

>Chain connector<



Assembly instruction

This user instruction must be kept on file during the whole user period.

Translation of the original assembly instruction.

This user instruction is valid in addition to the assembly instruction of RUD sling chains (ICE 7995555 and VIP 7101649).



H-Chain connector



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RUD-Art.-Nr.: 7902285-EN / 11.016



Simple inspection, administration and documentation of work equipment and components which must be inspected regularly.

EG-Einbauerklärung

entsprechend der EG-Maschinenrichtlinie 2006/42/EG, Anhang II B und ihren Änderungen

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

Hiermit erklären wir, dass die nachfolgend bezeichnete unvollständige Maschine den grundlegenden Anforderungen der Maschinenrichtlinie 2006/42/EG (Anhang 1) entspricht. Die nachfolgend bezeichnete unvollständige Maschine darf, in der gelieferten Ausführung erst dann in Betrieb genommen werden, wenn festgestellt wurde, dass die Maschine, in die diese unvollständige Maschine eingebaut werden soll, den Anforderungen der EG-Maschinenrichtlinie 2006/42/EG entspricht.

Produktbezeichnung: Kettenschloss
IH

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>	_____
_____	_____
_____	_____
_____	_____

Die speziellen Unterlagen zur unvollständigen Maschine nach Anhang VII Teil B wurden erstellt und werden auf begründetes Verlangen in geeigneter Form übermittelt.

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

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

EC-Mounting declaration

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

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

We hereby declare that the following incomplete machines correspond to the basic requirements of the Machinery Directive 2006/42/EC (annex 1). The following incomplete machine, in the delivered machine, may only be put into operation when the machine in which the incomplete machine shall be assembled, has been tested according to the requirements of the EC-Machinery Directive 2006/42/EC.

Product name: Chain Connector
IH

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>	_____
_____	_____
_____	_____
_____	_____

The special documents about the incomplete machine according to annex VII part B have been created and can be handed over in a suitable form on request.

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/QMB)
 Name, function and signature of the responsible person *Arne Kriegsmann*



Before initial usage of the RUD H-Chain Connector, please read carefully the safety instructions. Make sure that you have understood all subjected matters. Nonobservance can lead to serious personal injuries and material damage and eliminates warranty.

1 Safety hints



WARNING

Wrong assembled or damaged lifting means as well as improper use can lead to personal injury or property damage when load falls down.

Please inspect all lifting points before each use.

- H-Chain Connectors must only be used in straight and non-twisted chain strands.
- Keep in mind extreme circumstances or shock loads when selecting the used H-Chain Connector and the components
- H-Chain Connectors must only be used by intended and trained persons consideration of BGR 500, chapter 2.8 (DGUV rules 100-500), and outside of Germany according to country specific regulations.

2 Intended use

H-Chain Connectors are designed to make chains endless.

H-Chain Connectors must only be used for the assembly of basket chains in combination with RUD-Chains of the same nominal size.

The WLL as well as the mechanical properties are determined by the used chain.

H-Chain connectors must only be used in straight and non-twisted chain strands.

H-Chain connectors must only be used in the here explained usage for lifting resp. transporting of loads.

3 Assembly and user instruction

3.1 General information

- Capability of temperature usage:
For capability of temperature usage see chart 2 (ICE), chart 3 (VIP) and chart 4 (Grade 80).
- H Chain Connectors must not be used in combination with aggressive chemicals, acids and their steams.
- When using the H-Chain Connector make sure that the number of chain links is odd.

3.2 Hints for the assembly



WARNING

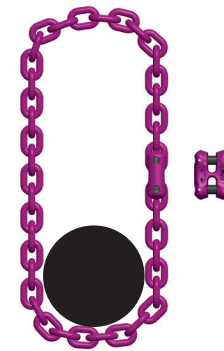
Twisted chains can lead to reduction of WLL. This can lead to injuries of persons and parts when loads falls.

Use always a chain with an odd number of links - in this way the chain can be assembled without twisting.

Basically essential:

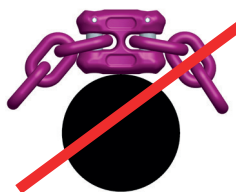
- H-Chain Connectors must only be used in straight and non-twisted chain strands
- Assemble only RUD Chains in combination with the H Chain Connector.
- Absolutely pay attention during assembly to the correct size of the connecting elements.

3.2.1 Correct assembly



Pic. 1: Chain not twisted and usage in straight chain strand

3.2.2 Misuse

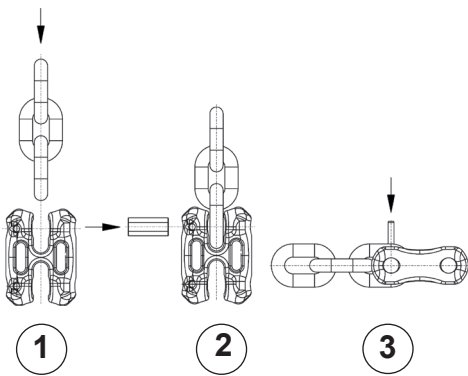


Pic. 2: Misuse - H-Chain Connector must not be positioned at edges

3.2.3 Assembly of pin

Basically essential:

- Assemble only connecting pins with D1-12 stamping
- Assemble sleeve pin for the securing of the load pin in such a way at the clevis that the opening can be seen from outside.
- Use sleeve pin only once
- Use only genuine RUD spare parts
- Check finally the correct assembly (see chapter 4 Inspection criteria).



