

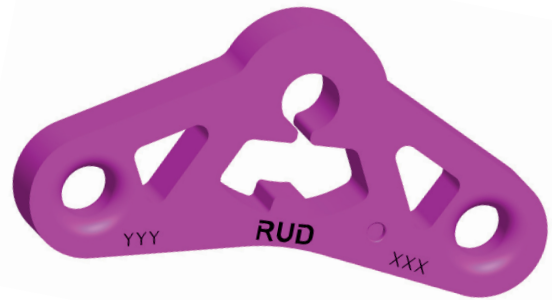
# > VIP-Balancer <



## User instruction

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

Translation of the original user instruction



VIP-Balancer



**RUD Ketten**  
**Rieger & Dietz GmbH u. Co. KG**  
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 sling@rud.com  
 www.rud.com

RUD-Art.-Nr.: 7903591-EN / V04 / 06.025



Simple test, management and  
 documentation subject to mandatory testing  
 operating resources, equipment and components.



### EG-Einbauerklärung

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

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

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

Produktbezeichnung: VIP-Wippe  
VW

Folgende harmonisierten Normen wurden angewandt:

DIN EN ISO 12100 : 2011-03 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:

DGUV-R 109-017 : 2020-12 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

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

Aalen, den 01.06.2022

Hermann Kolb, Bereichsleitung MA   
 Name, Funktion und Unterschrift Verantwortlicher



### EC-Mounting declaration

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

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

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

Product name: VIP-Balancer  
VW

The following harmonized norms were applied:

DIN EN ISO 12100 : 2011-03 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

The following national norms and technical specifications were applied:

DGUV-R 109-017 : 2020-12 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

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

Aalen, den 01.06.2022

Hermann Kolb, Bereichsleitung MA   
 Name, function and signature of the responsible person



*Before use or assembly of VIP-Balancer please read user instruction carefully. Make sure that you have understood all subject matters. Non-observance can lead to personal and material damage and eliminates warranty.*

## 1 Safety instructions



### WARNING

*Wrong assembled or damaged components as well as improper use can lead to injuries of persons and damage of objects when load drops. Please inspect all components before each use.*

- Keep all body parts like fingers, hands, arms, etc. out of the hazardous area during the lifting operation.
- Any technical modifications at the VIP-Balancer are prohibited.
- Keep persons out of the hazardous area.
- Detention under a floating load is forbidden.
- Jerkily lifts with shock loads must be avoided.
- When the lift starts, pay attention to a stable position of the load. Avoid swinging of the load.
- Damaged or worn VIP-Balancer must no longer be used.
- Bear in mind extreme circumstances or shock loads when choosing the used components.
- The VIP-Balancer must not be used under load with a limit inclination angle of 10° (see *Pic. 19* and *Pic. 20*).
- The inclination angle  $\beta$  must not exceed 45° (see *Pic. 21* and *Pic. 22*).
- VIP-Balancers must only be used by designated and trained persons by observing the DGUV 109-017 and outside Germany acc. to the country specific regulations.

## 2 Intended use

A VIP-Balancer is installed in a 4-leg application (2x 2-leg), to achieve an equal load distribution to all 4 legs (*Pic. 28*). The length tolerances of the single legs will be compensated by the disposition of the VIP-Balancer.

Please observe that the VIP-Balancer does not exceed the limit inclination angle of 10° (*Pic. 18* and *Pic. 19*). By the special bottom shape of the VIP-Balancer you can realize very easy the limit inclination angle of 10°.

During use make sure that the 2-leg sling with the balancer will not be used separately. Observe the safety instructions: „Lifting means used for lifting of loads must especially avoid that loads shift unattended or drop in free fall.“

VIP-Balancers must only be used in the here explained usage.

You can calculate with 4 load bearing strands if the following criteria are fulfilled (DGUV 109-017):

- Two 2-leg slings, thereof one sling with a balancer.
- Both 2-leg slings will be attached to one hook (single or double crane hook)
- Symmetrical load spreading
- Max. inclination angle  $\beta$  45°



### WARNING

*The 2-leg sling with the balancer must not be used separately as 2-leg sling. Lifting means for lifting of loads must avoid that loads can shift unintentional. (Compare with work safety requirement, attachment 1, chapter 3.2.3).*

## 3 Assembly- and instruction manual

### 3.1 General information

- Capability of temperature usage  
When used at temperatures higher than 200°C the working load limits (WLL) of the VIP-Balancer must be reduced as follows:  
 -20°C up to 200°C no reduction  
 200°C up to 300°C minus 10 %  
 300°C up to 380°C minus 40 %  
 Temperatures exceeding 380°C are prohibited!!
- VIP-Balancer must not be used with aggressive chemicals such as acids, alkaline solutions and their vapors.
- The VIP-balancer head consists of the following components

Size 6-22 mm	Size 28 mm
VAK- / VSAK-Master Link	VAK- / VBK-Master Link
VV-SCH / VC-SCH / Shackle (40 t)	adaptor
VW	VW
VVS / VIP-CCS	VVS

