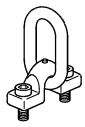
OPERATING INSTRUCTIONS
LIFTING POINTS, SCREW TYPE

Original in compliance with 2006/42/EC

TWN 0121/1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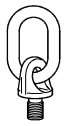
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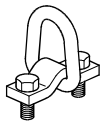
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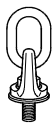
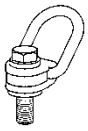

TWN 1120

TWN 1830


TWN 1890

1 DESCRIPTION AND INTENDED USE

THIELE lifting points screw-type are intended for attachment to steel, aluminum or non-ferrous metal structures and components. Sling chains according to EN 818-4 or lashing chains according to EN 12195 may be used.

The lifting points are intended for installation in steel, aluminium or non-ferrous component constructions.

These operating instructions show the safety use of THIELE lifting points of the following executions:

- TWN 0121/1 Lifting points, rotabable, with slide bearing
- TWN 0122 Lifting points
- TWN 0123 Lifting points
- TWN 0127 Lifting points MDB
- TWN 1120 TITAN Lifting points, rotabable, with slide bearing
- TWN 1830 X-TREME Lifting points, rotabable, with ball bearing
- TWN 1890 Lifting points XS-Point, rotabable

(TWN = THIELE works standard)

THIELE lifting points meet EG Machinery Directive 2006/42/EG requirements and feature a safety factor of at least 4 based on the working load limit (WLL).

THIELE lifting points are signed with the CE symbol.

They are also signed with the working load limit (WLL) in tons or the chain size, manufacturers mark (stamp 'H4') and identification number.

TWN 1830 are additionally marked with the date of manufacture in the form "*mm.yy*" (*mm* = month, *yy* = year). Example: "1220" = production in December 2020

THIELE lifting points are designed to withstand 20 000 dynamic load changes under maximum load conditions. In the event of higher loads (e.g. multi-shift/automatic operation, magnetic spreaders) the working load limit must be reduced.

Lifting points must exclusively be used

- within the limits of their permissible working load limit,
- within the temperature limits prescribed,
- with suitable screws (see screw data) and fitted directly to the component.

The working load limit of different modes of assembly can be seen in the load table.

THIELE lifting points are normally not intended for passenger transportation.

Turning and rotating loads

- TWN 0121/1 Turning allowed, rotating not allowed.
- TWN 0122 Turning allowed, rotating not allowed.
- TWN 0123 No turning and/or rotating allowed.
- TWN 0127 Turning allowed, rotating not allowed.
- TWN 1120 Turning allowed, rotating not allowed.
- TWN 1830 Turning and rotating allowed.
- TWN 1890 Turning allowed, rotating not allowed.

This classification relates to occasionally turning or rotating loads.

Continous or long-term turning or rotating is not allowed.

Using the lifting points exclusively for lashing the lashing capacity (LC) is calculated by doubling the working load limit.

An alternating use for lifting and lashing is not allowed.

2 SAFETY NOTES

Risk of Injury!
Never walk or stay under lifted loads!
Make sure to use hoisting/attachment means free from defects.

