>H-Connector<

EN

Assembly instruction

This assembly instruction has to be kept on file for the whole lifetime of the product and forwarded with the product.

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

RUD Ketten
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RUD-Art.-Nr.: 7902285-EN - V03 / 01.025

RUD BLUE-ID SYSTEM

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:

DIN EN 1677-1 : 2009-03 | **DIN EN ISO 12100 : 2011-03**

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:

DGUV-R 109-017 : 2020-12

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 01.06.2022 Hermann Kolb, Bereichsleitung MA

Name, Funktion und Unterschrift Verantwortlicher

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:

DIN EN 1677-1 : 2009-03 | **DIN EN ISO 12100 : 2011-03**

The following national norms and technical specifications were applied:

DGUV-R 109-017 : 2020-12

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 01.06.2022 Hermann Kolb, Bereichsleitung MA

Name, function and signature of the responsible person

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 instructions

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.

- Keep all body parts like fingers, hands, arms, etc. out of the hazardous area.
- H-Chain Connectors must only be used by intended and trained persons consideration of DGUV 109-017 and outside of Germany according to country specific regulations.
- 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
- Any technical modifications at the H-Chain Connector are prohibited.
- Damaged or worn H-Chain Connectors must no longer be used.

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 *Table 2* (ICE), *Table 3* (VIP) and *Table 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.

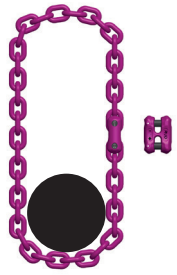
3.2 Hints fort he assembly

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:

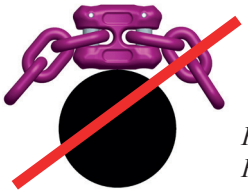
- H-Chain Connectors must only be used in straight and non-twisted chain strands
- Assemble only RUD Chains in combination with the H Chain Connector.
- Absolutely pay attention during assembly to the correct size of the connecting elements.

3.2.1 Correct assembly



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

3.2.2 Misuse

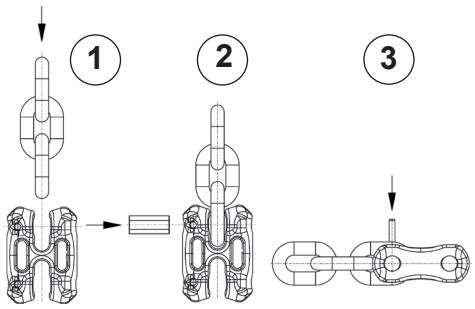


Pic. 2: Misuse - H-Chain Connector must not be positioned at edges

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 / Repair / Disposal*).



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 / Repair / Disposal*).

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.

- RUD components have been designed as per DIN EN 818 and DIN EN 1677 for a dynamic load of 20,000 load cycles.
  - Observe and be aware that multiple load cycles can occur during a lifting operation.
  - Observe the risk of product damage caused by high dynamical influences at high load cycle numbers.
  - BG/DGUV Germany's employer insurance association recommends: At high dynamical loading with a high number of load cycles (permanent use), the stress at WLL acc. to FEM class 1Bm (M3 acc. to DIN EN 818-7) must be reduced. Use a lifting mean with a higher WLL.
- Leave if possible the direct dangerous area.
- Always watch attached load.
- Pay attention to the RUD chain sling user instruction for all lifting means.

4 Inspection / Repair / Disposal

4.1 Hints for the regularly inspection

The operator has to determine and dictate the necessary inspection periods and the deadlines by a risk assessment (see sections *4.2 and 4.3*).
The persisting appropriateness of the lifting point must be checked by a competent person (auditor) at least once per year.
Depending on the conditions of use e.g. frequent use, increased wear or corrosion, it may be necessary to carry out inspections at shorter intervals than once per year. A verification is also required following damage and after special events.
The operator must specify the test cycles.

4.2 Inspection criteria for the regularly examination carried out by the operator

- Completeness of the H-Chain Connector
- Readable size and manufacturer´s mark
- Deformation of component
- Mechanical damages, like strong notches, especially in areas where tensile stress occures

4.3 Additional inspection criteria for the competent person resp. auditor

- Damages and cross section reductions caused by wear > 10 %, especially at the load pin
- Additional inspections may be necessary depending on the result of the risk assessment (e.g. incipient cracks at load bearing parts).

4.4 Disposal

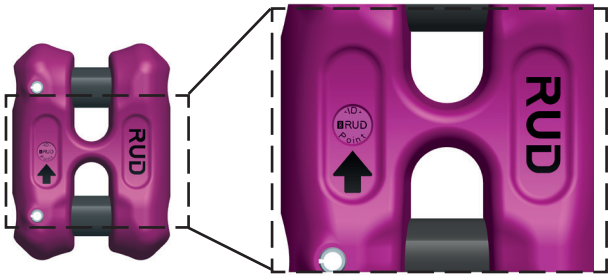
Dispose worn out components / attachments or packaging according to the local waste removal requirements.

5 Hints for repairing

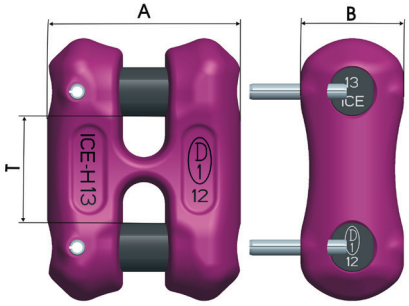
- Repairing must only be carried out by competent persons, which can show that they have the therefor necessary skills.
- Only RUD original spare parts must be used and all repairing and overhauling operations must be documented in the chain card file (of the complete lifting mean) or use the RUD-ID-System®.

6 WLL and temperature areas

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



Pic. 4: Positioning of RFID-Chip



Pic. 5: Dimensioning

Nomination	chain	WLL component [t]	A [mm]	B [mm]	T [mm]	weight [kg / pc.]	Ref.-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

Table 1: Dimensioning

Technical alterations subject to change

endless chain ICE 120		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	**-60°C up to +200°C**	**above 200°C up to +250°C**	**above 250°C up to +300°C**
Ø 4	**1.28**			
Ø 6	**2.88**			
Ø 8	**4.8**	**100 %**	**90 %**	**60 %**
Ø 10	**8**			
Ø 13	**12.8**			
Ø 16	**20**			

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

endless chain VIP		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	**-40°C up to +200°C**	**above 200°C up to +300°C**	**above 300°C up to +380°C**
Ø 4	**1**			
Ø 6	**2.4**			
Ø 8	**4**	**100 %**	**90 %**	**60 %**
Ø 10	**6.4**			
Ø 13	**10.6**			
Ø 16	**16**			

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

endless chain 8		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	**-40°C up to +200°C**	**above 200°C up to +300°C**	**above 300°C up to +400°C**
Ø 6	**1.8**			
Ø 8	**3.2**			
Ø 10	**5**	**100 %**	**90 %**	**75 %**
Ø 13	**8.5**			
Ø 16	**12.5**			

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