Table 1: Components

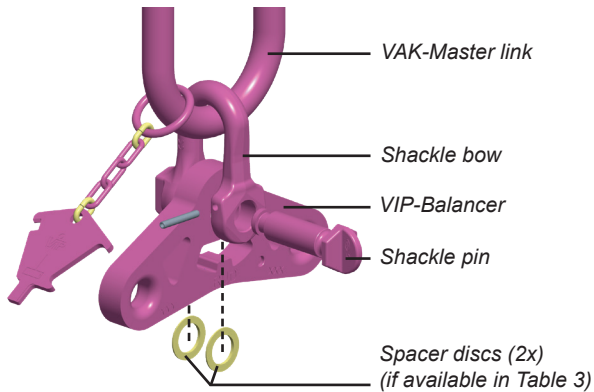
### 3.2 Hints for the assembly

#### 3.2.1 Assembly of masterlinks and shackles (size 6-22 mm)

Please observe absolutely the correct sizing of masterlinks, shackles and balancers during assembly and repairing (see *Table 3 / Table 4*).

During the assembly of the VIP balancer head please proceed as follows:

- 1 Please meet the following component adjustment while VIP balancer head is assembled (Pic. 1):



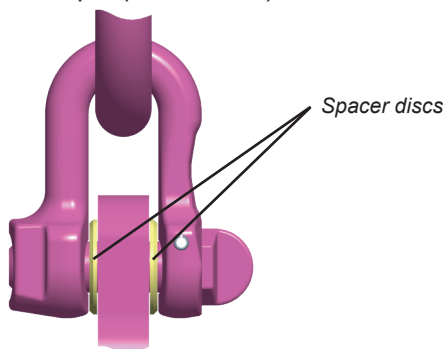
Pic. 1: Component adjustment

- 2 Attach shackle bow into VAK-Master link.
- 3 Move shackle bow plus VAK Master link over the top hole of the balancer.
- 4 Close shackle by moving the shackle pin through the top hole of the balancer.



#### HINT

To avoid one-sided loading of the shackle, some VIP balancer heads are fitted with spacer discs on both sides of the shackle pin (see Table 3).



Pic. 2: Spacer discs (on both sides of the shackle pin)

- 5 Turn shackle pin completely in and secure it always with a cotter or a sleeve pin. The shackle must now be firm connected to the VIP balancer (Pic. 3).



#### HINT

The bow of the shackle must always be secured: Sleeve pin for VV-SCH 10, 13 and 16. Cotter pin for VC-SCH 4.0; 5.0; 6.0 and shackle (40 t).



Pic. 3: Assembled VIP balancer with shackle

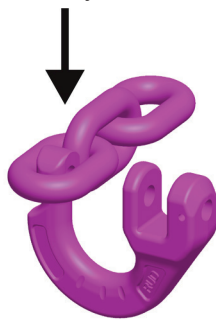
### 3.2.2 Assembly of chain strands (by using connecting links)

The chain strands will be connected to the balancer by using VIP-Connecting Links.

#### Sequence of assembly:

In the following description the assembly of the connecting link VVS will be described exemplarily with the example of a VIP-Balancer and a VIP-Chain.

- 1 Install last link of the chain strand into the nose (Pic. 4). In this case there is no additional connector necessary.

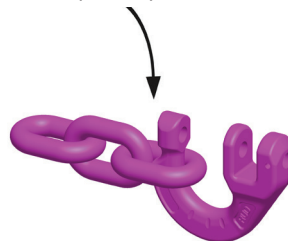


Pic. 4: Install chain into nose



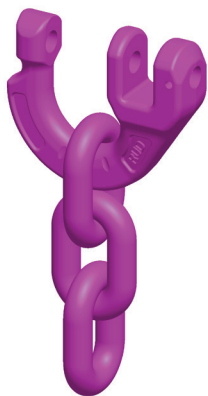
#### HINT

At the beginning of the bow rounding, chain link can be turned by 90° within the bow (Pic. 5).



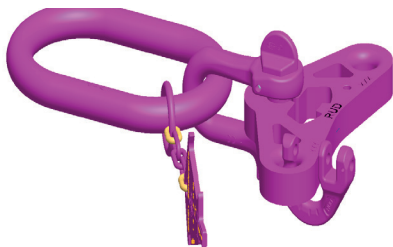
Pic. 5: Turn chain link

- 2 Position chain strand to the bottom of the bow part (Pic. 6).



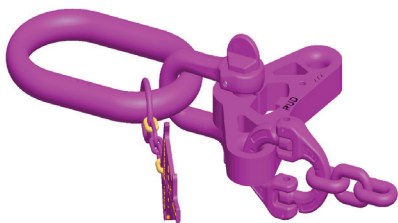
Pic. 6: Suspend chain strand in bow part

- 3 Insert the second bow part into the bottom hole of the balancer / balancer connection (Pic. 7).



