

# PowerPoint®

## PP-S/ PP-B/PP-VIP



lifting Points for bolting  
**PP-S/PP-B/PP-VIP**

### Safety instructions

This safety instruction/declaration of the manufacturer has to be kept on file for the whole lifetime of the product.

Translation of the Original instructions



MO 075110



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#### EG-Konformitätserklärung

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

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

Hiermit erklären wir, dass die nachfolgend bezeichnete Maschine aufgrund ihrer Konzipierung und Bauart, sowie in der von uns in Verkehr gebrachten Ausführung, den grundlegenden Sicherheits- und Gesundheitsanforderungen der EG-Maschinenrichtlinie 2006/42/EG sowie den unten aufgeführten harmonisierten und nationalen Normen sowie technischen Spezifikationen entspricht. Bei einer nicht mit uns abgestimmten Änderung der Maschine verliert diese Erklärung ihre Gültigkeit.

Produktbezeichnung: Anschlagpunkt PowerPoint  
PP / WPP / WPPH

Folgende harmonisierten Normen wurden angewandt:  
EN 12100-1 \_\_\_\_\_ EN 12100-2 \_\_\_\_\_  
EN 14121-1 \_\_\_\_\_ EN 1677-1 \_\_\_\_\_  
EN 1677-4 \_\_\_\_\_

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:  
BGR 500, KAP2.8

Für die Zusammenstellung der Konformitätsdokumentation bevollmächtigte Person:  
Reinhard Smetz, RUD Ketten, 73432 Aalen

Aalen, den 29.12.2009 Dr. Ing. Rolf Sinz, (Prokurist/QMB)  
Name, Funktion und Unterschrift Verantwortlicher



#### EC-Declaration of conformity

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

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

We hereby declare that the equipment sold by us because of its design and construction, as mentioned below, corresponds to the appropriate, basic requirements of safety and health of the corresponding EC-Machinery Directive 2006/42/EC as well as to the below mentioned harmonized and national norms as well as technical specifications. In case of any modification of the equipment, not being agreed upon with us, this declaration becomes invalid.

Product name: Lifting point PowerPoint  
PP / WPP / WPPH

The following harmonized norms were applied:  
EN 12100-1 \_\_\_\_\_ EN 12100-2 \_\_\_\_\_  
EN 14121-1 \_\_\_\_\_ EN 1677-1 \_\_\_\_\_  
EN 1677-4 \_\_\_\_\_

The following national norms and technical specifications were applied:  
BGR 500, KAP2.8

Authorized person for the configuration of the declaration documents:  
Reinhard Smetz, RUD Ketten, 73432 Aalen

Aalen, 29.12.2009 Dr. Ing. Rolf Sinz, (Prokurist/QMB)  
Name, function and signature of the responsible person

## User Instruction

RUD PowerPoint® are available in the following versions:

PP-S: the standard version

PP-B: the lifting ring version for hook assemblies

PP-VIP: the direct chain connection



PP-S



PP-B



PP-VIP

**Attention: Other combinations with non RUD components and chains are dangerous! These are not permitted and RUD will not accept any warranty.**

- Reference should be made to German Standards accord. BGR 500 or other country specific statutory regulations and inspections are to be carried out by competent persons only.
- Before installation and every use, inspect visually RUD lifting points, paying particular attention to any evidence of corrosion, wear, weld cracks and deformations. Please ensure compatibility of bolt thread and tapped hole.
- The material construction to which the lifting point will be attached should be of adequate strength to withstand forces during lifting without deformation. The German testing authority BG, recommends the following minimum for the bolt lengths:

- 1 x M in steel (min. quality S235JR [1.0037])
- 1,25 x M in cast iron (e.g. GG25)
- 2 x M in aluminium
- 2,5 x M in aluminium-magnesium alloys

(M = thread Ø, e.g. M 20)

When lifting light metals, nonferrous metals and gray cast iron the thread has to be chosen in such a way that the WLL of the thread corresponds to the requirements of the corresponding base material.