- Operators, fitters, and maintenance personnel must in particular observe the operating instructions also from the used sling chain assemblies, documentations DGUV V 1, DGUV R 109-017 and DGUV I 209-013 issued by the German Employers' Liability Insurance Association, as well as the operating instructions of the loads concerning advise for lifting.
- In the Federal Republic of Germany, the Operational Safety Ordinance (BetrSichV) has to be implemented and the Technical Rule for Industrial Safety TRBS 1201, in particular Annex 1, Chapter 2 "Special regulations for the use of working equipment for lifting loads" must be observed.
- Outside the Federal Republic of Germany the specific provisions issued locally in the country where the items are used must also be observed.
- The directions given in these operating instructions and specified documentations relating to safety, assembly, operation, inspection, and maintenance must be made available to the respective persons.
- Make sure these operating instructions are available in a place near the product during the time the equipment is used.
- Please contact the manufacturer if replacements are needed.
- When performing work make sure to wear your personal protective equipment!
- **Improper assembly and use may cause personal injury and/or damage to property.**
- Assembly and removal as well as inspection and maintenance must exclusively be carried out by skilled and authorized persons.
- Structural changes are impermissible (e.g. welding, bending).
- **Operators must carry out a visual inspection and, if necessary, a functional test of the safety equipment before each use.**
- Never use worn-out, bent or damaged lifting points.
- Only lift loads the mass of which is less than or equal to the working load limit of the lifting points.
- Do not use force when mounting/positioning the lifting points.
- Only lift loads that are freely movable and not attached or fastened.
- Do not bend the ring or suspension link.
- Do not start lifting before you have made sure the load has been correctly attached.
- Make sure no one including you (operator) is in the way of the moving load (hazard area).
- During lifting/hoisting make sure your hands or other body parts do not come into contact with hoisting means. Only remove hoisting means manually (use your hands).
- Avoid impacts, e.g. due to abruptly lifting loads with chain in slack condition.
- Never move a suspended load over persons.
- Never cause suspended loads to swing.
- Always monitor a suspended load.
- Put the load only down in places/sites where it can be safely deposited.
- Put the load only down in flat places/sites where it can be safely deposited.
- Take care for sufficient place for the personnel to move when choosing the route of transportation and storage location. Danger to life and risk of injury by crushing hazards!
- In the event of doubts about the use, inspection, maintenance or similar things contact your safety officer or the manufacturer!

THIELE will not be responsible for damage caused through non-observance of the instructions, rules, standards and notes indicated!

Working under the influence of drugs, medications impairing the sense and/or alcohol is strictly forbidden!