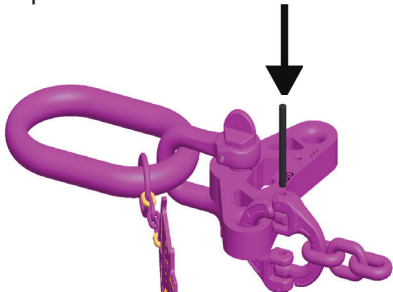
Pic. 7: Assembly of the second bow part into the bottom hole of the balancer / balancer connection.

- 4 Assemble both bow parts together in such a way that components are aligned (Pic. 8).



Pic. 8: Aligning bow parts

- 5 Install pin into the bore of the eye (Pic. 9). Both bow parts are now connected with each other.

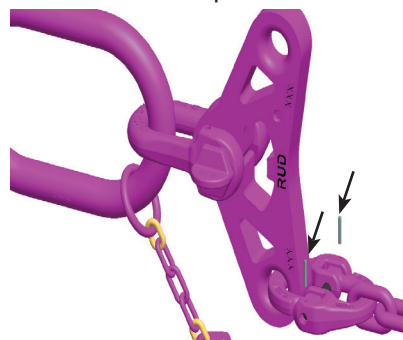


Pic. 9: Assembly of connecting pin

- 6 Secure the assembled connecting link as follows (Pic. 10):

- Position the securing pin resp. the sleeve pin in such a way, that the slot faces the outside.

- Knock sleeve pin in with a hammer.



Pic. 10: Securing of connecting pin

- 7 Finally check the correct assembly (see chapter 4 Inspection / Repair / Disposal).

### 3.2.3 Assembly of chain strands (by using clevis shackle size 6-22 mm)

Clevis shackles can also be used at the bottom of the balancer / ballancer connection instead of the VIP-connecting links.

Chain strands are connected to the balancer by using clevis shackles. The chain strands will be connected with the clevis shackles by bolt assembly.

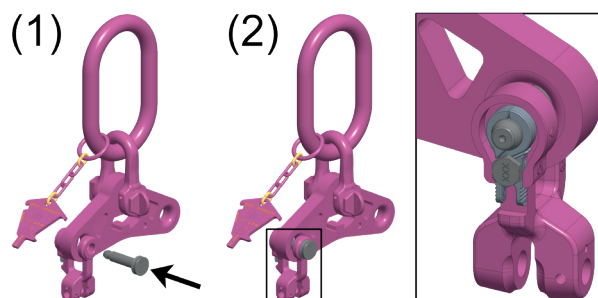
During assembly of the bolt please observe the following:

- Assemble only bolts with a H1-10 embossment
- Assemble sleeve pin for the securing of the connecting bolt in such a way that the slot shows to the outside.
- Use sleeve pin only once
- Use only original RUD spare parts
- Check finally the correct assembly (see chapter 4 Inspection / Repair / Disposal).

#### Sequence of assembly:

In the following description the assembly of the clevis shackle VIP-CCS will be described exemplarily with the example of a VIP-Balancer and a VIP-Chain.

- 1 Slide the shackle bow over the lower balancer connection.
- 2 Close the clevis shackle by pushing the shackle pin through the lower balancer connection (Pic. 11 (1)). When correctly mounted, both ends of the pliers open and automatically engage into the groove on the shackle pin. The clevis shackle must now be firmly connected to the balancer (Pic. 11 (2)).

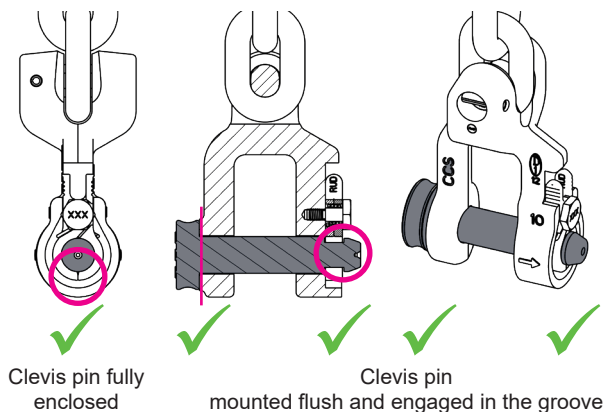


Pic. 11: Mounting the clevis shackle into the bottom of the balancer

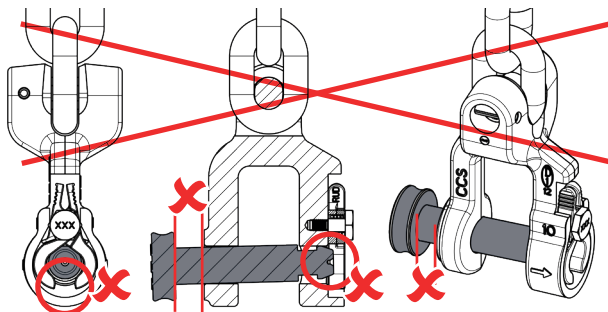
3 Check that the clevis shackle is fitted correctly:

- Correct assembly (Pic. 12)
- Incorrect assembly (Pic. 13)

