

# LIFTING AND LASHING SYSTEMS

– Special Grade 100 –



**4** better  
lifting



**The passion of chain manufacturing!**

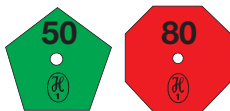
The round steel chain link production in Unterkochen has been running for almost 140 years. Producing chains for lifting, lashing, conveying, tire protection as well as snow and off-road chains.

Our headquarters and manufacturing plant is one of the most modern chain producing companies world wide.

Developed from a small chain forging company at the river Kocher, the RUD group has stood to the test of time to become a global player with approximately 800 motivated employees, subsidiaries and sales representatives around the world.

Almost 500 national and international protective clauses are the evidence for our progress.

The well established brand name RUD stands for quality, technical innovation and know how. Continuous research and development has enabled us not only to produce products meeting the highest expectations but also with consistent quality standards. Experience, diligence, ambition and passion are the virtues we manifest in order to remain favourite for our customers. With the above virtues in mind, RUD has successfully entered a new century with the trust and satisfaction of our customers as our prime objective for the future. What are tomorrow's concepts? This is one of the questions which RUD is trying to address while facing the challenge of consistently providing the best solutions to our customers.



**Innovation and quality** take first priority at RUD. We are always leading in decisive developments.

**Examples in the lifting and lashing chains field:**

**1967:** 1. Approval of quality class 5, H1-5 by the Berufsgenossenschaft (\*Employers Liability Insurance Association).

**1972:** First chain factory to gain approval for the quality class 8, H1-8 by the BG\* Technical Committee "Steel and Metal".

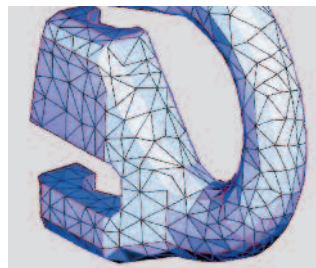
The first idea of a **mecano system from RUD** – fool-proof connection of the correct chains and components, as well as suspension links. This idea became the standard at Ruhrkohle RAG.

**1981:** The first series of lifting points type RBS and RBG with a safety factor 4:1 in any direction.

**1992:** First chain factory to obtain certification for their quality assurance system acc. to **DIN/ISO 9001**.

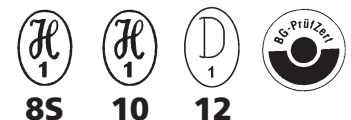
**1994:** First chain factory to obtain approval of the BG\* for their **VIP-special quality** with up to 50 % higher WLL than Grade 80.

**2002:** The first universal lifting point – called PPS.



**2006:** First manufacturer who received the "Type Examination Certificate" from the Inspection and Certification authority PZNM of the Technical Committee MO (\*Employers Liability Insurance Association = BG), for VIP-round steel chains according to PAS 1061 (Publicity Available Specification according to the Standard DIN EN 818 Grade 100). **As the First H1-10!**

**2007:** RUD receives as the first chain manufacturer the approval for Grade 120 (D1-12) from the BG. World premiere of the strongest lifting chain ICE (Grade 120). Innovation leap in chain technology. Always one chain diameter thinner.



**BG and TÜV approved!**

\*BG = German Employers Liability Assurance Association.

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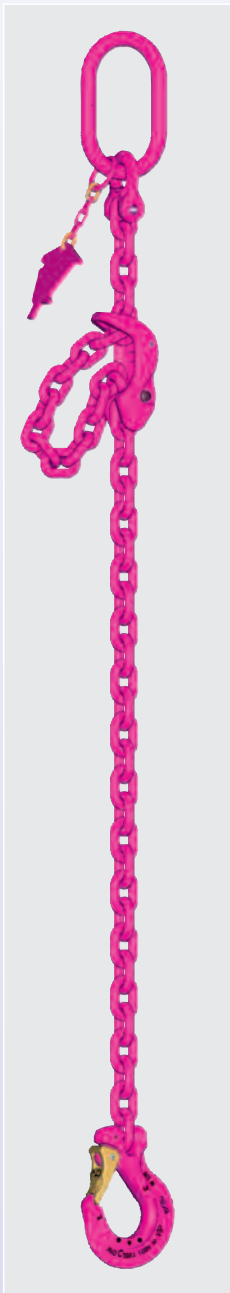
# VIP SLING CHAINS IN RUD SPECIAL QUALITY CLASS 10



VIP-proven since 1994  
in the hardest applications!



- Despite having the same chain diameter, an up to 30 % increase in the WLL in comparison to grade 80.
- Chain dimensions from 4 to 28 mm. WLL from 0.6 t (Mini 1-leg) to 126 t (2x MAXI double leg).
- Distinctive fluorescent pink powder coating and clear "VIP" stamp on every chain link and component. Distinctive in comparison to other quality classes. Surface quality is comparable to a zinc plated surface.
- Chain diameters 16, 20, 22 and 28 mm in VIP special quality replace the 18, 22, 26 and 32 mm chain diameters of quality grade 8. Smaller chain sizes, hence a considerable reduction of weight which facilitates easy handling.



● **Multifunctional WLL identification tag:** Owing to its special patented shape, it facilitates simple inspection of the three wear criteria for sling chains (diameter, elongation of pitch and overload). The inspection data can be documented on the tag.



● **Heat indicator:**

The pink powder coating changes its colour with temperatures exceeding 200°C. Chain must not be used after being subject to temperatures exceeding 380°C. At this temperature the VIP colour changes to a deep black with small bubbles, clearly indicating that it has been overheated.



● **Master link collection for every crane hook:**

The chain connecting link VRG is attached to the corresponding master link in a permanent but flexible way. The fool – proof clevis connection allways ensures that only the correct chain diameter can be fitted. The collection of master links range from the smallest VBK size for the high tensile hoist hooks up to crane hook No. 50 with Bi = 250 mm in 1 to 4 leg assembly versions.

● The patented **multi shortening claw** can be fitted on the chain leg at any required position. No additional chain and coupling parts are required. The robust safety bolt with a spring prevents unintentional hooking out of the chain in both loaded and unloaded conditions. Ideal chain link shaped pocket support, thus no reduction in the WLL (DIN 5692).

● **VIP Cobra hook:**

The compact design of the VIP Cobra hook with no protruding hook tip is far superior and safer than the common clevis sling hook. Supplied complete with a forged and tempered safety latch that locks into the hook tip protects against lateral bending. The safety latch is supported by a triple coiled double leg. The enlarged hook tip prevents misuse. Wear edges on both sides of the hook protect against abrasion of the chain when hauling the chain assemblies. Gauge marks on the hook enable easy inspection for the elongation of the width of the hook opening.

● **VIP automatic clevis hook:**

Extremely robust design. The hook locks automatically when lifting the load and can only be opened by activating the protected unlocking lever at the back of the hook. No protruding hook tip. Large mouth width **size F**.

● **VIP shortening hook:** According to DIN 5692:

With no reduction of WLL and a thickened hook tip to avoid misuse e.g. incorrect fitting of the chain. Ideal chain support facilitated by the calibrated lugs. The U-bend insertion slot protects against accidental chain disengagement.

● **World wide unique:** The VIP Mecano System with the 4 mm and 28 mm chain.

**VIP**  
Mecano System  
"in miniature"  
4 mm chain and  
components!

# VIP-Quality – “Made in Germany!”



**VIP®**



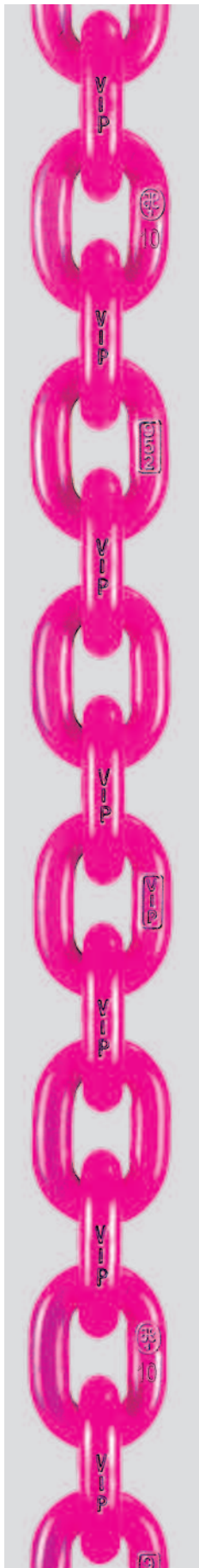
**VIP®**



## Application examples – VIP –



Subject to technical modifications!



## VIP Stamping – on every chain link

VIP-stamped chains are manufactured with smaller tolerances in the inner width (size W1) and are coated with the fluorescent colour pink. In connection with the VIP stamped, pink coloured components, whose special clevis design has been perfectly harmonised, a distinctive chain connection is realised.

### 10 or 8 S

The approval of RUD's special quality VIP by the BG\* is documented in short chain link intervals with the following: **H1** referring to the manufacturer's number i.e 1 = RUD and **8 S** or **10** meaning Grade 100.

### Verification of quality

At regular intervals, the chains are stamped with a serial and batch number. This identification ensures a continuous record tracking of the manufacturing and proof load data even after a period of 10 years. After all we stick to our VIP quality.

### Patented heat indicator

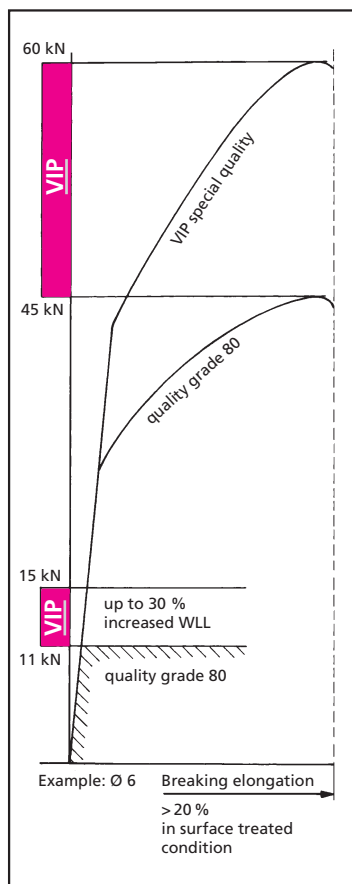
In high temperature environments the special fluorescent pink powder coating permanently changes its colour. Above 380°C the colour changes permanently to black. If this happens the chain assembly must be taken out of service (refer to page 7). The geometric construction and tolerances of the VIP chains are aligned to a higher quality class. On request, **Corrud DS**, a 20 times more red rust resistant component than zinc plating, can be supplied.

### VIP Grade 100

A consequential enhancement of the RUD – Mecano system with quality grade 80, which has stood to the test of time for over 30 years. V – distinguished, I – in, P – pink.

Using the patented VIP identification tag, the chain can easily be inspected for wear and pitch elongation. Please refer to pages 10 and 48.

BG\* = Employers Liability Insurance Association.



The highly qualitative VIP chains and components are provided with a **duplex surface** protection. This comprises of two processes i.e: Pre-treatment and pink powder coating. Due to this two process procedure, a relatively better surface protection is achieved in comparison to zinc plating.

The highly dynamic **VIP-Mecano system and chains** achieves a dynamic strength higher than the standard values. Tested with over 20,000 load cycles and with a factor ratio of 1.5 of their actual WLL.

### An up to 30 % increase in the WLL in comparison to quality class 8

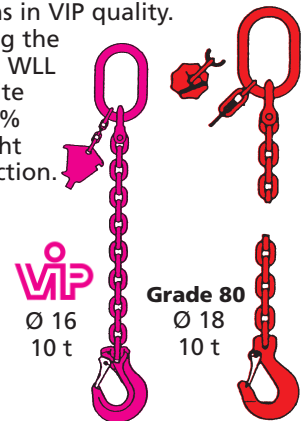
Material CrNiMo alloy steel, specially tempered, high toughness. Minimum breaking elongation  $\geq 25\%$  in natural black,  $\geq 20\%$  in pink coated.

Less sensitive to notching and hydrogen embrittlement than quality grade 80. Bending tests acc. standard DIN EN 818-2,

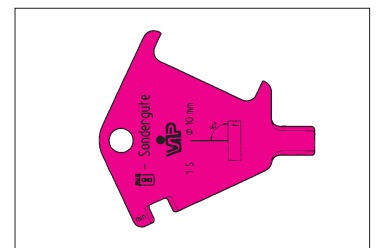
bending  $\min f = 0.8 \times d$  is by far exceeded. Ratio of WLL : proof load : breaking load is given by 1 : 2.5 : 4. Owing to a special heat treatment procedure developed by RUD, the highly dynamic RUD – VIP-chains are less sensitive to mechanical abrasion and damages. Hence an increased life expectancy is achieved.

Quality grade 80 chains whose nominal diameter exceeds 18 mm can be substituted by a one size less nominal diameter chains in VIP quality.

Giving the same WLL despite a 50 % weight reduction.



RUD VIP- and Grade 80 chains are likewise components according to DIN EN 1677, designed for a dynamic loading of more than 20000 load cycles at a 50 % overload (1.5 x WLL). The BG (German Employers Liability Insurance Association) recommends: At a high number of load cycles (continuous operation), the bearing stress must be reduced according to FEM/ISO classification 1B<sub>m</sub> (M3 acc. to EN 818-7); f.e. by using the next bigger chain diameter.



**FOOL-PROOF**  
**»IN PINK«**

**FOOL-PROOF**  
**»IN STAMPING«**

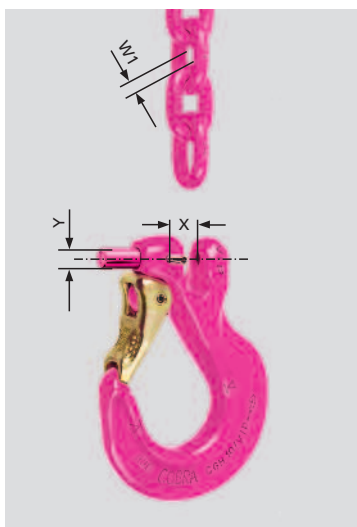
**FOOL-PROOF**  
**»IN PINK+STAMPING«**

The proven clevis connection system has been further enhanced with the new VIP range. With its dimensional adjustments and colour (VIP chains and components in pink) arrangement of the chains and the components, a fool-proof assembly is assured.

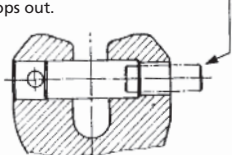
Clevis dimension "X" avoids the connection of a larger VIP chain. VIP chains are manufactured with tighter tolerances in the inner width (size W1). The connection bolt diameter "size Y" avoids the connection of the next smaller VIP chain size.

**Result:**  
Only chains and components with the same WLL are distinctively assembled together.

### VIP- Fool-proof Mecano assembly



The VG-bolt of the next smaller size drops out.



#### Attention:

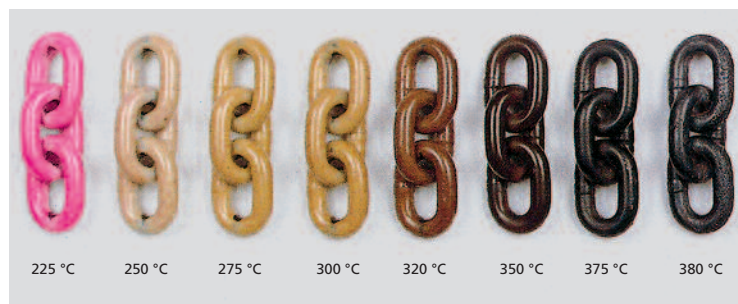
VIP chains Ⓢ 85 or 10 must only be connected with VIP components Ⓢ 85 or 10. Follow RUD operating manual and user instructions! Use only original VIP spare parts.

The German Employers Liability Assurance Association requires:

- 1.) Chain slings of Grade 100 must not be used in combination with chains and components from different manufacturers.
- 2.) Components which are recognized as Grade 100, must not be mixed with Grade 80 sling components.



Slot of the tensioning sleeve must be visible facing to the front! The tensioning sleeve must be used only once.



The special fluorescent VIP powder coating permanently shows the temperature to which the VIP chain has been exposed.

Operated in the prohibited temperature ranges i.e. above 380°C, the pink colouration turns black with bubbles on the surface. Replace the VIP chains or return them to the supplier for repair.



**Application examples of the versatile VIP system.**

### Assembly



**VIP heat indication**  
**European patent**  
**EP 677681**

# RUD ID System®

## Inspection and documentation made easy!

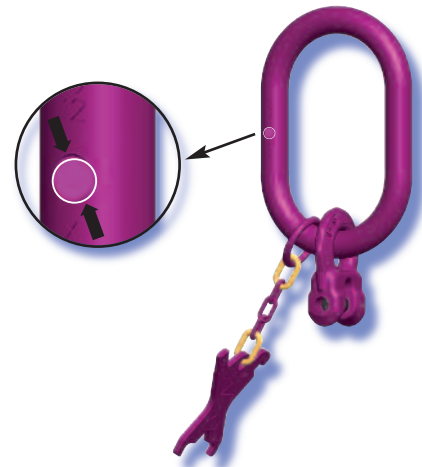


Required, regularly inspections of lifting means are time consuming and can often be fault-prone.

Due to the **RFID-technology** (Radio-Frequenz-Identifikation) these time consuming methods and massive amount of paper work become a thing of the past.

With RFID technology, chain slings and the components can now be effortlessly and quickly identified without errors, and the Product Identification Number can be easily registered and managed like never before.

Radio Frequency Identification (RFID) continues to evolve as a major technology – modernizing the way documentation and inventory management is done.



# RUD ID System®

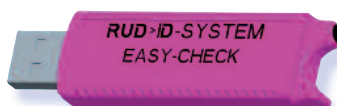
### RUD-ID-POINT®

The components can be marked by the **RUD-ID-Point®** (RFID chip) and with the unique identification number distinguished.



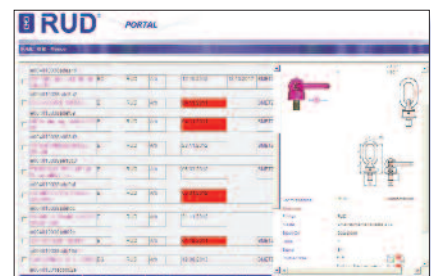
### RUD-ID-EASY-CHECK®

The robust **RUD-ID-EASY-CHECK®** readers capture the Identification number of the **RUD-ID-Point®** and transfer it to the **RUD-ID-NET®** application (software), resp. optionally to your PC application like WordPad, MS Word, MS Excel, SAP etc.



### RUD-ID-NET®

The extendable **RUD-ID-NET®** application (software) will support your product administration and documentation.





# RUD ID System®

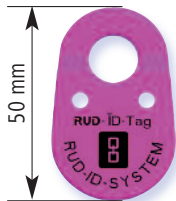
## RUD-ID-POINT®



Ref. no.: 7998881



Ref. no.: 7902580



Ref. no.: 7901288

The innovative and unrivalled **RUD-ID-POINT®** performs in varied conditions ranging from -80°C temperatures to an astonishing +270°C. They hold a high level of water and pollution resistance and are extremely robust against damage.

The RFID-chip does not harm the capability of the components of any kind.

**RUD-ID-POINT®** 8 mm or 4 mm (13.56 MHz HF):  
Press-fit transponder (in metal). No glue necessary.

Sizes: 8 mm x 3.25 mm (5/16" x 1/8") and 4 mm x 3.5 mm (5/32" x 9/64").  
The usage of **RFID-Chips** embedded into a component is a patented technological innovation.

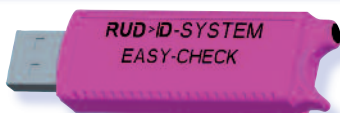
**RUD-ID-TAG®** (13.56 MHz HF):

Metal reinforced tag for chains, connecting links, wire ropes, can be attached to parts with bolts also.

Size: 50 mm x 32 mm x 6 mm (2" x 1 1/4" x 15/64").

Additional colors and design on request.

## RUD-ID-EASY-CHECK®



Reference no.: 7901000



Reference no.: 7901524 (Bluetooth)

The **RUD-ID-EASY-CHECK®** readers are compatible with the **RUD-ID-POINTS®** as well as with common high frequency transponders/chips (ISO 15693). The transfer of the identification number is carried out either by USB or Bluetooth and can be linked up with the **RUD-ID-NET®** application (software), almost all Office applications (WordPad, MS Word, MS Excel, Open Office) and also with SAP or other programs.

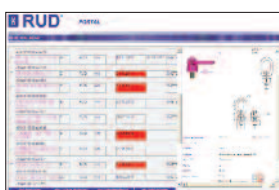
**RUD-ID-EASY-CHECK®** (13.56 MHz):

USB-reader for identifying the unique number of the **RUD-ID-POINT®**.

**RUD-ID-DISPLAY-CHECK®** (13.56 MHz):

The unique identification number is shown on the **RUD-ID-POINT®** which is then displayed on the integrated LCD-display. The data can be transferred to a laptop or PC up to 15 metres away.

## RUD-ID-NET®



The **RUD-ID-NET®** application (software) has many advantages; it is easy to use, requires no digital maintenance and ensures you manage inspections of products effectively.

- It enriches your data by providing detailed product information, inspection dates, test reports and automatic test reminders to selected employees. The benefits are endless.
- Product information and documentation such as inspection reports and product data can be easily accessed via the RUD web portal.
- Upgradeable software for different work equipment which has to be inspected regularly (f.e. work platforms, roller shutter).





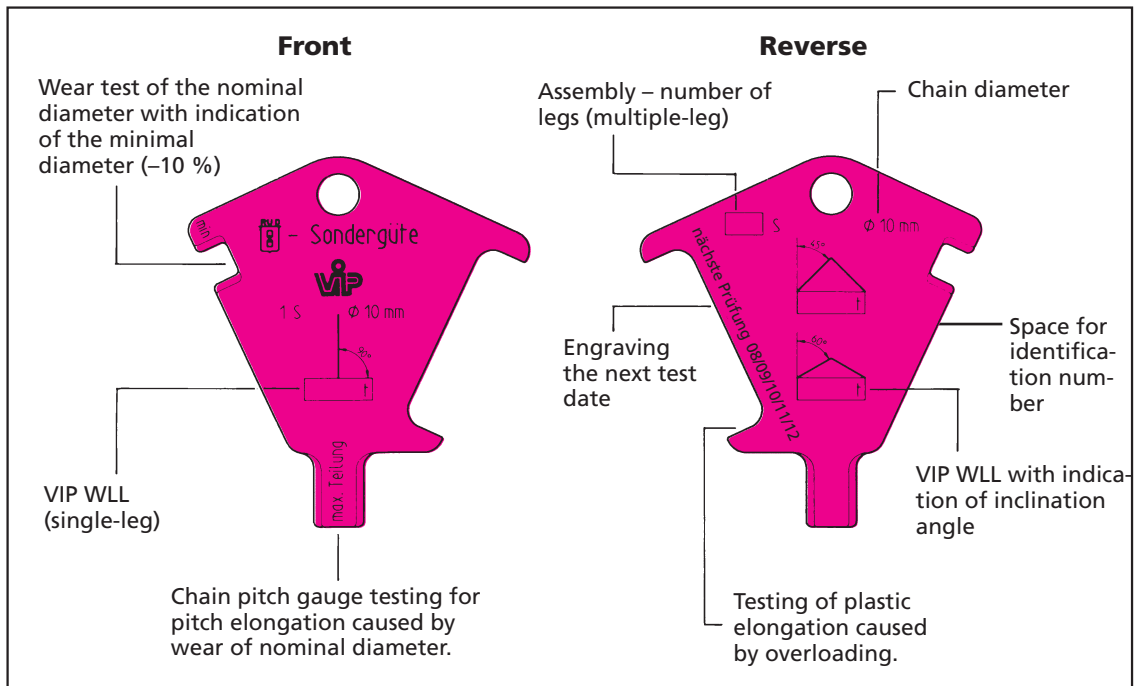
**VIP round steel link chain Grade 10**

|                             |   |          |          |           |           |           |           |           |           |
|-----------------------------|---|----------|----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Size d in mm Ø              | <b>4</b>  | <b>6</b> | <b>8</b> | <b>10</b> | <b>13</b> | <b>16</b> | <b>20</b> | <b>22</b> | <b>28</b> |
| Pitch P in mm               | 12  | 18       | 24       | 30        | 39        | 48        | 60        | 66        | 84        |
| inside, width W1 bi min. mm | 5.2   | 7.8      | 10.4     | 13        | 17        | 21        | 26        | 28.6      | 36.4      |
| WLL in t                    | 0.63  | 1.5      | 2.5      | 4.0       | 6.7       | 10        | 16        | 20        | 31.5      |
| Proof load MPF min. kN      | 15.7  | 37.5     | 62.5     | 100       | 166       | 250       | 395       | 500       | 772       |
| Breaking load BF min. kN    | 25  | 60       | 100      | 160       | 265       | 400       | 630       | 800       | 1240      |
| Weight kg/m                 | 0.36  | 0.85     | 1.5      | 2.4       | 4.0       | 6.0       | 9.5       | 12.3      | 18.6      |
| Surface:                    | Duplex protection = pre-treatment + pink powder coating |          |          |           |           |           |           |           |           |
| Order no:                   | 7984399   | 7100477  | 7100478  | 7100479   | 7100480   | 7100481   | 7983689   | 7100482   | 7900670   |
| Surface:                    | Corrud-DS-black   |          |          |           |           |           |           |           |           |
| Order no:                   | 7987349   | 7987591  | 7986226  |           |           |           |           |           |           |



Minimal ultimate elongation: natural black  $\geq 25\%$ , Pink  $\geq 20\%$   
 Stamped: VIP identification stamped in every chain link, manufacturing number and the BG approval stamp H1

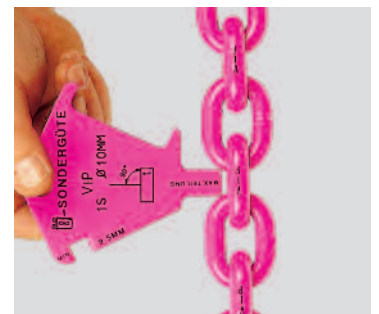
**VIP identification tag with an integrated chain testing gauge EP 610611**



Testing wear of nominal diameter



Testing for plastic elongation caused by overload



Testing for pitch elongation caused by wear of nominal diameter

|                                   | 1-leg  | 2-leg |          | 3- and 4-leg |          | endless                                |
|-----------------------------------|--|-------|----------|--------------|----------|--|
| Nominal size of sling chain in mm |  |       |          |              |          | <br>endless chain sling in choke hitch |
| Inclination- $\beta$              | 0°   | 0-45° | > 45-60° | 0-45°        | > 45-60° | -                                      |
| Load factor                       | 1  | 1.4   | 1        | 2.1          | 1.5      | 1.6                                    |
| Ø 4                               | 0.63   | 0.88  | 0.63     | 1.32         | 0.95     | 1                                      |
| 6                                 | 1.5  | 2.1   | 1.5      | 3.15         | 2.25     | 2.4                                    |
| 8                                 | 2.5  | 3.5   | 2.5      | 5.25         | 3.75     | 4                                      |
| 10                                | 4.0  | 5.6   | 4.0      | 8.4          | 6.0      | 6.4                                    |
| 13                                | 6.7  | 9.5   | 6.7      | 14           | 10       | 10.6                                   |
| 16                                | 10   | 14    | 10       | 21           | 15       | 16                                     |
| 20                                | 16   | 22.4  | 16       | 33.6         | 24       | 25.6                                   |
| 22                                | 20   | 28    | 20       | 42*          | 30       | 32                                     |
| 28                                | 31.5   | 45    | 31.5     | 67**         | 47.5**   | 50                                     |
|                                   | In case of <b>unsymmetrical</b> loading, the load factors must be reduced by 50 %. |       |          |              |          |  |

Please refer to CD-ROM.

\* in connection with balancer up to 56 t (see page 28). \*\*only 2 x 2 leg type available

| Nominal size of sling chain in mm | Endless chain  |          |                     |          | Choke hitch         |       |          |  |
|-----------------------------------|--|----------|---------------------|----------|---------------------|-------|----------|--|
|                                   | single   |          | double              |          | single              |       | double   |  |
|                                   | 0-45°  | > 45-60° | 0-45°               | > 45-60° | 0°                  | 0-45° | > 45-60° |  |
| Load factor                       | 1.1  | 0.8      | 1.7                 | 1.2      | 0.8                 | 1.1   | 0.8      |  |
| Ø 4                               | 0.69   | 0.5      | 1.1                 | 0.75     | 0.5                 | 0.69  | 0.5      |  |
| 6                                 | 1.65   | 1.2      | 2.55                | 1.8      | 1.2                 | 1.65  | 1.2      |  |
| 8                                 | 2.75   | 2        | 4.25                | 3        | 2                   | 2.75  | 2        |  |
| 10                                | 4.4  | 3.2      | 6.8                 | 4.8      | 3.2                 | 4.4   | 3.2      |  |
| 13                                | 7.5  | 5.3      | 11.2                | 8        | 5.3                 | 7.5   | 5.3      |  |
| 16                                | 11   | 8        | 17                  | 12       | 8                   | 11    | 8        |  |
| 20                                | 17.6   | 12.8     | 27.2                | 19.2     | 12.8                | 17.6  | 12.8     |  |
| 22                                | 22   | 16       | 34                  | 24       | 16                  | 22    | 16       |  |
| 28                                | 35.5   | 25       | 53**                | 37.5**   | 25                  | 35.5  | 25       |  |
|                                   | In case of <b>unsymmetrical</b> loading, the load factors must be modified as follows:   |          |                     |          |                     |       |          |  |
| Temperature °C                    | When using sling chains at temperatures beyond 200°C (refer to page 7), the permissible WLL has to be reduced.<br>Working load in % at chain temperature of: |          |                     |          |                     |       |          |  |
|                                   | - 40° up to + 200 °C   |          | above 200° - 300 °C |          | above 300° - 380 °C |       |          |  |
|                                   | 100 %  |          | 90 %                |          | 60 %                |       |          |  |



### VIP Grade 100 WLL in tonnes

of single and multiple leg chain slings with different angles of inclination and **symmetrical loading** of the legs.