- The lifting points must be positioned to the load in such a way that movements are avoided during lifting.
  - For single leg lifts, the lifting point should be vertically above the centre of gravity of the load.
  - For two leg lifts, the lifting points must be equidistant to/or above the centre of gravity of the load.
  - For three and four leg lifts, the lifting points should be arranged symmetrical around the centre of gravity, in the same plane if possible.

### 5. Load symmetry:

The required WLL of the individual RUD lifting point are calculated using the following formula and are based on symmetrical loading:

$$W_{LL} = \frac{G}{n \times \cos \beta}$$

WLL = working load limit / capacity of each lifting point  
 G = load weight (kg)  
 n = number of load bearing legs  
 β = angle of inclination of the chain to the vertical

The calculation of the load bearing legs is as follows:

	symmetrical	unsymmetrical
Two leg	2	1
Three/four leg	3	1

(also refer to table 1 and 3)

6. Drill and tap the work piece so that the PowerPoint®-version is installed perpendicular to the surface of the work piece. The work piece surface must be flat, providing complete contact for the PowerPoint®-version ball bearing house. Countersink the tapped hole.

7. For single use it is sufficient to tighten by hand with a spanner, without using a bar. For a long term application the PowerPoint® should be tightened with torque according table 1 or 3 (+/- 10 %).

8. The RUD PowerPoint® versions are designed for turning and rotating of loads, however, **not for permanent rotations under load!**

9. All fittings connected to the PowerPoint®-versions should be free moving. Also the assembled components on the PowerPoint® must be free moveable and should not used over sharp corners.

When connecting and disconnecting the lifting means (wire ropes, chain slings, round slings) pinches and impacts should be avoided. Damage of the lifting means caused by sharp corners should be avoided as well.

Before lifting the hooks must be installed without twists in the direction of pull.

10. To prevent unintended dismounting through shock loading, rotation or vibrations thread locking devices are recommended. Therefore different locking systems are possible. Liquid locking fluid such as Loctite (respect manufacturer specifications) or form closed versions such as hex castel nut, counter nut, etc. For lifting points which remains on the construction we basically recommend to secure with liquid locking device and tighten with torque.

### 11. Effect of temperature:

Due to the greasing we recommend to use PowerPoint®-versions not in overheated areas. If this cannot be avoided please take the reduced WLL into consideration:

- 40° up to 200°C no reduction
- 200° up to 300°C minus 10 % (392°F up to 572°F)
- 300° up to 400°C minus 25 % (572°F up to 752°F)

Temperatures above 400°C (752°F) are not allowed.

The special fluorescent pink powder coating of the fittings permanently changes its colour during the use in higher temperatures areas. A deep black colour indicates the use beyond 400°C. A continued use will then be forbidden.

12. RUD lifting points must not be used under chemical influences such as acids, alkaline solutions and vapours e.g. in pickling baths or hot dip galvanising plants. If this cannot be avoided, please contact the manufacturer indicating the concentration, period of penetration and temperature of use.

13. The position where the lifting points should be attached should be clearly marked with colour.

14. If the lifting points are used **exclusively** for lashing the value of the working load limit can be doubled: LC = 2 x WLL

15. The PowerPoint® versions are available with different thread lengths (refer to Fvario in table 2). The assembly of components must only be carried out by RUD or by authorised specialists. For the user it is forbidden to disassemble the ball bearing.

16. After fitting, an annual inspection or sooner if conditions dictate should be undertaken by a competent person examining the continued suitability. Also after damage and special occurrences.

*A non-adherence to this advice may result damages of persons and materials!*

### Inspection criteria regarding paragraphs 2 and 16:

- Ensure correct bolt size, quality and length
- Ensure compatibility of bolt thread and tapped hole - control of the torque
- The lifting point should be complete
- The WLL, thread size, batch code and manufacturers stamping should be clearly visible on the lifting point.
- Deformations of the components parts such as body, fittings and thread.
- Mechanical damages such as notches, especially in high stress areas.
- Wear should be not more than 10 % of cross sectional diameter.
- Evidence of corrosion.
- Evidence of cracks
- Damage to the bolt and/or thread
- The upper fork head part of the PowerPoint®-versions must rotate smoothly
- The PowerPoint®-versions should only be used within the nom WLL. See RUD chart
- The PowerPoint® version are not allowed for proof load test. Magnetic crack test only.
- The maximum gap between upper- and lower part of the PowerPoint® must not be exceeded:

PP-...0,63t up to PP-...2,5t                      max. 1,5 mm  
 PP-...4t up to PP-...8t                            max. 2,5 mm



Translation of the original instruction manual  
 In case of doubts or misunderstandings, the German version of the document is decisive.