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3 TECHNICAL DATA

3.1 All types without TWN 1830

TWN	Article-no.	WLL [t]	Usable thread length [mm]	Screw data / Suspension link [dimensions in mm]	Tightening torque [Nm]	LOAD TABLE [t]									
						1-leg	2-leg	1-leg	2-leg	2-leg		2-leg	3-/4-leg		3-/4--leg
						0°	0°	90°	90°	0°- 45°	45°- 60°	dissym. 3)	0°- 45°	45°- 60°	dissym. 3)
TWN 0121/1	F35000	1,12	M16 x 25	M16 x 40 DIN 7984 8.8	170 1)	1,12	2,24	1,12	2,24	1,6	1,12	1,12	2,4	1,7	1,12
	F35010	2,0	M20 x 30	M20 x 50 DIN 7984 8.8	350 1)	2,0	4,0	2,0	4,0	2,8	2,0	2,0	4,2	3,0	2,0
	F35020	3,15	M24 x 36	M24 x 60 DIN 7984 8.8	600 1)	3,15	6,3	3,15	6,3	4,5	3,15	3,15	6,7	4,7	3,15
	F35030	5,3	M30 x 50	M30 x 80 DIN 6912 10.9	1 200 1)	5,3	10,6	5,3	10,6	7,5	5,3	5,3	11,2	8,0	5,3
TWN 0122	F35070	3,15	M16 x 25	M16 x 45 DIN 7984 10.9 2)	170 1)	3,15	6,3	3,15	6,3	4,5	3,15	3,15	6,7	4,7	3,15
	F35075	5,3	M20 x 36	M20 x 60 DIN 7984 10.9 2)	350 1)	5,3	10,6	5,3	10,6	7,5	5,3	5,3	11,2	8,0	5,3
	F35080	8,0	M30 x 50	M30 x 80 DIN 6912 10.9 2)	950 1)	8,0	16	8,0	16	11,3	8,0	8,0	17	12	8,0
	F35095	15,0	M36 x 53	M36 x 90 DIN 6912 10.9 2)	1 900 1)	15	30	15	30	21,2	15	15	31,8	22,5	15
	F35098	21,2	M42 x 67	M42 x 100 sim.DIN7984 10.9 Sp.2)	2 100 1)	21,2	42,4	21,2	42,4	30	21,2	21,2	45	31,8	21,2
	F35101	25,0	M45 x 67	M45 x 110 sim.DIN7984 10.9 Sp.2)	2 400 1)	25	50	25	50	35,4	25	25	53	37,5	25
	F35102	31,5	M56 x 88	M56 x 135 sim.DIN7984 10.9 Sp.2)	3 200 1)	31,5	63	31,5	63	44,5	31,5	31,5	66,8	47,3	31,5
	F35285	36,0	M56 x 88	M56 x 135 sim.DIN7984 10.9 Sp.2)	3 200 1)	36	72	36	72	50,9	36	36	76,4	54	36
TWN 0123	F34110	1,12	M16 x 30	B16 x 70 x 35	hand-screwed	1,12	2,24	1,12	2,24	1,6	1,12	1,12	2,4	1,7	1,12
	F34115	1,12	M16 x 30	A16 x 110 x 60		1,12	2,24	1,12	2,24	1,6	1,12	1,12	2,4	1,7	1,12
	F34120	2,0	M20 x 38	B16 x 70 x 35		2,0	4,0	2,0	4,0	2,8	2,0	2,0	4,2	3,0	2,0
	F34121	2,0	M20 x 38	A16 x 110 x 60		2,0	4,0	2,0	4,0	2,8	2,0	2,0	4,2	3,0	2,0
	F34130	3,15	M24 x 35	B18 x 85 x 40		3,15	6,3	3,15	6,3	4,5	3,15	3,15	6,7	4,7	3,15
	F34131	3,15	M24 x 45	A18 x 110 x 60		3,15	6,3	3,15	6,3	4,5	3,15	3,15	6,7	4,7	3,15
TWN 0127	F35157	3,15	M20 x 38	M20 x 50 ISO 4017 10.9 2)	350	3,15	6,3	3,15	6,3	4,5	3,15	3,15	6,7	4,7	3,15
	F35158	5,3	M24 x 35	M24 x 50 ISO 4017 10.9 2)	600	5,3	10,6	5,3	10,6	7,5	5,3	5,3	11,2	8,0	5,3
TWN 1120	F34405	0,3	M8 x 18	M8 x 35 12.9	hand-screwed by open-ended spanner	0,3	0,6	0,3	0,6	0,42	0,3	0,3	0,64	0,45	0,3
	F34390	0,45	M10 x 18	M10 x 35 12.9		0,45	0,9	0,45	0,9	0,64	0,45	0,45	0,95	0,68	0,45
	F34395	0,6	M12 x 23	M12 x 40 12.9		0,6	1,2	0,6	1,2	0,85	0,6	0,6	1,3	0,9	0,6
	F34400	1,4	M16 x 28	M16 x 45 10.9		2,1	4,2	1,4	2,8	2,0	1,4	1,4	3,0	2,1	1,4
	F34410	2,5	M20 x 32	M20 x 50 10.9		3,0	6,0	2,5	5,0	3,5	2,5	2,5	5,3	3,8	2,5
	F34420	3,5	M24 x 40	M24 x 60 10.9		6,0	12	3,5	7,0	4,9	3,5	3,5	7,4	5,3	3,5
	F34430	6,7	M30 x 52	M30 x 80 12.9		7,1	14,2	6,7	13,4	9,5	6,7	6,7	14,2	10	6,7
	F34440	8,0	M36 x 66	M36 x 100 12.9		12,5	25	8,0	16	11,3	8,0	8,0	17	12	8,0
TWN 1890	F352398	0,3	M8 x 17	M8 x 45 ISO 4017 10.9	40	0,3	0,6	0,3	0,6	0,42	0,3	0,3	0,63	0,45	0,3
	F35243	0,63	M10 x 17	M10 x 45 ISO 4017 12.9	80	0,63	1,26	0,63	1,26	0,89	0,63	0,63	1,3	0,95	0,63
	F35244	1,0	M12 x 22	M12 x 50 ISO 4017 12.9	130	1,0	2,0	1,0	2,0	1,4	1,0	1,0	2,1	1,5	1,0
	F35245	1,7	M16 x 30	M16 x 70 ISO 4017 10.9	180	1,7	3,4	1,7	3,4	2,4	1,7	1,7	3,6	2,6	1,7
	F35246	2,5	M20 x 38	M20 x 80 ISO 4017 10.9	350	2,5	5,0	2,5	5,0	3,5	2,5	2,5	5,3	3,8	2,5
	F35247	4,0	M24 x 40	M24 x 90 ISO 4017 12.9	500	4,0	8,0	4,0	8,0	5,7	4,0	4,0	8,5	6,0	4,0
	F35249	6,0	M30 x 44	M30 x 100 ISO 4017 10.9	500	6,0	12	6,0	12	8,5	6,0	6,0	12,7	9,0	6,0
	F35250	8,0	M36 x 64	M36 x 120 ISO 4017 12.9	750	8,0	16	8,0	16	11,3	8,0	8,0	17	12	8,0
	F35251	10,0	M42 x 74	M42 x 140 ISO 4017 10.9	950	10	20	10	20	14,1	10	10	21,2	15	10

