allowed.
- At the VC-SCH the weld-on nut must not be removed.
- The VIP fool proof and the VIP-VC shackles must only be used considering the DGUV 100-500 standard (BGR 500), chapter 2.8, and outside Germany acc. to the country specific requirements.

2 Intended use

Foolproof VIP and VIP VC-shackles are high-strength straight shackles within a range from 1.5 to 31.5 Tons WLL.

They can be used as an end component for chain slings or lugs. Side load is not allowed.

The fool proof VIP and VIP VC-shackles must only be used in the here described usage.

3 Installation and user information

3.1 General information

- Capability of temperature usage:
When used in temperatures higher than 200°C the WLL of the VIP foolproof and VIP-VC-shackles must be reduced as follows:
 - -40°C up to 200°C no reduction
 - 200°C up to 300°C minus 10 %
 - 300°C up to 400°C minus 25 %
 - Temperatures above 400°C are prohibited!

- VIP foolproof and VIP-VC shackles must not be used together with aggressive chemicals, acids and vapours.

3.2 Hints for the assembly

- VIP chains can be connected to shackles either with the VIP coupling or with an end link VA/VB.
- Please pay attention during selection and assembly to the correct sizing.
- Screw shackle bolt proper into the eye of the shackle and secure it as follows:
 - VC-SCH: by assembly of cotter-pin
 - VV-SCH: By punching in the securing sleeve. Pay attention to the slash (see picture 1)! The shackle bolt of the VV-SCH is pivot mounted.
- To avoid single sided loading, washers on both sides of the bolt are allowed to be used (see picture 2).

The inside width must not be reduced by welded-in washers, distance parts or bending of the legs. All these damages are leading to adverse consequences of the shackle properties.

Common rule:

- Assemble only shackle components with H1-10 embossement.
- Pay attention to the correct sizing of the connecting components.
- Use only original RUD spare parts.

3.3 Sequence of assembly

1. Insert connecting part into the shackle.
2. Screw shackle bolt in.
3. Assemble cotter-pin respectively securing sleeve.
4. Check finally the correct assembly (see chapter 4 *Inspection criteria*).

3.4 Hints for the usage

- Make sure before loading that the shackle bolt is fully engaged. This is the case when the end of the shackle bolt at the thread is in line with the eye of the shackle and the bolt can be turned in the bushing easy. When shackle is **permanently** or **more than once used**, please secure bolt by using a hammer to punch the roller pin.
- Control frequently and before each operation the total lifting mean in regard of ongoing ability, strong corrosion, wear, deformation etc. (see chapter 4 *Inspection criteria*).



ATTENTION

Wrong assembled or damaged lifting means as well as improper usage can result in serious physical injury and property damage when load drops. Inspect lifting means before each use carefully!

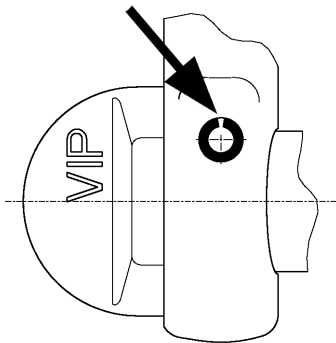
- Applications where bolts are pivoting und possibly turn loose (e.g. by the load or wire rope) are for the usage of the VC-shackle prohibited.
- Assemble the VIP-foolproof and VIP-VC shackle at the load in such a way that the shackle body will be loaded in the longitudinal axle and that no bending stress occurs.



HINT

According to EN 13889 a side pull angle β bigger than 7° is prohibited.

- Leave hazardous area when possible.
- Avoid frequent turning movements of the shackle bolt VV-SCH.
- Watch always sappended loads.
- Read for all lifting means the RUD sling chain Safety instructions.

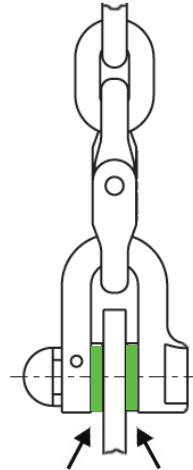


Picture 1: VV-SCH direction of securing sleeve slash

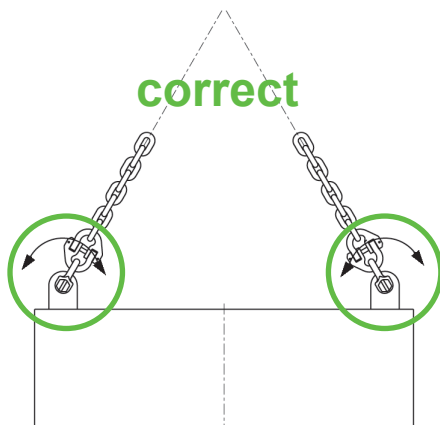
3.5 Hints for the regularly testing

Check by a experienced competent person in time periods depending on the frequency at least 1x per year, the ongoing usage of the lifting means (see chapter 4 *Inspection criteria*).