		PP-S		PP-B		PP-VIP		Only for original VIP chain					
Type	WLL (t)	A	B	C	D	E	F	G	M	T	weight	torque (kg)	Ref-no. (Standard)
and Vario lengths variants													
		Standard											
<b>PP-S-0,63t-M12</b>	0,63	13	75	18	40	36	18	41	12	116	0,4	10 Nm	7990719
<b>PP-S-1,5t-M16</b>	1,5	20	97	25	46	41	24	50	16	147	1,0	30 Nm	7989719
<b>PP-S-2,5t-M20</b>	2,5	28	126	30	61	55	30	61	20	187	1,7	70 Nm	7989075
<b>PP-S-4t-M24</b>	4,0	36	150	35	78	70	36	77	24	227	3,5	150 Nm	7989076
<b>PP-S-5t-M30</b>	5,0	37	174	40	95	85	45	93	30	267	7,2	225 Nm	7989720
<b>PP-S-8t-M36</b>	8,0	49	208	48	100	90	54	102	36	310	9,2	410 Nm	7989077
<b>PP-B-0,63t-M12</b>	0,63	9	65	35	40	36	18	41	12	105	0,35	10 Nm	7989522
<b>PP-B-1,5t-M16</b>	1,5	11	65	35	46	41	24	50	16	115	0,6	30 Nm	7989523
<b>PP-B-2,5t-M20</b>	2,5	13	74	40	61	55	30	61	20	135	1,1	70 Nm	7989081
<b>PP-B-4t-M24</b>	4,0	16	95	45	78	70	36	77	24	172	2,4	150 Nm	7989082
<b>PP-B-5t-M30</b>	5,0	19	130	60	95	85	45	93	30	223	5,2	225 Nm	7989524
<b>PP-B-8t-M36</b>	8,0	24	140	65	100	90	54	102	36	242	6,3	410 Nm	7989083
<b>PP-VIP-0,63t-M12</b>	0,63	4	-	-	40	36	18	-	12	41	0,25	10 Nm	7989525
<b>PP-VIP-1,5t-M16</b>	1,5	6	-	-	46	41	24	-	16	50	0,45	30 Nm	7989526
<b>PP-VIP-2,5t-M20</b>	2,5	8	-	-	61	55	30	-	20	61	0,95	70 Nm	7989527
<b>PP-VIP-4t-M24</b>	4,0	10	-	-	78	70	36	-	24	77	2,2	150 Nm	7989528
<b>PP-VIP-5t-M30</b>	5,0	13	-	-	95	85	45	-	30	93	3,5	225 Nm	7989529
<b>PP-VIP-8t-M36</b>	8,0	16	-	-	100	90	54	-	36	102	5,2	410 Nm	7989530