Ø 4 mm **>mini** see page 31  
Ø 28 mm **>MAXI** see pages 32/33

In case of choke hitch applications, reduce WLL by 20 %.

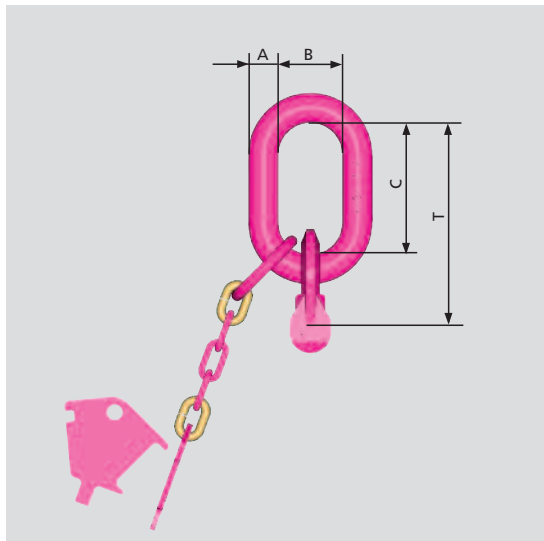
A reduction of 20 % for the choke hitch and bundling (sharp edge) is already within the calculation.

\*\*only 2 x 2 leg type available



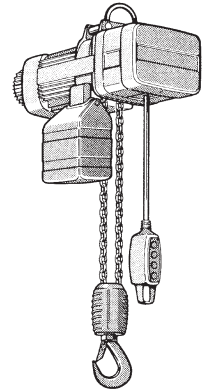
**VIP Master link for single leg VBK1**

**for smaller load hooks**



VBK 1 master link with an in all multi-directional movable welded VRG connector. Thus ensuring that the correct chain diameter and number of legs can be connected. Complete identification tag with an integrated testing gauge. Connecting bolt and tensioning sleeve are pre-assembled.

Can also be supplied as **end link (VB-1)** without VIP identification tag.

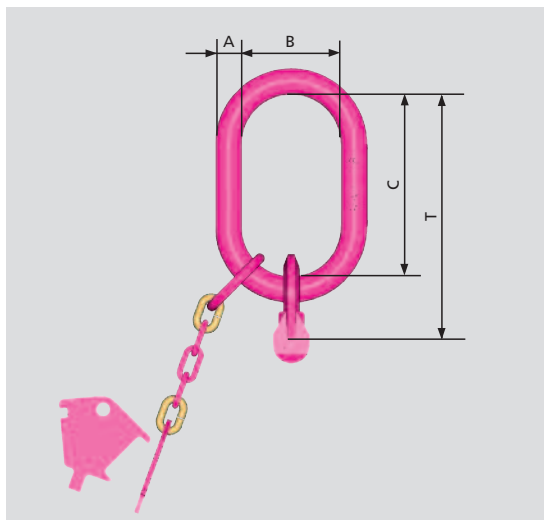


The size corresponds with that of connecting link type B according to DIN 5688. Sufficient for attachment in small load hooks on hoisting devices.

| Chain | WLL t | Type                   | A  | B          | C   | T   | kg/pc. | Ref. No.              |
|-------|-------|------------------------|----|------------|-----|-----|--------|-----------------------|
| 6     | 1.5   | VBK 1 – 6 (VB 1 – 6)   | 13 | <b>25</b>  | 54  | 82  | 0.5    | 71 00 675 (71 00 220) |
| 8     | 2.5   | VBK 1 – 8 (VB 1 – 8)   | 16 | <b>34</b>  | 70  | 107 | 0.7    | 71 00 676 (71 00 221) |
| 10    | 4     | VBK 1 – 10 (VB 1 – 10) | 18 | <b>40</b>  | 85  | 131 | 1.1    | 71 00 677 (71 00 222) |
| 13*   | 6.7   | VBK 1 – 13 (VB 1 – 13) | 22 | <b>50</b>  | 115 | 174 | 2.0    | 71 00 678 (71 00 223) |
| 16*   | 10    | VBK 1 – 16 (VB 1 – 16) | 26 | <b>65</b>  | 140 | 211 | 3.3    | 71 00 679 (71 00 224) |
| 20*   | 16    | VBK 1 – 20 (VB 1 – 20) | 32 | <b>75</b>  | 170 | 264 | 7.6    | 71 04 092 (71 04 093) |
| 22*   | 20    | VBK 1 – 22 (VB 1 – 22) | 36 | <b>110</b> | 200 | 294 | 9.0    | 71 00 680 (71 02 060) |
| 28**  | 31.5  | – (VB 1 – 28)          | 62 | <b>130</b> | 150 | 215 | 13.7   | – (79 00 641)**       |

**VIP Master link for single leg VAK 1**

**for standard crane hooks e.g. DIN 15401**



VBK 1 master link with an in all multi-directional movable welded VRG connector. Thus ensuring that the correct chain diameter and number of legs can be connected. Complete identification tag with an integrated testing gauge. Connecting bolt and tensioning sleeve are pre-assembled.

The size corresponds with that of connecting link type A according to DIN 5688.

Master link VAK1 can be used for crane hooks up to No. DIN 15401. – standard size hooks

|       |             |             |
|-------|-------------|-------------|
| Size: | 6 – No. 2.5 | 8 – No. 2.5 |
|       | 10 – No. 5  | 13 – No. 6  |
|       | 16 – No. 8  | 20 – No. 25 |
|       | 22 – No. 25 |             |

Can also be supplied as **end link (VA-1)** without identification tag.

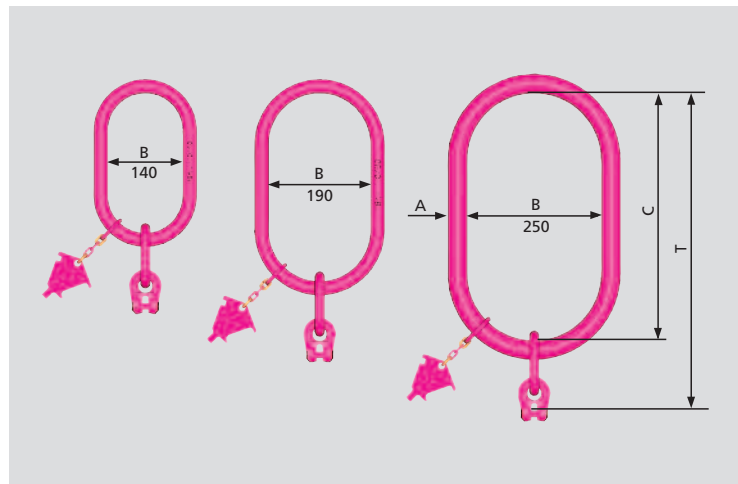
| Chain | WLL t | Type                   | A   | B          | C   | T   | kg/pc. | Ref.No.               |
|-------|-------|------------------------|-----|------------|-----|-----|--------|-----------------------|
| 6     | 1.5   | VAK 1 – 6 (VA 1 – 6)   | 13  | <b>60</b>  | 110 | 138 | 0.6    | 71 00 681 (71 00 237) |
| 8     | 2.5   | VAK 1 – 8 (VA 1 – 8)   | 16  | <b>60</b>  | 110 | 147 | 0.9    | 71 00 682 (71 00 238) |
| 10    | 4     | VAK 1 – 10 (VA 1 – 10) | 18  | <b>75</b>  | 135 | 181 | 1.4    | 71 00 683 (71 00 239) |
| 13*   | 6.7   | VAK 1 – 13 (VA 1 – 13) | 22  | <b>90</b>  | 160 | 218 | 2.4    | 71 00 684 (71 00 240) |
| 16*   | 10    | VAK 1 – 16 (VA 1 – 16) | 26  | <b>100</b> | 180 | 250 | 3.7    | 71 00 685 (71 00 241) |
| 20*   | 16    | VAK 1 – 20 (VA 1 – 20) | 40  | <b>180</b> | 340 | 434 | 14.7   | 71 04 089 (71 04 090) |
| 22*   | 20    | VAK 1 – 22 (VA 1 – 22) | 45  | <b>180</b> | 340 | 434 | 16.5   | 71 00 686 (71 02 092) |
| 28**  | 31.5  | VAK 1 – 28 –           | 100 | <b>250</b> | 280 | 360 | 64.3   | 79 00 642**           |

\*Attention: Master link size 13/16/20/22 with a special identification tag (refer to page 16).  
A testing gauge will be additionally supplied with the master link sizes 13/16/20/22  
\*\*see MAXI-pages 32/33

VSAK1 master link is supplied complete with a welded VRG connector. Therefore only the correct chain diameter and number of legs can be connected. The identification tag with an integrated testing gauge is already attached.

Connecting bolt and tensioning sleeve are pre-assembled.

Owing to a larger gradation of the inner width "B" of the VSAK, improper use (BGR 500) is almost eliminated and wear of the crane hook is minimised. Additional connective components for over size hooks are not necessary.



VSAK – size **B** = **140** for standard hooks up to. **No. 16** DIN 15401  
 VSAK – size **B** = **190** for standard hooks up to. **No. 32** DIN 15401  
 VSAK – size **B** = **250** for standard hooks up to. **No. 50** DIN 15401

| Chain | WLL t | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|-------|-----------------|----|-----|-----|-----|--------|-----------|
| 6     | 1.5   | VSAK 1 – 6/140  | 18 | 140 | 260 | 342 | 1.7    | 71 00 687 |
| 8     | 2.5   | VSAK 1 – 8/140  | 22 | 140 | 260 | 367 | 3.1    | 71 00 688 |
| 10    | 4     | VSAK 1 – 10/140 | 26 | 140 | 260 | 391 | 4.4    | 71 00 689 |
| 13*   | 6.7   | VSAK 1 – 13/140 | 32 | 140 | 260 | 433 | 7.6    | 71 00 690 |
| 16*   | 10    | VSAK 1 – 16/140 | 32 | 140 | 260 | 471 | 8.1    | 71 00 691 |

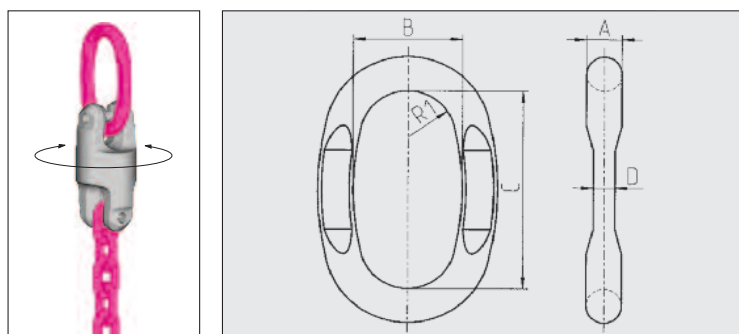
| Chain | WLL t | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|-------|-----------------|----|-----|-----|-----|--------|-----------|
| 8     | 2.5   | VSAK 1 – 8/190  | 22 | 190 | 350 | 457 | 4.0    | 71 00 692 |
| 10    | 4     | VSAK 1 – 10/190 | 26 | 190 | 350 | 481 | 6.0    | 71 00 693 |
| 13*   | 6.7   | VSAK 1 – 13/190 | 32 | 190 | 350 | 523 | 9.9    | 71 00 694 |
| 16*   | 10    | VSAK 1 – 16/190 | 36 | 190 | 350 | 560 | 13.5   | 71 00 695 |

| Chain | WLL t | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|-------|-----------------|----|-----|-----|-----|--------|-----------|
| 10    | 4     | VSAK 1 – 10/250 | 36 | 250 | 460 | 590 | 12     | 71 00 696 |
| 13*   | 6.7   | VSAK 1 – 13/250 | 36 | 250 | 460 | 634 | 13     | 71 00 697 |
| 16*   | 10    | VSAK 1 – 16/250 | 40 | 250 | 460 | 670 | 14     | 71 00 698 |
| 20*   | 16    | VSAK 1 – 20/250 | 45 | 250 | 460 | 724 | 25     | 71 04 100 |
| 22*   | 20    | VSAK 1 – 22/250 | 51 | 250 | 460 | 754 | 33     | 71 00 699 |

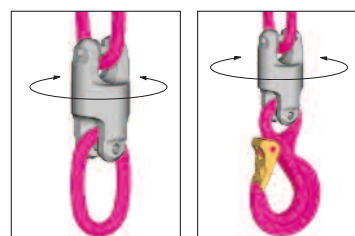
Forged Special-Link (in pink) for small load hooks, extreme lightweight construction – centre flattening respective to the corresponding chain diameter.

Fits to the Universal-Swivel-PowerPoint from page 29 or to the Lifting Point PowerPoint-B.

Additionally pay attention to the correct WLL assignment while assembling.



| Chain | WLL t | Type          | A  | B  | C   | D  | R <sub>1</sub> | kg/pc. | Ref. No.  |
|-------|-------|---------------|----|----|-----|----|----------------|--------|-----------|
| 4     | 0.63  | PP 0.63t - B  | 9  | 35 | 65  | 4  | 15             | 0.1    | 79 89 531 |
| 6     | 1.5   | PP 1.5t - B   | 11 | 35 | 65  | 6  | 15             | 0.14   | 85 02 173 |
| 8     | 2.5   | PP 2.5t - B   | 13 | 40 | 75  | 8  | 18             | 0.2    | 85 02 174 |
| 10    | 4     | PP 4t - B     | 16 | 45 | 95  | 10 | 20             | 0.32   | 85 02 175 |
| 13    | 6.7   | PP-VIP Ø 13-B | 21 | 60 | 130 | 13 | 25             | 1.02   | 85 02 176 |
| 16    | 10    | PP-VIP Ø 16-B | 24 | 65 | 140 | 16 | 28             | 1.4    | 85 02 177 |



### VIP special master link 1-leg VSAK 1

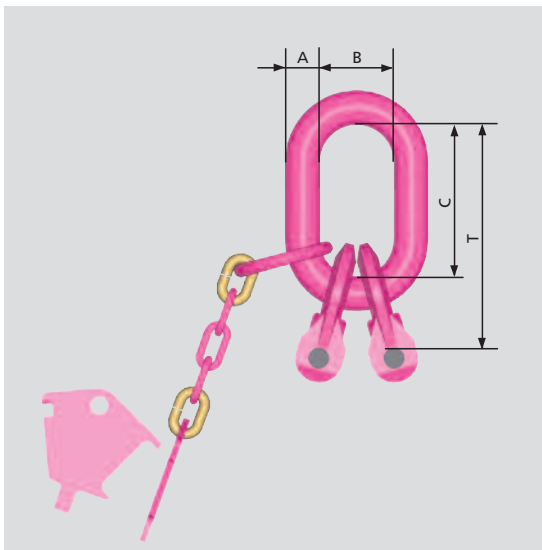
### VIP special master link 1-leg PP-X-B – lightweight construction –



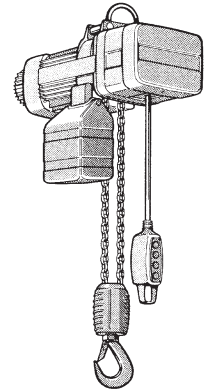


**VIP-  
Master link  
2-leg  
VBK 2**

**for smaller  
load hooks**



VBK 2 master link is supplied with two welded VRG connectors. Therefore only the correct chain diameter and number of legs can be connected. The identification tag with an integrated testing gauge is already attached. Connecting bolt and tensioning sleeve are pre-assembled.

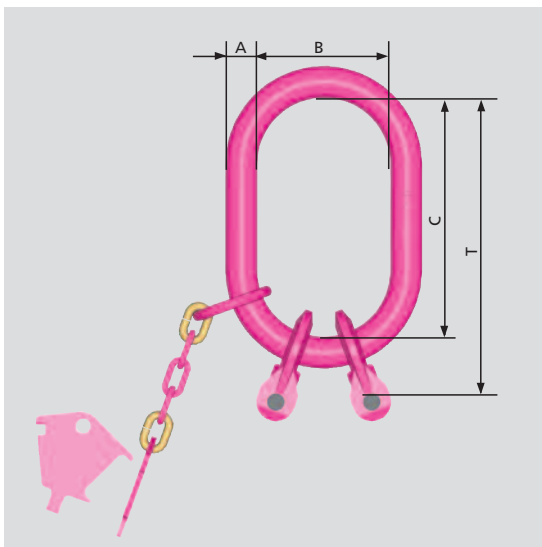


The size corresponds with that of connecting link type B according to DIN 5688. Sufficient for attachment to small load hooks on hoisting devices.

| Chain | WLL t   | Type       | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|---------|------------|----|-----|-----|-----|--------|-----------|
| 6     | 2.1/1.5 | VBK 2 – 6  | 13 | 25  | 54  | 82  | 0.5    | 71 00 700 |
| 8     | 3.5/2.5 | VBK 2 – 8  | 16 | 34  | 70  | 107 | 0.9    | 71 00 701 |
| 10    | 5.6/4.0 | VBK 2 – 10 | 18 | 40  | 85  | 131 | 1.4    | 71 00 702 |
| 13*   | 9.5/6.7 | VBK 2 – 13 | 22 | 50  | 115 | 174 | 2.7    | 71 00 703 |
| 16*   | 14/10   | VBK 2 – 16 | 26 | 65  | 140 | 211 | 4.4    | 71 00 704 |
| 20*   | 22.4/16 | VBK 2 – 20 | 32 | 75  | 170 | 264 | 11     | 71 04 097 |
| 22*   | 28/20   | VBK 2 – 22 | 36 | 110 | 200 | 294 | 13.7   | 71 00 705 |

**VIP-  
Master link  
2-leg  
VAK 2**

**for standard  
crane hooks**



VBK 2 master link is supplied with two welded VRG connectors. Therefore only the correct chain diameter and number of legs can be connected. The identification tag with an integrated testing gauge is already attached. Connecting bolt and tensioning sleeve are pre-assembled.

The size corresponds with that of connecting link type A according to DIN 5688.

Can be used for crane hooks up to No. DIN 15401. - simple hook.

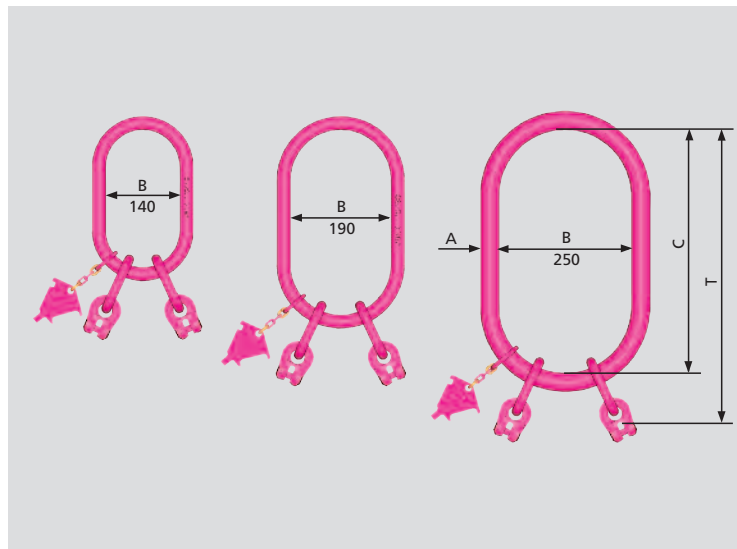
|       |             |             |
|-------|-------------|-------------|
| Size: | 6 – No. 2.5 | 8 – No. 5   |
|       | 10 – No. 6  | 13 – No. 8  |
|       | 16 – No. 10 | 20 – No. 25 |
|       | 22 – No. 25 |             |

| Chain | WLL t   | Type       | A   | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|---------|------------|-----|-----|-----|-----|--------|-----------|
| 6     | 2.1/1.5 | VAK 2 – 6  | 13  | 60  | 110 | 138 | 0.7    | 71 00 706 |
| 8     | 3.5/2.5 | VAK 2 – 8  | 18  | 75  | 135 | 172 | 1.4    | 71 00 707 |
| 10    | 5.6/4.0 | VAK 2 – 10 | 22  | 90  | 160 | 206 | 2.3    | 71 00 708 |
| 13*   | 9.5/6.7 | VAK 2 – 13 | 26  | 100 | 180 | 238 | 3.9    | 71 00 709 |
| 16*   | 14/10   | VAK 2 – 16 | 32  | 110 | 200 | 270 | 6.6    | 71 00 710 |
| 20*   | 22.4/16 | VAK 2 – 20 | 40  | 180 | 340 | 434 | 16     | 71 04 095 |
| 22*   | 28/20   | VAK 2 – 22 | 45  | 180 | 340 | 434 | 20     | 71 00 711 |
| 28**  | 45/31.5 | VAK 2 – 28 | 100 | 250 | 280 | 360 | 64.3   | 79 00 642 |

\*\*see MAXI-pages 32/33

VSAK 2 master link is supplied with two welded VRG connectors. Therefore only the correct chain diameter and number of legs can be connected. The identification tag with an integrated testing gauge is already attached.

Connecting bolt and tensioning sleeve are pre-assembled.



**VIP-**  
special  
master link  
2-leg  
VSAK 2

Owing to a larger gradation of the inner width "B" of the VSAK, improper use (BGR 500) is almost eliminated and wear of the crane hook is minimised. Additional connective components for over size hooks are not necessary.

VSAK – Size **B** = **140** for standard hooks up to **No. 16** DIN 15401  
 VSAK – Size **B** = **190** for standard hooks up to **No. 32** DIN 15401  
 VSAK – Size **B** = **250** for standard hooks up to **No. 50** DIN 15401

| Chain | WLL t   | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|---------|-----------------|----|-----|-----|-----|--------|-----------|
| 6     | 2.1/1.5 | VSAK 2 – 6/140  | 18 | 140 | 260 | 342 | 2.3    | 79 94 070 |
| 8     | 3.5/2.5 | VSAK 2 – 8/140  | 22 | 140 | 260 | 367 | 3.5    | 79 94 071 |
| 10    | 5.6/4.0 | VSAK 2 – 10/140 | 26 | 140 | 260 | 391 | 5.2    | 79 94 072 |
| 13*   | 9.5/6.7 | VSAK 2 – 13/140 | 32 | 140 | 260 | 433 | 9.2    | 79 94 073 |
| 16*   | 14/10   | VSAK 2 – 16/140 | 32 | 140 | 260 | 471 | 12.5   | 79 94 074 |

| Chain | WLL t   | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|---------|-----------------|----|-----|-----|-----|--------|-----------|
| 8     | 3.5/2.5 | VSAK 2 – 8/190  | 22 | 190 | 350 | 457 | 4.3    | 79 94 075 |
| 10    | 5.6/4.0 | VSAK 2 – 10/190 | 26 | 190 | 350 | 481 | 6.5    | 79 94 076 |
| 13*   | 9.5/6.7 | VSAK 2 – 13/190 | 32 | 190 | 350 | 523 | 10.6   | 79 94 077 |
| 16*   | 14/10   | VSAK 2 – 16/190 | 36 | 190 | 350 | 560 | 15.6   | 79 94 078 |

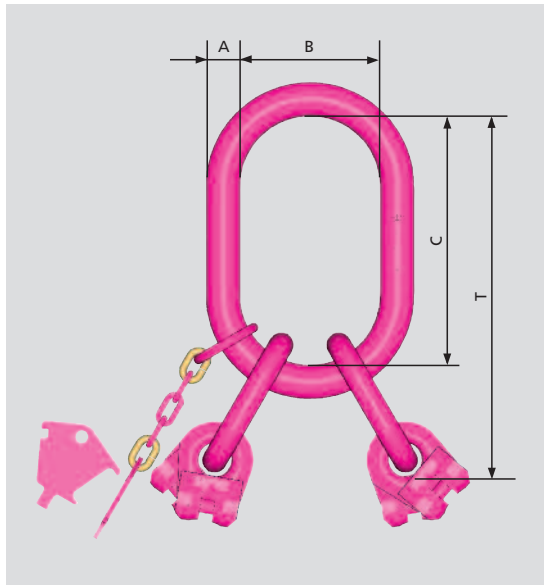
| Chain | WLL t   | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|---------|-----------------|----|-----|-----|-----|--------|-----------|
| 10    | 5.6/4.0 | VSAK 2 – 10/250 | 36 | 250 | 460 | 591 | 12.8   | 79 94 079 |
| 13*   | 9.5/6.7 | VSAK 2 – 13/250 | 36 | 250 | 460 | 634 | 14.9   | 79 94 080 |
| 16*   | 14/10   | VSAK 2 – 16/250 | 40 | 250 | 460 | 671 | 20.5   | 79 94 081 |
| 20*   | 22.4/16 | VSAK 2 – 20/250 | 45 | 250 | 460 | 724 | 32.5   | 79 94 083 |
| 22*   | 28/20   | VSAK 2 – 22/250 | 51 | 250 | 460 | 754 | 43     | 79 94 084 |

**\*Attention:** Master link size 13/16/20/22 with a special identification tag (refer to page 16).  
 A testing gauge will be additionally supplied with the master link sizes 13/16/20/22





**VIP-  
Master link  
4-leg  
VAK 4**



VAK 4 leg master link is supplied with four welded VRG connectors. Therefore only the correct chain diameter and number of legs can be connected. The identification tag with an integrated testing gauge is already attached. Connecting bolt and tensioning sleeve are pre-assembled.

The size corresponds with that of connecting link type A and B according to DIN 5688.

Can be used for crane hooks up to **No.** acc. to DIN 15401.

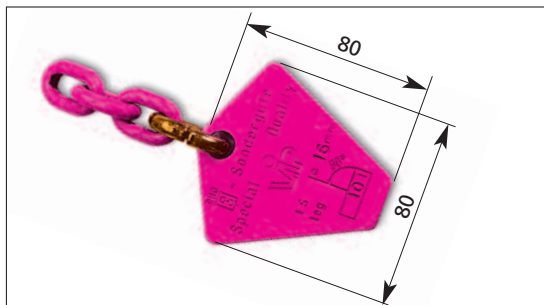
|       |             |             |
|-------|-------------|-------------|
| Size: | 6 – No. 5   | 8 – No. 6   |
|       | 10 – No. 8  | 13 – No. 10 |
|       | 16 – No. 16 | 20 – No. 32 |
|       | 22 – No. 32 |             |

| Chain | WLL t   | Type       | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|---------|------------|----|-----|-----|-----|--------|-----------|
| 6     | 3.1/2.2 | VAK 4 – 6  | 18 | 75  | 135 | 217 | 1.5    | 71 00 742 |
| 8     | 5.2/3.7 | VAK 4 – 8  | 22 | 90  | 160 | 268 | 2.8    | 71 00 743 |
| 10    | 8.4/6.0 | VAK 4 – 10 | 26 | 100 | 180 | 311 | 4.6    | 71 00 744 |
| 13*   | 14/10   | VAK 4 – 13 | 32 | 110 | 200 | 373 | 8.3    | 71 00 745 |
| 16*   | 21/15   | VAK 4 – 16 | 36 | 140 | 260 | 470 | 13.7   | 71 00 746 |
| 20*   | 33.6/24 | VAK 4 – 20 | 51 | 190 | 350 | 614 | 39     | 71 04 181 |
| 22*   | 42/30   | VAK 4 – 22 | 51 | 190 | 350 | 644 | 42     | 71 00 747 |

**\*Attention:** Master link size 13/16/20/22 with a special identification tag (refer to page 16). A testing gauge will be additionally supplied with the master link sizes 13/16/20/22

**3 leg master links VAK 3 and VSAK 3 do have the same reference numbers as 4 leg master links. No separate stock exists.**

**VIP-  
Spare parts  
VKZA**



| Diameter                        | Ref. No.  |
|---------------------------------|-----------|
| Ø 13 mm/16 mm/20 mm/22 mm/28 mm | 79 89 739 |

**VKPL**



VIP identification tag as \*chain testing gauge, for diameters 13mm/16 mm/20 mm/22 mm

| Chain | Type           | Ref. No.  |
|-------|----------------|-----------|
| 13    | VKPL-13        | 71 00 667 |
| 16    | VKPL-16        | 71 00 672 |
| 20    | VKPL-20        | 71 04 045 |
| 22    | VKPL-22        | 71 01 832 |
| 28    | MAXI-Tester-28 | 79 00 709 |

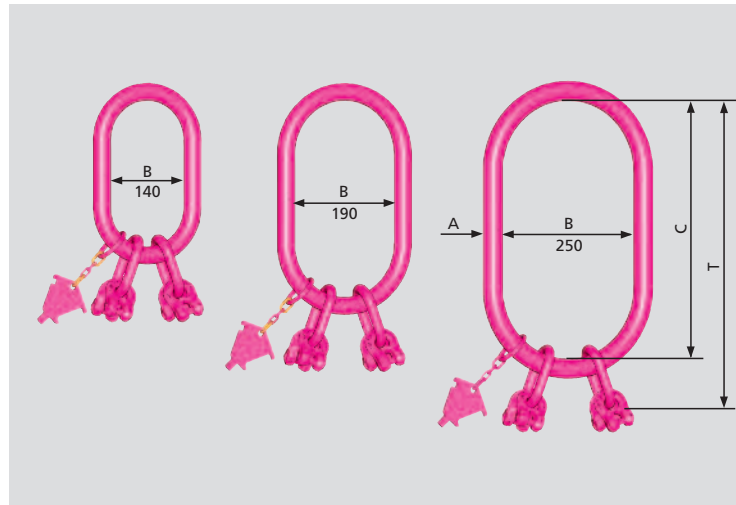
\*Comes as separate item with each Masterlink shipment of these sizes.