**Make a correction!**

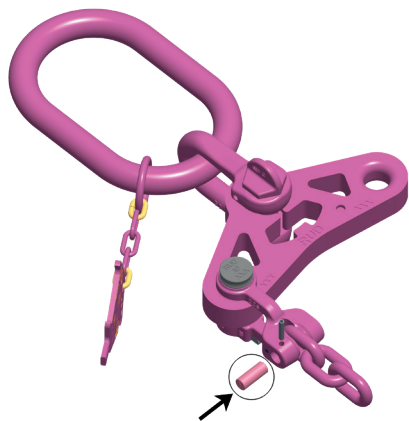


Pic. 12: Correct assembly



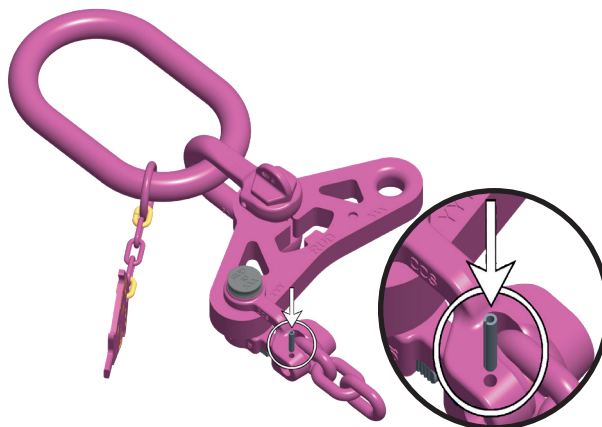
Pic. 13: Incorrect assembly  
(not flush or not fully mounted)

4 Insert VIP-G-pin (Pic. 14).



Pic. 14: Mounting VIP-G-pin

5 Secure the VIP-G-pin by hammering the split pin in (Pic. 15 and Pic. 16).

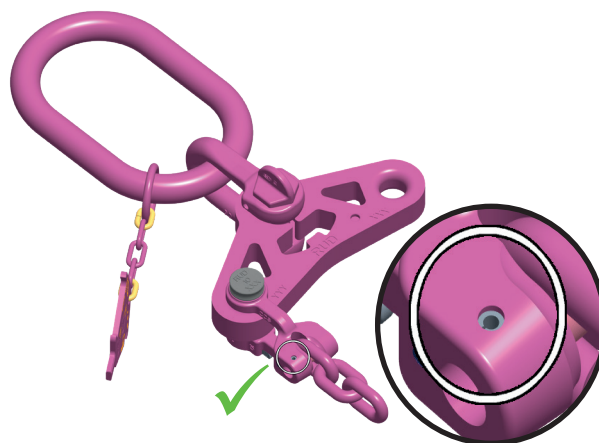


Pic. 15: Secure VIP-G-pin using a sleeve pin



#### IMPORTANT HINT

The slot of the sleeve pin must always look to the outside



Pic. 16: Mounted / fixed VIP-G-pin and sleeve pin

6 Finally check the correct assembly (see chapter 4 Inspection / Repair / Disposal).

#### 3.2.4 Assembly of masterlinks and adapter (size 28mm)

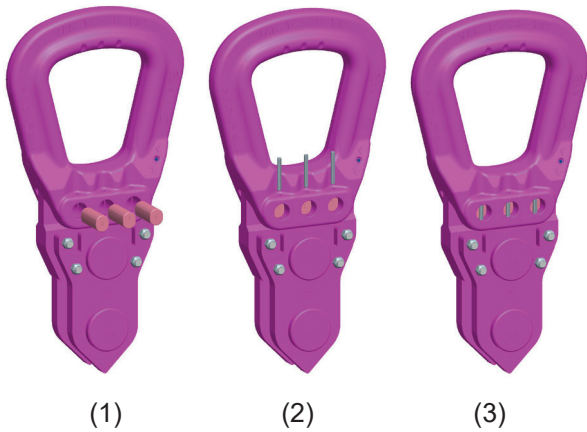


#### HINT

For a safe usage of the VIP-MAXI-Balancer make sure that always all 3 VIP-G pins are installed and each one is secured by a split pin!

- 1 Insert all 3 VIP-G-Pins. (Pic. 17 (1)).
- 2 Hammer all 3 split pins in (Pic. 17 (2)).
- 3 Check finally, that all 3 VIP-G-Pins and the 3 split pins are installed correctly (The groove of the split pin must be visible from outside).





Pic. 17: Assembly of adapter

### 3.3 General information regarding use

The whole lifting mean must be inspected regularly by a competent person in regard of proper installation, strong corrosion, cracks at load bearing parts and deformations (e.g. by the person responsible for attachment). See section 4 *Inspection / Repair / Disposal*).