1) For tapped holes in steel
2) Additional technical THIELE-specification must be observed
3) Reduced WLL according to DIN 685-5

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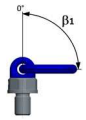
3.2 Technical data for TWN 1830

Nominal WLL [t]	Article-no.	Suspension link [mm]	Thread d x G [mm]	Tightening torque [Nm]	Working load limit for each lifting point depending on alignment and inclination angle: $\beta_1 = \pm 5°$	$5° < \beta_1 \leq 105°$	$5° < \beta_2 \leq 45°$
							
					PREFERRED		REDUCED #
					[t]	[t]	[t]
0,45	F34306	B13 x 55 x 33	M10 x 15	hand-screwed	0,9	0,6	0,45
0,6	F34307	B13 x 55 x 33	M12 x 18		1,2	0,75	0,6
1,4	F34300	B13 x 55 x 33	M16 x 20		2,8	1,7	1,4
2,5	F34310	B16 x 70 x 35	M20 x 25		5,3	2,8	2,5
3,5	F34320	B18 x 85 x 40	M24 x 30		7,0	4,0	3,5
5,3	F34330	B22 x 100 x 50	M30 x 40		10	6,3	5,3
8,0	F34340	B22 x 100 x 50	M36 x 50		15	9,5 1) 10,0 2)	8,0
10,0	F34350	B32 x 140 x 70	M42 x 60		18	13,0	10,0
12,5	F34353	B32 x 140 x 70	M45 x 65		20	15,0	12,5
12,5	F34355	B32 x 140 x 70	M48 x 68		20	16,0	12,5
12,5	F34361	B32 x 140 x 70	M52 x 78		20	16,0	12,5
17,0	F34360	B32 x 140 x 70	M56 x 78		28	22,0	17,0
17,0	F34363	B32 x 140 x 70	M64 x 96		28	22,0 1) 25,0 2)	17,0
31,5	F34380	B45 x 220 x 110	M72 x 108		50	40,0	31,5
35,0	F34383	B45 x 220 x 110	M80 x 120		50	48,0	35,0
40,0	F34385	B45 x 220 x 110	M90 x 135		50	50,0	40,0
40,0	F34388	B45 x 220 x 110	M100 x 150		50	50,0	40,0

1) until date of manufacture „1220“ (December 2020)
2) from date of manufacture „0121“ (January 2021)

3.3 Working load limit (WLL) depending on number of legs and inclination angle in t (for PREFERRED alignment of the individual lifting points)

Nominal WLL [t]	Thread [mm]	LOAD TABLE [t] (Only for alignment PREFERRED!)									
		1-leg ± 5°	2- leg ± 5°	1- leg 75° - 105°	2- leg 75° - 105°	2- leg 5) 0°- 45°	2- leg 5) 45°- 60°	2- leg 5) dissym.6)	3-/4- leg 5) 0°- 45°	3-/4- leg 5) 45°- 60°	3-/4- leg 5) dissym.6)
0,45	M10	0,9	1,8	0,6	1,2	0,85	0,6	0,6	1,3	0,9	0,6
0,6	M12	1,2	2,4	0,75	1,5	1,0	0,75	0,75	1,57	1,12	0,75
1,4	M16	2,8	5,6	1,7	3,4	2,4	1,7	1,7	3,6	2,6	1,7
2,5	M20	5,3	10,6	2,8	5,6	4,0	2,8	2,8	5,9	4,2	2,8
3,5	M24	7,0	14	4,0	8,0	5,7	4,0	4,0	8,5	6,0	4,0
5,3	M30	10	20	6,3	12,6	8,9	6,3	6,3	13,4	9,5	6,3
8,0	M36	15	30	9,5 3) 10 4)	19 3) 20 4)	13,4 3) 14,1 4)	9,5 3) 10 4)	9,5 3) 10 4)	20,2 3) 21,2 4)	14,3 3) 15 4)	9,5 3) 10 4)
10,0	M42	18	36	13	26	18,2	13	13	27,3	19,5	13
12,5	M45	20	40	15	30	21,2	15	15	31,8	22,5	15
12,5	M48	20	40	16	32	22,6	16	16	33,9	24	16
12,5	M52	20	40	16	32	22,6	16	16	33,9	24	16
17,0	M56	28	56	22	44	31,1	22	22	46,7	33	22
17,0	M64	28	56	22 3) 25 4)	44 3) 50 4)	31,1 3) 35,3 4)	22 3) 25 4)	22 3) 25 4)	46,7 3) 53 4)	33 3) 37,5 4)	22 3) 25 4)
31,5	M72	50	100	40	80	56	40	40	85	60	40
35,0	M80	50	100	48	96	68	48	48	102	72	48
40,0	M90	50	100	50	100	71	50	50	106	75	50
40,0	M100	50	100	50	100	71	50	50	106	75	50