VSAK 4 master link is supplied with four welded VRG connectors. Therefore only the correct chain diameter and number of legs can be connected. The identification tag with an integrated testing gauge is already attached.

Connecting bolt and tensioning sleeve are pre-assembled.

For the respective crane hooks refer to page 13.



### VIP-Special master link 4-leg VSAK 4

| Chain | WLL t   | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|---------|-----------------|----|-----|-----|-----|--------|-----------|
| 6     | 3.1/2.2 | VSAK 4 – 6/140  | 22 | 140 | 260 | 342 | 3.3    | 71 00 748 |
| 8     | 5.2/3.7 | VSAK 4 – 8/140  | 26 | 140 | 260 | 367 | 5.0    | 71 00 749 |
| 10    | 8.4/6.0 | VSAK 4 – 10/140 | 32 | 140 | 260 | 391 | 7.9    | 71 00 750 |

| Chain | WLL t   | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.  |
|-------|---------|-----------------|----|-----|-----|-----|--------|-----------|
| 6     | 3.1/2.2 | VSAK 4 – 6/190  | 22 | 190 | 350 | 432 | 3.6    | 71 00 751 |
| 8     | 5.2/3.7 | VSAK 4 – 8/190  | 26 | 190 | 350 | 457 | 5.5    | 71 00 752 |
| 10    | 8.4/6.0 | VSAK 4 – 10/190 | 32 | 190 | 350 | 481 | 9.2    | 71 00 753 |
| 13*   | 14/10   | VSAK 4 – 13/190 | 36 | 190 | 350 | 523 | 13.5   | 71 00 754 |

| Chain | WLL t   | Type            | A  | B   | C   | T   | kg/pc. | Ref. No.    |
|-------|---------|-----------------|----|-----|-----|-----|--------|-------------|
| 10    | 8.4/6.0 | VSAK 4 – 10/250 | 36 | 250 | 460 | 591 | 14.8   | 71 00 755   |
| 13*   | 14/10   | VSAK 4 – 13/250 | 40 | 250 | 460 | 634 | 20.4   | 71 00 756   |
| 16*   | 21/15   | VSAK 4 – 16/250 | 51 | 250 | 460 | 671 | 34.5   | 71 00 757   |
| 20*   | 33.6/24 | VSAK 4 – 20/250 | 54 | 250 | 460 | 754 | 45.5   | **79 93 210 |
| 22*   | 42/30   | VSAK 4 – 22/250 | 56 | 250 | 460 | 763 | 53.6   | **79 93 211 |

**\*Attention:** Master link size 16/20/22 with a special identification tag (refer to page 16). A testing gauge will be additionally supplied with the master link sizes 13/16/20/22

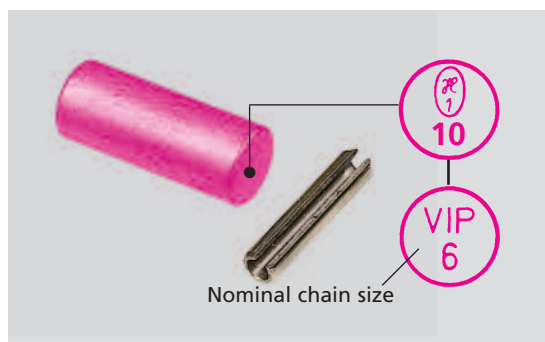
\*\*with VVS-connection



VIP identification tag with integrated testing gauge.

| Chain | Type    | Ref. No.  |
|-------|---------|-----------|
| 4     | VKZA-4  | 79 87 054 |
| 6     | VKZA-6  | 71 00 804 |
| 8     | VKZA-8  | 71 00 805 |
| 10    | VKZA-10 | 71 00 806 |
| 13    | VKZA-13 | 71 00 807 |

### VIP-spare parts VKZA



VG bolts with tensioning sleeves

| Chain | Type                   | Ref. No.         |
|-------|------------------------|------------------|
| 4     | VG-4/retaining pin 4   | 79 84 300/51 299 |
| 6     | VG-6/retaining pin 6   | 71 01 594/59 289 |
| 8     | VG-8/retaining pin 8   | 71 01 595/57 490 |
| 10    | VG-10/retaining pin 10 | 71 01 596/59 021 |
| 13    | VG-13/retaining pin 13 | 71 01 597/59 022 |
| 16    | VG-16/retaining pin 16 | 71 01 598/59 023 |
| 20    | VG-20/retaining pin 20 | 71 02 717/59 386 |
| 22    | VG-22/retaining pin 22 | 71 01 599/59 387 |
| 28    | VG-28/retaining pin 28 | 79 00 708/63416  |

### VG/SP

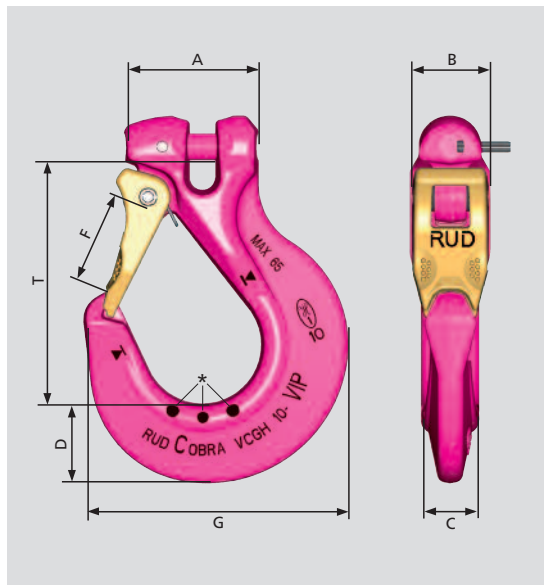
Subject to technical modifications!





### VIP-Cobra hook with safety latch VCGH

\*●●● Patented wear marks showing the statutory allowable wear hint.



Extremely robust improved version.  
**No protruding hook tip.**  
 Forged safety latch engages into the tip of the hook and is thus protected against lateral bending.  
 A triple-coiled, double-leg spring in stainless steel. Thickened tip of the hook prevents misuse.  
 Wearing edges on both sides.

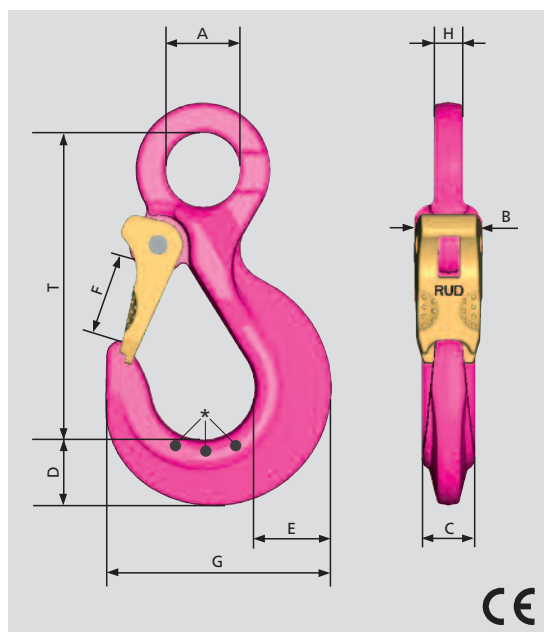
**Gauge marks** for measuring the width of the hook opening.

Fmax. = Maximum distance between the gauge marks.



| Chain | WLL t | Type    | A   | B   | C  | D  | F  | F max. | G   | T   | kg/pc. | Ref. No.  |
|-------|-------|---------|-----|-----|----|----|----|--------|-----|-----|--------|-----------|
| 6     | 1.5   | VCGH 6  | 38  | 22  | 16 | 20 | 25 | 45     | 72  | 76  | 0.4    | 71 00 498 |
| 8     | 2.5   | VCGH 8  | 50  | 28  | 20 | 28 | 30 | 52     | 95  | 97  | 0.9    | 71 00 499 |
| 10    | 4.0   | VCGH 10 | 60  | 36  | 26 | 36 | 35 | 65     | 118 | 108 | 1.5    | 71 00 500 |
| 13    | 6.7   | VCGH 13 | 76  | 46  | 30 | 37 | 40 | 73     | 135 | 126 | 2.7    | 71 00 501 |
| 16    | 10.0  | VCGH 16 | 83  | 56  | 36 | 49 | 48 | 87     | 161 | 152 | 4.3    | 71 00 502 |
| 20    | 16.0  | VCGH 20 | 112 | 68  | 50 | 69 | 63 | 114    | 218 | 195 | 10.0   | 71 03 385 |
| 22    | 20.0  | VCGH 22 | 117 | 78  | 50 | 74 | 63 | 114    | 223 | 198 | 11.5   | 71 01 603 |
| 28    | 31.5  | VCGH 28 | 150 | 101 | 69 | 88 | 90 | 155    | 295 | 275 | 26.4   | 79 00 638 |

### VIP-Cobra-eye hook with safety latch VCÖH



For special wire rope slings, VIP chain slings, PowerPoint combinations or the universal swivel (refer to page 29).

Extreme durable, compact design, with pink powder coating.

**No protruding hook tip.**

The forged, quenched and tempered safety latch, engages into the hook tip.

Therefore protected against lateral bending.

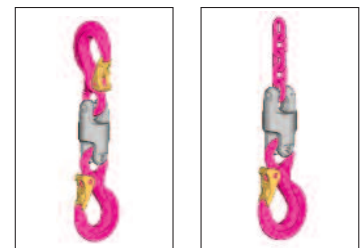
Triple coiled, stainless steel double leg spring.

Thickened hook tip to avoid improper use.

Wear edges on both sides.

**Gauge marks** for measuring the width of the hook opening.

Fmax. = Distance between the gauge marks, see VCGH data above.



| Chain | WLL t | Type    | A  | B  | C  | D  | E  | F  | G   | H  | T   | kg/pc. | Ref. No.  |
|-------|-------|---------|----|----|----|----|----|----|-----|----|-----|--------|-----------|
| 4     | 0.63  | VCÖH 4  | 18 | 18 | 12 | 13 | 14 | 18 | 52  | 8  | 75  | 0.14   | 85 02 323 |
| 6     | 1.5   | VCÖH 6  | 24 | 22 | 16 | 22 | 24 | 25 | 73  | 11 | 98  | 0.5    | 85 02 203 |
| 8     | 2.5   | VCÖH 8  | 32 | 28 | 20 | 28 | 31 | 30 | 95  | 13 | 126 | 0.8    | 85 02 142 |
| 10    | 4.0   | VCÖH 10 | 38 | 36 | 26 | 36 | 39 | 35 | 118 | 17 | 150 | 1.6    | 85 02 145 |
| 13    | 6.7   | VCÖH 13 | 48 | 45 | 30 | 37 | 48 | 40 | 135 | 21 | 170 | 2.9    | 85 02 204 |
| 16    | 10    | VCÖH 16 | 63 | 56 | 36 | 49 | 58 | 48 | 161 | 27 | 208 | 4.2    | 85 02 146 |

Considerably larger mouth width than VCGH, but without a safety latch.  
Use only where unintentional unhooking is impossible.

**Inappropriate for overhead lifting!**

When using foundry hooks, special attention must be paid and a risk assessment must be carried out before using.

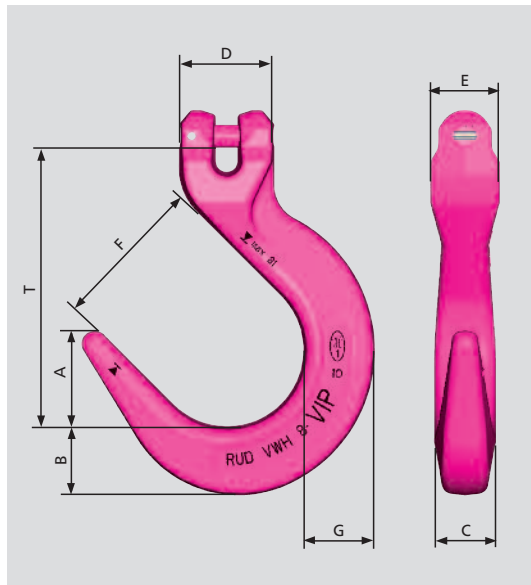
Robust cross section (size C/G) is resistant against increased lateral forces.

Specially designed wearing edges to protect the chain link, compare the dimension "E".

Connecting bolt and tensioning sleeve are pre-assembled.

**Gauge marks** for measuring the width of the hook opening.

Fmax. = Maximum distance between marked points.

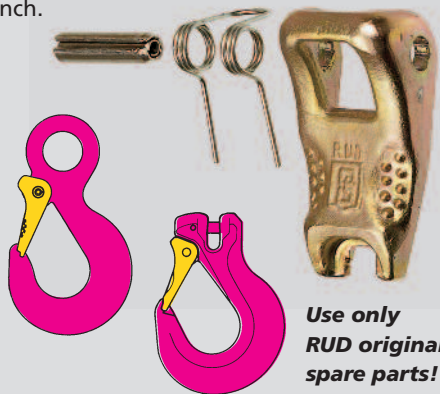


**VIP-Foundry hook VWH**

| Chain | WLL t | Type   | A  | B  | C  | D   | E  | F   | Fmax. | G  | T   | kg/pc. | Ref. No.  |
|-------|-------|--------|----|----|----|-----|----|-----|-------|----|-----|--------|-----------|
| 6     | 1.5   | VWH 6  | 30 | 22 | 18 | 30  | 22 | 50  | 63    | 22 | 87  | 0.5    | 71 00 210 |
| 8     | 2.5   | VWH 8  | 40 | 29 | 26 | 40  | 29 | 64  | 81    | 30 | 115 | 0.9    | 71 00 211 |
| 10    | 4.0   | VWH 10 | 46 | 37 | 30 | 50  | 36 | 76  | 96    | 37 | 130 | 1.7    | 71 00 212 |
| 13    | 6.7   | VWH 13 | 51 | 45 | 37 | 64  | 46 | 90  | 115   | 51 | 168 | 3.0    | 71 00 213 |
| 16    | 10.0  | VWH 16 | 64 | 56 | 40 | 75  | 56 | 100 | 129   | 58 | 190 | 5.7    | 71 00 214 |
| 20*   | 16    | VWH 20 | 96 | 80 | 73 | 102 | 80 | 136 | 183   | 80 | 277 | 15.1   | 79 98 157 |
| 22*   | 20    | VWH 22 | 96 | 80 | 73 | 102 | 80 | 136 | 183   | 80 | 277 | 15.1   | 79 98 158 |

\*weight optimized in Skeletto-Technology and patented wear marks.

Consisting of a forged safety latch, a triple coiled corrosion protected double leg spring and a tensioning sleeve.  
Can be supplied as complete set. Easy installation and removal using only hammer and drift punch.



| Chain | Type           | kg/pc. | Ref. No.  |
|-------|----------------|--------|-----------|
| 4     | Si-Set VMH-4   | 0.04   | 79 87 901 |
| 6     | Si-Set VCGH-6  | 0.04   | 71 00 299 |
| 8     | Si-Set VCGH-8  | 0.07   | 71 00 300 |
| 10    | Si-Set VCGH-10 | 0.09   | 71 00 301 |
| 13    | Si-Set VCGH-13 | 0.15   | 71 00 302 |
| 16    | Si-Set VCGH-16 | 0.24   | 71 00 303 |
| 20    | Si-Set VCGH-20 | 0.40   | 71 01 604 |
| 22    | Si-Set VCGH-22 | 0.40   | 71 01 604 |
| 28    | Si-Set VCGH-28 | 1.6    | 79 00 640 |



**Safety latch set for VCGH**

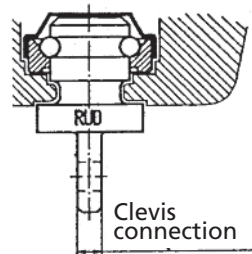
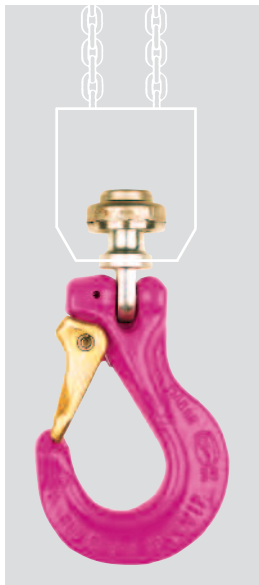
Can also be used as spare part for the RUD GSH 80 hook!

Subject to technical modifications!



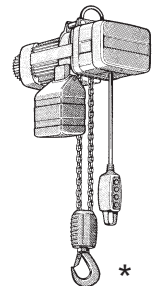


### Hoist Swivel adapter HWA



- Supplied complete with original Demag ball bearing
- Manufactured from high-tempered special steel
- tested acc. to EN 1677
- suitable for single leg snatch blocks and for double leg lower blocks
- suitable for all RUD clevis Mecano components

### for Demag hoists



#### Application examples:



### for Demag-DK-hoists

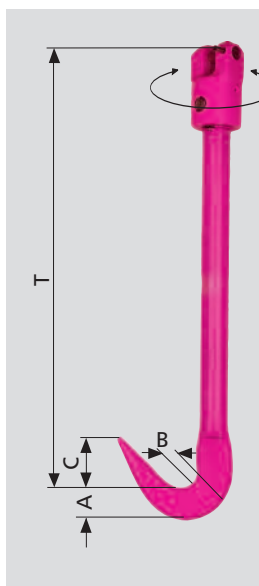
| Type                                 | WLL t | Clevis connection | kg/pc. | Ref. No. |
|--------------------------------------|-------|-------------------|--------|----------|
| HWA 6 DK 400 DC 1+2 up to 250 kg     | 0.4   | 6                 | 0.15   | 7985570  |
| HWA 6 DK 800 DC 5 up to 500 kg       | 0.8   | 6                 | 0.30   | 7985571  |
| HWA 8 DK 800 DC 5 up to 500 kg       | 0.8   | 8                 | 0.40   | 7985572  |
| HWA 8 DK 1250 DC 10+20 up to 1000 kg | 1.25  | 8                 | 0.55   | 7985573  |
| HWA 10 DK 2500 DC 20** 1000-2000 kg  | 2.5   | 10                | 0.90   | 7985574  |
| HWA 13 DK 5000                       | 5.0   | 13                | 1.3    | 7985575  |

### for Demag-PK-hoists

| Type           | WLL kg | Ref. No. |
|----------------|--------|----------|
| HWA 6 PK ( 1)  | 250    | 51 287   |
| HWA 6 PK ( 2)  | 500    | 51 288   |
| HWA 8 PK ( 2)  | 500    | 51 293   |
| HWA 8 PK ( 5)  | 1000   | 51 294   |
| HWA 10 PK (10) | 2000   | 51 295   |

\*\*only in combination with Demag DK bottom block

### VIP-Bale hook VBMH with ball-bearing swivel



The bevelling on the back of the hook simplifies the horizontal hook insertion between the bales. The clevis connection enables a direct chain connection and the integrated ball bearing swivel prevents the chain from automatically spinning.

Suitable only for the transport of bundled bale packages.

Not suitable for choke lifts!

**Inappropriate for overhead lifting!**

When using bale hooks, special attention must be paid and a risk assessment must be carried out before using.

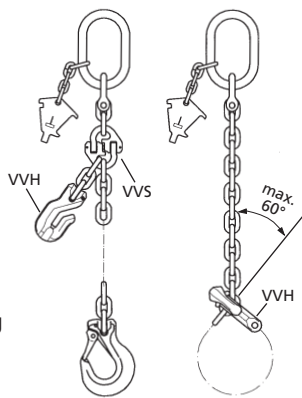
| Chain | WLL t | Type       | A  | B  | C  | T   | kg/pc. | Ref. No.  |
|-------|-------|------------|----|----|----|-----|--------|-----------|
| 8     | 2.5   | VBMHWA – 8 | 35 | 18 | 61 | 381 | 2.5    | 79 91 478 |
| 10    | 4.0   | VBMHWA –10 | 35 | 18 | 61 | 381 | 2.5    | 79 89 017 |

- Optimized weight by innovative structure design (Skeletto).
- Locking device designed ergonomically, easy to handle with anti-slip-surface – no danger of bruise.
- Wear distance ridges which protect the first chain link.
- Thickened tip of the hook – prevents incorrect an dangerous use of the hook tip.
- Marker points to check the width of the hook on inspection (often copied).
- Patented wear markings which show the replacement of the stated wear.



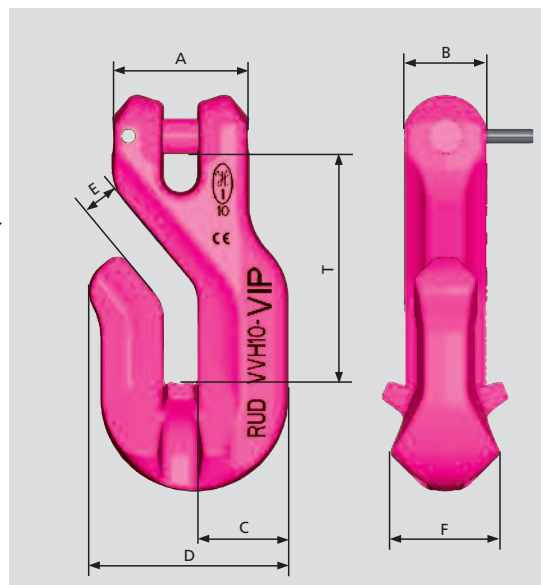
| Chain | WLL t | Type        | A  | B  | C  | D  | E   | F  | F <sub>max</sub> | T   | kg/pc. | Ref. No.  |
|-------|-------|-------------|----|----|----|----|-----|----|------------------|-----|--------|-----------|
| 8     | 2.5   | VAGH (S)-8  | 40 | 30 | 27 | 28 | 97  | 44 | 60               | 121 | 1.0    | 79 00 046 |
| 10    | 4.0   | VAGH (S)-10 | 49 | 37 | 30 | 31 | 107 | 48 | 66               | 135 | 1.5    | 79 00 047 |
| 13    | 6.7   | VAGH (S)-13 | 61 | 48 | 36 | 40 | 133 | 61 | 81               | 169 | 2.9    | 79 00 048 |

- No reduction of the VIP-WLL.
- Thickened hook tip to avoid misuse e.g; incorrect insertion of the chain.
- The calibrated tooth lugs facilitate an optimal chain positioning in the hook.
- The curved insertion opening prevents the chain from easily falling out in compliance with DIN 5692.
- Connecting bolt and tensioning sleeve are pre-assembled.



Shortening by means of VVS and VVH

Endless chain by means of VVH



| Chain | WLL t | Type   | A   | B  | C  | D   | E    | F  | T   | kg/pc. | Ref. No.  |
|-------|-------|--------|-----|----|----|-----|------|----|-----|--------|-----------|
| 6     | 1.5   | VVH 6  | 34  | 18 | 20 | 44  | 7.5  | 23 | 53  | 0.27   | 79 88 658 |
| 8     | 2.5   | VVH 8  | 38  | 22 | 25 | 54  | 9.5  | 33 | 64  | 0.35   | 79 87 319 |
| 10    | 4.0   | VVH 10 | 47  | 28 | 31 | 68  | 12   | 42 | 80  | 0.8    | 79 87 320 |
| 13    | 6.7   | VVH 13 | 60  | 36 | 40 | 87  | 15   | 47 | 103 | 2.2    | 79 87 321 |
| 16    | 10.0  | VVH 16 | 75  | 45 | 50 | 108 | 18.5 | 57 | 125 | 3.5    | 79 88 669 |
| 20    | 16.0  | VVH 20 | 92  | 58 | 63 | 138 | 24   | 76 | 162 | 8.4    | 85 03 630 |
| 22    | 20.0  | VVH 22 | 102 | 62 | 69 | 151 | 26   | 83 | 179 | 11.0   | 85 03 631 |



### VIP-Self-locking hook VAGH (S)

### VIP-shortening hook VVH



Special designed hook tip to avoid misuse.



Probable misuse!

**Attention:**  
Standard for shortening elements DIN 5692!  
All RUD shortening components do already fulfil these requirements.

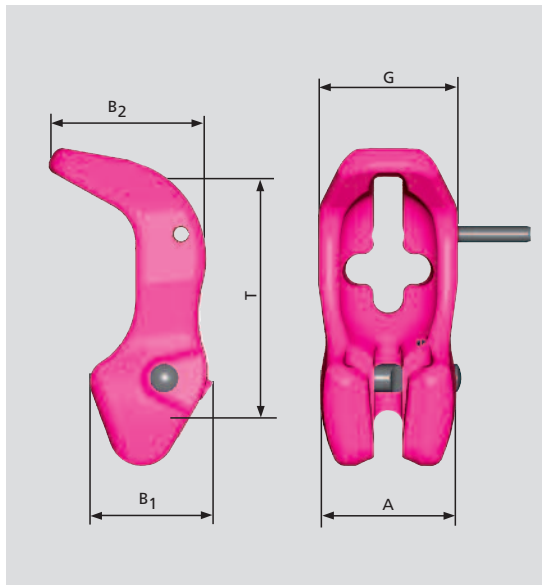




**VIP-  
Multi-  
shortening  
claw  
VMVK  
EP 0736150**

**Attention:**

Standard for shortening elements DIN 5692! All RUD shortening components do already fulfil these requirements.

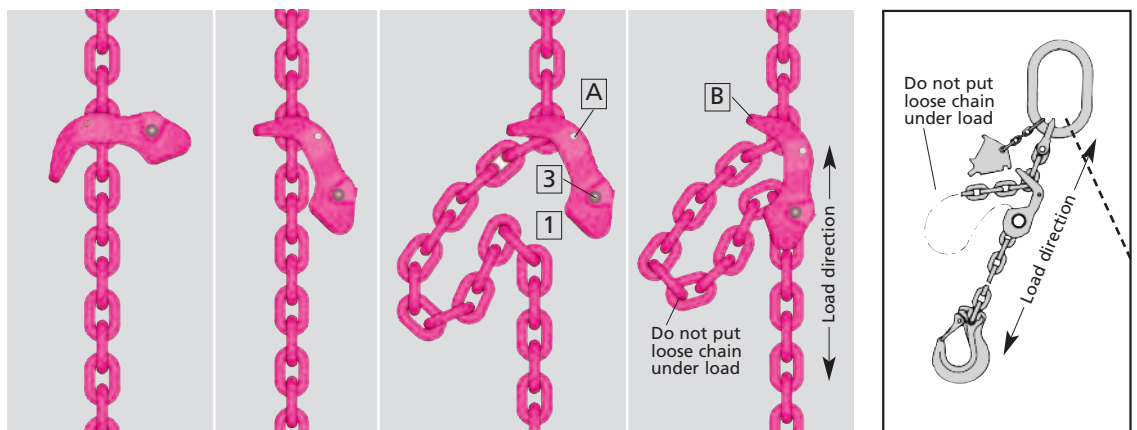


After decades of success the RUD shortening claw has been further enhanced. Fitted on a continuous chain strand at any required position. Fitted permanently on the chain leg at any required position, no additional chain coupling devices are required. It can either be mounted or easily moved to any position along the chain leg. The ideal link shaped chain pocket facilitates even wearing of the chain **thus no reduction of the WLL**. A robust safety bolt with spring prevents accidental loosening of the chain in both loaded and unloaded condition. In case of a mounted but not firmly fixed VMVK, please adhere to the instructions marked "Attention" below.

Complies with DIN 5692.

| Chain | WLL t | Type    | A  | B <sub>1</sub> | B <sub>2</sub> | T   | G  | kg/pc. | Ref. No.  |
|-------|-------|---------|----|----------------|----------------|-----|----|--------|-----------|
| 6     | 1.5   | VMVK 6  | 38 | 34             | 40             | 66  | 38 | 0.3    | 79 84 072 |
| 8     | 2.5   | VMVK 8  | 46 | 41             | 52             | 88  | 48 | 0.55   | 71 00 760 |
| 10    | 4.0   | VMVK 10 | 58 | 50             | 64             | 110 | 60 | 1.1    | 71 00 761 |
| 13    | 6.7   | VMVK 13 | 74 | 64             | 86             | 143 | 76 | 2.4    | 71 00 762 |
| 16    | 10.0  | VMVK 16 | 91 | 79             | 105            | 176 | 98 | 4.4    | 71 00 763 |

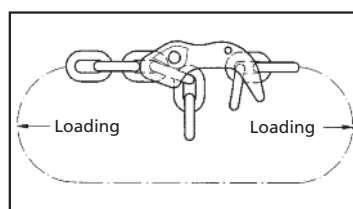
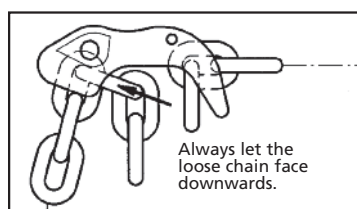
**VMVK  
Fitting and  
Handling**



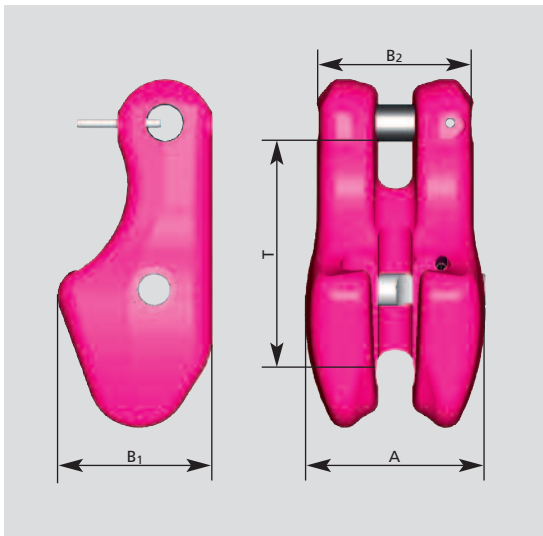
**Fitting:**  
Pull loose chain strand through the crucifix. Secure the chain in the locking pocket at the required position and drive in the retaining pin [A]. Thus the multi shortening claw is fixed in the VIP chain strand. It is preferable to fit and secure the claw on the third chain link down from the suspension link for maximum adjustment. Slide the chain into the slot and secure.