Method of lift										
Number of legs	1	1	2	2	2	2	2	3 & 4	3 & 4	3 & 4
Angle of inclination <math>\alpha</math>	0°	90°	0°	90°	0-45°	45-60°	unsymm.	0-45°	45-60°	unsymm.
Factor	1	1	2	2	1,4	1	1	2,1	1,5	1
Type	<b>Max weight of load &lt;math&gt;&gt;G&lt;/math&gt; for all PowerPoint types with different sling methods</b>									
PP- ... - 0,63t - M12 PP- ... - 1/2"-13UNC	<b>0,63 t</b> (1385 lbs)	<b>0,63 t</b> (1385 lbs)	<b>1,26 t</b> (2770 lbs)	<b>1,26 t</b> (2770 lbs)	<b>0,88 t</b> (1940 lbs)	<b>0,63 t</b> (1385 lbs)	<b>0,63 t</b> (1385 lbs)	<b>1,32 t</b> (2900 lbs)	<b>0,95 t</b> (2080 lbs)	<b>0,63 t</b> (1385 lbs)
PP- ... - 1,5t - M16 PP- ... - 5/8"-11UNC	<b>1,5 t</b> (3300 lbs)	<b>1,5 t</b> (3300 lbs)	<b>3,0 t</b> (6600 lbs)	<b>3,0 t</b> (6600 lbs)	<b>2,1 t</b> (4620 lbs)	<b>1,5 t</b> (3300 lbs)	<b>1,5 t</b> (3300 lbs)	<b>3,15 t</b> (6930 lbs)	<b>2,25 t</b> (4950 lbs)	<b>1,5 t</b> (3300 lbs)
PP- ... - 2,5t - M 20 PP- ... - 3/4"-10UNC PP- ... - 7/8"-9UNC	<b>2,5 t</b> (5500 lbs)	<b>2,5 t</b> (5500 lbs)	<b>5,0 t</b> (11000 lbs)	<b>5,0 t</b> (11000 lbs)	<b>3,5 t</b> (7700 lbs)	<b>2,5 t</b> (5500 lbs)	<b>2,5 t</b> (5500 lbs)	<b>5,25 t</b> (11550 lbs)	<b>3,75 t</b> (8250 lbs)	<b>2,5 t</b> (5500 lbs)
PP- ... - 4t - M 24 PP- ... - 1"-8UNC	<b>4,0 t</b> (8800 lbs)	<b>4,0 t</b> (8800 lbs)	<b>8,0 t</b> (17600 lbs)	<b>8,0 t</b> (17600 lbs)	<b>5,6 t</b> (12320 lbs)	<b>4,0 t</b> (8800 lbs)	<b>4,0 t</b> (8800 lbs)	<b>8,4 t</b> (18480 lbs)	<b>6,0 t</b> (13200 lbs)	<b>4,0 t</b> (8800 lbs)
PP- ... - 5t - M 30 PP- ... - 1 1/4"-7UNC	<b>6,7 t</b> (14750 lbs)	<b>5,0 t</b> (11000 lbs)	<b>13,4 t</b> (29500 lbs)	<b>10,0 t</b> (22000 lbs)	<b>7,0 t</b> (15400 lbs)	<b>5,0 t</b> (11000 lbs)	<b>5,0 t</b> (11000 lbs)	<b>10 t</b> (23100 lbs)	<b>7,5 t</b> (16500 lbs)	<b>5,0 t</b> (11000 lbs)
PP- ... - 8t - M 36 PP- ... - 1 1/2"-6UNC	<b>10,0 t</b> (22000 lbs)	<b>8,0 t</b> (17600 lbs)	<b>20,0 t</b> (44000 lbs)	<b>16,0 t</b> (35200 lbs)	<b>11,2 t</b> (24620 lbs)	<b>8,0 t</b> (17600 lbs)	<b>8,0 t</b> (17600 lbs)	<b>16,8 t</b> (36960 lbs)	<b>12,0 t</b> (26400 lbs)	<b>8,0 t</b> (17600 lbs)