Pic. 3: Assembly of connecting pin

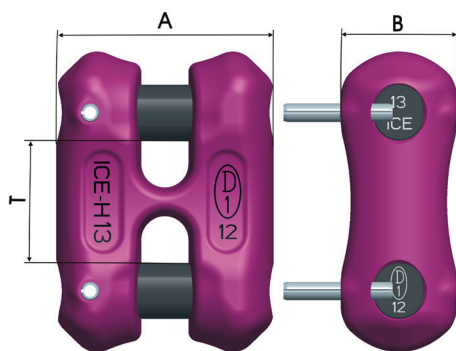
3.3 User Instructions

- Check before each loading of the H-Chain Connector that the connecting pin is correct assembled. Secure pin by driving the sleeve pin into part.
- Please make sure that the load distribution in the straight strand is carried out without twisting, bucking or kinking.
- Control periodically and before each initial use the complete lifting mean in regard of the continuous ability, strong corrosion, wear, deformation etc. (see chapter 4 Inspection criteria).



WARNING

Wrong assembled or damaged lifting means as well as impropriate use can lead to injuries of persons and property damage when loads falls. Check all lifting means carefully before each use.



Pic. 4: Dimensioning

- Leave if possible the direct dangerous area.
- Always watch attached load.
- Pay attention to the RUD chain sling user instruction for all lifting means.

3.4 Hints for the periodically inspection

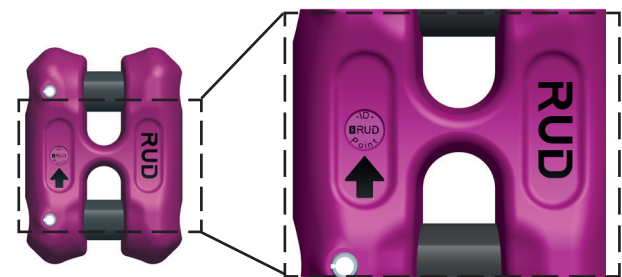
Check by a competent person in periods, which are determined by usage but at least 1x year, the continuous appropriateness of the lifting means (see chapter 4 Inspection criteria).

Depending on the working conditions, f.e. when often used, increased wear or corrosion, inspections could be necessary in shorter periods than one year.

4 Inspection criteria

Check and control the following points before each initial operation, in periodical periods after the assembly and after special incidents:

- Completeness of the H-Chain Connector
- Readable size and manufacturer's mark
- Mechanical damages, like strong notches, especially in areas where tensile stress occurs
- Damages and cross section reductions caused by wear > 10 %, especially at the load pin
- Cracks or other damages
- Deformation of component



Pic. 5: Positioning of RFID-Chip

Nomination	chain	WLL [t]	A [mm]	B [mm]	T [mm]	weight [kg / pc.]	Ident.-No.
IH-4	4	0.8	24	12	12	0.04	7906659
IH-6	6	1.8	34	19.6	18	0.11	7901922
IH-8	8	3.0	45	25.5	24	0.26	7901453
IH-10	10	5.0	56	31.5	30	0.55	7901454
IH-13	13	8.0	73	40	39	1.16	7901455
IH-16	16	12.5	89	49	48	2.16	7901924

Chart 1: Dimension chart

Technical alterations subject to change

5 Hints for repairing

- Repairing must only be carried out by competent persons, which can show that they have the there-for necessary skills.
- Only RUD original spare parts must be used and all repairing and overhauling operations must be documented in the chain card file (of the complete lifting mean) or use the RUD-ID-System®.

RUD components are tested in accordance with DIN EN 1677, with a minimum of 20.000 load cycles at 1.5 x WLL.

At high dynamical loads with high number of load cycles the bearing stress must be reduced acc. To FEM Group 1Bm (M3 acc. To DIN EN 818-7)

6 WLL and temperature areas

WLL and temperature areas are determined by the used RUD chain, in which the H-connector will be as-sembled.




endless chain 		 When using sling chains at temperatures beyond 200°C the permissible WLL has to be reduced. Working load in % at chain temperature of:			
			Load factor 1.6		
Ø 4	1.28	-60°C up to +200°C: 100 %	above 200°C up to +250°C: 90 %	above 250°C up to +300°C: 60 %	
Ø 6	2.88				
Ø 8	4.8				
Ø 10	8.0				
Ø 13	12.8				
Ø 16	20.0				

Chart 2: ICE (Grade 120) WLL [t] and temperature areas




endless chain 		 When using sling chains at temperatures beyond 200°C the permissible WLL has to be reduced. Working load in % at chain temperature of:			
			Load factor 1.6		
Ø 4	1	-40°C up to +200°C: 100 %	above 200°C up to +300°C: 90 %	above 300°C up to +380°C: 60 %	
Ø 6	2.4				
Ø 8	4.0				
Ø 10	6.4				
Ø 13	10.6				
Ø 16	16.0				

Chart 3: VIP (Grade 100) WLL [t] and temperature areas




endless chain 		 When using sling chains at temperatures beyond 200°C the permissible WLL has to be reduced. Working load in % at chain temperature of:			
			Load factor 1.6		
Ø 6	1.8	-40°C up to +200°C: 100 %	above 200°C up to +300°C: 90 %	above 300°C up to +400°C: 75 %	
Ø 8	3.2				
Ø 10	5.0				
Ø 13	8.5				
Ø 16	12.5				

Chart 4: Grade 80 WLL [t] and temperature areas