**Handling:**  
In a loosened condition, insert the required link of the to be loaded slack chain leg into the pocket support [1]. Pull down the chain leg and press the securing bolt [3]. The securing bolt locks automatically. Check the locking. To unlock reverse the above procedure while simultaneously pressing the securing bolt [3].

**Attention:**  
If the VMVK or BSEK is used without securing bolt the chain must always be completely seated in the locking slot [B]! When pulling/lifting the shortened chain assembly attention must be paid to ensure that the chain remains in the locking slot!



**User advice:**  
Easier application for example if an endless sling is being used.



For the 20, 22 and 28 mm VIP-chain, only the standard shortening claw is available in VIP quality.

- Pocket support is gentle to chain
- no reduction of WLL
- light construction

The robust safety bolt supported by a spring avoids an unintentional dismounting of the chain in unloaded as well as loaded conditions. Complies with DIN 5692.



**VIP-  
shortening  
claw  
VV-20/22/28**

**Attention:**  
Standard for shortening elements DIN 5692!  
All RUD shortening components do already fulfil these requirements.

| Chain | WLL t | Type  | A   | B <sub>1</sub> | B <sub>2</sub> | T   | G | kg/pc. | Ref. No.  |
|-------|-------|-------|-----|----------------|----------------|-----|---|--------|-----------|
| 20    | 16    | VV 20 | 117 | 101            | 102            | 140 | – | 8.8    | 79 94 856 |
| 22    | 20    | VV 22 | 117 | 101            | 102            | 140 | – | 8.5    | 79 94 855 |
| 28    | 31.5  | VV 28 | 150 | 130            | 130            | 170 | – | 16.9   | 79 00 643 |

| Assembly for Ø 20 and 22:<br>1-leg –<br>adjustable – fully captive  | 2-leg –<br>adjustable – fully captive  | 4-leg –<br>adjustable – fully captive |
|---|--|---------------------------------------|
| <p><b>Example:<br/>VAK 2-22</b></p> <p>VKZA 22-1S<br/>3-link VIP 22x66<br/>W 22</p> <p>Attention:<br/>Fit with a 1-leg VKZA-tag</p> | <p>VAK 4-22</p> <p>VKZA 22-2S<br/>W 22</p> <p>Attention:<br/>Fit with a 2-leg VKZA-tag</p> | <p>VAK 4-22</p> <p>WS 22<br/>W 22</p> |

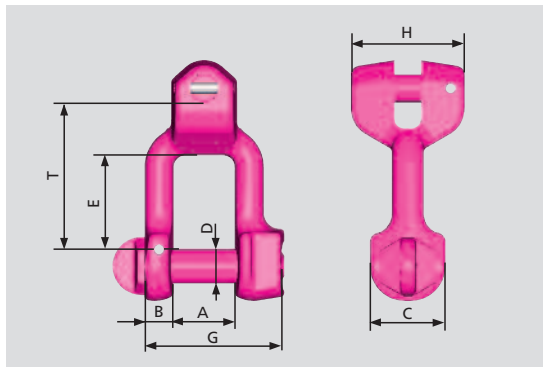


Subject to technical modifications!





**VIP-  
fool-proof  
shackle  
VV-GSCH**

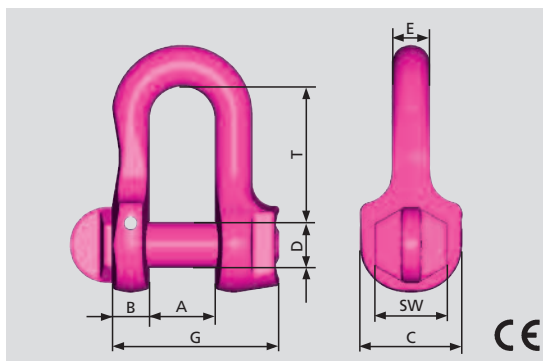


For technical description of the shackle refer to VV-SCH.

- Optimal dimensions – max. mouth width with smallest shackle bolt.
- Due to a turned clevis connection, the shackle is extremely resistant against bending.

| Chain | WLL t | Type       | A  | B  | C  | D  | E  | G   | H  | T   | kg/pc. | Ref. No.  |
|-------|-------|------------|----|----|----|----|----|-----|----|-----|--------|-----------|
| 6     | 1.5   | VV-GSCH 6  | 17 | 8  | 22 | 10 | 21 | 40  | 28 | 36  | 0.15   | 71 02 022 |
| 8     | 2.5   | VV-GSCH 8  | 21 | 10 | 26 | 12 | 32 | 48  | 39 | 48  | 0.26   | 71 02 023 |
| 10    | 4.0   | VV-GSCH 10 | 27 | 13 | 34 | 16 | 35 | 62  | 45 | 61  | 0.65   | 71 02 024 |
| 13    | 6.7   | VV-GSCH 13 | 33 | 17 | 42 | 20 | 41 | 81  | 59 | 78  | 1.35   | 71 02 025 |
| 16    | 10.0  | VV-GSCH 16 | 38 | 22 | 49 | 24 | 49 | 95  | 69 | 96  | 2.5    | 71 02 026 |
| 20    | 16.0  | VV-GSCH 20 | 47 | 27 | 60 | 30 | 57 | 119 | 88 | 108 | 3.9    | 71 04 284 |
| 22    | 20.0  | VV-GSCH 22 | 53 | 30 | 76 | 36 | 72 | 130 | 95 | 132 | 6.7    | 71 02 027 |

**VIP-  
fool-proof  
shackle  
VV-SCH**

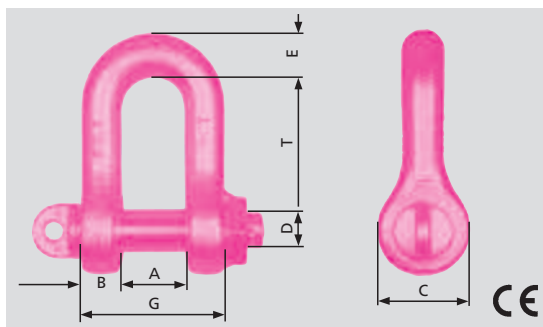


High-tensile patented version with an integrated safety thread in the shackle bracket. On both sides, smooth bolt support in the shackle. Bolt is turnable. No bending strength in the thread, it has only a securing function. Pre-assembled with tensioning sleeve. Long term securing by driving in a tensioning sleeve. Special thread, thus fool-proof compared to other shackle bolts! Surface is pink powder coated.



| Chain | WLL t | Type      | A  | B  | C  | D  | E  | G  | SW | T  | kg/pc. | Ref. No.  |
|-------|-------|-----------|----|----|----|----|----|----|----|----|--------|-----------|
| 6     | 1.5   | VV-SCH 6  | 14 | 8  | 22 | 10 | 8  | 36 | 17 | 30 | 0.1    | 71 00 607 |
| 8     | 2.5   | VV-SCH 8  | 17 | 10 | 26 | 12 | 10 | 44 | 19 | 36 | 0.2    | 71 00 608 |
| 10    | 4.0   | VV-SCH 10 | 21 | 13 | 34 | 16 | 13 | 56 | 24 | 49 | 0.4    | 71 00 609 |
| 13    | 6.7   | VV-SCH 13 | 27 | 17 | 42 | 20 | 17 | 75 | 29 | 63 | 0.8    | 71 00 610 |
| 16    | 10.0  | VV-SCH 16 | 33 | 21 | 49 | 24 | 21 | 90 | 36 | 73 | 1.5    | 71 00 611 |

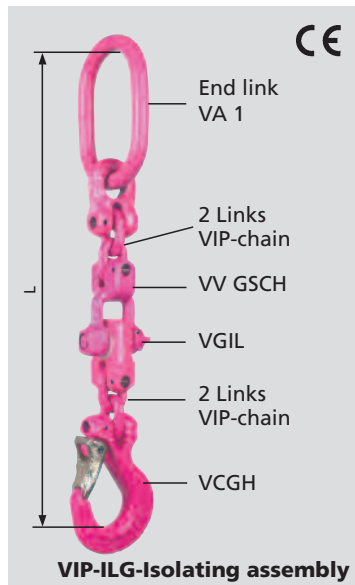
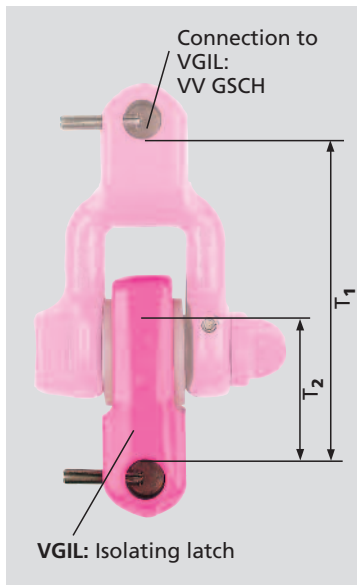
**VIP-  
Shackle  
high-tensile  
VC-SCH**



Shape acc. to DIN 82 101-C with an attached fixed nut. Securing by split-pin. Surface is pink powder coated.

| WLL t | Type       | A  | B  | C  | D  | E  | F  | G   | T   | kg/pc. | Ref. No.  |
|-------|------------|----|----|----|----|----|----|-----|-----|--------|-----------|
| 14.0  | VC-SCH 4.0 | 42 | 27 | 60 | 30 | 29 | 27 | 96  | 91  | 2.7    | 79 84 331 |
| 22.4  | VC-SCH 5.0 | 47 | 30 | 72 | 36 | 33 | 30 | 107 | 111 | 4.4    | 79 84 332 |
| 31.5  | VC-SCH 6.0 | 53 | 34 | 78 | 39 | 37 | 34 | 121 | 120 | 5.9    | 79 84 333 |





### VIP-Isolating Assembly

### VIP-Isolating latch VGIL + VV GSCH

Up to 1000 V

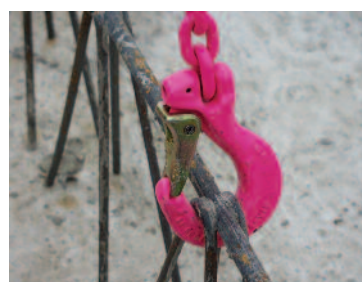


| Chain | WLL t | Type    | T <sub>1</sub> | T <sub>2</sub> | L   | Weight/kg | Ref. No. VIP-Isolat. assembly | Ref. No. VGIL |
|-------|-------|---------|----------------|----------------|-----|-----------|-------------------------------|---------------|
| 6     | 1.5   | VGIL-6  | 71             | 35             | 357 | 1.4       | 79 84 258                     | 79 84 161     |
| 8     | 2.5   | VGIL-8  | 91             | 43             | 431 | 2.4       | 79 84 259                     | 79 84 162     |
| 10    | 4.0   | VGIL-10 | 108            | 47             | 517 | 4.3       | 79 84 260                     | 79 84 163     |
| 13    | 6.7   | VGIL-13 | 132            | 54             | 632 | 8.2       | 79 84 261                     | 79 84 164     |
| 16    | 10.0  | VGIL-16 | 166            | 70             | 760 | 13.1      | 79 84 262                     | 79 84 165     |

There is a danger of current flow when welding is carried out on suspended loads. The isolating latch isolates up to max. 1,000 V by means of a special non conductive plastic bearing of the clevis shackle bolt. Max operational temperature is +80°C.



**Finally!**  
Ensures even load distribution by means of a compensating pulley with a VVGSCH-8. There is neither overload nor deformation of the concrete element.



**RUD VIP Cobra hook:**  
with a robust hook securing, small, handy and easy to hook-in in both diagonal and upper chords.

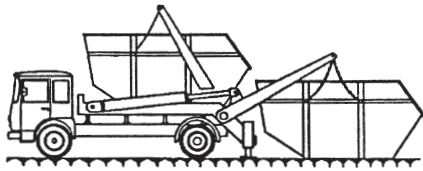


### VIP-Balancing assembly "VIP-octopus" for concrete elements

| Chain | WLL t | Type               | Ref. No. complete | Ref. No. clevis shackle with a deflection pulley |
|-------|-------|--------------------|-------------------|--|
| 8/6   | 5.25  | VIP-Krake 8 x 5000 | 79 87 582         | 79 87 366  |

Subject to technical modifications!





**VIP-Dumper truck suspension-ring VMEG**

**VIP-Dump truck-Automatic-Clevis hook VMAGH (S)**

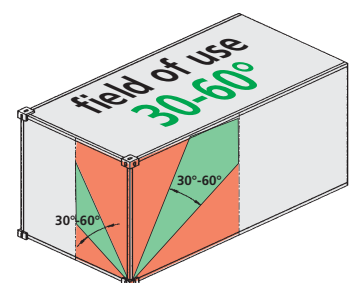
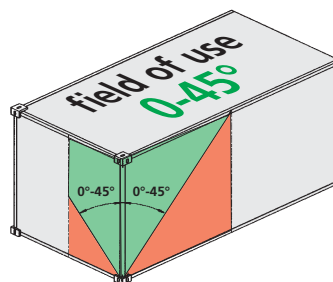
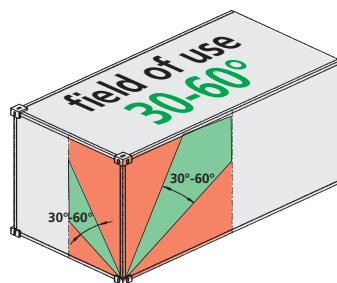
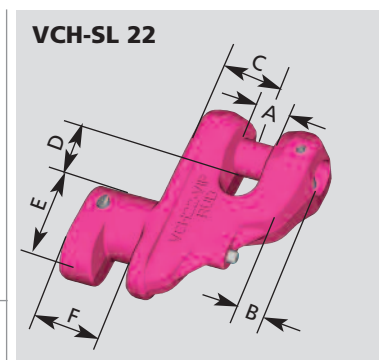
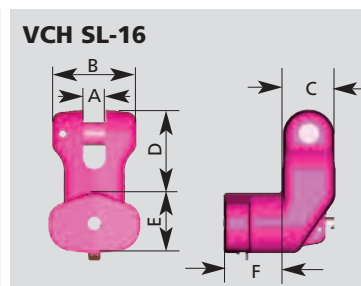
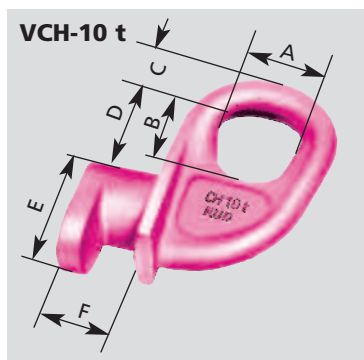


**VMEG and VMAGH(S):**

Suitable for standardized dump truck studs, quick attachment and anyway safe hold.

| Chain | Type         | WLL t | A  | B  | C   | D  | E   | F  | F <sub>max</sub> | T   | kg/pc. | Ref. No.  |
|-------|--------------|-------|----|----|-----|----|-----|----|------------------|-----|--------|-----------|
| 13    | VMEG-13      | 6.7   | 37 | 66 | 128 | 20 | 64  | 46 | -                | 149 | 2.6    | 79 02 657 |
| 13    | VMAGH (S)-13 | 6.7   | 61 | 37 | 36  | 40 | 137 | 50 | 81               | 167 | 3      | 79 02 114 |

**VIP-Container hook VCH**

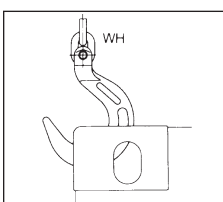
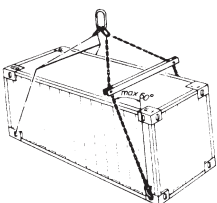


VCH - 10 t suitable for ISO container edges. Fix connection by VVS or VVGSCH. Loose component for hook mounting.

Suitable for ISO-Container edges. The container hook is equipped with a patented securing device. Therefore the hook cannot fall out of the ISO edge. Easy handling. **Inserting:** Without operating of securing device. **Taking out:** Only possible when locking pin is released. RUD VCH-SL hooks are suitable for vertical lifts and up to max. 45° inclination angle (see graphic chart). Clevis connection suits 16 mm VIP chain.

VCH - SL 22 suitable for ISO container edges. Clevis connection for the 22 mm VIP chain. VIP chain size can be reduced to 16 mm when using a VRG-16 connector.

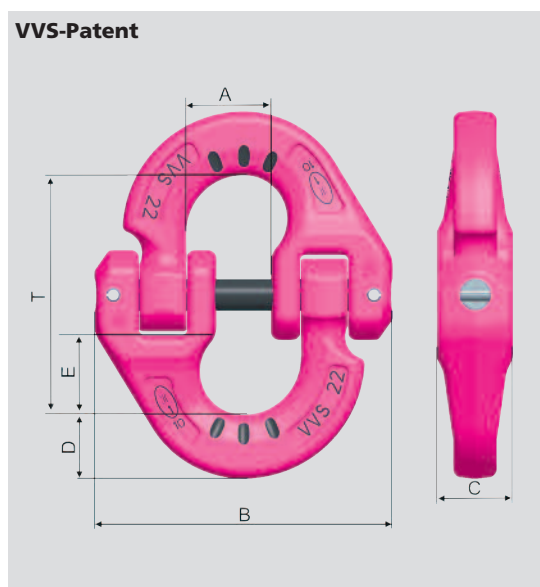
**With patented locking mechanism.**



RUD VCH hooks are not suitable for vertical lifting. When the inclination angle > 30° - accidental loosening is impossible.

| Type        | WLL t | A  | B  | C  | D  | E  | F  | kg/pc. | Ref. No.  |
|-------------|-------|----|----|----|----|----|----|--------|-----------|
| VCH - 10 t  | 10.0  | 56 | 70 | 24 | 83 | 76 | 45 | 3      | 51 005    |
| VCH - SL 16 | 10.0  | 18 | 71 | 42 | 40 | 50 | 47 | 2.5    | 85 03 115 |
| VCH - SL 22 | 20.0  | 24 | 62 | 48 | 45 | 76 | 45 | 4.2    | 85 02 313 |

- The all-purpose robust connecting link
- Lifting points, shackles and plate clamps can be attached into the halves of the connecting link.
- Form and kinking free function are patent pending
- No kinking of pre-assembled chain possible.
- The halves are exchangeable between each other.
- No movement of securing pin and therefore no damage of the common securing springs or -sleeves.
- Patented wear markings



**VIP-Connecting link VVS-Patent**

**World champion in load capacity!**

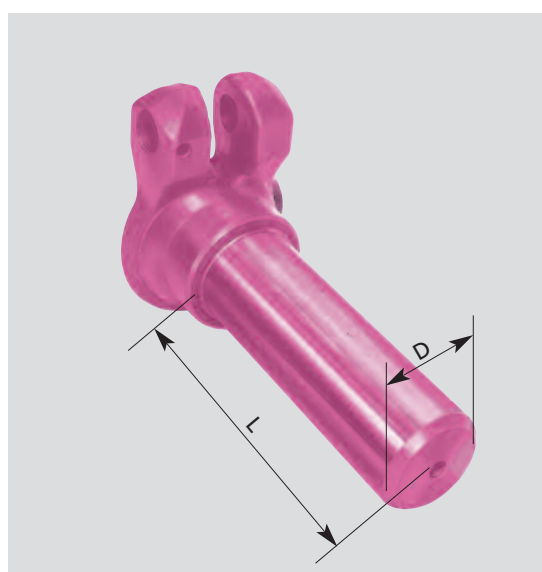
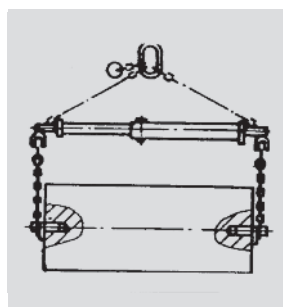
| Type   | WLL t | A [mm] | B [mm] | C [mm] | D [mm] | E [mm] | T [mm] | Weight kg/pc. | Ref. No.  |
|--------|-------|--------|--------|--------|--------|--------|--------|---------------|-----------|
| VVS 6  | 1.5   | 18     | 55     | 13     | 11     | 17     | 46     | 0.12          | 79 01 438 |
| VVS 8  | 2.5   | 24     | 70     | 18     | 14     | 23     | 61     | 0.29          | 79 01 439 |
| VVS 10 | 4.0   | 28     | 88     | 22     | 17     | 27     | 74     | 0.57          | 79 01 440 |
| VVS 13 | 6.7   | 34     | 111    | 28     | 23     | 33     | 93     | 1.2           | 79 01 441 |
| VVS 16 | 10.0  | 39     | 130    | 33     | 27     | 37     | 108    | 2.0           | 79 01 442 |
| VVS 20 | 16.0  | 42     | 154    | 41     | 34     | 41     | 124    | 3.7           | 79 01 443 |
| VVS 22 | 20.0  | 48     | 172    | 44     | 37     | 46     | 138    | 4.8           | 79 01 444 |
| VVS 28 | 31.5  | 69     | 228    | 58     | 47     | 67     | 189    | 10.6          | 79 01 445 |

VERG to be used as a plug-in bolt for transportation of tools and other similar lifting purposes when bores are the only specified lifting points available.

Minimum diameter D, refer to the table, minimum bolt length L is 2 x D. Maximum diameter D = 48 mm. Bore diameter = D + 1 mm. We recommend that for vertical lifting purposes, the VERG should be used with a spreader bar or a cross beam.

**Attention:**

In the event of any lifting procedure, attachment should always be at the collar. The plug-in connectors are non stock items and their production is subject to customer requirement. Thus bear in mind the respective delivery periods.



**VIP-Plug-in connector VERG**

| Chain | WLL t | Type      | D <sub>min</sub> | D* | L* | A <sub>min.</sub> | T  |
|-------|-------|-----------|------------------|----|----|-------------------|----|
| 6     | 1.5   | VERG - 6  | 17               |    |    | 11                | 20 |
| 8     | 2.5   | VERG - 8  | 22               |    |    | 15                | 26 |
| 10    | 4.0   | VERG - 10 | 28               |    |    | 18                | 33 |
| 13    | 6.7   | VERG - 13 | 36               |    |    | 24                | 42 |
| 16    | 10.0  | VERG - 16 | 45               |    |    | 29                | 54 |

Indicate sizes L and D when ordering!

Subject to technical modifications!





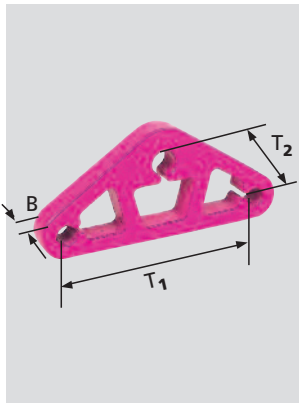
### VIP-Balancer VW

$\alpha \beta$  0-45°

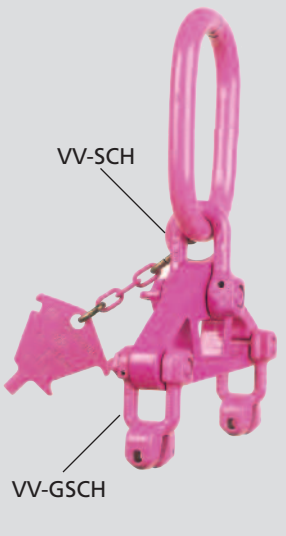
| Chain | WLL t | Type  | T <sub>1</sub> | T <sub>2</sub> | B  | Weight/kg | Ref. No.  |
|-------|-------|-------|----------------|----------------|----|-----------|-----------|
| 6     | 2.1   | VW-6  | 110            | 42             | 15 | 0.4       | 79 83 128 |
| 8     | 3.5   | VW-8  | 150            | 56             | 20 | 1.0       | 79 83 129 |
| 10    | 5.6   | VW-10 | 180            | 70             | 25 | 2.2       | 79 83 130 |
| 13    | 9.5   | VW-13 | 240            | 97             | 30 | 4.1       | 79 82 669 |
| 16    | 14.0  | VW-16 | 300            | 120            | 35 | 8.1       | 79 83 131 |
| 20    | 22.4  | VW-20 | 300            | 123            | 45 | 12.4      | 79 83 135 |
| 22    | 28.0  | VW-22 | 350            | 138            | 50 | 17.1      | 79 83 142 |

**Attention:** Balancing position or inclined position of balancer max. 10°.

| Balancer | connection at top | connection at bottom  |
|----------|-------------------|---|
| VW-6     | VV-SCH 8          | VV-GSCH 6   |
| VW-8     | VV-SCH 10         | VV-GSCH 8   |
| VW-10    | VV-SCH 13         | VV-GSCH 10  |
| VW-13    | VV-SCH 16         | VV-GSCH 13  |
| VW-16    | VC-SCH 4.0        | VV-GSCH 16  |
| VW-20    | VC-SCH 5.0        | VV-GSCH 20  |
| VW-22    | VC-SCH 6.0        | VV-GSCH 22/ <small>when shortened VC-SCH 6 + VVS-22</small> |



VWK-2S



### VIP Balancing head complete 2 leg VVK 2S

**\* Increased WLL.** When using **two slings** whereby one is equipped with a **balancer** and both master links are in the crane hook, the calculations for the capacity can be based on four bearing legs; provided the load is **symmetrical** and the inclination angle is max. 45° to the vertical (BGR 500).

| Chain | WLL t | L <sub>1</sub> | L <sub>2</sub> | A-link     | Weight/kg | Ref. No.  | *0-45°              |
|-------|-------|----------------|----------------|------------|-----------|-----------|---------------------|
|       |       |                |                |            |           |           | WLL 4 leg = 2x2 leg |
| 6     | 4.2   | 224            | 138            | 13x60x110  | 1.5       | 79 84 334 |                     |
| 8     | 7.0   | 288            | 172            | 18x75x135  | 2.8       | 79 84 335 |                     |
| 10    | 11.2  | 354            | 206            | 22x90x160  | 6.8       | 79 84 336 |                     |
| 13    | 19.0  | 428            | 238            | 26x100x180 | 10.7      | 79 84 337 |                     |
| 16    | 28.0  | 507            | 270            | 32x110x200 | 20.2      | 79 84 338 |                     |
| 20    | 45.0  | 682            | 434            | 40x180x340 | 35.3      | 79 84 339 |                     |
| 22    | 56.0  | 726            | 434            | 45x180x340 | 50        | 79 84 340 |                     |

VWK-2S consisting of: 1 x VIP A-link, 1 x VIP shackle, 1 x VIP balancer, 2 x VIP fork shackle. Separately specify and order the VIP 2-leg assemblies and chains.

**User advice:**

Ideal in combination with a VIP Multi-shortening claw in every chain leg.

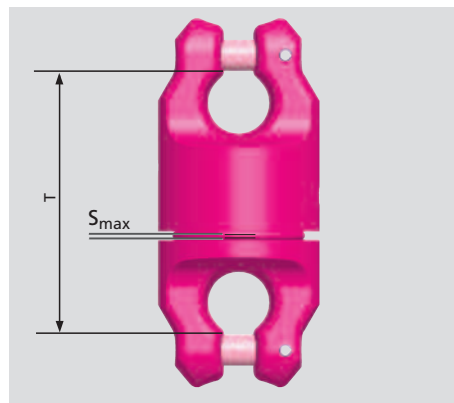


4 leg assembly VIP 10 mm  
WLL  
0-45° = **8.400 kg**

4 leg assembly VIP 10 mm  
consisting of 2 x 2 leg  
with 1 x balancer =  
4 bearing legs  
WLL  
0-45° = **11.200 kg**



Subject to technical modifications!



**VIP-  
Universal  
Swivel  
-PP-UW-  
Patent**

**The following applies to both versions:**

The BGR stipulates that twisted slings are not to be loaded. This requirement is automatically achieved by the ball bearing swivel - swivelling under load.

**Not designed for continuous use.**

**Special universal swivel PowerPoint:**

A patented clevis connection design hence a universal connection which is loadable from any direction and facilitates the shortest combination possibilities.

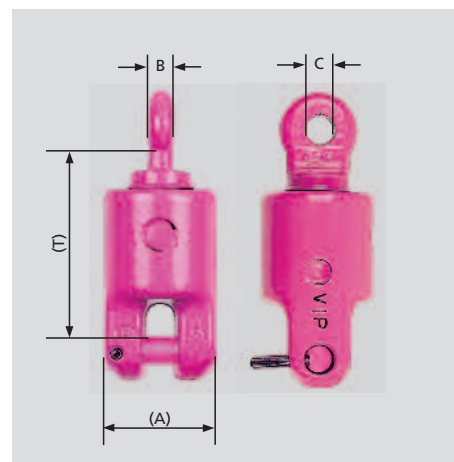
Only RUD-approved VIP chains and components must be used.

1. VIP Cobra-Eye Hook VCÖH, see page 18
2. B-Link for PowerPoint PP-(WLL)-B, see page 13

**Note:** VIP chain connection is designed fool proof. When assembling component 1 and 2, please pay attention to the correct Working Load Limits.