Table 2

		PP-S							PP-B		PP-VIP Only for original VIP chain		
Type	WLL (lbs)	A	B	C	D	E	F	G	M	T	weight (lbs)	torque	Ref-no. (Standard)
		Standard											
PP-S-0,63t-1/2"-13UNC	1385	1/2"	2 15/16"	2 3/32"	1 9/16"	1 13/32"	2 3/32"	1 5/8"	1/2"	4 9/16"	0,9	10 Nm	7990720
PP-S-1,5t-5/8"-11UNC	3300	25/32"	3 13/16"	1"	1 13/16"	1 5/8"	1"	2"	5/8"	5 3/4"	2,0	30 Nm	7989908
PP-S-2,5t-3/4"-10UNC	5500	1 1/8"	5"	1 3/16"	2 13/32"	2 5/32"	1 3/16"	2 13/32"	3/4"	7 3/8"	3,7	70 Nm	7989909
PP-S-2,5t-7/8"-9UNC	5500	1 1/8"	5"	1 3/16"	2 13/32"	2 5/32"	1 3/16"	2 13/32"	7/8"	7 3/8"	3,8	85 Nm	7989910
PP-S-4t-1"-8UNC	8800	1 13/32"	5 7/8"	1 3/8"	3"	2 9/4"	1 13/32"	3"	1"	8 5/16"	7,7	150 Nm	7989911
PP-S-5t-1 1/4"-7UNC	11000	1 7/16"	6 7/8"	1 9/16"	3 3/4"	3 11/32"	1 3/4"	3 5/8"	1 1/4"	10 1/2"	14,3	225 Nm	7989912
PP-S-8t-1 1/2"-6UNC	17600	1 15/16"	8 3/16"	1 7/8"	3 15/16"	3 9/16"	2 1/8"	4"	1 1/2"	12 3/16"	20,2	410 Nm	7989913
PP-B-0,63t-1/2"-13UNC	1385	3/8"	2 9/16"	1 3/8"	1 9/16"	1 13/32"	2 3/32"	1 5/8"	1/2"	4 1/8"	0,8	10 Nm	7989901
PP-B-1,5t-5/8"-11UNC	3300	7/16"	2 9/16"	1 3/8"	1 13/16"	1 5/8"	1"	2"	5/8"	4 1/2"	1,3	30 Nm	7989902
PP-B-2,5t-3/4"-10UNC	5500	1 1/2"	2 7/8"	1 9/16"	2 13/32"	2 5/32"	1 3/16"	2 13/32"	3/4"	5 5/16"	2,4	70 Nm	7989903
PP-B-2,5t-7/8"-9UNC	5500	1 1/2"	2 7/8"	1 9/16"	2 13/32"	2 5/32"	1 3/16"	2 13/32"	7/8"	5 5/16"	2,5	85 Nm	7989904
PP-B-4t-1"-8UNC	8800	5/8"	3 3/4"	1 3/4"	3"	2 3/4"	1 13/32"	3"	1"	6 3/4"	5,3	150 Nm	7989905
PP-B-5t-1 1/4"-7UNC	11000	3/4"	5 1/8"	2 3/8"	3 3/4"	3 11/32"	1 3/4"	3 5/8"	1 1/4"	8 3/4"	11,6	225 Nm	7989906
PP-B-8t-1 1/2"-6UNC	17600	1 5/16"	5 1/2"	2 9/16"	3 15/16"	3 9/16"	2 1/8"	4"	1 1/2"	9 1/2"	13,8	410 Nm	7989907
PP-VIP-0,63t-1/2"-13UNC	1385	5/32"	-	-	1 9/16"	1 13/32"	2 3/32"	-	1/2"	1 5/8"	0,55	10 Nm	7989920
PP-VIP-1,5t-5/8"-11UNC	3300	15/64"	-	-	1 13/16"	1 5/8"	1"	-	5/8"	2"	1,0	30 Nm	7989921
PP-VIP-2,5t-3/4"-10UNC	5500	5/16"	-	-	2 13/32"	2 5/32"	1 3/16"	-	3/4"	2 13/32"	2,0	70 Nm	7989922
PP-VIP-2,5t-7/8"-9UNC	5500	5/16"	-	-	2 13/32"	2 5/32"	1 3/16"	-	7/8"	2 13/32"	2,2	85 Nm	7989923
PP-VIP-4t-1"-8UNC	8800	3/8"	-	-	3"	2 9/4"	1 13/32"	-	1"	3"	4,8	150 Nm	7989924
PP-VIP-5t-1 1/4"-7UNC	11000	1/2"	-	-	3 3/4"	3 11/32"	1 3/4"	-	1 1/4"	3 5/8"	7,7	225 Nm	7989925
PP-VIP-8t-1 1/2"-6UNC	17600	5/8"	-	-	3 15/16"	3 9/16"	2 1/8"	-	1 1/2"	4"	11,4	410 Nm	7989926

Table 3