#### WARNING

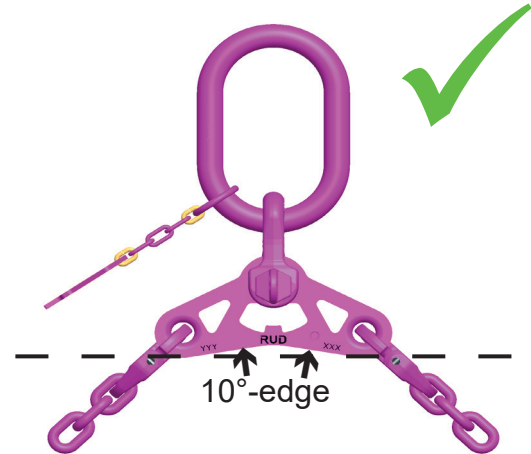
Wrong assembled or damaged components as well as improper use can lead to injuries of persons and damage of objects when load drops.

Please inspect all components before each use.

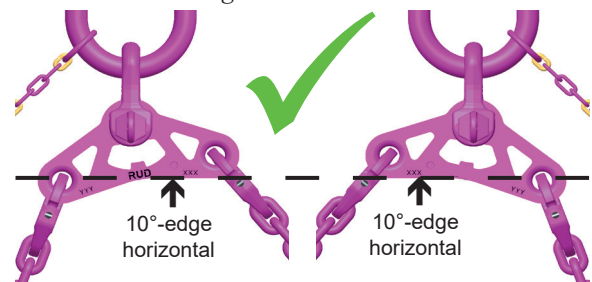
- RUD components have been designed as per DIN EN 818 and DIN EN 1677 for a dynamic load of 20,000 load cycles.
  - Observe and be aware that multiple load cycles can occur during a lifting operation.
  - Observe the risk of product damage caused by high dynamical influences at high load cycle numbers.
  - BG/DGUV Germany's employer insurance association recommends: At high dynamical loading with a high number of load cycles (permanent use), the stress at WLL acc. to FEM class 1Bm (M3 acc. to DIN EN 818-7) must be reduced. Use a lifting chain with a higher WLL.
- Make sure that the load force happens in the straight leg without being twisted, fold-over or kinked.
- Leave hazardous area when possible.
- Monitor always attached or lashed loads.
- Read for all lifting means the RUD sling chain safety instructions for RUD lifting means.

### 3.4 Hints for the usage (limit of inclination angle)

- Before each usage please control the correct assembly of the VIP-Balancer.
- Observe that the inclination angle of the VIP-Balancer does not exceed 10° (see pictures Pic. 18-Pic. 20).



Pic. 18: In the ideal case no skewing of the balancer should occur 10° edge



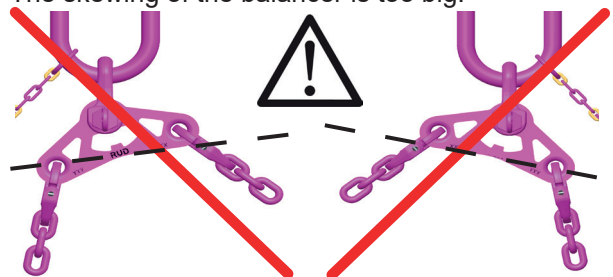
Pic. 19: Limit skewing inclination of 10° reached (can be recognised by horizontal alignment of edge)



#### HINT

The maximum allowed balancer skewing of 10° can be recognised by the specific shape of the VIP-Balancer. The limit skewing angle of 10° can be easily recognized.

- A skewing of the balancer under load by more than 10° is prohibited (see Pic. 20)! The 10° edge is no longer aligned horizontal! The skewing of the balancer is too big.



Pic. 20: Skewing of the balancer by more than 10° is prohibited.