**Special VWA:**

Due to the adapter bar, it can be fool-proof connected to all VIP clevis components. The sealed body makes it more resistant to dirt. Do not bend the appliance! The installation of the adapter should be done in such a way that no bending occurs during use. Supply is subject to stock availability. This type will soon be replaced.



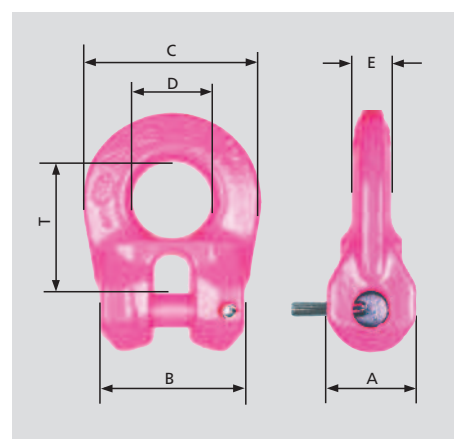
**VIP-  
Swivel  
connector  
VWA**

| Chain | WLL t | Type     | A   | B    | C  | T   | S <sub>max</sub> | kg/pc. | Ref. No.  |
|-------|-------|----------|-----|------|----|-----|------------------|--------|-----------|
| 4     | 0.63  | UW-PP-4  | 32  | 4.8  | 13 | 56  | 4.5              | 0.20   | 79 90 878 |
| 6     | 1.5   | UW-PP-6  | 38  | 7.0  | 16 | 68  | 4.5              | 0.42   | 79 90 879 |
| 8     | 2.5   | UW-PP-8  | 52  | 9.1  | 20 | 88  | 6.0              | 1.0    | 79 90 880 |
| 10    | 4.0   | UW-PP-10 | 66  | 11.0 | 26 | 106 | 6.0              | 1.9    | 79 90 881 |
| 13    | 6.7   | UW-PP-13 | 80  | 14.4 | 30 | 131 | 6.5              | 3.6    | 79 90 882 |
| 16    | 10.0  | UW-PP-16 | 86  | 17.6 | 37 | 141 | 8.0              | 4.9    | 79 92 861 |
| 20    | 16.0  | VWA-20   | 100 | 21   | 25 | 147 | -                | 6.7    | 79 90 723 |
| 22    | 20.0  | VWA-22   | 102 | 23   | 28 | 147 | -                | 6.8    | 71 00 634 |

A single component for extrinsic connections to clevises, flanges etc.

Complete with a pre-assembled connecting bolt and tensioning sleeve.

| Chain | WLL t | Type   | A  | B   | C   | D  | E  | T  | kg/pc. | Ref. No.  |
|-------|-------|--------|----|-----|-----|----|----|----|--------|-----------|
| 6     | 1.5   | VRG 6  | 17 | 30  | 37  | 16 | 8  | 28 | 0.07   | 71 00 469 |
| 8     | 2.5   | VRG 8  | 23 | 40  | 50  | 22 | 10 | 37 | 0.2    | 71 00 470 |
| 10    | 4.0   | VRG 10 | 28 | 50  | 60  | 26 | 13 | 46 | 0.3    | 71 00 471 |
| 13    | 6.7   | VRG 13 | 36 | 64  | 75  | 32 | 17 | 58 | 0.7    | 71 00 472 |
| 16    | 10.0  | VRG 16 | 45 | 75  | 92  | 40 | 20 | 74 | 1.1    | 71 00 473 |
| 20    | 16.0  | VRG 20 | 58 | 92  | 118 | 52 | 28 | 94 | 3.1    | 71 03 384 |
| 22    | 20.0  | VRG 22 | 62 | 102 | 124 | 52 | 32 | 94 | 3.5    | 71 01 611 |



**VIP-  
Connector  
VRG**

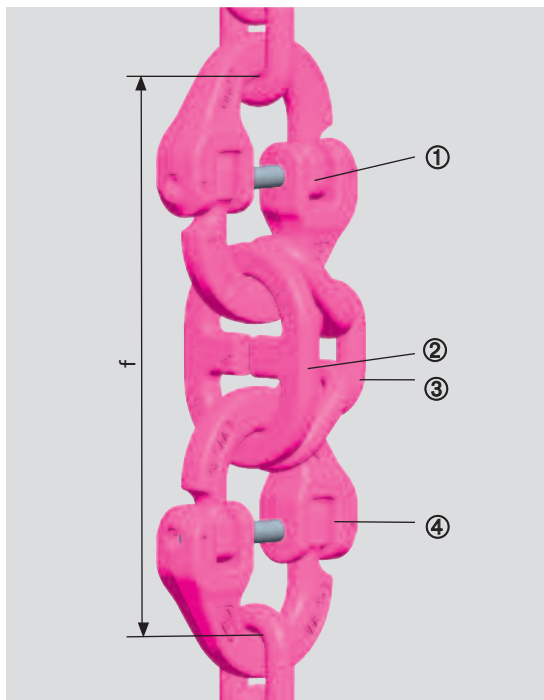
Subject to technical modifications!





**VIP-  
Overload  
indicator  
complete  
VCG**

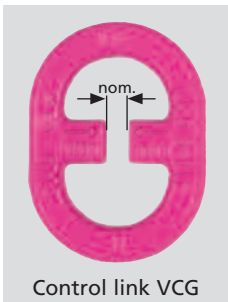
**Unique  
RUD  
product!**



## The safety sensation

**Immediate visual indication of overload** - due to the specially calibrated RUD control link VCG. Although stationary fitted it can easily be replaced by means of the **Combi-lock VVS** consisting of:

- ① **Combi-lock VVS-U** (see page 27) Easy hammer mounting (fool-proof chain connection)
- ② **Control link VCG** With indicator bars and a calibrated slot width (nominal... mm)
- ③ **VIP chain, 3 links** (see page 8) Additional securing element besides the control link in side connection
- ④ **Combi-lock VVS** (see page 27) Easy assembly (fool-proof chain connection)



Control link VCG

### Control link VCG

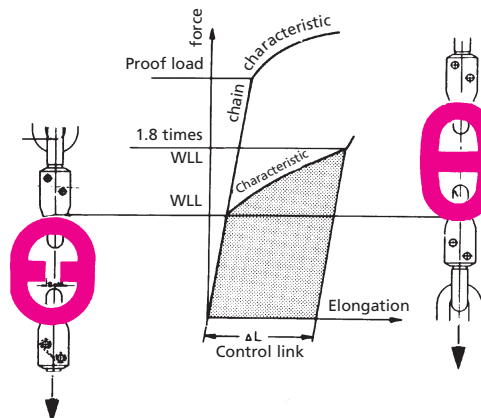
| Type     | WLL<br>t | Initial size<br>nom. (mm) | Weight<br>kg | Ref.<br>No. |
|----------|----------|---------------------------|--------------|-------------|
| VCG - 6  | 1.5      | 4                         | 0.06         | 79 87 623   |
| VCG - 8  | 2.5      | 6                         | 0.10         | 79 87 046   |
| VCG - 10 | 4        | 7                         | 0.20         | 79 87 626   |
| VCG - 13 | 6.7      | 10                        | 0.40         | 79 88 245   |
| VCG - 16 | 10       | 11                        | 0.70         | 79 89 743   |
| VCG - 20 | 16       | 12                        | 1.10         | 79 92 549   |
| VCG - 22 | 20       | 16                        | 1.90         | 79 92 551   |

### Overload indicator VCG (complete)

| Nom. size<br>chain mm | WLL<br>t | single<br>parts | build.<br>length (mm) | Weight<br>kg |
|-----------------------|----------|-----------------|-----------------------|--------------|
| 6                     | 1.5      |                 | 115                   | 0.3          |
| 8                     | 2.5      | VVS             | 151                   | 0.5          |
| 10                    | 4        | VCG             | 198                   | 1.2          |
| 13                    | 6.7      | 3 links         | 232                   | 2.1          |
| 16                    | 10       | Chain           | 291                   | 4.5          |
| 20                    | 16       | VVS             | 345                   | 8.8          |
| 22                    | 20       |                 | 382                   | 12.1         |

## Hints for use

**Immediate visual indication of overload** – due to the specially calibrated RUD control link VCG.



**Do not exceed permissible WLL!**  
The calibrated slot width corresponds with the indicated nominal size.

**Chain strand overloaded!**  
Clearly visible through the indicator. **Slot width will decrease** with increasing overload. The closing of the indicator implies that the WLL has been exceeded by 80 % to 100 %!

If the two indicator bars are not closed after overload (slot width > 0.5 mm), the user may install a new control link. Should the overload repeatedly occur, a bigger chain size has to be used. If the bars are closed or even bent up, the chain has to be removed from operation and be examined (as per BGR 500).

# A WORLD SPECIALTY-

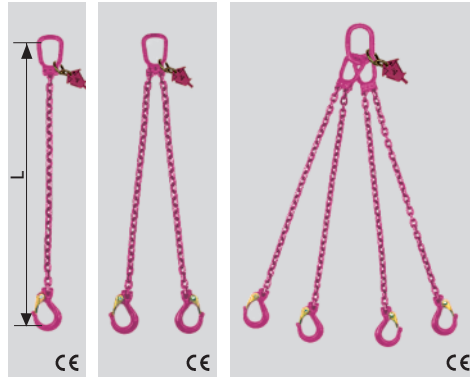
the one and only Mini mecano system 4 mm!



## Mecano "in miniature" for small loads up to 1320 kg!



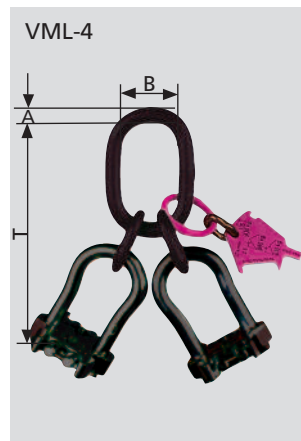
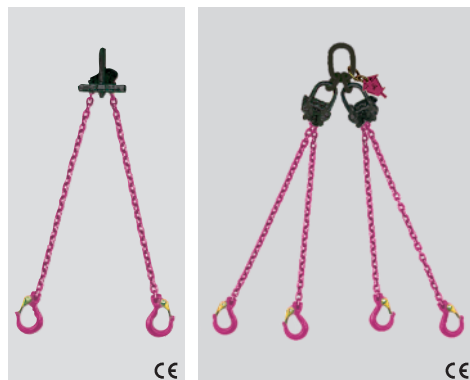
VIP chain assembly, fixed length



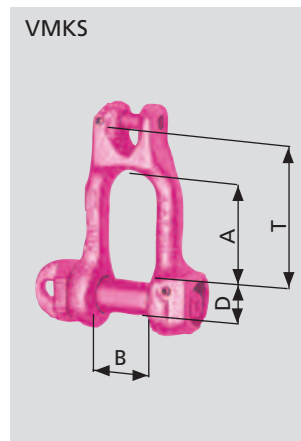
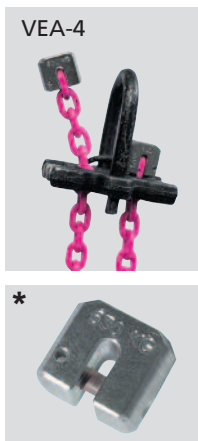
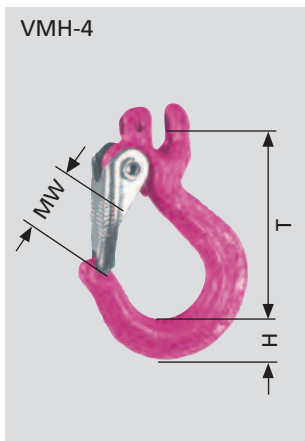
| Chain | WLL t | Type        | A  | B  | T   | Weight/kg | Ref. No.  |
|-------|-------|-------------|----|----|-----|-----------|-----------|
| 4     | 0.63  | VAK 1/2 - 4 | 9  | 30 | 55  | 0.1       | 79 84 445 |
| 4     | 1.32  | VAK 3/4 - 4 | 10 | 35 | 106 | 0.3       | 79 84 447 |



VIP chain assembly, can be shortened



| Chain | WLL t     | Type      | A  | B  | T   | Weight/kg | Ref. No.  |
|-------|-----------|-----------|----|----|-----|-----------|-----------|
| 4     | 0.63/0.88 | VML 2 - 4 | 10 | 30 | 66  | 0.26      | 79 84 478 |
| 4     | 1.32/0.95 | VML 4 - 4 | 10 | 35 | 150 | 0.85      | 79 84 479 |



| Chain | WLL t | Type     | MW | A  | B  | T  | D  | H  | Weight/kg | Ref. No.  |
|-------|-------|----------|----|----|----|----|----|----|-----------|-----------|
| 4     | 0.63  | VMH - 4  | 18 | -  | -  | 56 | -  | 13 | 0.12      | 79 84 439 |
| 4     | 0.63  | VMKS - 4 | -  | 30 | 14 | 42 | 10 | -  | 0.12      | 79 85 243 |
| 4     | 0.63  | VEA - 4  | -  | -  | -  | -  | -  | -  | 0.05      | 79 90 215 |



VIP-  
Master link  
VAK 1/2

VIP-  
Master link  
VAK 3/4

VIP-  
Mini-lifter  
VML-2  
- complete  
with  
shorteners -  
»patent«

VIP-  
Mini-lifter  
VML-4

VIP-  
Mini-hook  
VMH-4

\*VIP-  
End link  
VEA-4!

VIP-  
Mini-  
coupling  
shackle  
VMKS

Subject to technical modifications!



# The Heavy Duty Solution



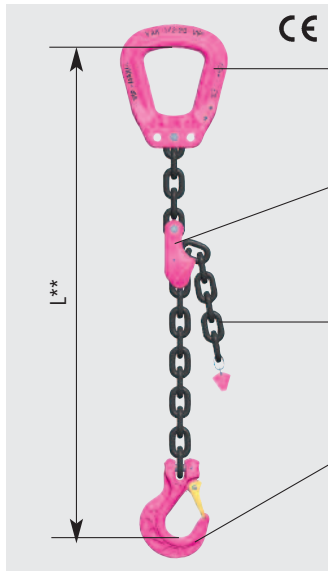
- For the safe lift of heavy loads
- Adjustable, edge wear resistant
- Divisible, but lockable chain sling

Chain 28 x 84 Grade 100  
For loads up to 126 t

## >MAXI<

PATENTED  
ICE-STEEL

Chain length can be  
easily adjusted manually



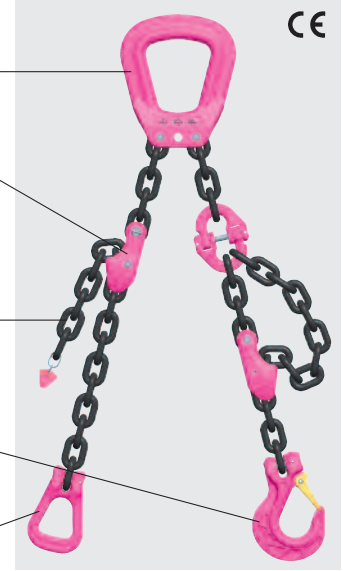
VIP >MAXI< VAK 1/2-28, for 1 and 2 legs with integrated chain connection for crane hooks up to size No. 50, with embossed WLL statement in the master link.

VIP >MAXI< Shortening Claw VV-28 with chain conserving pocket support and spring supported safety pin, no unintended releasing of the chain.

VIP >MAXI< Round Steel Chain 28 x 84, Grade 100 manufactured from patented ICE-steel and suitable in low temperature applications  $-60^{\circ}\text{C} > 56$  joule, 30 % higher surface hardness than Grade 80, replaces Grade 80 chain diameter 32. Surface CRUD-dsl or pink powder coated.

VIP >MAXI< VCGH-28, approved Cobra-Clevis Hook in light weight design.

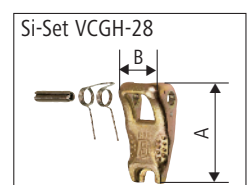
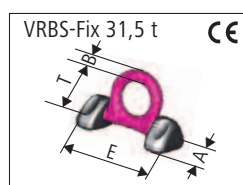
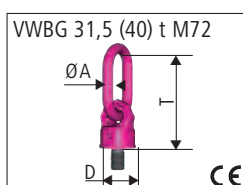
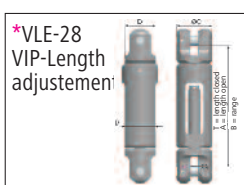
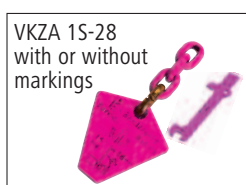
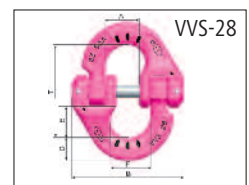
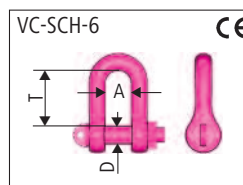
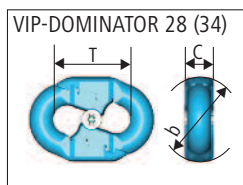
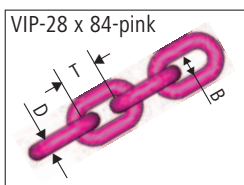
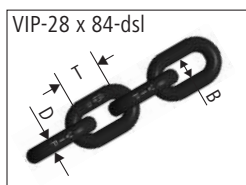
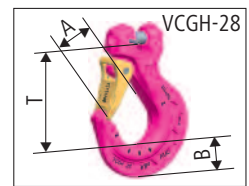
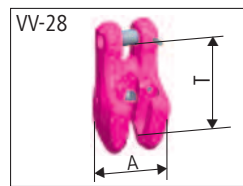
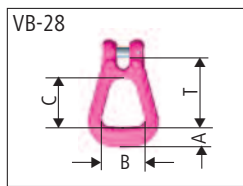
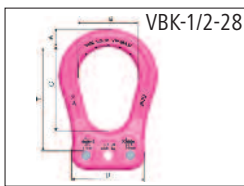
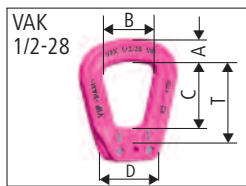
VIP >MAXI< Endlink VB-28, e.g. for shackle connection VC-SCH-6.



VIP >MAXI< G1-V1-VCGH-28 x L

\*\*L = max. length - Last chain link inserted into the chain pocket of the VV-28.

VIP >MAXI< G2-V2-VCGH/VB-28 x L



For details see VIP-MAXI flyer.

| Chain                              | Type                  | WLL t      | A   | B    | C   | D   | E   | T   | Weight kg | Ref. No. |         |
|------------------------------------|-----------------------|------------|-----|------|-----|-----|-----|-----|-----------|----------|---------|
| VIP >MAXI<<br>ICE-STEEL<br>28 x 84 | VAK-1/2-28            | 31.5/45/63 | 100 | 250  | 280 | 208 | -   | 360 | 64.3      | 7900642  |         |
|                                    | VBK-1/2-28 (round)    | 31.5/45/63 | 60  | 190  | 265 | -   | -   | 322 | 35        | 8504022  |         |
|                                    | VB-28                 | 31.5       | 62  | 130  | 150 | -   | -   | 209 | 13.7      | 7900641  |         |
|                                    | VV-28                 | 31.5       | 150 | -    | -   | -   | -   | 170 | 16.9      | 7900643  |         |
|                                    | VCGH-28               | 31.5       | 90  | 88   | -   | -   | -   | 275 | 26.4      | 7900638  |         |
|                                    | VIP-28 x 84-dsl       | 31.5       | -   | 36.4 | -   | 28  | -   | 84  | 18.6/m    | 7900671  |         |
|                                    | VIP-28 x 84-pink      | 31.5       | -   | 36.4 | -   | 28  | -   | 84  | 18.6/m    | 7900670  |         |
|                                    | VIP-Dominator 28 (34) | 31.5       | -   | 119  | 40  | -   | -   | 126 | 4.1       | 58917    |         |
|                                    | VC-SCH-6              | 31.5       | 53  | -    | -   | 39  | -   | 120 | 5.9       | 7984333  |         |
|                                    | VVS-28                | 31.5       | 69  | 228  | -   | 47  | 67  | 189 | 10.6      | 7901445  |         |
|                                    | VKZA-15-28            | -          | -   | -    | -   | -   | -   | -   | -         | 0.18     | 7901149 |
|                                    | VLE-28                | 31.5       | 650 | 172  | 138 | 120 | -   | 475 | 44        | 7900772  |         |
|                                    | VWBG 31.5 (40) t M72  | 31.5 (40)  | 46  | -    | -   | 170 | -   | 338 | 29.9      | 7900097  |         |
|                                    | VRBS-Fix 31,5 t       | 31.5       | 160 | 42   | -   | -   | 366 | 202 | 18.4      | 7999302  |         |
| Si-Set-VCGH-28                     | -                     | -          | 165 | 90   | -   | -   | -   | -   | 1.6       | 7900640  |         |

Attention: VWBG available up to M150, also available in UNC and with special length.

Version 4 · Subject to technical alterations!



# VIP >MAXI< 28 x 84

For symmetrical load

|                      |      |    |       |         |      |        |       |
|----------------------|------|----|-------|---------|------|--------|-------|
|                      |      |    |       |         |      |        |       |
| Inclination- $\beta$ | 0°   | 0° | 0-45° | >45-60° | 0-7° | >7-45° | 0-45° |
| Load factor          | 1    | 2  | 1.4   | 1       | 4    | 2.8    | 2,1   |
| WLL                  | 31.5 | 63 | 45    | 31.5    | 126  | 88     | 67    |

WLL in t

|                      |      |        |         |      |        |      |        |      |
|----------------------|------|--------|---------|------|--------|------|--------|------|
|                      |      |        |         |      |        |      |        |      |
| Inclination- $\beta$ | 0-7° | >7-45° | >45-60° | 0-7° | >7-45° | 0-7° | >7-45° | 0-7° |
| Load factor          | 2    | 1.4    | 1       | 4    | 2.8    | 4    | 2.8    | 2    |
| WLL                  | 63*  | 45*    | 31.5*   | 126* | 88*    | 126* | 88*    | 63*  |

WLL in t



**Attention:**

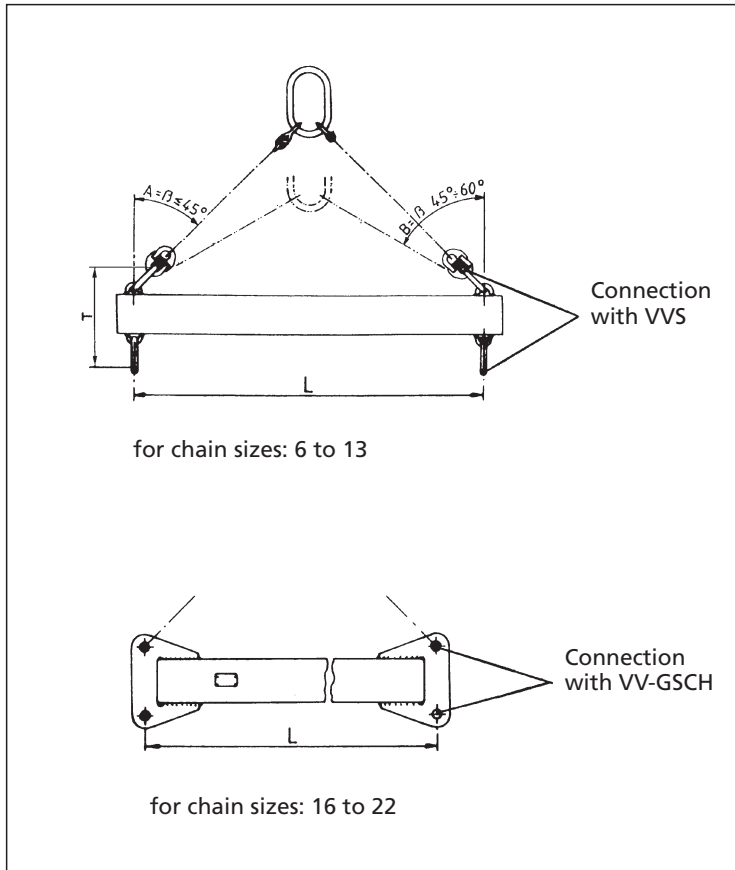
- In case of unsymmetrical loading, the load factors must be reduced by 50 %.
- \*Choke hitch and endless chain:  
It can be assumed the WLL of a double strand when using bollard-, bolt- or shackle diameter > 3 x t (250 mm).  
In case of a smaller diameter (edge load) the load factors must be reduced by 20 %.

! When lifting in a basket hitch, make sure that loads do not move hazardous or drop. (See German work safety regulation "BetrSichV", attachment 1 acc. §7).





**VIP-Spreader bar fixed VSRS**



**VIP Spreader bar fixed VSRS**  
When ordering please indicate the effective length L of the spreader bar!

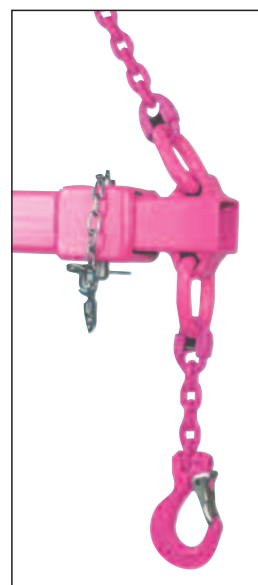
Spreader bars are also available with chain slings. When ordering, specify the type of master link and the required inclination angle  $\beta$ .

VIP spreader bars are non stock items and their production is subject to customer requirement. Thus bear in mind the respective delivery periods.

Surface:  
Effective length L up to 2500 mm: pink powder coated.

Effective length L beyond 2500 mm: yellow painted.

| Chain size | Type    | Possible working length L | T   | WLL kg  |          | Weight kg/pc.                 | Ref. No.  |
|------------|---------|---------------------------|-----|---------|----------|-------------------------------|-----------|
|            |         |                           |     | 0 – 45° | 45 – 60° |                               |           |
| 6          | VSRS-6  | 500 – 4000 mm             | 190 | 2100    | 1500     | depending on working length L | 86 00 110 |
| 8          | VSRS-8  | 500 – 5000 mm             | 240 | 3500    | 2500     |                               | 86 00 111 |
| 10         | VSRS-10 | 500 – 5000 mm             | 320 | 5600    | 4000     |                               | 86 00 112 |
| 13         | VSRS-13 | 1000 – 5000 mm            | 350 | 9500    | 6700     |                               | 86 00 113 |
| 16         | VSRS-16 | 1000 – 5000 mm            | 250 | 14000   | 10000    |                               | 86 00 114 |
| 20         | VSRS-20 | 1000 – 5000 mm            | 285 | 22400   | 16000    |                               | 86 00 115 |
| 22         | VSRS-22 | 1000 – 5000 mm            | 290 | 28000   | 20000    |                               | 86 00 116 |



Subject to technical modifications!

### VIP Spreader bar adjustable VSRV

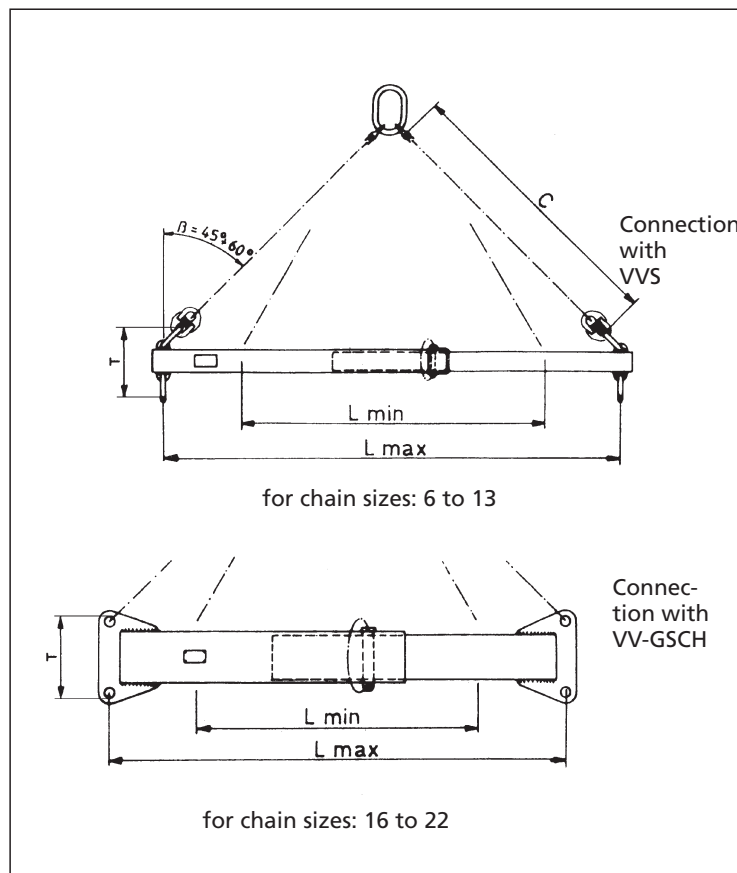
When ordering please indicate working length L of the spreader bar!

Adjustable spreader bars are also available with chain slings. When ordering, specify the type of master link and the required inclination angle  $\beta$ .

VIP spreader bars are non stock items and their production is subject to customer requirement. Thus bear in mind the respective delivery periods.