3) until date of manufacture „1220“ (December 2020)
4) from date of manufacture „0121“ (January 2021)
5) for the prefered alignment
6) Reduced WLL according to DIN 685-5

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4 COMMISSIONING

Prior to using the components for the first time make sure that

- the lifting points comply with the order and have not been damaged,
- test certificate, statement of compliance, and operating instructions are at hand,
- markings correspond with what is specified in the documentation,
- inspection deadlines and the qualified persons for examinations are determined,
- visibility and functional testing are carried out and documented,
- documentations are safely kept in an orderly manner.

Dispose of the packing in an environmentally compatible way according to local rules.

5 ASSEMBLY AND REMOVAL

5.1 Preparations

The mounting location for each lifting point must ensure that

- the load can take the forces safely to be applied without suffering deformation,
- the lifting point can be assembled flush,
- no areas of danger are created (crushing point, shearing point),
- transportation is not restrained by overhang,
- deflections of sling parts are avoided,
- incorrect use is avoided,
- the suspension gear cannot be damaged, for example by sharp edges,
- the lifting point can be used easily.

5.2 Assembly

The useful depth of the thread must enable the lifting points to be safely screwed in. Use only the delivered screws!

Make sure the tapped hole is arranged at right angle to the attachment face on the component. The depth of the thread „L“ of the component must at least be as follows:

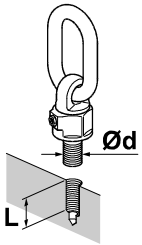
L = 1,0 x d for steel (Yield strength $R_e \geq 235$ N/mm²)

L = 1,25 x d for castings

L = 2,0 x d for aluminum

L = 2,5 x d in aluminum-magnesium-alloys

(L = depth of thread; d = thread diameter)



- Make sure the threads of the lifting point and in the component are clean and dry.
- If lifting points should remain on the component a thread locker has to be used.
- In case of a bolted joint the nut must be secured against unintentionally loosening.
- **TWN 0123**, **TWN 1120 and TWN 1830**:
  Use a suitable open-ended spanner, ring spanner or allen key to fix the lifting points hand-tight.
- **TWN 0121/1**, **TWN 0122**, **TWN 0127** and **TWN 1890**:
  Take care to tighten the screws by the right torque shown in the table. As long as it is ensured there is no load turning for a singular use and the lifting point cannot be loosened a hand tightening of the lifting points by a suitable open-ended spanner or ring spanner is sufficient. An additional check is necessary in case of a repeated load lowering.
- **TWN 1830**:
  Take care not to exceed the tightening torque of 40 Nm for screws M10 and M12.

There must be made a chamfer on the hole for the thread:

Thread [mm]	Chamfer [mm]
M8	$1{,}5^{+0{,}5}$ x 45°
M10, M12	$2{,}0^{+0{,}5}$ x 45°
M16, M20	$2{,}5^{+0{,}5}$ x 45°
M24, M30	$3{,}5^{+0{,}5}$ x 45°
M36 - M48	$4{,}0^{+0{,}5}$ x 45°
M52 - M100	$4{,}5^{+0{,}5}$ x 45°

6 CONDITIONS OF USE

6.1 Normal use

The top part of the lifting point including attachment link must always be freely movable. It must not rest on or be supported by other structural parts.