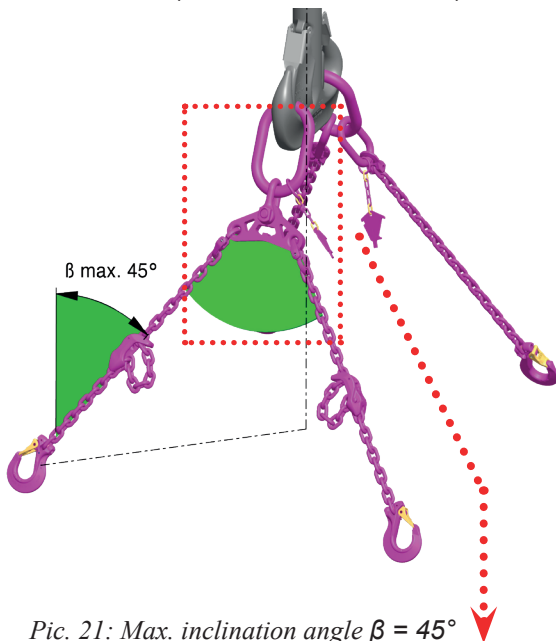


#### WARNING

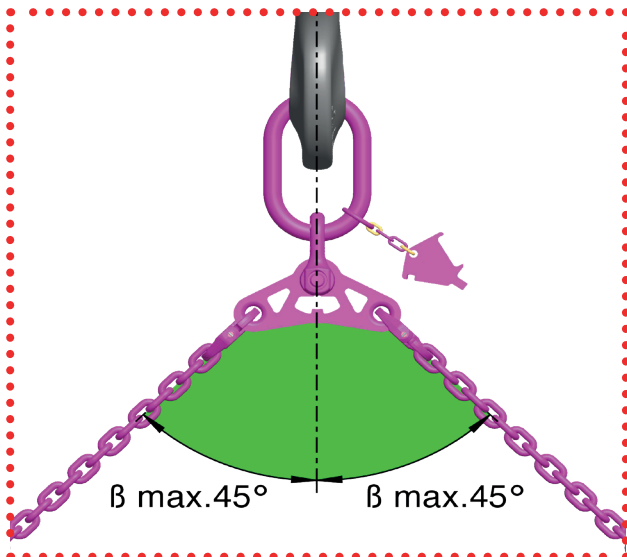
Skewing of the balancer by more than 10° is prohibited. Should the limit skewing angle exceed 10°, an ICE-CURT-GAKO length adjustment has to be installed into the 2-leg balancer sling or a shortening element must be used. Make chain strand either longer or shorter until the balancer is within the 10° range.

### 3.5 Hints for the usage (Inclination angle $\beta$ )

- Pay attention that the inclination angle  $\beta$  will not exceed 45° (see Pic. 21 and Pic. 22).



Pic. 21: Max. inclination angle  $\beta = 45^\circ$



Pic. 22: Detailed view Pic. 21

## 4 Inspection / Repair / Disposal

### 4.1 Hints for the regularly inspection

The operator has to determine and dictate the necessary inspection periods and the deadlines by a risk assessment (see sections 4.2 and 4.3).

The persisting appropriateness of the lifting mean must be checked by a competent person (auditor) at least once per year.

Depending on the conditions of use e.g. frequent use, increased wear or corrosion, it may be necessary to carry out inspections at shorter intervals than once per year. A verification is also required following damage and after special events.

The operator must specify the test cycles.

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

- Completeness of the VIP-Balancer.
- Deformations at the component.
- Check readability of nominal size and manufacturer sign
- Mechanical damage like notches especially at areas with tensile stress.

### 4.3 Additional inspection criteria for the competent person resp. auditor

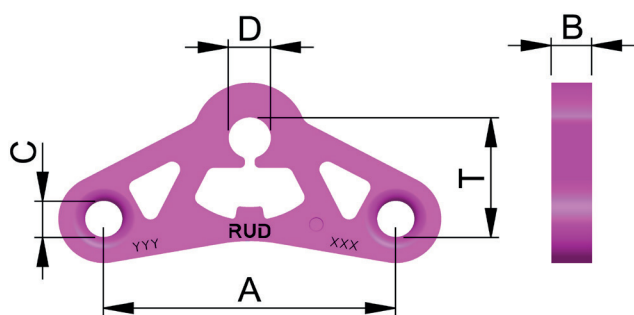
- Reduction of cross section cause by wear of more than 10 %
- Strong corrosion
- Additional inspections may be necessary depending on the result of the risk assessment (e.g. incipient cracks at load bearing parts).

### 4.4 Hints for the Repairing

- Repair works can only be carried out by the manufacturer or by experts disposing necessary knowledge and required skills.
- Only RUD original spare parts must be used and all repairing and overhauling operations must be documented in the chain card file (of the complete lifting mean) or use the RUD BLUE-ID-System.

### 4.5 Disposal

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



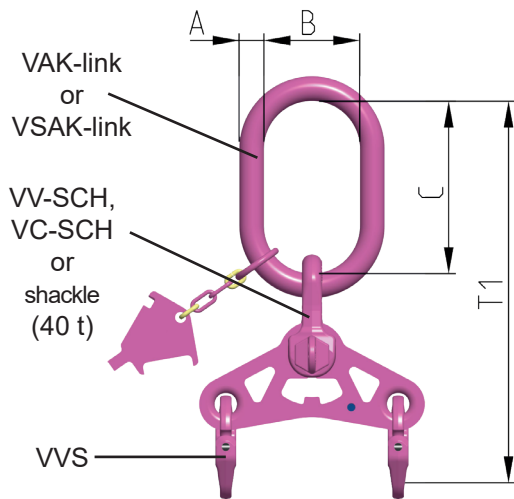
Pic. 23: Dimensioning of the VIP-Balancer

Chain [mm]	Nomination VIP-Balancer	WLL [t] Legs 0-45° VIP-Balancer	WLL [t] Legs 0° (±7°) parallel VIP-Balancer	A [mm]	B [mm]	C [mm]	D [mm]	T [mm]	weight VIP-Balancer [kg/pc.]	Ref. no. VIP-Balancer
6	VW-6	2.1	3	110	15	14	21	46	0.49	7904366
8	VW-8	3.5	5	150	20	18	26	59	1.15	7904369
10	VW-10	5.6	8	180	25	23	32	76	2.4	7904371
13	VW-13	9.5	13.4	240	30	28	38	91	4.37	7904374
16	VW-16	14	20	300	35	32	41	120	8.8	7904254
20	VW-20	22.4	32	300	40	40	54	129	10.7	7904725
22	VW-22	28	40	350	45	46	54	150	15.4	7904726
28	VW-28	45	63	450	50	60	90	180	35.3	7907113

