

Mounting Instructions

Original in compliance with 2006/42/EG

Special Sling Components

Grades 8 and 10



Ringshackles
TWN 0812
TWN 1812



Master Links
TWN 0820
TWN 1819



Swivels
TWN 0845



Balancers
TWN 0882



Key Hooks
TWN 0892

Manufacturer:

THIELE GmbH & Co. KG
Tel: +49 (0) 2371 / 947 - 0
58640 Iserlohn
www.thiele.de

1 Description and Intended Use

THIELE Special sling components are intended for the usage in chain sling assemblies according to EN 818-4 for special transportation requirements.

These Mounting Instructions describes the safety use of following components:

THIELE **Ringshackles** TWN 0812 and TWN 1812 are fixed to chain leg ends to be connected to other components.

THIELE **Master Links with clevis** TWN 0820 and TWN 1819 # are fixed to chain leg ends to be connected to other components or to carry a hook.

A sling hook with clevis of the same size can be pulled through the notch to provide a sling for a choke hitch.

THIELE **Swivels** TWN 0845 are intended to be used within a chain leg to avoid harmful twisting. Turn back has to be done under un-load conditions.

THIELE **Balancers** TWN 0882 are intended to enable a smooth load spreading within two chain legs.

THIELE **Key Hooks** TWN 0892 are part of multi-leg chain sling assemblies only intended to lift metal covering plates narrow to the floor.

THIELE components meet EG Machinery Directive 2006/42/EG requirements and feature a safety factor of at least 4 based on the Working Load Limit (WLL).

They are signed with the corresponding chain size, grade, manufacturers mark (e.g. stamp 'H4') and identification number.

THIELE components 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) the Working Load Limit must be reduced.

Components must exclusively be used

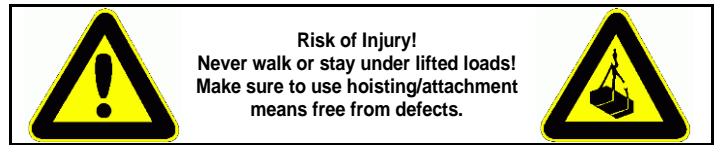
- within the limits of their permissible Working Load Limit,
- for permissible attachment methods and inclination angles,
- within the temperature limits prescribed,
- with suitable connecting links or attachment components,
- by trained and authorized persons.

As a rule, components are not permitted for the transportation of persons.

Ringshackles TWN 0812 and TWN 1812 as well as swivels TWN 0845 may be used in lashing chain assemblies according to EN 12195.

An alternating use for lifting and lashing is not allowed.

2 Safety Notes



- Operators, fitters, and maintenance personnel must in particular observe the Operating Instructions of the machine built in, documentations DGUV V 1, DGUV R 100-500 Chapter 2.8, DGUV I 209-013 and DGUV I 209-021 issued by the German Employers' Liability Insurance Association, as well as standard specifications DIN 685-5 and DIN EN 818-6.
- 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 Mounting Instructions and specified documentations relating to safety, assembly, operation, inspection, and maintenance must be made available to the respective persons.
- Make sure these Mounting Instructions are available in a place near the product during the time the equipment is used. Please contact the manufacturer if replacements are needed. See chapter 10. #
- 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 put to use worn-out, bent or damaged components.
- Do not overload the components.
- Do not use force when mounting/positioning the attachment components.
- Only lift loads that are freely movable and not attached or fastened.
- Avoid bending loads to act on components.
- Do not start lifting before you have made sure the load has been correctly attached.
- 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.
- Avoid components to get caught under the load.
- 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!

As regards quality grade 10 THIELE does not give its general approval to the assembly of components stemming from different manufacturers!

Working under the influence of drugs or alcohol is strictly forbidden!

3 Commissioning

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

- the components comply with the order and have not been damaged,
- test certificate and Mounting 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, #
- the documentation is safely kept in an orderly manner.

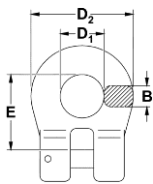
Dispose of the packing in an environmentally compatible way according to local rules.

4 Technical Data

Tables include Article Numbers of basic versions but no customized editions.