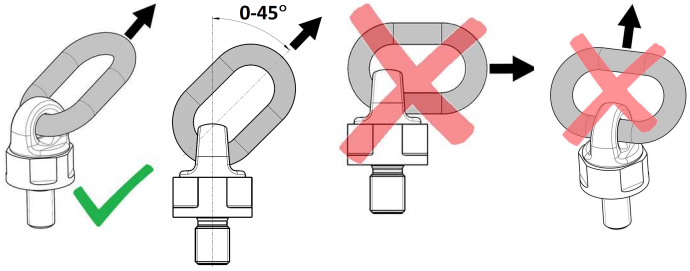
When attaching the components make sure the position of the lifting point always enables forces to be exerted in longitudinal direction of the suspension link.

Make sure only the top parts of the lifting points turn into loading direction and not the firmly secured stationary portion (see graphics).

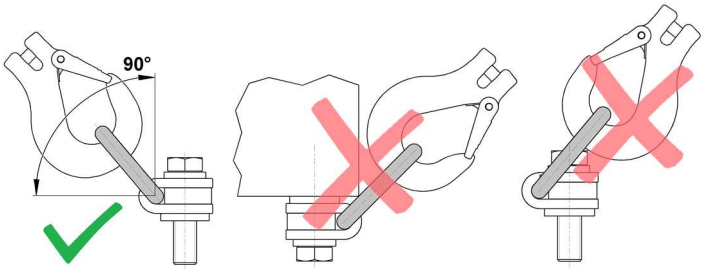
Using 4-leg chain link assemblies may cause higher risk because only 2 opposite legs carrying the load. Check the working load limit of lifting point and chain link assembly carefully and chose if necessary bigger sizes.

The force must be applied lengthwise to the suspension link.

TWN 1830:
The lifting point must not be used for a permanent or prolonged turning of the load.



TWN 1890:



Components connected to the eyelet must always be able to move freely.

6.2 Use in through holes

If screwable lifting points are fastened by means of nuts in holes (e.g. of metal sheets), the following conditions must be observed:

- Rotating or turning the load is not permitted.
- The strength class of the nuts must be 10 or higher.
- The chamfer at the end of the screw thread must protrude from the nut.
- It must be ensured that the component to be lifted is suitable to withstand the force to be applied safely and without deformation, including the corresponding safety factors.
- Suitable action must be taken to ensure that the nut cannot loosen unintentionally, e.g. suitable torque or threadlocker.

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6.3 Influence of temperature

The permissible working load limit of the lifting points reduces at elevated temperatures.

The reduced working load limit figures shown in the following tables shall only apply for short-term use at the temperatures indicated.

Temperature range [1)]	Remaining working load limit (WLL)
-20° C ≤ t ≤ 100° C	100 %
100° C < t ≤ 200° C	85 %
200° C < t ≤ 250° C	80 %
250° C < t ≤ 300° C	75 %

1) other temperature ranges only after consultation with the manufacturer

If the lifting points have been exposed to temperatures exceeding the maximum values specified, they must no longer be used.

TWN 1830:

The use of nominal sizes from M52 up to manufacturing date "0423" is only permitted above 0° C, from manufacturing date "0523" this restriction does not apply. #

Take care for a loss of lubricant depending on several fitting positions and higher temperatures. A higher wear may occur.

Shorten the inspection interval for that case.

6.4 Environmental influence

Lifting points must not be used in environments where acids, aggressive or corrosive chemicals or their fumes are present.

Hot-dip galvanizing or a galvanic treatment is prohibited as well.

7 INSPECTIONS, MAINTENANCE AND DISPOSAL

7.1 General

Inspections and maintenance must be arranged for by the owner!

Inspection deadlines shall be determined by the owner!

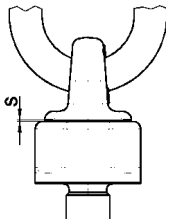
Inspections must be carried out and documented by competent persons regularly but at least once a year, or more frequently if the lifting points are in heavy-duty service. After three years at the latest they must additionally be examined for cracks. A load test shall never be considered a substitute for this examination.

The results of the inspection shall be entered into a register (DGUV I 209-062 or DGUV I 209-063) to be prepared when the lifting point is firstly used. The register will show characteristic data of the lifting points and other components as well as identity details.

