PowerPoint®

PP-S/ PP-B/PP-VIP

EN

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

lifting Points for bolting

PP-S/PP-B/PP-VIP

DGUV Test

OA 1451017

Sicherheit geprüft
tested safety

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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 : 2011-03	EN 1677-1 : 2009-03
EN 1677-4 : 2009-03	

Folgende nationalen Normen und technische Spezifikationen wurden außerdem angewandt:

BGR 500, KAP2.8 : 2008-04

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

Aalen, den 27.06.2014 Dr.-Ing. Arne Kriegsmann,(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 : 2011-03	EN 1677-1 : 2009-03
EN 1677-4 : 2009-03	

The following national norms and technical specifications were applied:

BGR 500, KAP2.8 : 2008-04

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

Aalen, den 27.06.2014 Dr.-Ing. Arne Kriegsmann,(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

Pic. 1: 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.

1. Reference should be made to German Standards accord. DGUV 100-500 or other country specific statutory regulations and inspections are to be carried out by competent persons only.
2. 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.
3. 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 authoritiy 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.
4. The lifting points must be positioned to the load in such a way that movements are avoided during lifting.
   a.) For single leg lifts, the lifting point should be vertically above the centre of gravity of the load.
   b.) For two leg lifts, the lifting points must be equidistant to/or above the centre of gravity of the load.
   c.) 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:

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

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

   The calculation of the load bearing legs is a s follows:

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

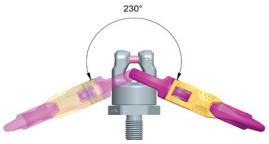
   (also refer to table 1 and 3)
6. A plane bolt-on surface (with a minimum ØD) with a perpendicular machined thread hole must be given. The thread has to be machined acc. to DIN 76 (countersink max. 1.05xd)
   Thread holes must be machined deep enough that the supporting area of the lifting point bears. Machine through holes up to DIN EN 20273-middle (Md, compare chart 2).
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.

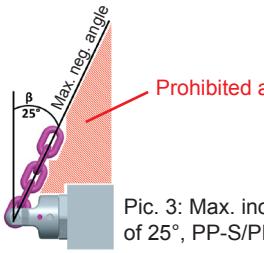
   Bevore lifting the hooks must be installed without twists in the direction of pull. Ring/hook/chain of the adjusted PP can be pivot by 230° (Pic. 2).

   To guarantee the WLL and the function (compare table 1), the inclination angle of the ring/hook/chain must not exceed 25° when lifting point is attached from the side (compare Pic. 3).

ATTENTION
Ring/hook/chain resp. the attached lifting mean must be free moveable in the PP and must neither have support at the load edge nor at the bottom part of the PP.



Pic. 2: Pivoting area of PP-S/PP-B/PP-VIP



Pic. 3: Max. inclination angle of 25°, PP-S/PP-B/PP-VIP

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 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!

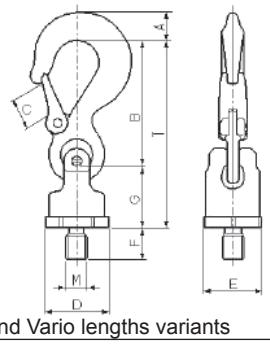
Inspection criteria regarding paragraghs 2 and 16:

- 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 (2.5xWLL). Magnetic crack test only.
- The maximum gap between upper- and lower part of the PowerPoint® must not be exceeded:

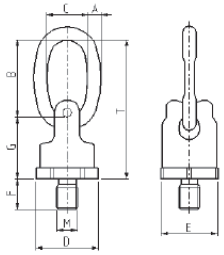
  PP-..-0,63t up to PP-..2,5t max. 1.5 mm
  PP-..-4t up to PP-..8t max. 2.5 mm

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

PP-S

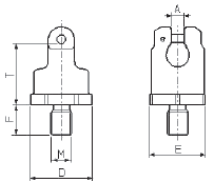


PP-B



PP-VIP

Only for original VIP chain



and Vario lengths variants

Type	WLL (t)	A	B	C	D	E	F Standard	G	M	Md	T	weight (kg)	torque	Ref-no. (Standard)
PP-S-0.63t-M12	0.63	13	75	18	40	36	18	41	12	13.5	116	0.4	10 Nm	7990719
PP-S-1.5t-M16	1.5	20	97	25	46	41	24	50	16	17.5	147	1.0	30 Nm	7989719
PP-S-2.5t-M20	2.5	28	126	30	61	55	30	61	20	22	187	1.7	70 Nm	7989075
PP-S-4t-M24	4.0	36	150	35	78	70	36	77	24	26	227	3.5	150 Nm	7989076
PP-S-5t-M30	5.0	37	174	40	95	85	45	93	30	33	267	7.2	225 Nm	7989720
PP-S-8t-M36	8.0	49	208	48	100	90	54	102	36	39	310	9.2	410 Nm	7989077
PP-B-0.63t-M12	0.63	9	65	35	40	36	18	41	12	13.5	106	0.35	10 Nm	7989522
PP-B-1.5t-M16	1.5	11	65	35	46	41	24	50	16	17.5	115	0.6	30 Nm	7989523
PP-B-2.5t-M20	2.5	13	74	40	61	55	30	61	20	22	135	1.1	70 Nm	7989081
PP-B-4t-M24	4.0	16	95	45	78	70	36	77	24	26	172	2.4	150 Nm	7989082
PP-B-5t-M30	5.0	19	130	60	95	85	45	93	30	33	223	5.2	225 Nm	7989524
PP-B-8t-M36	8.0	24	140	65	100	90	54	102	36	39	242	6.3	410 Nm	7989083
PP-VIP-0.63t-M12	0.63	4	-	-	40	36	18	-	12	13.5	41	0.25	10 Nm	7989525
PP-VIP-1.5t-M16	1.5	6	-	-	46	41	24	-	16	17.5	50	0.45	30 Nm	7989526
PP-VIP-2.5t-M20	2.5	8	-	-	61	55	30	-	20	22	61	0.95	70 Nm	7989527
PP-VIP-4t-M24	4.0	10	-	-	78	70	36	-	24	26	77	2.2	150 Nm	7989528
PP-VIP-5t-M30	5.0	13	-	-	95	85	45	-	30	33	93	3.5	225 Nm	7989529
PP-VIP-8t-M36	8.0	16	-	-	100	90	54	-	36	39	102	5.2	410 Nm	7989530