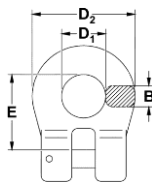
4.1 Ringshackles TWN 1812, Grade 10

Size	Article No.	Working Load Limit [t]	Dimensions [mm]				Mass [kg]
			E	D ₁	D ₂	B	
6-10	F31704	1,4	31	17	39	8	0,1
8-10	F31714	2,5	37	21	50	11	0,2
10-10	F31724	4,0	46	26	62	14	0,4
13-10	F31734	6,7	59	33	79	18	0,87
16-10	F31744	10	75	42	100	23	1,6



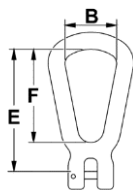
4.2 Ringshackles TWN 0812, Grade 8

Size	Article No.	Working Load Limit [t]	Dimensions [mm]				Mass [kg]
			E	D ₁	D ₂	B	
6-8	F31700	1,12	31	17	39	8	0,1
8-8	F31710	2,0	37	21	50	11	0,2
10-8	F31720	3,15	46	26	62	14	0,4
13-8	F31730	5,3	59	33	79	18	0,87
16-8	F31740	8,0	75	42	99	22	1,6
18-8	F31750	10	79	47	111	25	2,5

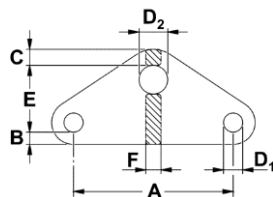


4.3 Master Links with clevis TWN 0820, Grade 8

Size	Article No.	Working Load Limit [t]	Dimensions [mm]			Mass [kg]
			E	F	B	
8-8	F31000	2,0	93	68	36	0,4
10-8	F31010	3,2	126	95	49	0,9
13-8	F31020	5,0	158	120	60	1,6
16-8	F31030	8,0	187	140	80	3,0



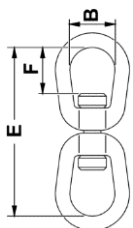
4.4 Balancers TWN 0882, Grade 8



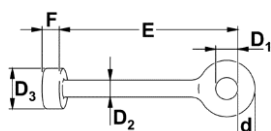
Size	Article No.	Dimensions [mm]							Mass [kg]	Working Load Limit [t]	
		E	A	D ₁	D ₂	B	C	F		0° < β ≤ 45°	45° < β ≤ 60°
6-8	F48300	42	100	14	18	8	11	10	0,4	1,6	1,12
8-8	F48303	56	130	18	22	10	15	12	0,8	2,8	2,0
10-8	F48306	70	160	22	28	13	19	15	1,5	4,25	3,15
13-8	F48309	91	210	28	40	16	25	20	3,4	7,5	5,3
16-8	F48312	110	260	36	42	20	30	25	5,6	11,2	8,0
18-8	F48313	130	290	40	54	23	34	25	8,4	14	10
20-8	F48322	130	300	42	54	25	35	30	11	17	12,5
22-8	F48315	140	330	46	56	28	39	35	15	21,2	15
26-8	F48319	170	390	54	66	33	46	40	25	30	21,2
32-8	F48321	210	480	68	80	40	54	50	47	45	31,5
32-8	F48325	200	700	68	80	40	56	50	65	45	31,5

4.5 Swivels TWN 0845, Grade 8

Size	Article No.	Working Load Limit [t]	Dimensions [mm]			Mass [kg]
			E	F	B	
6-8	F34000	1,12	108	27	30	0,33
8-8	F34010	2,0	168	44	44	1,33
10-8	F34020	3,15	168	44	44	1,33
13-8	F34030	5,3	184	46	51	2,10
16-8	F34040	8,0	252	66	64	4,45



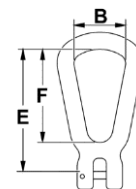
4.6 Key Hooks TWN 0892, Grade 8



Size	Article No.	Working Load Limit [t]	Dimensions [mm]						Mass [kg]
			E	d	D1	D2	D3	F	
10-8	F34250	3,15	168	17	20	17	40	25	0,8

4.7 Master Links with clevis TWN 1819, Grade 10

Size	Article No.	Working Load Limit [t]	Dimensions [mm]			Mass [kg]
			E	F	B	
13-10	F31025	6,7	143	110	60	1,1



5 Assembly and Removal

5.1 Clevis-type Hook System at Ringshackles TWN 0812, TWN 1812 and Master Links TWN 0820 and TWN 1819

Assembly

- If necessary, remove dowel pin and pin.
- Place end of chain leg (1) between the lateral clevis elements.
- Push pin (2) from the side fully into the clevis and through the last chain link of the leg.
- Drive dowel pin (3) fully in (must not project) to secure the pin. The slot must face away from the pin.