Immediately stop using lifting points that show the following defects:

- missing or illegible identification/marking,
- deformation, elongation or fractures,
- cuts, notches, cracks, incipient cracks, pinching,
- no freely rotating or turning possible,
- heating beyond permissible limits,
- severe corrosion,
- wear exceeding 10 %, for example in the suspension link diameter area,
- defect screws,
- TWN 1830: gap size „s“ exceeds figures in table below:

Max. gap size „s“ for TWN 1830	
Thread	s [mm]
M10 – M20	1,5
M24	2,0
M30	2,5
M36	3,0
M42 – M64	3,5
M72 – M100	4,0



7.2 Inspection service

THIELE offers inspection, maintenance and repair services for lifting points performed by trained and competent personnel.

7.3 Maintenance

Maintenance and repair work must only be performed by competent persons.

Minor notches and cracks at suspension links may be eliminated by careful grinding observing the maximum cross section reduction requirement of 10 % and avoid making more severe cuts or scores.

All maintenance and repair activities are to be documented.

7.4 Disposal

All components and accessories of steel taken out of service are to be scrapped in line with local regulations and provisions.

8 SPARE PARTS

Only use original THIELE-spare parts. Exclusively use original THIELE screws and bolts because these are made to meet special requirements.

Type	WLL	Article No.	Screw data
TWN 0127	3,15	Z07742	M20 x 50 ISO 4017 10.9
	5,3	Z09017	M24 x 50 ISO 4017 10.9
TWN 1890	0,3	Z12173	M8 x 45 ISO 4017 10.9
	0,63	Z10836	M10 x 45 ISO 4017 12.9
	1,0	Z10795	M12 x 50 ISO 4017 12.9
	1,7	Z09544	M16 x 70 ISO 4017 10.9
	2,5	Z08692	M20 x 80 ISO 4017 10.9
	4,0	Z09809	M24 x 90 ISO 4017 12.9
	6,0	Z07810	M30 x 100 ISO 4017 12.9
	8,0	Z07828	M36 x 120 ISO 4017 12.9
	10,0	Z10136	M42 x 140 ISO 4017 10.9

9 USE OF DIFFERENT SCREWS

If local circumstances dictate that different screws must be used from those supplied with the installation, or listed in Section 8, the operator must ensure that

- these fasteners conform to the specified diameter and strength class,
- they can achieve the minimum required screw-in depth,
- they are 100 % crack tested,
- each bolt has a proven notched impact energy of min. 36 J as a mean value of three samples tested at -20° C or at the lowest fitting temperature, if this is below -20° C, and that none of the samples fall below 25 J,
- written confirmation of the crack test and impact energy results is enclosed with the technical documentation.

10 STORAGE

Lifting points have to be stored in dry locations at temperatures ranging between 0° C and +40° C.

11 THIELE OPERATING AND MOUNTING INSTRUCTIONS

Current operating and installation instructions are available as a PDF download on the homepage.

12 PUBLISHING INFORMATION

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EC DECLARATION OF CONFORMITY

acc. to Machinery Directive 2006/42/EG, Annex II A for a machine

THIELE GmbH & Co. KG herewith declares as manufacturer that the products

- **TWN 0121/1 Lifting points, rotatable, with slide bearing**
- **TWN 0122 Lifting points**
- **TWN 0123 Lifting points**
- **TWN 0127 Lifting points MDB**
- **TWN 1120 TITAN Lifting points, rotatable, with slide bearing**
- **TWN 1830 X-TREME Lifting points, rotatable, with ball bearing**
- **TWN 1890 Lifting points XS-Point, rotatable**

are placed on the market in the form of a complete machine by THIELE together with the relevant test certificate and are in compliance with the applicable provisions of the EU Machinery Directive 2006/42/EG.

The following harmonized standards have been observed:

- EN ISO 12100
- EN 1677-1
- EN 1677-4

Other standards and specifications have also been observed as follows:

- DIN 685-5
- DIN 5688-3

This declaration/statement is not meant to warrant any product properties.
Safety notes and instructions pertinent to the products must be observed.

Responsible for the documentation:
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Iserlohn, 5th June 2023
Dr. Michael Hartmann
(Managing Director)

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