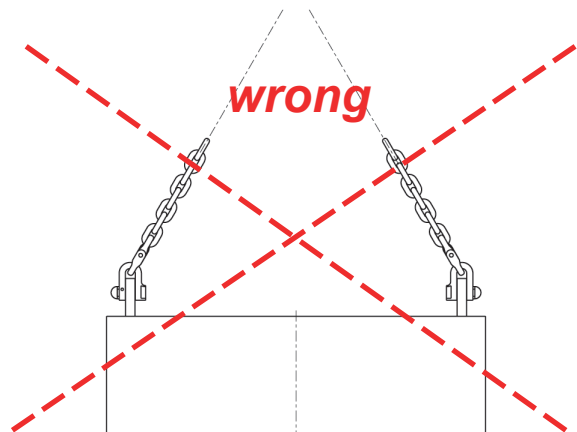
Depending on the conditions of use, e.g. increased wear or corrosion, it might be necessary that inspections must to be made in shorter time intervals than one year.



Picture 2: VV-SCH washers on both sides



Picture 3: Correct loading

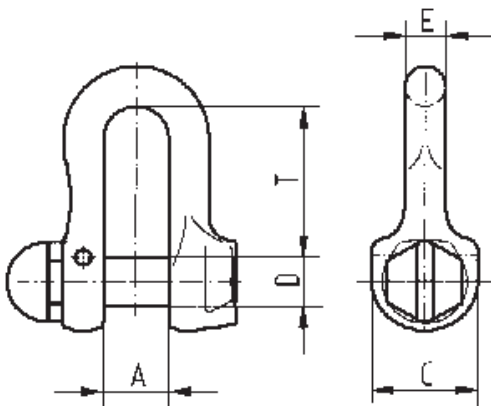


Picture 4: Wrong loading

4 Inspection criteria

Check and control the following points before each initial operation, in frequent time intervals, after assembly and special incidents:

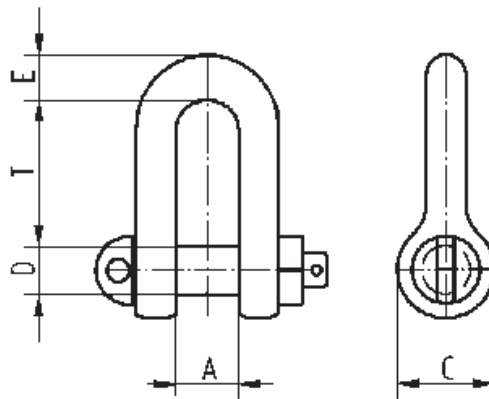
- completeness of the VIP shackle
- readable size and manufacturer sign
- mechanical damage like strong notches, especially in areas where tensile stress occurs
- Function, damage and wear at the securing sleeve pin, at the thread of the shackle pin and at the eye of the VV-SCH shackle
- Damage and wear at the thread of the shackle pin at the eye of the VC-shackle.
- Reduction of cross section caused by wear > 10 %, especially at the connection- and shackle pin.
- Cracks or other damage



Picture 5: VV-SCH

5 Hints for repairing

- Repairing must only be done by a competent person which has the knowledge and technical skills.
- Use only original RUD spare parts and register any made repairing in the lifting means file card of the complete chain sling.



Picture 6: VC-SCH

Denomination	WLL [t]	A [mm]	C [mm]	D [mm]	E [mm]	T [mm]	weight [kg/pc.]	Ref.-No.
VV-SCH-6	1.5	14	22	10	8	30	0.12	7100607
VV-SCH-8	2.5	17	26	12	10	36	0.17	7100608
VV-SCH-10	4.0	21	34	16	13	49	0.4	7100609
VV-SCH-13	6.7	27	42	20	17	63	0.77	7100610
VV-SCH-16	10	33	49	24	21	73	1.4	7100611
VC-SCH-4.0	14	44	60	30	29	91	2.7	7984331*
VC-SCH 4.0	16	44	60	30	29	91	2.7	7906438
VC-SCH-5.0	22.4	47	72	36	33	111	4.4	7984332*
VC-SCH 5.0	25	47	72	36	33	111	4.4	7906439
VC-SCH-6.0	31.5	53	78	39	37	120	5.9	7984333

Chart 1: Dimensioning

* phased-out parts

Subject to technical alterations

RUD components are tested in accordance with DIN EN 1677, with a minimum of 20.000 load cycles at 1.5 x WLL. Employers insurance association (German BG) recommends: At high dynamic loading with high load cycle numbers (continuous operation), the bearing stress acc. to load factor group 1Bm (M3 acc. DIN EN 818-7) must be reduced.

Especially endangered circumstances do include the following off-shore usages: Lifting of people and lifting of potentially dangerous loads for example liquid metals, acids or nuclear material). In these cases the WLL must be adapt by the user.