Table 1

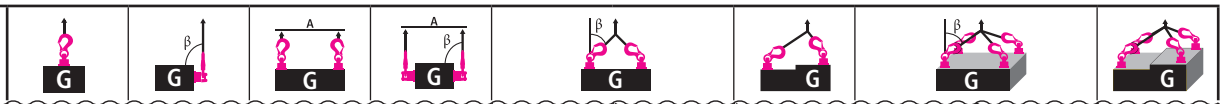
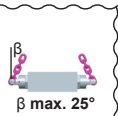
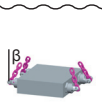
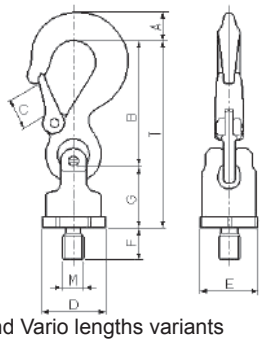
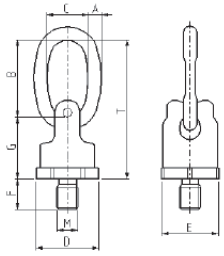
Method of lift										
Lifting from the side	**Attention, when lifting point is attached to the side the max. inclination angle ß can only be 25° / resp. until lifting means touches load (compare point 9)!**				 β max. 25°			 β max. 25°		
Number of legs	1	1	2	2	2	2	2	3 & 4	3 & 4	3 & 4
Angle of inclination <ß	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	**Max. weight of load >G< in metric tons for all PowerPoint types with different sling methods**									
PP- .. - 0.63t - M12 **PP- .. - 1/2"-13UNC**	**0.63 t** (1385 lbs)	**0.63 t** (1385 lbs)	**1.26 t** (2770 lbs)	**1.26 t** (2770 lbs)	**0.88 t** (1940 lbs)	**0.63 t** (1385 lbs)	**0.63 t** (1385 lbs)	**1.32 t** (2900 lbs)	**0.95 t** (2080 lbs)	**0.63 t** (1385 lbs)
PP- .. - 1.5t - M16 **PP- .. - 5/8"-11UNC**	**1.5 t** (3300 lbs)	**1.5 t** (3300 lbs)	**3.0 t** (6600 lbs)	**3.0 t** (6600 lbs)	**2.1 t** (4620 lbs)	**1.5 t** (3300 lbs)	**1.5 t** (3300 lbs)	**3.15 t** (6930 lbs)	**2.25 t** (4950 lbs)	**1.5 t** (3300 lbs)
PP- .. - 2.5t - M 20 **PP- .. - 3/4"-10UNC** **PP- .. - 7/8"-9UNC**	**2.5 t** (5500 lbs)	**2.5 t** (5500 lbs)	**5.0 t** (11000 lbs)	**5.0 t** (11000 lbs)	**3.5 t** (7700 lbs)	**2.5 t** (5500 lbs)	**2.5 t** (5500 lbs)	**5.25 t** (11550 lbs)	**3.75 t** (8250 lbs)	**2.5 t** (5500 lbs)
PP- .. - 4t - M 24 **PP- .. - 1"-8UNC**	**4.0 t** (8800 lbs)	**4.0 t** (8800 lbs)	**8.0 t** (17600 lbs)	**8.0 t** (17600 lbs)	**5.6 t** (12320 lbs)	**4.0 t** (8800 lbs)	**4.0 t** (8800 lbs)	**8.4 t** (18480 lbs)	**6.0 t** (13200 lbs)	**4.0 t** (8800 lbs)
PP- .. - 5t - M 30 **PP- .. - 1 1/4"-7UNC**	**6.7 t** (14750 lbs)	**5.0 t** (11000 lbs)	**13.4 t** (29500 lbs)	**10.0 t** (22000 lbs)	**7.0 t** (15400 lbs)	**5.0 t** (11000 lbs)	**5.0 t** (11000 lbs)	**10.5 t** (23100 lbs)	**7.5 t** (16500 lbs)	**5.0 t** (11000 lbs)
PP- .. - 8t - M 36 **PP- .. - 1 1/2"-6UNC**	**10.0 t** (22000 lbs)	**8.0 t** (17600 lbs)	**20.0 t** (44000 lbs)	**16.0 t** (35200 lbs)	**11.2 t** (24620 lbs)	**8.0 t** (17600 lbs)	**8.0 t** (17600 lbs)	**16.8 t** (36960 lbs)	**12.0 t** (26400 lbs)	**8.0 t** (17600 lbs)

Table 2

PP-S

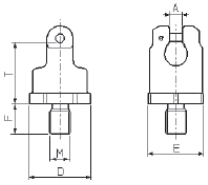


PP-B



PP-VIP

Only for original VIP chain



and Vario lengths variants

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"	23/32"	1 9/16"	1 13/32"	23/32"	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 3/4"	1 13/32"	3"	1"	8 15/16"	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"	23/32"	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	1/2"	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	1/2"	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	15/16"	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"	23/32"	-	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 3/4"	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