Check whether the chain runs smoothly!

Only connect pins and attachment components of identical quality grades.

Starting with Ø 13 mm the pins are marked on the front end.

Disassembly

- Slacken the respective chain leg (3).
- Drive dowel pin (1) out using hammer and ejector drift.
- Push pin (2) out using a drift punch.
- Remove the chain.

The dowel pins must only be installed once.

Suitable ejector drifts are available by Article No. Z03303.

5.2 Swivels TWN 0845

Swivels are able to be connected to connecting links or shackles.

Please consider the Mounting Instructions and the Working Load Limits of the connected components and take care that all parts can freely move.

5.3 Balancers TWN 0882

Pins of shackles as well as connecting links can be mounted to the holes of the balancers.

Please consider the Mounting Instructions and the Working Load Limits of the connected components and take care that all parts can freely move.

5.4 Key Hooks TWN 0892

A pin of a shackle as well as a connecting link can be mounted to the eye of the Key Hook.

Please consider the Mounting Instructions and the Working Load Limits of the connected components and take care that all parts can freely move.

Take care of a sufficient overlap of the Key Hooks end to the load (consider diameters D₂ and D₃)

6 Conditions of Use

6.1 Normal Use

Sizes and grades of the used components have to match!

Swivel TWN 0845 must not turn under load conditions.

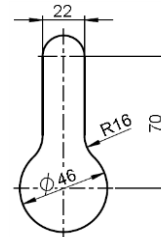
Key Hooks TWN 0892:

Key Hooks TWN 0892 must not turn under load conditions.

The notch within the load shall meet the dimensions of the adjacent scotch.

The end of the small slot has to be oriented to the center of the chain sling assembly.

The inclination angle of the chain legs shall be within a range between 15 ° and maximum 45 °!



6.2 Influence of Temperature

Using components at elevated temperatures will cause the Working Load Limit to be reduced as indicated below.

Grade	Temperature range	Remaining Working Load Limit
8	$-40\text{ °C} \leq t \leq 200\text{ °C}$	100 %
	$200\text{ °C} < t \leq 300\text{ °C}$	90 %
	$300\text{ °C} < t \leq 400\text{ °C}$	75 %
10	$-30\text{ °C} \leq t \leq 200\text{ °C}$	100 %
	$200\text{ °C} < t \leq 300\text{ °C}$	90 %
	$300\text{ °C} < t \leq 380\text{ °C}$	60 %

6.3 Environmental Influence

Components 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 Storage

Make sure components are stored in dry locations at temperatures ranging between 0 °C and +40 °C.

8 Spare Parts

Article Numbers for spares sets for clevis:

(pin and dowel pins)

Size	Article No.	Size	Article No.
6-8	F48694	6-10	F48686
8-8	F48352	8-10	F48687
10-8	F48355	10-10	F48688
13-8	F48358	13-10	F48689
16-8	F48361	16-10	F48690
18-8	F48364		

Only use original spare parts.

9 Inspections, Maintenance, Disposal

Inspections and maintenance must be arranged for by the Owner!

Inspection intervals 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 components 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 at first use. The register will show characteristic data of the components as well as identity details.

Immediately stop using components that show the following defects:

- missing or illegible identification/markings,
- deformation, elongation or fractures of chains or components,
- cuts, notches, cracks, incipient cracks, pinching,
- links heated beyond permissible limits,
- severe corrosion,
- limited hinging capability,
- wear in excess of 10 %, e.g. in the receiving area of the connecting link halves or of the pin diameter,
- missing or damaged pin locks.

Inspection Service

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

Maintenance

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

Disposal

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

10 THIELE Operating and Mounting Instructions

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



11 Publishing Information

THIELE GmbH & Co. KG, Werkstraße 3, 58640 Iserlohn, Germany
Tel.: +49(0)2371/947-0 // E-mail: info@thiele.de

© THIELE GmbH & Co. KG, 2018. All rights reserved.

Changes to previous edition.