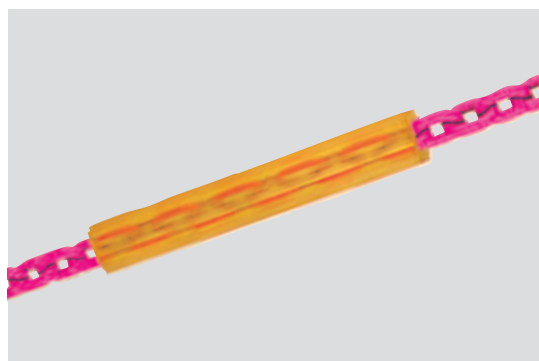
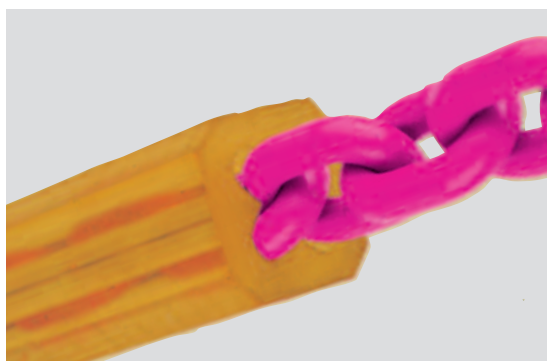
Surface:  
Pink powder coated.

$L_{min}$  depends on  $L_{max}$  and nominal size.



### VIP-Spreader bar adjustable VSRV

| Chain size | Type    | possible working length $L_{max}$ . | T   | WLL kg                |                       | Weight Kg/St.                 | Ref. No.  |
|------------|---------|-------------------------------------|-----|-----------------------|-----------------------|-------------------------------|-----------|
|            |         |                                     |     | $\leq \beta 45^\circ$ | $\beta 45 - 60^\circ$ |                               |           |
| 6          | VSRV-6  | 1500 – 4000 mm                      | 200 | 2100                  | 1500                  | depending on working length L | 86 00 120 |
| 8          | VSRV-8  | 1500 – 4000 mm                      | 250 | 3500                  | 2500                  |                               | 86 00 121 |
| 10         | VSRV-10 | 1500 – 4000 mm                      | 330 | 5600                  | 4000                  |                               | 86 00 122 |
| 13         | VSRV-13 | 1500 – 4000 mm                      | 360 | 9500                  | 6700                  |                               | 86 00 123 |
| 16         | VSRV-16 | 1500 – 4000 mm                      | 250 | 14000                 | 10000                 |                               | 86 00 124 |
| 20         | VSRV-20 | 1500 – 4000 mm                      | 285 | 22400                 | 16000                 |                               | 86 00 125 |
| 22         | VSRV-22 | 1500 – 4000 mm                      | 290 | 28000                 | 20000                 |                               | 86 00 126 |



### Edge protecting device RSK

### RUD-RSK system made of durable edge-robust polyurethane.

Flexible in all directions. Manually movable along the chain. Even load distribution due to a diagonal transversal crucifix. Max. 2 m can be supplied.

| Chain size | Type     | A  | B  | $L_{max}$ . | Ref. No. |
|------------|----------|----|----|-------------|----------|
| 6          | RSK – 6  | 27 | 27 | 2000        | 56 033   |
| 8          | RSK – 8  | 33 | 33 | 2000        | 56 037   |
| 10         | RSK – 10 | 38 | 38 | 2000        | 55 810   |
| 13         | RSK – 13 | 50 | 50 | 2000        | 56 038   |

\*further sizes upon request.

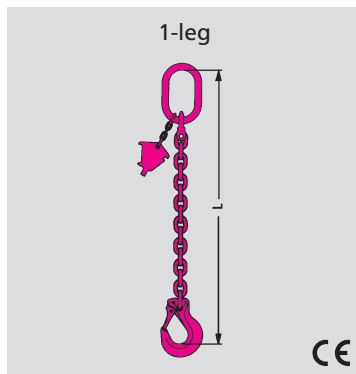
Subject to technical modifications!



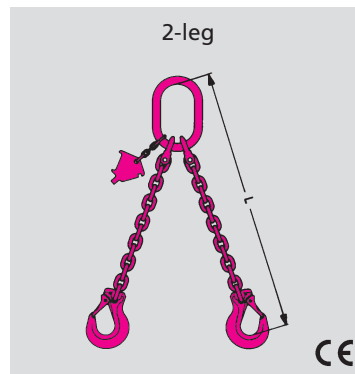


### Examples of applications

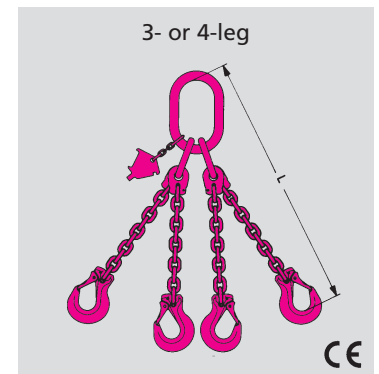
### Order references



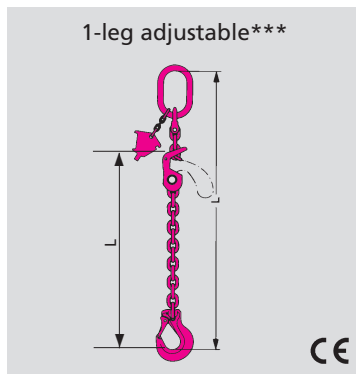
Order reference:  
VIP-G1...



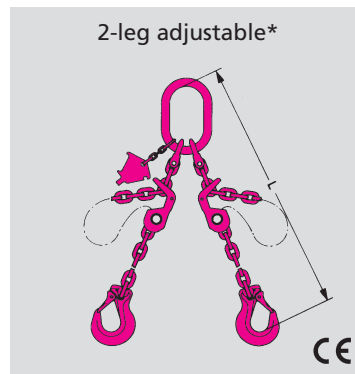
VIP-G2...



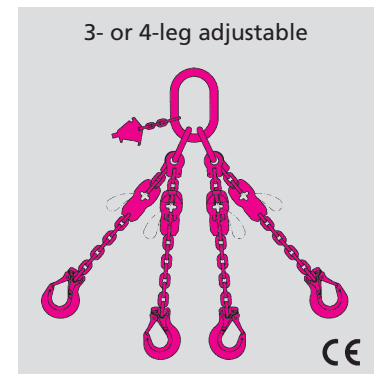
VIP-G3...  
or VIP-G4...



Order reference:  
VIP-G1-V1...

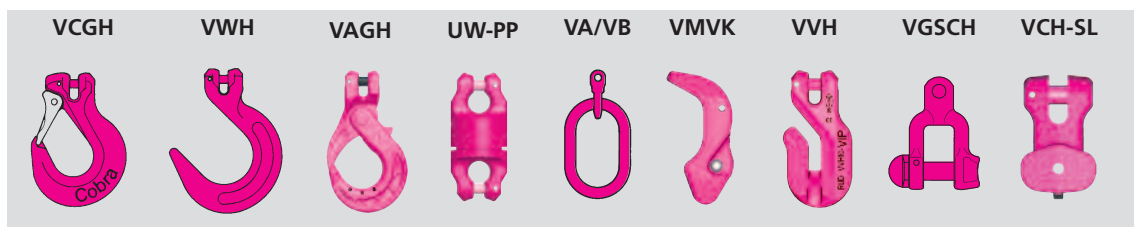


VIP-G2-V2...



VIP-G3-V3...  
or VIP-G4-V4...

### Combination possibilities



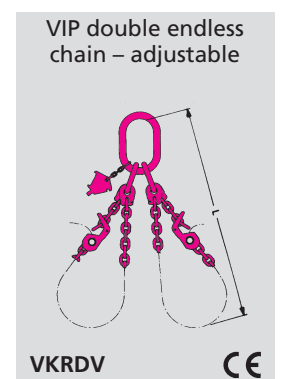
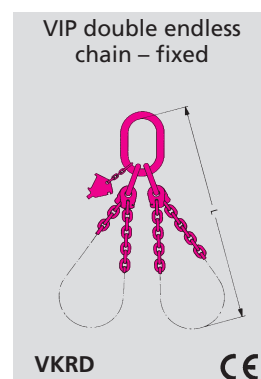
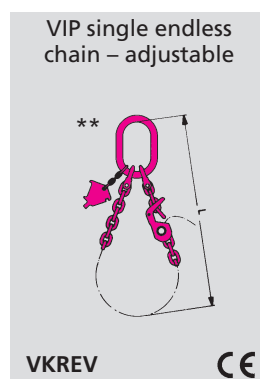
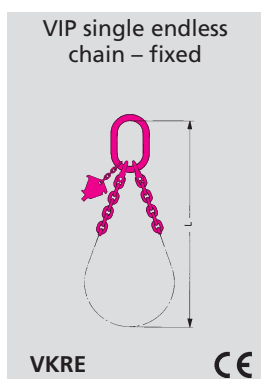
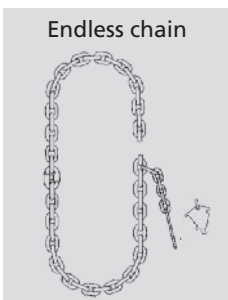
### Order reference:

\*VIP-G2-V2-VCGH/10x2000

= 2 leg version in RUD special quality VIP with 2 leg shortenings (VMVK).

VCGH = End component/10 = chain diameter x 2000 = max. working length size L in mm.

### Assembled endless chain



### Order examples:

\*\*1 pc VKREV-8 x 2000 = single endless chain, adjustable in RUD special quality VIP, 8 = chain dia. x 2000 = max. working length size L in mm.

\*\*\* in case of long adjustable assemblies it is recommended to mount the multi claw VMKV in the lower part of the chain. Indicate Lv when ordering, e.g. VIP-G2-V2-VCGH/10x5000 Lv-2000.

**VIP** -special connecting link\*  
for VIP-endless chain:  
Ø 20, 22 und 28 mm.  
On request.

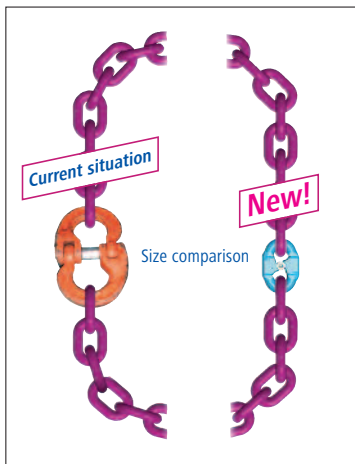
# Endless chain ICE-120 and VIP-100 with compact connecting-elements



## Endless chain with H-Connector

| VIP VKR-H                         | Ø 6 mm | Ø 8 mm | Ø 10 mm | Ø 13 mm | Ø 16 mm |
|-----------------------------------|--------|--------|---------|---------|---------|
| Edless chain sling in choke hitch | 2.4    | 4.0    | 6.4     | 10.6    | 16      |
| 0-45°                             | 1.65   | 2.75   | 4.4     | 7.5     | 11.0    |
|                                   | 45-60° | 1.2    | 2.0     | 3.2     | 5.3     |
| ICE IKR-H                         | Ø 6 mm | Ø 8 mm | Ø 10 mm | Ø 13 mm | Ø 16 mm |
| Edless chain sling in choke hitch | 2.88   | 4.8    | 8.0     | 12.8    | 20.0    |
| 0-45°                             | 2.0    | 3.3    | 5.5     | 8.8     | 14.0    |
|                                   | 45-60° | 1.44   | 2.4     | 4.0     | 6.4     |

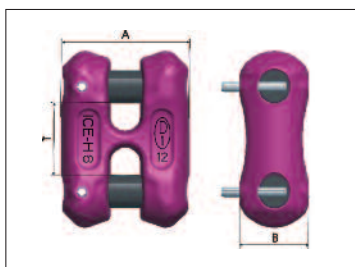
WLL in [t]



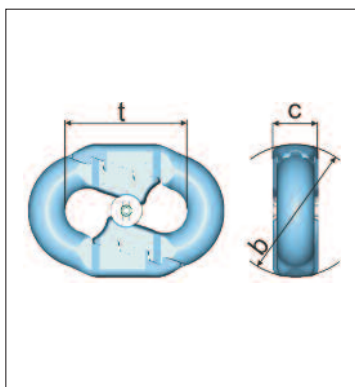
## Endless chain with Dominator

| VIP VKR-D                         | Ø 20 mm | Ø 22 mm | Ø 28 mm |
|-----------------------------------|---------|---------|---------|
| Edless chain sling in choke hitch | 25.6    | 32.0    | 50.0    |
| 0-45°                             | 17.6    | 22.0    | 35.5    |
|                                   | 45-60°  | 12.8    | 16.0    |

WLL in [t]



| H-Connector (ICE and VIP) | chain | A [mm] | B [mm] | T [mm] | weight [kg/pc.] | Ref.no. |
|---------------------------|-------|--------|--------|--------|-----------------|---------|
| IH-6/VH-6                 | 6     | 34     | 19.6   | 18     | 0.11            | 7901922 |
| IH-8/VH-8                 | 8     | 45     | 25.5   | 18     | 0.11            | 7901453 |
| IH-10/VH-10               | 10    | 56     | 31.5   | 30     | 0.55            | 7901454 |
| IH-13/VH-13               | 13    | 73     | 40     | 39     | 1.16            | 7901455 |
| IH-16/VH-16               | 16    | 89     | 49     | 48     | 2.16            | 7901924 |



| Dominator (VIP)                    | chain | A [mm] | B [mm] | T [mm] | weight [kg/pc.] | Ref.no. |
|------------------------------------|-------|--------|--------|--------|-----------------|---------|
| Dominator 22 x 86 for VIP 20 x 60  | 16    | 85     | 26     | 86     | 1.2             | 56295   |
| Dominator 26 x 92 for VIP 22 x 66  | 20    | 95     | 33     | 92     | 1.8             | 58915   |
| Dominator 34 x 126 for VIP 28 x 84 | 31.5  | 119    | 40     | 126    | 4.1             | 58917   |

Subject to technical modifications!





# Lifting Points - for bolting -

Maximum transport weight "G" in "tonnes" with different lifting methods



| Thread sizes<br><b>M 6-<br/>M 150</b><br>Imperial (UNC,...) and special lengths on request |             | PP-S (Vario)<br>PowerPoint-Star | PP-B (Vario)<br>PowerPoint-B | PP-VIP (Vario)<br>PowerPoint-VIP | VLBG Load Ring (Vario) |          |          |            |             |          |            |            |          |          |          |                |          |           |           |           |                  |                  |
|--|-------------|---------------------------------|------------------------------|----------------------------------|------------------------|----------|----------|------------|-------------|----------|------------|------------|----------|----------|----------|----------------|----------|-----------|-----------|-----------|------------------|------------------|
| Number of legs<br>Load direction   | Thread size | Type                            |                              |                                  |                        |          |          | Type       |             |          |            |            |          |          |          |                |          |           |           |           |                  |                  |
|  |             | PP-S 0.63 t                     | PP-S 1.5 t                   | PP-S 2.5 t                       | PP-S 4 t               | PP-S 5 t | PP-S 8 t | VLBG 0.3 t | VLBG 0.63 t | VLBG 1 t | VLBG 1.5 t | VLBG 2.5 t | VLBG 4 t | VLBG 4 t | VLBG 5 t | VLBG 7 t Sond. | VLBG 8 t | VLBG 10 t | VLBG 15 t | VLBG 20 t | LBG(3) M16 RS 1t | LBG(3) M20 RS 2t |
| 1 0°   | M 12        | 0.6                             | 1.5                          | 2.5                              | 4                      | 6.7      | 10       | 0.3        | 0.6         | 1        | 1.5        | 2.5        | 4        | 4        | 5        | 7              | 8        | 10        | 15        | 20        | 1                | 2                |
| 2 0°   | M 16        | 1.2                             | 3                            | 5                                | 8                      | 13.4     | 20       | 0.6        | 1.2         | 2        | 3          | 5          | 8        | 8        | 10       | 14             | 16       | 20        | 30        | 40        | 2                | 4                |
| 1 90°  | M 20        | 0.6                             | 1.5                          | 2.5                              | 4                      | 5        | 8        | 0.3        | 0.6         | 1        | 1.5        | 2.5        | 4        | 4        | 5        | 7              | 8        | 10        | 15        | 20        | 1                | 2                |
| 2 90°  | M 24        | 1.2                             | 3                            | 5                                | 8                      | 10       | 16       | 0.6        | 1.2         | 2        | 3          | 5          | 8        | 8        | 10       | 14             | 16       | 20        | 30        | 40        | 2                | 4                |
| 2 0-45°  | M 30        | 0.8                             | 2.1                          | 3.5                              | 5.6                    | 7.1      | 11.2     | 0.4        | 0.8         | 1.4      | 2.1        | 3.5        | 5.6      | 5.6      | 7        | 9.8            | 11.2     | 14        | 21        | 28        | 1.4              | 2.8              |
| 2 45-60°   | M 36        | 0.6                             | 1.5                          | 2.5                              | 4                      | 5        | 8        | 0.3        | 0.6         | 1        | 1.5        | 2.5        | 4        | 4        | 5        | 7              | 8        | 10        | 15        | 20        | 1                | 2                |
| 2 unsymmetrical  | M 12        | 0.6                             | 1.5                          | 2.5                              | 4                      | 5        | 8        | 0.3        | 0.6         | 1        | 1.5        | 2.5        | 4        | 4        | 5        | 7              | 8        | 10        | 15        | 20        | 1                | 2                |
| 3+4 0-45°  | M 16        | 1.3                             | 3.2                          | 5.3                              | 8.4                    | 10.5     | 16.8     | 0.6        | 1.3         | 2.1      | 3.1        | 5.2        | 8.4      | 8.4      | 10.5     | 14.7           | 16.8     | 21        | 31.5      | 42        | 2.1              | 4.2              |
| 3+4 45-60°   | M 20        | 0.9                             | 2.2                          | 3.8                              | 6                      | 7.5      | 12       | 0.4        | 0.9         | 1.5      | 2.2        | 3.7        | 6        | 6        | 7.5      | 10.4           | 12       | 15        | 22.5      | 30        | 1.5              | 3                |
| 3+4 unsymmetrical  | M 24        | 0.6                             | 1.5                          | 2.5                              | 4                      | 5        | 8        | 0.3        | 0.6         | 1        | 1.5        | 2.5        | 4        | 4        | 5        | 7              | 8        | 10        | 15        | 20        | 1                | 2                |
|  | M 30        |                                 |                              |                                  |                        |          |          | M 8        | M 10        | M 12     | M 16       | M 20       | M 24     | M 27     | M 30     | M 36           | M 36     | M 42      | M 42      | M 48      | M 16             | M 20             |

- All parts are either 100 % crack detected or proof loaded accord. to EN 1677.
- All original bolts from RUD are 100 % crack detected.
- Safety factor 4 : 1 in any direction.
- The types VRS, VRM and VLBG have to be adjusted to the load direction.
- RUD features such as clamping spring (VLBS) for noise reduction and distance lugs for a perfect root pass weld increase the ease of use.
- Low installation height, high dynamic and static strength.

- RUD Lifting Point CD-ROM makes it easy to select the right Lifting Point.
- In case of higher dynamic application please ask manufacturer.

The BG (German Employers Liability Insurance Association) recommends: At a high number of load cycles (continuous operation), the bearing stress must be reduced according to FEM/ISO classification 1B<sub>m</sub> (M3 acc. to EN 818-7); f.e. by using the next bigger chain diameter.



# Lifting Points - for bolting -

Maximum transport weight "G" in "tonnes"  
with different lifting methods



| VWBG-V Load Ring (Vario) |               |              |              |              |              |            |            |              |              |            | VWBG Load Ring |             |             |              |              |              |              |              |              |              |              |              |              |                |                |              |              |              |              |
|--------------------------|---------------|--------------|--------------|--------------|--------------|------------|------------|--------------|--------------|------------|----------------|-------------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|----------------|----------------|--------------|--------------|--------------|--------------|
| WVWG-V 0.3 t             | WVWG-V 0.45 t | WVWG-V 0.6 t | WVWG-V 1.0 t | WVWG-V 1.3 t | WVWG-V 1.8 t | WVWG-V 2 t | WVWG-V 2 t | WVWG-V 3.5 t | WVWG-V 3.5 t | WVWG-V 5 t | WVWG 6 (7.5)   | WVWG 8 (10) | WVWG 8 (10) | WVWG 12 (13) | WVWG 12 (13) | WVWG 12 (15) | WVWG 13 (16) | WVWG 13 (16) | WVWG 14 (20) | WVWG 16 (22) | WVWG 16 (22) | WVWG 16 (25) | WVWG 16 (25) | WVWG 31.5 (40) | WVWG 31.5 (40) | WVWG 35 (48) | WVWG 35 (48) | WVWG 40 (50) | WVWG 40 (50) |
| M 8                      | M 10          | M 12         | M 14         | M 16         | M 18         | M 20       | M 22       | M 24         | M 27         | M 30       | M 33           | M 36        | M 36-39     | M 42         | M 42-45      | M 45         | M 48         | M 48-52      | M 52         | M 56         | M 56-62      | M 64         | M 64-76      | M 72           | M 72-76        | M 80         | M 80-85      | M 90         | M 90-150     |
| 0.6                      | 0.9           | 1.2          | 2.0          | 2.6          | 3.6          | 4          | 4          | 7            | 7            | 10         | 15             | 15          | 15          | 17           | 17           | 18           | 18           | 18           | 25           | 28           | 28           | 28           | 28           | 50             | 50             | 50           | 50           | 50           | 50           |
| 1.2                      | 1.8           | 2.4          | 4.0          | 5.2          | 7.2          | 8          | 8          | 14           | 14           | 20         | 30             | 30          | 30          | 34           | 34           | 36           | 36           | 36           | 50           | 56           | 56           | 56           | 56           | 100            | 100            | 100          | 100          | 100          | 100          |
| 0.3 (0.4)                | 0.45 (0.6)    | 0.6 (0.7)    | 1.0 (1.25)   | 1.3 (1.5)    | 1.8 (2.0)    | 2 (2.5)    | 2 (2.5)    | 3.5 (4)      | 3.5 (4)      | 5 (6)      | 6 (7.5)        | 8 (10)      | 8 (10)      | 12 (13)      | 12 (13)      | 12 (15)      | 13 (16)      | 13 (16)      | 14 (20)      | 16 (22)      | 16 (22)      | 16 (25)      | 16 (25)      | 31.5 (40)      | 31.5 (40)      | 35 (48)      | 35 (48)      | 40 (50)      | 40 (50)      |
| 0.6 (0.8)                | 0.9 (1.2)     | 1.2 (1.5)    | 2.0 (2.5)    | 2.6 (3)      | 3.6 (4.0)    | 4 (5)      | 4 (5)      | 7 (8)        | 7 (8)        | 10 (12)    | 12 (15)        | 16 (20)     | 16 (20)     | 24 (26)      | 24 (26)      | 24 (30)      | 26 (32)      | 26 (32)      | 28 (40)      | 32 (44)      | 32 (44)      | 32 (50)      | 32 (50)      | 63 (80)        | 63 (80)        | 70 (96)      | 70 (96)      | 80 (100)     | 80 (100)     |
| 0.4                      | 0.6           | 0.8          | 1.4          | 1.8          | 2.5          | 2.8        | 2.8 (3.5)  | 4.9          | 4.9 (5.6)    | 7          | 8.4 (10.5)     | 11.2 (14)   | 11.2 (14)   | 16.8 (18.2)  | 16.8 (18.2)  | 16.8 (21)    | 18.2 (22.4)  | 18.2 (22.4)  | 19.6 (28)    | 22.4 (30.8)  | 22.4 (30.8)  | 22.4 (35)    | 22.4 (35)    | 44.1 (56)      | 44.1 (56)      | 49 (67.2)    | 49 (67.2)    | 56 (70)      | 56 (70)      |
| 0.3                      | 0.4           | 0.6          | 1.0          | 1.3          | 1.8          | 2          | 2 (2.5)    | 3.5          | 3.5 (4)      | 5          | 6 (7.5)        | 8 (10)      | 8 (10)      | 12 (13)      | 12 (13)      | 12 (15)      | 13 (16)      | 13 (16)      | 14 (20)      | 16 (22)      | 16 (22)      | 16 (25)      | 16 (25)      | 31.5 (40)      | 31.5 (40)      | 35 (48)      | 35 (48)      | 40 (50)      | 40 (50)      |
| 0.3                      | 0.4           | 0.6          | 1.0          | 1.3          | 1.8          | 2          | 2 (2.5)    | 3.5          | 3.5 (4)      | 5          | 6 (7.5)        | 8 (10)      | 8 (10)      | 12 (13)      | 12 (13)      | 12 (15)      | 13 (16)      | 13 (16)      | 14 (20)      | 16 (22)      | 16 (22)      | 16 (25)      | 16 (25)      | 31.5 (40)      | 31.5 (40)      | 35 (48)      | 35 (48)      | 40 (50)      | 40 (50)      |
| 0.6                      | 0.9           | 1.2          | 2.1          | 2.7          | 3.7          | 4.2        | 4.2 (5.25) | 7.3          | 7.3 (8.4)    | 10.5       | 12.6 (15.7)    | 16.8 (21)   | 16.8 (21)   | 25.2 (27.3)  | 25.2 (27.3)  | 25.2 (31.5)  | 27.3 (33.6)  | 27.3 (33.6)  | 29.4 (42)    | 33.6 (46.2)  | 33.6 (46.2)  | 33.6 (52.5)  | 33.6 (52.5)  | 66.15 (84)     | 66.15 (84)     | 73.5 (100)   | 73.5 (100)   | 84 (105)     | 84 (105)     |
| 0.4                      | 0.6           | 0.9          | 1.5          | 1.9          | 2.7          | 3          | 3 (3.75)   | 5.2          | 5.2 (6)      | 7.5        | 9 (11.2)       | 12 (15)     | 12 (15)     | 18 (19.5)    | 18 (19.5)    | 18 (22.5)    | 19.5 (24)    | 19.5 (24)    | 21 (30)      | 24 (33)      | 24 (33)      | 24 (37.5)    | 24 (37.5)    | 47.25 (60)     | 47.25 (60)     | 52.5 (72)    | 52.5 (72)    | 60 (75)      | 60 (75)      |
| 0.3                      | 0.4           | 0.6          | 1.0          | 1.3          | 1.8          | 2          | 2 (2.5)    | 3.5          | 3.5 (4)      | 5          | 6 (7.5)        | 8 (10)      | 8 (10)      | 12 (13)      | 12 (13)      | 12 (15)      | 13 (16)      | 13 (16)      | 14 (20)      | 16 (22)      | 16 (22)      | 16 (25)      | 16 (25)      | 31.5 (40)      | 31.5 (40)      | 35 (48)      | 35 (48)      | 40 (50)      | 40 (50)      |
| M 8                      | M 10          | M 12         | M 14         | M 16         | M 18         | M 20       | M 22       | M 24         | M 27         | M 30       | M 33           | M 36        | M 36-39     | M 42         | M 42-45      | M 45         | M 48         | M 48-52      | M 52         | M 56         | M 56-60      | M 64         | M 64-76      | M 72           | M 72-76        | M 80         | M 80-85      | M 90         | M 90-150     |



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# Lifting Points - for welding -

Maximum transport weight "G" in "tonnes"  
with different slinging methods



| Thread sizes<br><b>M 6-<br/>M 150</b><br>Imperial<br>(UNC,...) and<br>special lengths<br>on request |                   | Starpoint VRS<br>(Vario)<br>eyebolt | Starpoint<br>VRM<br>eyenut | INOX-STAR | RS & RM<br>High-tensile eyebolt/eyenut | VRBG<br>Load Ring |      |      |      |      |      |      |      |      |         |      |      |      |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|---|-------------------|-------------------------------------|----------------------------|-----------|--|-------------------|------|------|------|------|------|------|------|------|---------|------|------|------|-----|-----|------|------|------|------|------|------|------|------|------|------|---------|-----------|-----------|-------------|-----------|-----------|------------|------------|
| Number of legs  | Load direction    | Type                                | VRS                        |           |  |                   |      |      | INOX |      |      |      |      |      | RS / RM |      |      |      |     |     | VRBG |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   |                   | Thread size                         | M 6                        | M 8       | M 10                                   | M 12              | M 16 | M 20 | M 24 | M 30 | M 36 | M 42 | M 48 | M 12 | M 16    | M 20 | M 24 | M 30 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 20 | M 24 | M 30 | M 36 | M 42 | M 48 | RBG 3 t | VRBG 10 t | VRBG 16 t | VRBG 31.5 t | VRBG 50 t | WBPG 80 t | WBPG 100 t | WBPG 200 t |
|   | 1 0°              |                                     | 0.5                        | 1         | 1                                      | 2                 | 4    | 6    | 8    | 12   | 16   | 24   | 32   | 1.2  | 2.4     | 3.6  | 5.2  | -    | 0.4 | 0.8 | 1    | 1.6  | 3    | 4    | 6    | 8    | 12   | 16   | 24   | 32   | 3       | 10        | 16        | 31.5        | 50        | 85        | 100        | 200        |
|   | 2 0°              |                                     | 1                          | 2         | 2                                      | 4                 | 8    | 12   | 16   | 24   | 32   | 48   | 64   | 2.4  | 4.8     | 7.2  | 10.4 | -    | 0.8 | 1.6 | 2    | 3.2  | 6    | 8    | 12   | 16   | 24   | 32   | 48   | 64   | 6       | 20        | 32        | 63          | 100       | 170       | 200        | 400        |
|   | 1 90°             |                                     | 0.1                        | 0.3       | 0.4                                    | 0.7               | 1.5  | 2.3  | 3.2  | 4.5  | 7    | 9    | 12   | 0.5  | 1.0     | 2.0  | 2.5  | -    |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   | 2 90°             |                                     | 0.2                        | 0.6       | 0.8                                    | 1.5               | 3    | 4.6  | 6.4  | 9    | 14   | 18   | 24   | 1.0  | 2.0     | 4.0  | 5.0  | -    |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   | 2 0-45°           |                                     | 0.14                       | 0.42      | 0.56                                   | 1                 | 2.1  | 3.2  | 4.5  | 6.3  | 9.8  | 12.6 | 16.8 | 0.7  | 1.4     | 2.8  | 3.5  | -    |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   | 2 45-60°          |                                     | 0.1                        | 0.3       | 0.4                                    | 0.7               | 1.5  | 2.3  | 3.2  | 4.5  | 7    | 9    | 12   | 0.5  | 1.0     | 2.0  | 2.5  | -    |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   | 2 unsymmetrical   |                                     | 0.1                        | 0.3       | 0.4                                    | 0.7               | 1.5  | 2.3  | 3.2  | 4.5  | 7    | 9    | 12   | 0.5  | 1.0     | 2.0  | 2.5  | -    |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   | 3+4 0-45°         |                                     | 0.2                        | 1.0       | 1.6                                    | 3.2               | 4.8  | 6.4  | 9.6  | 12.8 | 19.2 | 25.6 | 32   | 1.0  | 2.1     | 4.2  | 5.3  | -    |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   | 3+4 45-60°        |                                     | 0.15                       | 0.45      | 0.6                                    | 1.1               | 2.2  | 3.4  | 4.8  | 6.7  | 10.5 | 13.5 | 18   | 0.7  | 1.5     | 3.0  | 3.7  | -    |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   | 3+4 unsymmetrical |                                     | 0.1                        | 0.3       | 0.4                                    | 0.7               | 1.5  | 2.3  | 3.2  | 4.5  | 7    | 9    | 12   | 0.5  | 1.0     | 2.0  | 2.5  | -    |     |     |      |      |      |      |      |      |      |      |      |      |         |           |           |             |           |           |            |            |
|   | Thread size       |                                     | M 6                        | M 8       | M 10                                   | M 12              | M 16 | M 20 | M 24 | M 30 | M 36 | M 42 | M 48 | M 12 | M 16    | M 20 | M 24 | M 30 | M 6 | M 8 | M 10 | M 12 | M 14 | M 16 | M 20 | M 24 | M 30 | M 36 | M 42 | M 48 | M 16    | M 20      | M 30      | M 30        | M 36      | M 48      | M 48       | M 48       |