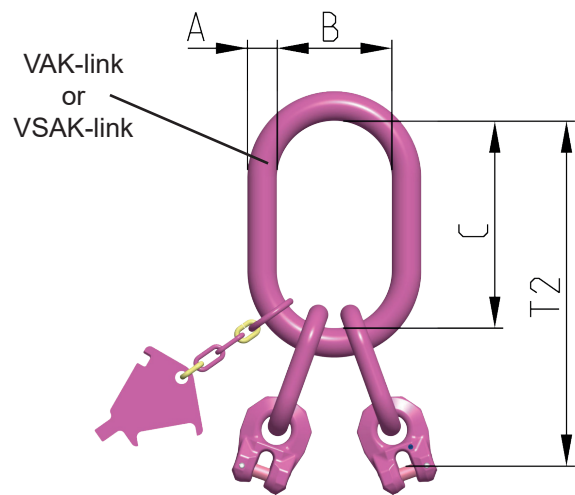
Table 2: Dimension chart of balancer

Subject to technical modifications

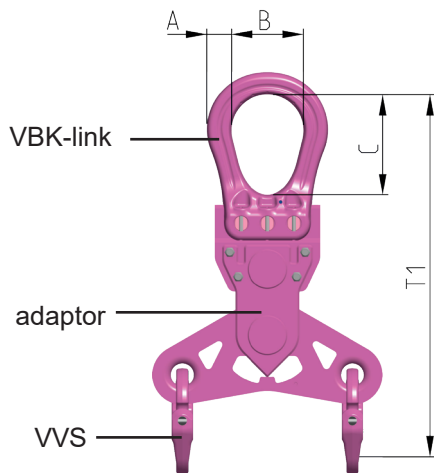




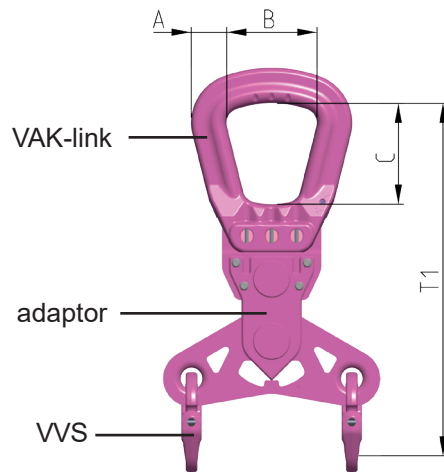
Pic. 24: VIP-Balancer head (sizes 6-22 mm)



Pic. 25: VIP-2-leg Masterlink (sizes 6-22 mm)



Pic. 26: VIP-Balancer head - VWBK (size 28 mm)



Pic. 27: VIP-Balancer head - VWAK (size 28 mm)

VIP-Balancer head									
Chain [mm]	Nomination VIP-Balancer head	Dimensions VIP-Suspension link (A x B x C) [mm]	Balancer Top connection	VIP-Balancer	Spacer discs (quantity) [pc.]	Balancer Bottom connection	Pitch VIP-Balancer head T1 [mm]	Weight VIP-Balancer head [kg/pc.]	Ref. no. VIP-Balancer head
6	VWK-2S-6	18 x 75 x 135	VV-SCH 10 (4t)	VW 6	-	VVS 6	275	1.95	7904502
8	VWK-2S-8	22 x 90 x 160	VV-SCH 13 (6.7t)	VW 8	2	VVS 8	343	3.99	7904503
10	VWK-2S-10	26 x 100 x 180	VV-SCH 16 (10t)	VW 10	-	VVS 10	403	7.35	7904504
13	VWK-2S-13	32 x 110 x 200	VC-SCH 4.0 (16t)	VW 13	2	VVS 13	475	13.42	7904505
16	VWK-2S-16	36 x 140 x 260	VC-SCH 5.0 (25t)	VW 16	-	VVS 16	598	23.53	7904506
20	VWK-2S-20	51 x 190 x 350	VC-SCH 6.0 (31.5t)	VW 20	-	VVS 20	723	35.32	7904507
22	VWK-2S-22	51 x 190 x 350	Shackle (40t)	VW 22	2	VVS 22	796	49.98	7904508
6	VWSAK-2S-6	22 x 190 x 350	VV-SCH 13 (6.7t)	VW 6	2	VVS 6	504	4.62	7906331
8	VWSAK-2S-8	26 x 190 x 350	VV-SCH 13 (6.7t)	VW 8	2	VVS 8	533	6.82	7906332
10	VWSAK-2S-10	36 x 250 x 460	VC-SCH 4.0 (16t)	VW 10	2	VVS 10	701	17.40	7906333
13	VWSAK-2S-13	40 x 250 x 460	VC-SCH 4.0 (16t)	VW 13	2	VVS 13	735	23.22	7906334
16	VWSAK-2S-16	51 x 250 x 460	VC-SCH 6.0 (31.5t)	VW 16	2	VVS 16	808	41.43	7906335
20	VWSAK-2S-20	54 x 250 x 460	Shackle (40t)	VW 20	2	VVS 20	871	50.67	7906336
22	VWSAK-2S-22	56 x 250 x 460	Shackle (40t)	VW 22	2	VVS 22	906	59.28	7906337
28	VWBK-2S-28	60 x 190 x 265	adaptor	VW 28	-	VVS 28	967	147.00	(8600217)
28	VWAK-2S-28	100 x 250 x 280	adaptor	VW 28	-	VVS 28	1005	177.00	(8600217)

Table 3: Datas of VIP-Balancer head

Subject to technical modifications

Datas of VIP-2-leg Masterlink (for balancer assembly)						
Chain [mm]	Nomination VIP-2-Leg Masterlink	Dimensions VIP-Suspension link (A x B x C) [mm]	additional number of chain links for length adjustment between T1 and T2 [pc.]	Pitch VIP2-Leg-Masterlink T2 [mm]	weight VIP-2-Leg-Masterlink [kg/pc.]	Ref. no. VIP-2-Leg-Masterlink
6	VAK-2S-6	18 x 75 x 135	3	217	1.36	7904509
8	VAK-2S-8	22 x 90 x 160	3	267	2.40	7904510
10	VAK-2S-10	26 x 100 x 180	3	311	4.00	7904511
13	VAK-2S-13	32 x 110 x 200	3	373	6.90	7904512
16	VAK-2S-16	36 x 140 x 260	3	476	11.50	7904513
20	VAK-2S-20	51 x 190 x 350	2	614	32.80	7904514
22	VAK-2S-22	51 x 190 x 350	2	646	35.00	7904515
6	VSAK-2S-6	22 x 190 x 350	4	432	3.53	7906338
8	VSAK-2S-8	26 x 190 x 350	3	457	5.10	7906339
10	VSAK-2S-10	36 x 250 x 460	4	591	14.20	7906340
13	VSAK-2S-13	40 x 250 x 460	3	633	19.00	7906341
16	VSAK-2S-16	51 x 250 x 460	3	676	32.30	7906342
20*	VSAK-2S-20	54 x 250 x 460	2	754	38.10	7906343
22*	VSAK-2S-22	56 x 250 x 460	2	768	44.00	7906344
28	VBK-2S-28	60 x 190 x 265	8	322	31.90	8504022
28	VAK-2S-28	100 x 250 x 280	8	360	64.30	7900642

Table 4: Datas of VIP-2-leg Masterlink (for balancer assembly)

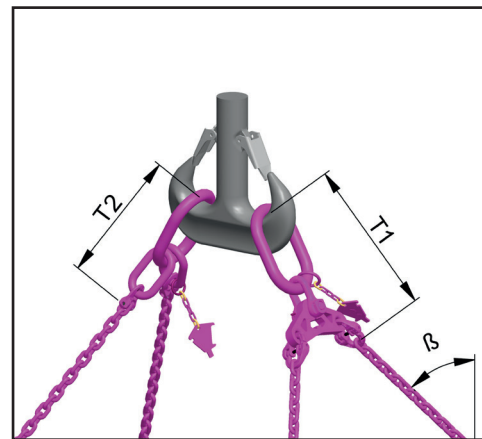
Subject to technical modifications

\* Chain connection with VVS instead of VRG

Total weight to be lifted [t] at 4-leg slings (2-leg + 2-leg with balancer)			
Chain [mm]	maximum allowed inclination angle $\beta = 15^\circ$	maximum allowed inclination angle $\beta = 30^\circ$	maximum allowed inclination angle $\beta = 45^\circ$
6	5.8	5.2	4.2
8	9.6	8.6	7.0
10	15.4	13.8	11.2
13	25.8	23.2	19.0
16	38.0	34.0	28.0
20	61.8	55.4	45.0
22	77.2	69.2	56.0
28	121.0	109.0	89.0

Table 5: Area of inclination angles

Subject to technical modifications



Pic. 28: Pitch

#### Example VIP-10 mm:

When using a standard 4-leg sling in the worst case scenario, the user can calculate with only 2 load bearing legs (WLL at 0-45°: 5.6 t).

DGUV 109-017, clause 4.1.2:

When lifting with multiple strands only two strands can be assumed to be load bearing.

This is not valid if it is guaranteed that the load will be distributed equally to 2 additional legs [...].

By using the VIP-Balancer, the load distribution of a 2 x 2-leg sling will be forwarded to all 4 chain legs.

→ The here of resulting WLL will then be at an inclination angle  $\beta$  0-45° 11.2 t.



#### ATTENTION

When using two 2-leg slings at a symmetrical load distribution, one with a balancer, and both slings are attached into the same hook, 4 load bearing legs can be assumed. The inclination angle  $\beta$  must not exceed 45°.