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# Lifting Points - for welding -

Maximum transport weight "G" in "tonnes" with different slinging methods

|        |                                  | WPP-Serie<br>PowerPoint<br>rotation |           |           |           |           |            | WPPH-Serie<br>PowerPoint<br>fixed |            |            |           |           |            | VLBS<br>Load ring for welding<br>(LPW in daN for lashing) |            |           |            |            |            |                 |               |               |
|--------|----------------------------------|-------------------------------------|-----------|-----------|-----------|-----------|------------|-----------------------------------|------------|------------|-----------|-----------|------------|---|------------|-----------|------------|------------|------------|-----------------|---------------|---------------|
|        |                                  | all variations                      |           |           |           |           |            | all variations                    |            |            |           |           |            |   |            |           |            |            |            |                 |               |               |
|        | Number of legs<br>Load direction | WPP 0.63 t                          | WPP 1.5 t | WPP 2.5 t | WPP 4 t   | WPP 5 t   | WPP 8 t    | WPPH 0.63 t                       | WPPH 1.5 t | WPPH 2.5 t | WPPH 4 t  | WPPH 5 t  | WPPH 8 t   | VLBS 1.5 t  | VLBS 2.5 t | VLBS 4 t  | VLBS 6.7 t | VLBS 10 t  | VLBS 16 t  | LBS(1) RS 0.5 t | LBS(3) RS 1 t | LBS(5) RS 2 t |
|        |                                  | 3000 daN                            | 5000 daN  | 8000 daN  | 13400 daN | 20000 daN |            |                                   |            |            |           |           |            |   |            |           |            |            |            |                 |               |               |
|        | 1 0°                             | 0.6                                 | 1.5       | 2.5       | 4         | 6.7       | 10         | 0.6                               | 1.5        | 2.5        | 4         | 6.7       | 10         | 1.5   | 2.5        | 4         | 6.7        | 10         | 16         | 0.5             | 1             | 2             |
|        | 2 0°                             | 1.2                                 | 3         | 5         | 8         | 13.4      | 20         | 1.2                               | 3          | 5          | 8         | 13.4      | 20         | 3   | 5.0        | 8         | 13.4       | 20         | 32         | 1               | 2             | 4             |
|        | 1 90°                            | 0.6                                 | 1.5       | 2.5       | 4         | 5         | 8          | 0.6                               | 1.5        | 2.5        | 4         | 5         | 8          | 1.5   | 2.5        | 4         | 6.7        | 10         | 16         | 0.5             | 1             | 2             |
|        | 2 90°                            | 1.2                                 | 3         | 5         | 8         | 10        | 16         | 1.2                               | 3          | 5          | 8         | 10        | 16         | 3   | 5.0        | 8         | 13.4       | 20         | 32         | 1               | 2             | 4             |
|        | 2 0-45°                          | 0.8                                 | 2.1       | 3.5       | 5.6       | 7.1       | 11.2       | 0.8                               | 2.1        | 3.5        | 5.6       | 7.1       | 11.2       | 2.1   | 3.5        | 5.6       | 9.38       | 14         | 22.4       | 0.7             | 1.4           | 2.8           |
|        | 2 45-60°                         | 0.6                                 | 1.5       | 2.5       | 4         | 5         | 8          | 0.6                               | 1.5        | 2.5        | 4         | 5         | 8          | 1.5   | 2.5        | 4         | 6.7        | 10         | 16         | 0.5             | 1             | 2             |
|        | 2 unsymmetrical                  | 0.6                                 | 1.5       | 2.5       | 4         | 5         | 8          | 0.6                               | 1.5        | 2.5        | 4         | 5         | 8          | 1.5   | 2.5        | 4         | 6.7        | 10         | 16         | 0.5             | 1             | 2             |
|        | 3+4 0-45°                        | 1.3                                 | 3.2       | 5.3       | 8.4       | 10.5      | 16.8       | 1.3                               | 3.2        | 5.3        | 8.4       | 10.5      | 16.8       | 3.15  | 5.25       | 8.4       | 14.1       | 21         | 33.6       | 1.05            | 2.1           | 4.2           |
|        | 3+4 45-60°                       | 0.9                                 | 2.2       | 3.8       | 6         | 7.5       | 12         | 0.9                               | 2.2        | 3.8        | 6         | 7.5       | 12         | 2.25  | 3.75       | 6         | 10.1       | 15         | 24         | 0.75            | 1.5           | 3             |
|        | 3+4 unsymmetrical                | 0.6                                 | 1.5       | 2.5       | 4         | 5         | 8          | 0.6                               | 1.5        | 2.5        | 4         | 5         | 8          | 1.5   | 2.5        | 4         | 6.7        | 10         | 16         | 0.5             | 1             | 2             |
| Weld → |                                  | ⊃<br>3.5                            | ⊃<br>4.5  | HY<br>3+5 | HY<br>3+6 | HY<br>3+8 | HY<br>3+10 | ⊃<br>3.5                          | ⊃<br>4.5   | HY<br>3+5  | HY<br>3+6 | HY<br>3+8 | HY<br>3+10 | HV<br>5+3   | HV<br>7+3  | HV<br>8+3 | HV<br>12+4 | HV<br>16+4 | HV<br>25+6 | HV<br>5+3       | HV<br>8+3     | HV<br>12+4    |

Subject to technical modifications!



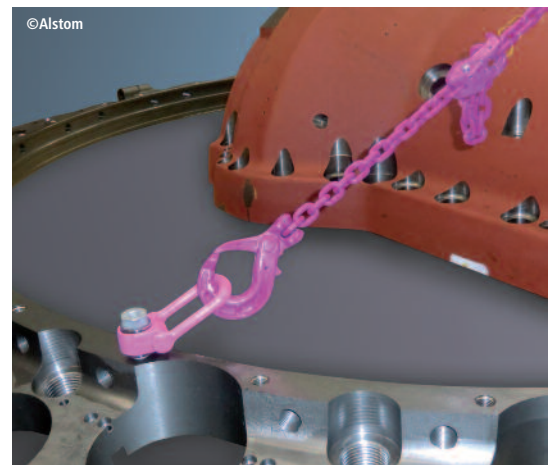
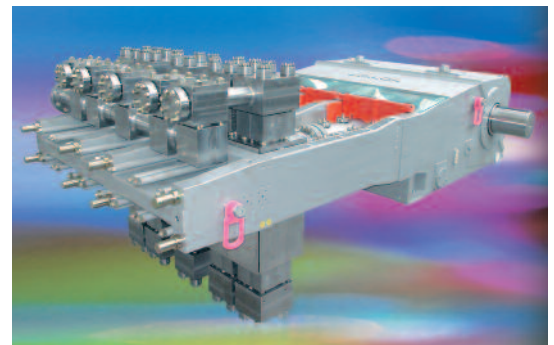
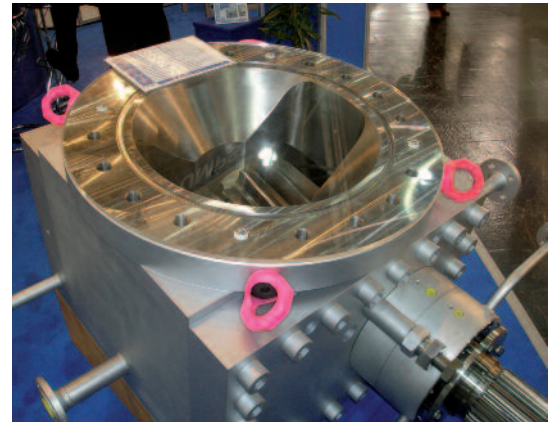


# Lifting Points - for welding -

Maximum transport weight "G" in "tonnes" with different slinging methods



| BG-PrüfZert | Number of legs | Load direction | VRBS-FIX (LRBS-FIX in daN for lashing) |                |               |               |                 |           | VRBK Eye Plate for corners 90° (LRBG-FIX in daN for lashing) |                |               | ABA (L-ABA in daN for lashing) |           |         |          |          |            |
|-------------|----------------|----------------|--|----------------|---------------|---------------|-----------------|-----------|--|----------------|---------------|--------------------------------|-----------|---------|----------|----------|------------|
|             |                |                | VRBS-FIX 4 t                           | VRBS-FIX 6.7 t | VRBS-FIX 10 t | VRBS-FIX 16 t | VRBS-FIX 31.5 t | VRBS 50 t | VRBK-FIX 4 t   | VRBK-FIX 6.7 t | VRBK-FIX 10 t | ABA 1.6 t                      | ABA 3.2 t | ABA 5 t | ABA 10 t | ABA 20 t | ABA 31.5 t |
|             | 1              | 0°             | 4                                      | 6.7            | 10            | 16            | 31.5            | 50        | 4  | 6.7            | 10            | 1.6                            | 3.2       | 5       | 10       | 20       | 31.5       |
|             | 2              | 0°             | 8                                      | 13.4           | 20            | 32            | 63              | 100       | 8  | 13.4           | 20            | 3.2                            | 6.4       | 10      | 20       | 40       | 63         |
|             | 1              | 90°            | 4                                      | 6.7            | 10            | 16            | 31.5            | 50        | 4  | 6.7            | 10            | 1.6                            | 3.2       | 5       | 10       | 20       | 31.5       |
|             | 2              | 90°            | 8                                      | 13.4           | 20            | 32            | 63              | 100       | 8  | 13.4           | 20            | 3.2                            | 6.4       | 10      | 20       | 40       | 63         |
|             | 2              | 0-45°          | 5.6                                    | 9.38           | 14            | 22.4          | 45              | 70        | 5.6  | 9.38           | 14            | 2.2                            | 4.5       | 7.1     | 14.1     | 28       | 45         |
|             | 2              | 45-60°         | 4                                      | 6.7            | 10            | 16            | 31.5            | 50        | 4  | 6.7            | 10            | 1.6                            | 3.2       | 5       | 10       | 20       | 31.5       |
|             | 2              | unsymmetrical  | 4                                      | 6.7            | 10            | 16            | 31.5            | 50        | 4  | 6.7            | 10            | 1.6                            | 3.2       | 5       | 10       | 20       | 31.5       |
|             | 3+4            | 0-45°          | 8.4                                    | 14.1           | 21            | 33.6          | 67              | 105       | 8.4  | 14.1           | 21            | 3.4                            | 6.8       | 10.6    | 21.2     | 42       | 67         |
|             | 3+4            | 45-60°         | 6                                      | 10.1           | 15            | 24            | 47.5            | 75        | 6  | 10.1           | 15            | 2.4                            | 4.8       | 7.5     | 15       | 30       | 47.5       |
|             | 3+4            | unsymmetrical  | 4                                      | 6.7            | 10            | 16            | 31.5            | 50        | 4  | 6.7            | 10            | 1.6                            | 3.2       | 5       | 10       | 20       | 31.5       |
| Weld        |                |                | HY 3                                   | HY 5           | HY 6          | HY 9          | HY 12           | HY 25+8   | HY 3+4   | HY 3+5         | HY 8+3        | Δ 4                            | Δ 6       | Δ 7     | Δ 8      | Δ 10     | Δ 12       |



Subject to technical modifications!



# RUD Lashing chain ICE-CURT with highest LC (lashing capacity)



The proven, technical advantages of the VIP-program have been retained and further improved. Tensioning, connecting and shortening element have been improved considerably in weight and functionality.

**ICE** – in ICE-Pink (purple) powder coated – means significant weight saving for the user. The standard equivalent Grade 80 commercial lashing chains are on average 60 % heavier.

This improved ergonomic design, enables faster fitting and heightened safety.

It is possible to use one diameter smaller than Grade 80 <math>< 16\text{ mm } \varnothing</math>.

Up to 60 % higher Lashing Capacity (LC) than Grade 80 – also up to  $-60^{\circ}\text{C}$  even in Arctic applications.

All values (conditions) of EN 12195-3 are fulfilled and the essential requirements are easily exceeded. All for the health and safety of the user!

## ICE-CURT

Ratched tensioner version with an integrated fast shortener, which is assembled captive in the chain strand. As an alternative there is a clevis type available also.

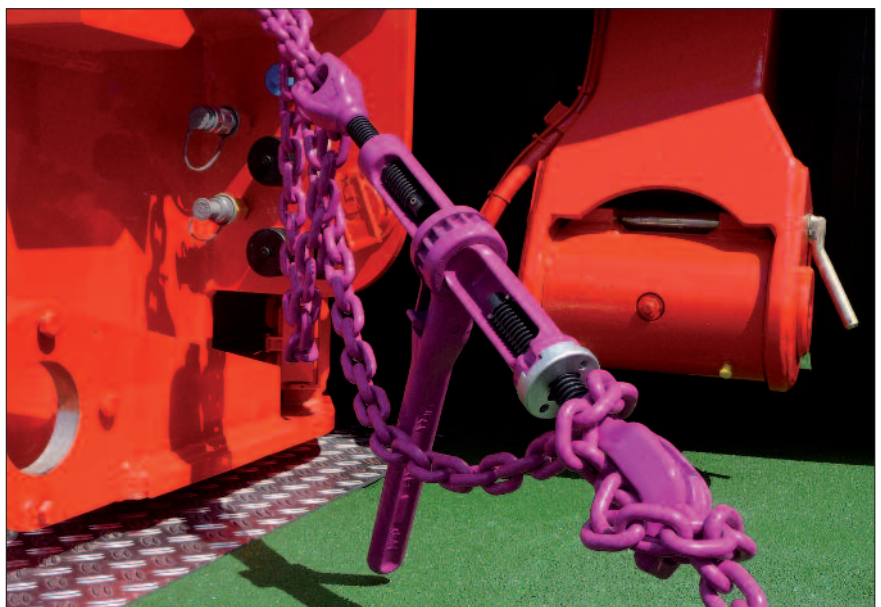
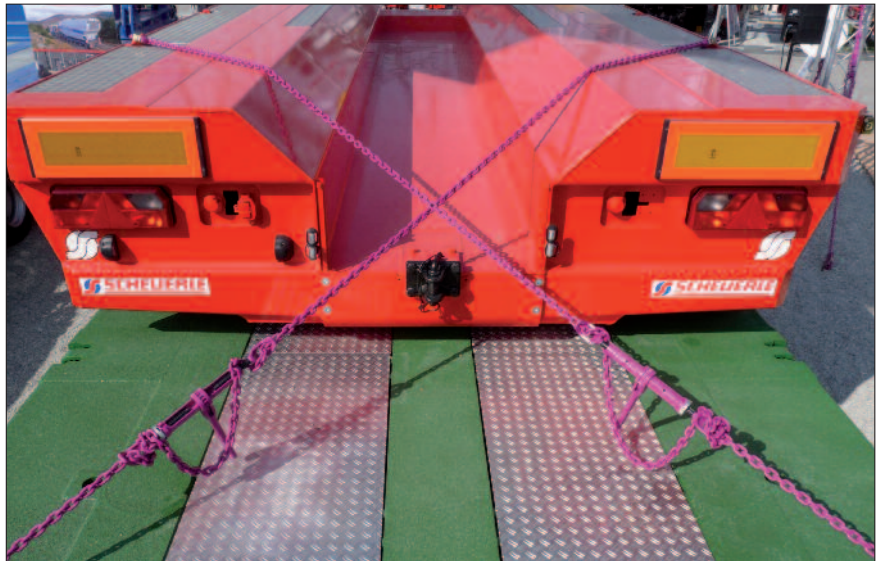
### Patented:

“Secured against release by a magnet blocking clutch which can be secured with a lock. Theft protection of lashing chain and transporting goods.”

Thread tube now in an open and innovative form – robust, light in weight and due to the trapezoid thread easy to clean, check and lubricate.

Made in Germany.

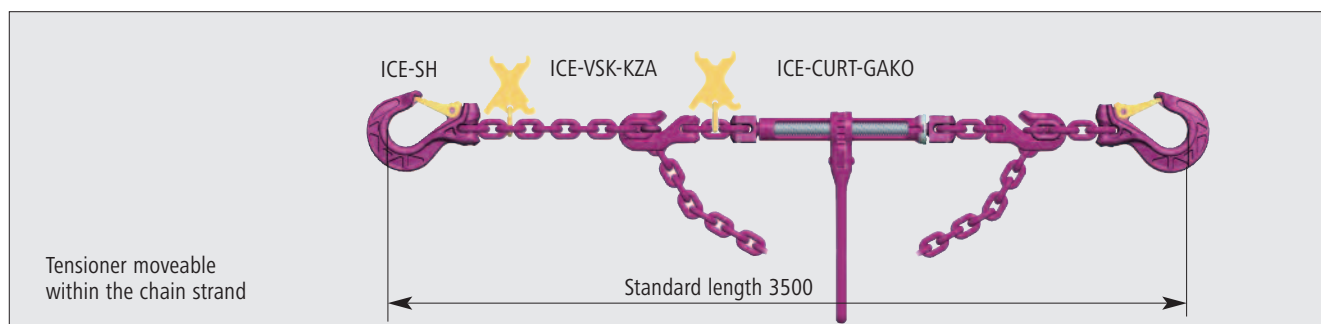
All pieces drop forged, quenched and tempered and 100 % crack inspected.



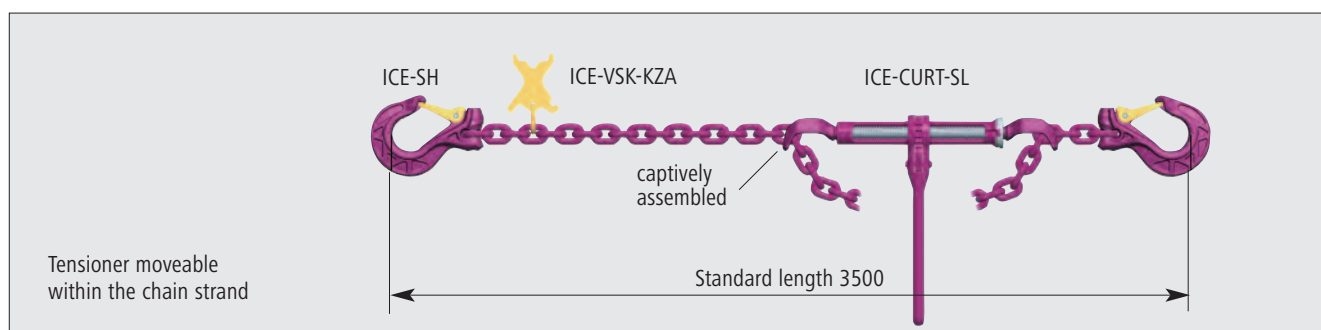
Subject to technical modifications!



# ICE-VSK-CURT lashing chains – grade ICE-120 –



| Chain Ø [mm] | Type                | Lashing cap. LC [daN] | Type             | Tensioner                       |               | Lmin [mm] | Weight [kg/pc.] | Ref. no.  |
|--------------|---------------------|-----------------------|------------------|---------------------------------|---------------|-----------|-----------------|-----------|
|              |                     |                       |                  | Pre-tension STF [daN]           | Adjustm. [mm] |           |                 |           |
| 6            | ICE-VSK-6-CURT-IVH  | 3600                  | ICE-CURT-6-GAKO  | 1500                            | 140           | 780       | 4.8 + 2.2       | 7903 443* |
| 8            | ICE-VSK-8-CURT-IVH  | 6000                  | ICE-CURT-8-GAKO  | 2800                            | 170           | 1040      | 8.0 + 5.2       | 7901 129  |
| 10           | ICE-VSK-10-CURT-IVH | 10000                 | ICE-CURT-10-GAKO | 2800                            | 170           | 1210      | 13.0 + 7.1      | 7901 130  |
| 13           | ICE-VSK-13-CURT-IVH | 16000                 | ICE-CURT-13-GAKO | 2800                            | 170           | 1600      | 21.9 + 13.6     | 7902 626  |
| 16           | ICE-VSK-16-CURT-IVH | 25000                 | ICE-CURT-16-GAKO | in preparation – soon available |               |           |                 |           |



|    |                    |       |                |      |     |     |      |           |
|----|--------------------|-------|----------------|------|-----|-----|------|-----------|
| 6  | ICE-VSK-6-CURT-SL  | 3600  | ICE-CURT-6-SL  | 1500 | 140 | 640 | 6.5  | 7903 444* |
| 8  | ICE-VSK-8-CURT-SL  | 6000  | ICE-CURT-8-SL  | 2800 | 170 | 817 | 12.6 | 7900 026  |
| 10 | ICE-VSK-10-CURT-SL | 10000 | ICE-CURT-10-SL | 2800 | 170 | 935 | 18.1 | 7900 027  |

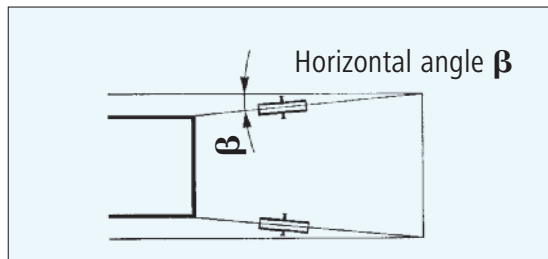
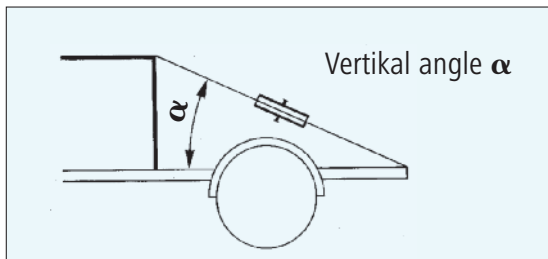
\*expected availability April 2013

# ICE sets benchmarks in lashing chain technology!

Up to 60 % more LC-Lashing Capacity than Grade 80  
– with decisive handling benefits!

## Which lashing chain for which load?

| Diagonal lashing |          |   |           |           |           |           |           |                                   |           |           |           |           |           |
|------------------|----------|---|-----------|-----------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-----------|-----------|
| Lashing chain    | LC [daN] | Max. load weight [t] (horizontal angle $\beta$ : 20°-45°; 2 lashing chains per direction) |           |           |           |           |           |                                   |           |           |           |           |           |
|                  |          | Vertical angle $\alpha$ : 0°-30°  |           |           |           |           |           | Vertical angle $\alpha$ : 30°-60° |           |           |           |           |           |
|                  |          | $\mu=0.1$   | $\mu=0.2$ | $\mu=0.3$ | $\mu=0.4$ | $\mu=0.5$ | $\mu=0.6$ | $\mu=0.1$                         | $\mu=0.2$ | $\mu=0.3$ | $\mu=0.4$ | $\mu=0.5$ | $\mu=0.6$ |
| ICE-VSK 6        | 3600     | 6.2   | 8.4       | 10.4      | 13.0      | 17.4      | 26.2      | 4.5                               | 6.3       | 9.0       | 12.8      | 19.2      | 32.0      |
| VIP-VSK 6        | 3000     | 5.2   | 7.0       | 8.7       | 10.9      | 14.5      | 21.9      | 3.8                               | 5.3       | 7.5       | 10.7      | 16.0      | 26.7      |
| ICE-VSK 8        | 6000     | 10.5  | 14.0      | 17.4      | 21.8      | 29.1      | 43.9      | 7.6                               | 10.7      | 15.0      | 21.4      | 32.0      | 53.4      |
| ICE-VSK 10       | 10000    | 17.5  | 23.4      | 29.0      | 36.4      | 48.6      | 73.1      | 12.8                              | 17.9      | 25.0      | 35.6      | 53.4      | 89.0      |
| ICE-VSK 13       | 16000    | 28.0  | 37.5      | 46.4      | 58.2      | 77.8      | 117.0     | 20.5                              | 28.6      | 40.0      | 57.1      | 85.5      | 142.4     |
| VIP-VSK 16       | 20000    | 35.0  | 46.9      | 58.1      | 72.8      | 97.3      | 146.3     | 25.6                              | 35.8      | 50.0      | 71.3      | 106.9     | 178.0     |



| Frictional lashing |           |  |           |           |           |           |           |                                   |           |           |           |           |           |
|--------------------|-----------|--|-----------|-----------|-----------|-----------|-----------|-----------------------------------|-----------|-----------|-----------|-----------|-----------|
| RUD-Lashing chain  | STF [daN] | = required number of VIP + ICE lashing chains (number of lashing chains = factor from Table X Load weight [t]) |           |           |           |           |           |                                   |           |           |           |           |           |
|                    |           | Vertical angle $\alpha$ : 60°-90°  |           |           |           |           |           | Vertical angle $\alpha$ : 30°-60° |           |           |           |           |           |
|                    |           | $\mu=0.1$  | $\mu=0.2$ | $\mu=0.3$ | $\mu=0.4$ | $\mu=0.5$ | $\mu=0.6$ | $\mu=0.1$                         | $\mu=0.2$ | $\mu=0.3$ | $\mu=0.4$ | $\mu=0.5$ | $\mu=0.6$ |
| VIP-VSK 6          | 1500      | 3.6 x  | 1.6 x     | 0.9 x     | 0.6 x     | 0.4 x     | 0.2 x     | 6.3 x                             | 2.7 x     | 1.5 x     | 0.9 x     | 0.6 x     | 0.3 x     |
| VIP-VSK 8          | 2500      | 2.2 x  | 1.0 x     | 0.6 x     | 0.4 x     | 0.2 x     | 0.2 x     | 3.8 x                             | 1.6 x     | 0.9 x     | 0.6 x     | 0.4 x     | 0.2 x     |
| VIP-VSK 10         | 2800      | 2.0 x  | 0.9 x     | 0.5 x     | 0.3 x     | 0.2 x     | 0.1 x     | 3.4 x                             | 1.5 x     | 0.8 x     | 0.5 x     | 0.3 x     | 0.2 x     |
| ICE-VSK 8/10/13    | 2800      | 2.0 x  | 0.9 x     | 0.5 x     | 0.3 x     | 0.2 x     | 0.1 x     | 3.4 x                             | 1.5 x     | 0.8 x     | 0.5 x     | 0.3 x     | 0.2 x     |
| VIP-VSK 13/16      | 3600      | 1.5 x  | 0.7 x     | 0.4 x     | 0.3 x     | 0.2 x     | 0.1 x     | 2.6 x                             | 1.2 x     | 0.7 x     | 0.4 x     | 0.3 x     | 0.2 x     |

Values of both tables refer to: stable load, road transport, no combination with other lashing or securing methods!

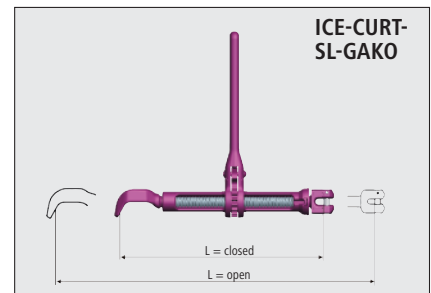
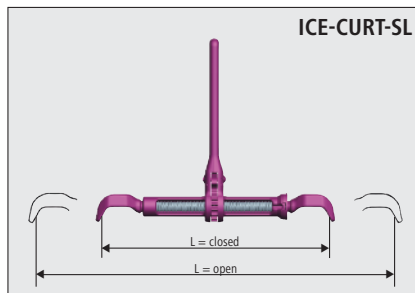
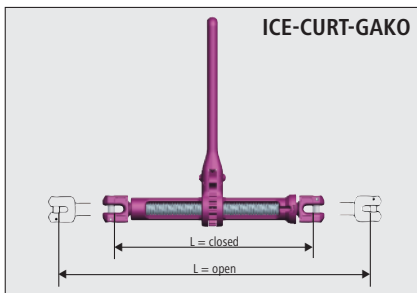
| Slide-coefficient of friction $\mu$ to VDI 2700-2 |           |           |           |
|---|-----------|-----------|-----------|
| Materials   | dry       | wet       | greasy    |
| Wood/wood   | 0.20-0.50 | 0.20-0.25 | 0.05-0.15 |
| Metal/wood  | 0.20-0.50 | 0.20-0.25 | 0.02-0.10 |
| Metal/metal                                       | 0.10-0.25 | 0.10-0.20 | 0.01-0.10 |

If there is a clear deviation from the indicated lashing angles, then it is necessary to add some safety measures (e.g. larger chain diameter, and/or – friction increasing elements).

Heavy construction machinery should be positioned bucket first, tight against the step frame of the low loader.

Handbrake must be engaged and the vehicle left in gear.





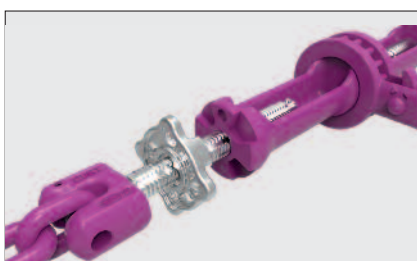
| Chain Ø | Type                | Lashing cap. LC [daN] | L-open [mm]    | L-closed [mm] | Adjustment [mm] | Pretension STF [daN] | Weight [kg/pc.] | Ref. no.  |
|---------|---------------------|-----------------------|----------------|---------------|-----------------|----------------------|-----------------|-----------|
| 6       | ICE-CURT 6-SL       | 3.600                 | 470            | 330           | 140             | 1.500                | 1.6             | 7903441** |
| 6       | ICE-CURT-6-GAKO     | 3.600                 | 400            | 260           | 140             | 1.500                | 1.5             | 7903439** |
| 6       | ICE-CURT-6-SL-GAKO  | 3.600                 | 436            | 296           | 140             | 1.500                | 1.6             | 7903442** |
| 8       | ICE-CURT-8-SL       | 6.000                 | 623            | 453           | 170             | 2.800                | 4.5             | 7999435   |
| 8       | ICE-CURT-8-GAKO     | 6.000                 | 520            | 350           | 170             | 2.800                | 3.9             | 7901125   |
| 8       | ICE-CURT-8-SL-GAKO  | 6.000                 | 575            | 405           | 170             | 2.800                | 4.7             | 7901127   |
| 10      | ICE-CURT-10-SL      | 10.000                | 671            | 501           | 170             | 2.800                | 5.2             | 7999436   |
| 10      | ICE-CURT-10-GAKO    | 10.000                | 532            | 362           | 170             | 2.800                | 4.3             | 7901126   |
| 10      | ICE-CURT-10-SL-GAKO | 10.000                | 605            | 435           | 170             | 2.800                | 4,8             | 7901128   |
| 13      | ICE-T-GAKO-13*      | 16.000                | 695            | 445           | 250             | 2.800                | 7.5             | 7995935   |
| 13      | ICE-CURT-13-GAKO    | 16.000                | 830            | 530           | 300             | 2.800                | 7.6             | 7902624   |
| 16      | ICE-CURT-16-GAKO    | 25.000                | in preparation |               |                 |                      |                 |           |

\*Modell expires (closed thread)

\*\* expected availability April 2013

The **ICE-CURT** comes with an magnetic adhesion blocking clutch which is a securing device against release.

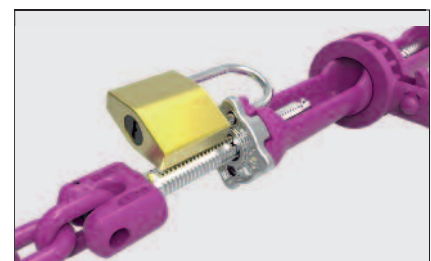
For the user of ICE-lashing chains, this offers a tremendous weight saving, improved ergonomics, quicker installation and more safety.



Locking device opened



Locking device closed



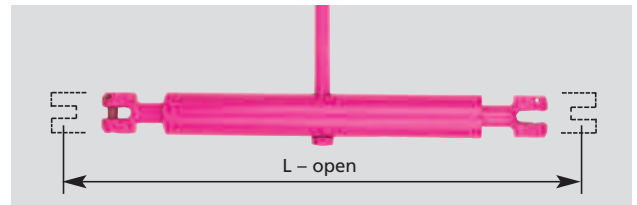
Locking device closed and secured against thefts

# Tensioner according to (DIN-EN-12195-3) standards

*Better than the standard requirements!*

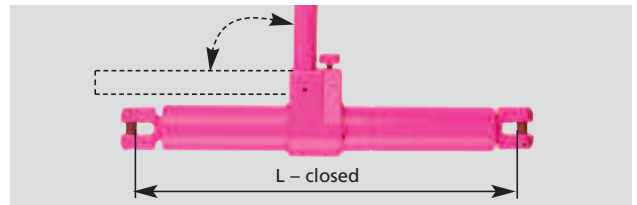
## VKSPS VIP compact spindle tensioner with a tensioning lever

Special robust design due to a solid threaded pipe. Resistant to dirt ingrees. Threads are protected by solid sleeves and can thus not be easily damaged. Safety device to prevent unthreading and a clevis connection are available on both sides. Connecting bolt and securing stud are pre-assembled. Pink powder coated with an axial tensioning lever. No securing chain is necessary.



## VKSPS-R VIP compact spindle with a ratchet

Improved safety due to the foldable ratchet. Pink powder coated. No securing chain is necessary.



| Chain dia. VIP | Lifting WLL t | Lashing cap. LC daN | WLL-kg | Type        | L-open | L-closed | Adjustment mm | Pretension STF daN | Weight kg/pc. | Ref. no. |
|----------------|---------------|---------------------|--------|-------------|--------|----------|---------------|--------------------|---------------|----------|
| 6              | 1.5           | 3000                | 1500   | VKSPS-6     | 323    | 204      | 120           | 1500               | 0.9           | 7990 170 |
| 6              | 1.5           | 3000                | 1500   | VKSPS-R-6   | 323    | 204      | 120           | 1500               | 0.95          | 7990 169 |
| 8              | 2.5           | 5000                | 2500   | VKSPS-8*    | 518    | 308      | 210           | 2500               | 2.8           | 7987 907 |
| 8              | 2.5           | 5000                | 2500   | VKSPS-R-8*  | 518    | 308      | 210           | 2500               | 3.2           | 7988 569 |
| 10             | 4.0           | 8000                | 4000   | VKSPS-10*   | 533    | 324      | 210           | 2800               | 3.1           | 7987 994 |
| 10             | 4.0           | 8000                | 4000   | VKSPS-R-10* | 533    | 324      | 210           | 2800               | 3.6           | 7988 570 |
| 13             | 6.7           | 13400               | 6700   | VKSPS-13*   | 787    | 487      | 300           | 3600               | 7.6           | 7990 133 |
| 13             | 6.7           | 13400               | 6700   | VKSPS-R-13* | 787    | 487      | 300           | 3600               | 8.0           | 7990 132 |
| 16             | 10.0          | 20000               | 10000  | VKSPS-16    | 807    | 507      | 300           | 3600               | 8.8           | 7990 135 |
| 16             | 10.0          | 20000               | 10000  | VKSPS-R-16  | 807    | 507      | 300           | 3600               | 9.3           | 7990 134 |

Surface: pink powder coated.

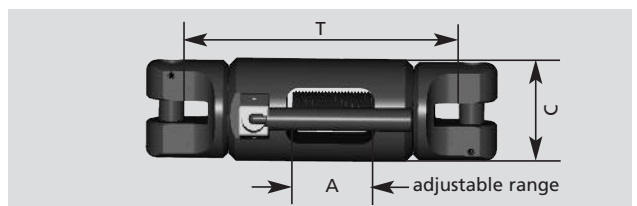
**Remark:** Tensioners once used for lashing must not then used for lifting!

\*Model expires (as long as stock lasts)

## Length adjustment

Length adjustment only possible under low pretensioning resp. in unloaded condition.

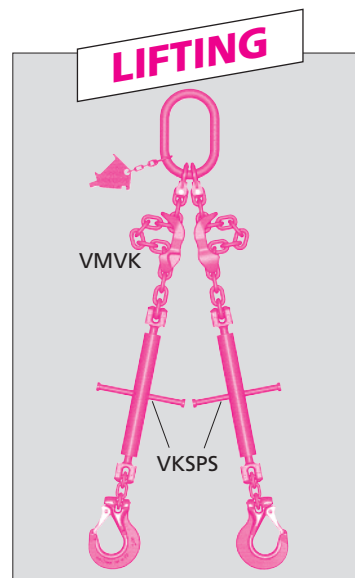
| Chain dia. | Type   | WLL kg | Adjustable range A | C   | Tmin mm | Ref. No.  |
|------------|--------|--------|--------------------|-----|---------|-----------|
| 20         | VLE 20 | 16     | 140                | 110 | 363     | 79 97 322 |
| 22         | VLE 22 | 20     | 140                | 110 | 363     | 79 94 668 |
| 28         | VLE 28 | 31.5   | 175                | 138 | 475     | 79 00 772 |



### Attention:

Design factor for lashing = 2 : 1

Design factor for lifting = 4 : 1



For exact length compensation with chain assemblies. Length in mm can exactly be adjusted by right- and left hand thread via tensioner or ratchet.

VLE: may only be adjusted in an unloaded condition.

**Lashing protocol, easily generated with RUD CD-ROM!**  
Reference No. 7982945





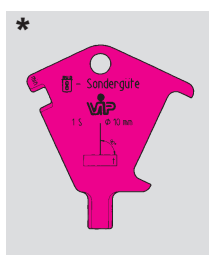
**Chain Inspection Service – prioritising security! –**



**RUD lifting and lashing means - Inspection service:**  
 Inspection means safety and conservation of value! The RUD inspection service offers an on location complete safety service. We inspect the lifting and lashing means according to the below listed six point program. Our technicians are qualified specialists according to EN 473 and work with modern testing devices. Inspection certification according to BGR 500 and the new EC - law.



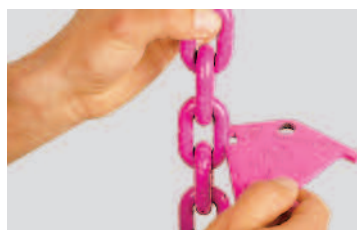
**VIP-ID tag incl. Testing guide**  
 \*for VIP-lifting/  
 \*\* lashing chains



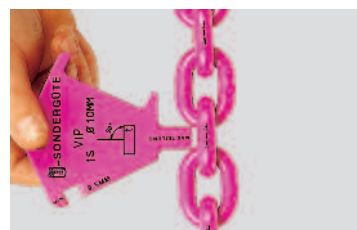
| Chain | Type    | Ref. No.  |
|-------|---------|-----------|
| 6     | VKPL-6  | 71 00 639 |
| 8     | VKPL-8  | 71 00 657 |
| 10    | VKPL-10 | 71 00 662 |
| 13    | VKPL-13 | 71 00 667 |
| 16    | VKPL-16 | 71 00 672 |
| 20    | VKPL-20 | 71 04 045 |
| 22    | VKPL-22 | 71 01 832 |



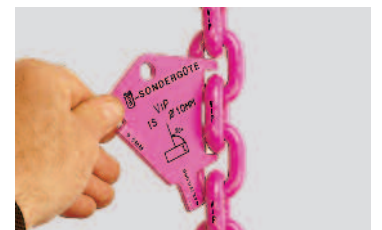
| Chain | Type       | Ref. No. |
|-------|------------|----------|
| 6     | VSK-KPL-6  | 7988623  |
| 8     | VSK-KPL-8  | 7988624  |
| 10    | VSK-KPL-10 | 7988625  |
| 13    | VSK-KPL-13 | 7988626  |
| 16    | VSK-KPL-16 | 7988627  |



Testing wear of nominal dia.



Testing for elongation caused by wear of nominal diameter.



Testing for pitch elongation caused by overload.



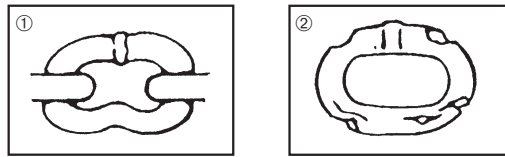
■ At regular intervals (maximum: one year) **chain assemblies** must be inspected by a competent person. Depending on the application circumstances, inspection might be necessary with in a time interval of less than one year. After a max. period of three years, chains must under go special inspection for the detection of cracks. After the occurrence of a special incident, which could affect the WLL, chains should also be inspected by a compe-

tent person. In the case of VIP chains and components, proof loading instead of magnetic crack detection is insufficient. After the magnetic crack detection, probable cracks will be visible despite the pink powder coating. Use the crack detection fluid "Ferroflux".



## Regular Maintenance and Testing

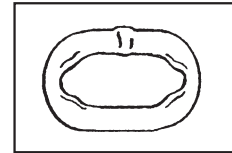
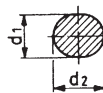
■ **Visual examination:** This reveals any exterior defects for example deformed or twisted chain links or chain links with notches. Examine the components as to the correct fitting, completeness and efficiency of the safety devices.



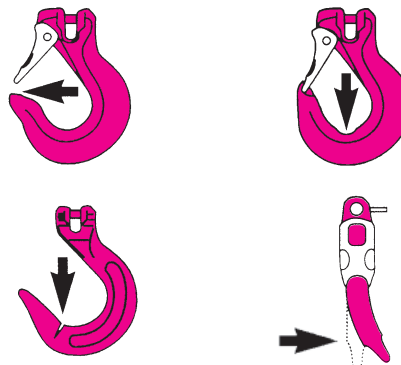
### ■ Examination of wear and elongation:

1. Examine wear of diameter.
2. Examine the plastic elongation caused by overload, more than 5 % based on the pitch  $3d$ .  $D_m = d1/2 + d2/2 \geq 0.9 d$ .
3. Determine the pitch elongation caused by wear of the diameter. This can be easily carried out using the VIP testing gauge (refer to page 6 and 48).

$$d_m = \frac{d_1 + d_2}{2} \geq 0.9 d$$



■ **Accessories:** When the opening of the hook is deformed by more than 10 % or worn out by more than 5 %, it must be replaced. The same applies if the hook has got deep notches. For wear marks dimensions F refer to VCGH on pages 18 and 19. The same applies as for the lateral bending of the hook.



Permissible max. wear of the VG – bolt diameter  $\leq 10 \%$ .

When replacing components, always use new connecting bolts and tensioning sleeves.

### ■ Documentation in a chain register:

The entries in the chain register card give us information about the continuous inspection measures under taken by the user in the course of using the lifting and lashing chains. For the user, this can additionally be used as evidence to be presented to the respective authorities to prove compliance with accident prevention measures as required by the EC-machinery directives.



The new RUD-ID-System® will support your product administration and documentation (see pages 8 and 9).

### ■ Only RUD original spare parts must be used!

VIP-chains and components must be kept away from aggressive chemicals and acids. Surface treatment can only be undertaken by the manu-

facturer. Pay attention to the influence of temperatures (refer to the table on pages 4 and 7).

Please strictly adhere to the following regulations and specifications: BetrSichV – BGR 500, EN 818, EN 1677 and the RUD user instructions. We are not liable for damages incurred as a result of ignoring the above regulations and specifications.



# CD-USER- INFORMATION on CD-ROM or [www.rud.com](http://www.rud.com)



Always  
"up to  
date"!



Interactive programme  
with ICE- and VIP-Lashing  
Calculation Program and  
Lashing Protocol!

Using the questionnaire  
the most important data  
is entered, for example:  
working load, number of  
lifting points (or distance  
between lifting points),  
angle, shock load impact,  
sharp corners, influence of  
temperature etc.

Automatically the correct ICE  
and VIP Chain Sling or lifting  
point will be determined with-  
in seconds.  
You can print out: Drawings,  
part lists, lashing protocols,  
calculation of the selected  
components.



| SELECTION | USE      | INSPECTION/TEST | MAINTAINING/REPAIR | DOCUMENTATION |
|-----------|----------|-----------------|--------------------|---------------|
|           |          |                 |                    |               |
| <b>1</b>  | <b>2</b> | <b>3</b>        | <b>4</b>           | <b>5</b>      |

### Short user Information

Reference No.: 7982411

**USER INSTRUCTION**

- Benutzung nur durch Beauftragte, die in der Anwendung und die Unfallverhütungsvorschrift VBG 9a unterwiesen sind.
- Abweichungen von normalen Einsatzbedingungen erfordern Tragfähigkeits- und reduzierungen von normalen Einsatzbedingungen, beim Anschlag im Schräglage und beim Einsatz außerhalb des Temperaturbereiches von -40° bis 200° C.
- Einsatz unter chemischen Einflüssen wie z. B. in Säuren, Laugen und deren Dämpfe verboten.
- Anschlag nur an geeigneter Last-Anschlagstelle. Nicht an Umschnürung der Last fassen.
- Überprüfung und Instandsetzung nur durch Sachkundige.
- Prüfrisikale bei Anschlagkette Betriebsanleitung/Benutzeranleitung lesen und beim Gebrauch beachten.
- Auf Vollständigkeit und Wirksamkeit der Sicherheitsvorrichtungen ist zu achten.
- VIP-Ketten dürfen nur mit VIP-Zubehörteilen verwendet werden.

RUD-Kettenfabrik, Rieger & Dietz GmbH u. Co, D-73428 Aalen

According to EC Machinery Directive 2006/42/EG - BetrSichV - BGR 500.



### User Information for RUD Chain Sling

Reference No.: 7101649



Identification, inspection and documentation made easy!



...with RFID!

see pages 8/9

**RUD-Quality in PINK!**  
Grade 80, Grade 100 (VIP) and Grade 120 (ICE)  
WLL in metric tons of sling chains  
According to inclination angle at symmetric loading

| RUD quality grades | WLL  | Methods of sling | WLL   |
|--------------------|------|------------------|-------|
| Grade 80           | 100  | 1:1              | 100   |
|                    | 125  | 2:1              | 62.5  |
|                    | 150  | 3:1              | 50    |
|                    | 175  | 4:1              | 43.75 |
|                    | 200  | 5:1              | 40    |
|                    | 225  | 6:1              | 37.5  |
|                    | 250  | 7:1              | 35.7  |
|                    | 275  | 8:1              | 34.4  |
|                    | 300  | 9:1              | 33.3  |
|                    | 325  | 10:1             | 32.5  |
|                    | 350  | 11:1             | 31.8  |
|                    | 375  | 12:1             | 31.25 |
|                    | 400  | 13:1             | 30.8  |
|                    | 425  | 14:1             | 30.4  |
|                    | 450  | 15:1             | 30    |
|                    | 475  | 16:1             | 29.7  |
|                    | 500  | 17:1             | 29.4  |
|                    | 525  | 18:1             | 29.2  |
|                    | 550  | 19:1             | 29    |
|                    | 575  | 20:1             | 28.8  |
|                    | 600  | 21:1             | 28.6  |
|                    | 625  | 22:1             | 28.4  |
|                    | 650  | 23:1             | 28.3  |
|                    | 675  | 24:1             | 28.1  |
|                    | 700  | 25:1             | 28    |
|                    | 725  | 26:1             | 27.9  |
|                    | 750  | 27:1             | 27.8  |
|                    | 775  | 28:1             | 27.7  |
|                    | 800  | 29:1             | 27.6  |
|                    | 825  | 30:1             | 27.5  |
|                    | 850  | 31:1             | 27.4  |
|                    | 875  | 32:1             | 27.3  |
|                    | 900  | 33:1             | 27.3  |
|                    | 925  | 34:1             | 27.2  |
|                    | 950  | 35:1             | 27.1  |
|                    | 975  | 36:1             | 27.1  |
|                    | 1000 | 37:1             | 27    |
|                    | 1025 | 38:1             | 27    |
|                    | 1050 | 39:1             | 26.9  |
|                    | 1075 | 40:1             | 26.9  |
|                    | 1100 | 41:1             | 26.8  |
|                    | 1125 | 42:1             | 26.8  |
|                    | 1150 | 43:1             | 26.7  |
|                    | 1175 | 44:1             | 26.7  |
|                    | 1200 | 45:1             | 26.7  |

Reference No.: 7102334

### VIP WLL Poster

Size 420 x 625 mm  
Special Grade and Grade 80.



### Storage of lifting and lashing system components.

Hang the components appropriately in a frame.



# RUD-Quality in PIN

Grade 80, Grade 100 (VIP) and Grade 120 (ICE)  
 WLL »in metric tons« of sling  
 According to inclination angle at symmetrical

RUD quality grades

| 80         | 100   | 120   |
|------------|-------|-------|
|            |       |       |
| 100 %      | 133 % | 158 % |
| <b>WLL</b> |       |       |

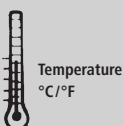
Grade  
**80** **VIP** **ICE**  
**100** **120**



| Methods of sling           |               | 1-leg | 2-leg |          | 3-4 leg |          |
|----------------------------|---------------|-------|-------|----------|---------|----------|
|                            |               |       |       |          |         |          |
| inclination angle: $\beta$ |               | 0     | 0-45° | > 45-60° | 0-45°   | > 45-60° |
| load factor                |               | 1.0   | 1.4   | 1.0      | 2.1     | 1.5      |
| Diam. of chains            | Quality grade |       |       |          |         |          |
| Ø 4                        | VIP           | 0.63  | 0.88  | 0.63     | 1.32    | 0.95     |
| Ø 6                        | Gk 8          | 1.12  | 1.6   | 1.12     | 2.36    | 1.7      |
|                            | VIP           | 1.5   | 2.1   | 1.5      | 3.15    | 2.25     |
|                            | ICE           | 1.8   | 2.5   | 1.8      | 3.75    | 2.7      |
| Ø 8                        | Gk 8          | 2.0   | 2.8   | 2.0      | 4.25    | 3.0      |
|                            | VIP           | 2.5   | 3.5   | 2.5      | 5.25    | 3.75     |
|                            | ICE           | 3.0   | 4.2   | 3.0      | 6.3     | 4.5      |
| Ø 10                       | Gk 8          | 3.15  | 4.25  | 3.15     | 6.7     | 4.75     |
|                            | VIP           | 4.0   | 5.6   | 4.0      | 8.4     | 6.0      |
|                            | ICE           | 5.0   | 7.0   | 5.0      | 10.5    | 7.5      |
| Ø 13                       | Gk 8          | 5.3   | 7.5   | 5.3      | 11.2    | 8.0      |
|                            | VIP           | 6.7   | 9.5   | 6.7      | 14.0    | 10.0     |
|                            | ICE           | 8.0   | 11.2  | 8.0      | 16.8    | 12.0     |
| Ø 16                       | Gk 8          | 8.0   | 11.2  | 8.0      | 17.0    | 11.8     |
|                            | VIP           | 10.0  | 14.0  | 10.0     | 21.0    | 15.0     |
|                            | ICE           | 12.5  | 17.0  | 12.5     | 26.5    | 19.0     |
| Ø 18                       | Gk 8          | 10.0  | 14.0  | 10.0     | 21.0    | 15.0     |
| Ø 20                       | Gk 8          | 12.5  | 17.0  | 12.5     | 26.5    | 19.0     |
|                            | VIP           | 16.0  | 22.4  | 16.0     | 33.6    | 24.0     |
| Ø 22                       | Gk 8          | 15.0  | 21.2  | 15.0     | 31.5    | 22.4     |
|                            | VIP           | 20.0  | 28.0  | 20.0     | 42.0    | 30.0     |
| Ø 26                       | Gk 8          | 21.2  | 30.0  | 21.2     | 45.0    | 31.5     |
| Ø 28                       | VIP           | 31.5  | 45.0  | 31.5     | 67.0*   | 47.5*    |
| Ø 32                       | Gk 8          | 31.5  | 45.0  | 31.5     | 67.0    | 47.5     |



**Attention:**  
 WLL has to be reduced by 50 % when load is unsymmetrical!



Subject to technical modifications. \*Only 2 x 2-leg type available.

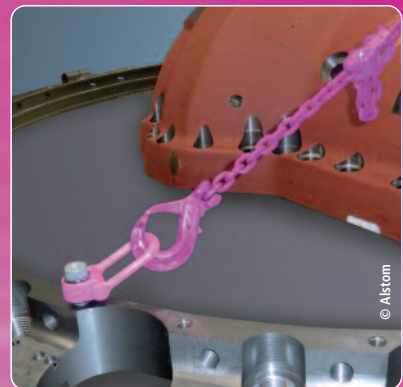
# K!

# RUD®

## Grade 120 (ICE) Sling chains Metric loading

**„Made in Germany“**

| endless**<br>Basket sling chain<br>with choke hitch | Basket sling chain**                       |          |  |          | Choke hitch**  |        |          |   |
|---|--|----------|--|----------|--|--------|----------|---|
|   | single                                     |          | double   |          | single   | double |          |   |
|   | 0-45°                                      | > 45-60° | 0-45°  | > 45-60° | 0°   | 0-45°  | > 45-60° |   |
| 1.6   | 1.1  | 0.8      | 1.7  | 1.2      | 0.8  | 1.1    | 0.8      |   |
| 1.0   | 0.69                                       | 0.5      | 1.1  | 0.75     | 0.5  | 0.69   | 0.5      |   |
| 1.8   | 1.2  | 0.9      | 1.9  | 1.3      | 0.9  | 1.2    | 0.9      |   |
| 2.4   | 1.65                                       | 1.2      | 2.55   | 1.8      | 1.2  | 1.65   | 1.2      |   |
| 2.88  | 2.0  | 1.44     | 3.1  | 2.1      | 1.44   | 2.0    | 1.44     |   |
| 3.2   | 2.2  | 1.6      | 3.4  | 2.4      | 1.6  | 2.2    | 1.6      |   |
| 4.0   | 2.75                                       | 2.0      | 4.25   | 3.0      | 2.0  | 2.75   | 2.0      |   |
| 4.8   | 3.3  | 2.4      | 5.1  | 3.6      | 2.4  | 3.3    | 2.4      |   |
| 5.0   | 3.5  | 2.5      | 5.3  | 3.8      | 2.5  | 3.5    | 2.5      |   |
| 6.4   | 4.4  | 3.2      | 6.8  | 4.8      | 3.2  | 4.4    | 3.2      |   |
| 8.0   | 5.5  | 4.0      | 8.5  | 6.0      | 4.0  | 5.5    | 4.0      |   |
| 8.5   | 5.8  | 4.0      | 9.0  | 6.0      | 4.0  | 5.8    | 4.0      |   |
| 10.6  | 7.5  | 5.3      | 11.2   | 8.0      | 5.3  | 7.5    | 5.3      |   |
| 12.8  | 8.8  | 6.4      | 13.6   | 9.6      | 6.4  | 8.8    | 6.4      |   |
| 12.5  | 8.8  | 6.4      | 13.6   | 9.6      | 6.4  | 8.8    | 6.4      |   |
| 16.0  | 11.0                                       | 8.0      | 17.0   | 12.0     | 8.0  | 11.0   | 8.0      |   |
| 20.0  | 14.0                                       | 10.0     | 21.2   | 15.0     | 10.0   | 14.0   | 10.0     |   |
| 16.0  | 11.0                                       | 8.0      | 17.0   | 12.0     | 8.0  | 11.0   | 8.0      |   |
| 20.0  | 14.0                                       | 10.0     | 21.2   | 15.0     | 10.0   | 14.0   | 10.0     |   |
| 25.6  | 17.6                                       | 12.8     | 27.2   | 19.2     | 12.8   | 17.6   | 12.8     |   |
| 23.6  | 16.5                                       | 12.0     | 25.5   | 18.0     | 12.0   | 16.5   | 12.0     |   |
| 32.0  | 22.0                                       | 16.0     | 34.0   | 24.0     | 16.0   | 22.0   | 16.0     |   |
| 33.5  | 23.3                                       | 17.0     | 36.0   | 25.4     | 17.0   | 23.0   | 17.0     |   |
| 50.0  | 35.5                                       | 25.0     | 53.0*  | 37.5*    | 25.0   | 35.5   | 25.0     |   |
| 50.0  | 35.5                                       | 25.0     | 53.0   | 37.5     | 25.0   | 35.5   | 25.0     |   |
| Grade 80  | -40° up to +200° C<br>(+40° up to +392° F) |          | higher 200° up to 300° C<br>(higher 392° up to 572° F) |          | higher 300° up to 400° C<br>(higher 572° up to 752° F) |        |          | **20 % reduction<br>for basket chains,<br>due to sharp edges,<br>is considered. |
|   | 100 %                                      |          | 90 %   |          | 75 %   |        |          |   |
| VIP 100   | -40° up to +200° C<br>(+40° up to +392° F) |          | higher 200° up to 300° C<br>(higher 392° up to 572° F) |          | higher 300° up to 380° C<br>(higher 572° up to 716° F) |        |          |   |
|   | 100 %                                      |          | 90 %   |          | 60 %   |        |          |   |
| ICE 120   | -60° up to +200° C<br>(-76° up to +392° F) |          | higher 200° up to 250° C<br>(higher 392° up to 482° F) |          | higher 250° up to 300° C<br>(higher 482° up to 572° F) |        |          |   |
|   | 100 %                                      |          | 90 %   |          | 60 %   |        |          |   |



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**RUD**<sup>®</sup>

**Important information!**

**Optimal load securing...**

...with **VIP** and **ICE-Lashing** means



Best load securing – a compulsory legal necessity!

**ICE 120** 

Edition 21

**RUD**<sup>®</sup>

**RUD-LIFTING POWER**  
...EVERY LOAD UNDER CONTROL!

**ICE 120 + VIP 100**



**MADE IN GERMANY**

**LIFTING POINTS**



Tradition in Dynamic Innovation

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