

Operating instructions for attachment swivels "THEIPA" - Point (TP), "THEIPA"-Point-S (TP-S), "THEIPA"-Point-F (TP-F)

General principles regarding the utilisation of lifting accessories and their components:

The operating instructions are to be stored together with the certificate and the EC declaration of conformity.

The falling of loads, caused by the failure and / or incorrect utilisation and handling of lifting equipment or its individual parts constitutes a direct risk to the life or health of the people who are present in the danger zone of lifting processes.

These operating instructions contain information with regard to the safe utilisation and handling of the lifting accessories and their components. Before using the lifting equipment, the assigned persons are to be briefed with regard to handling and utilisation by a qualified person.

The following principles apply:

- The Working Load Limit (WLL) (see label) of the lifting equipment must correspond to the load. The lifting equipment may not be used if the label is missing or is illegible.
- No danger areas (e.g. crushing points, cutting points, trapping or impact points) may occur that may hinder or endanger the person carrying out the slinging process and / or the transport.
- The base material and the constructive design of the load must be able to hold the applied forces without deformation.
- Stress that leads to a non-uniform load distribution, e.g. which is caused as a result of an off-centre introduction of force must be taken into account when selecting the lifting accessories and their components.
- In the event that extreme stress or strong dynamic strain (shock influences) may occur, this must be taken into account when selecting the lifting equipment and the Working Load Limit (WLL).
- The lifting equipment may not be used for the transportation of persons. No persons are ever permitted to remain present in the danger area of a suspended load.
- The lifting equipment may not come into contact with acids and other aggressive agents. Attention must also be paid to the fact that acid fumes may occur in certain production processes.
- Never make unauthorised amendments to the lifting equipment (e.g. grinding, welding, bending, and attachment of parts)!
- The lifting equipment may not be exposed to any forbidden manipulation of temperature.
- Only original spare parts may be used.
- The relevant additional regulations must be observed when transporting hazardous substances.
- Lifting accessories and their components must be stored in such a manner that they are protected against being damaged and do not cause any danger.
- If damaged, the lifting equipment must be immediately taken out of circulation and has to undergo maintenance work.
- When ready to be discarded, lifting equipment is to be correctly disposed of. Attention: Any substances present that are hazardous to the environment (e.g. greases and oils) are to be disposed of separately.

Inspection and maintenance:

On a regular basis before being used, lifting equipment is to be closely inspected with regard to correct utilisation and faultless condition (e.g. screw fit, absence of strong corrosion and deformation, etc.), for example by the person carrying out the slinging process. Defective lifting equipment may not be used. It has to be tested at least once a year by a qualified person whilst taking the relevant standards and trade association regulations (e.g. DGUV 100-500) into account. JDT recommends a test that the lifting equipment is free of cracks every three years. The test should be done by a qualified person using a proper testing device. The user must observe the results of the risk assessment in accordance with the occupational safety directives. The re-testing period is shortened in the event that the products are exposed to critical operating conditions. Inspection records are to be kept.

The testing coefficient (EC-Machinery Directive 2006/42/EC point 4.4.1) is defined according to the respective standards and corresponds to 2.5.

Attention: In the event of violation, the operating permission will become void.

Wear measurement concerning withdrawal from service:

Grade 10 THEIPA Point

A gap becomes visible, max. the thickness of the WLL table
0.5 mm

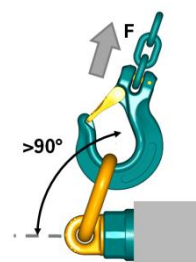


Fig. 1

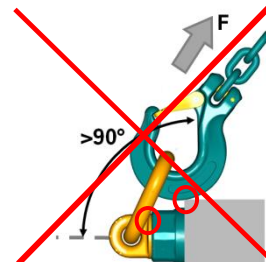


Fig. 2

Utilisation

The quantity and arrangement of the attachment points on the load must be selected so that the load can be carried safely and that it cannot unexpectedly change its position during transport. The chain link of the attachment swivel must be correctly adjusted in the direction of force and it must be freely movable. The use of the swivel in the direction of force application $> 90^\circ$ (see Fig. 1) is allowed under the condition that the swivel link and the attached lifting equipment are not supported neither at the load nor on the swivel parts itself (Fig. 2). The Working Load Limit when using at $> 90^\circ$ is equal to the Working Load Limit at 90° (see Table 1) providing that symmetrical load distribution is present.

Theipa Points are not suitable for permanent turning operations under load. By the use in turning operations at 90° and full load the excessive wear and accelerated failure must be considered.

General assembly instructions

The lifting swivels must be easily recognisable on the load (e.g. by means of colour marking). The attachment swivels are to be positioned on the load in such a manner that a flat bearing surface is large enough to carry the applied forces. At the very least, this bearing surface must correspond to the complete diameter (b) of the used attachment swivel body (respectively larger when dealing with the weldable attachment swivels). The thread hole must be perpendicular to the bearing surface. The thread hole must be countersunk.

The following applies in principle for **attachment swivels to bolt-on**:

Inspect visually the screw connection paying particular attention to screw size, thread size and screw-in length. Special threads (not listed in catalog) are additionally labelled with a thread marking on the rear side of the swivel body. When dealing with blind holes, the thread depth on the load must be at least 1.1 times of the screw-in length (e). We recommend the following as the minimum screw-in lengths (e):

in steel	1	x d	
in cast iron	1.25	x d,	in cast iron with strengths < 200 MPa min. 1.5 x d
in aluminium	2,5	x d	
in aluminium-magnesium alloys	2	x d	

(whereby d = thread size, e.g. when M 24 d = 24 mm)

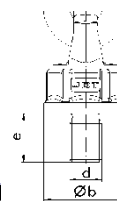
For TP-F, **crack-tested** screws of **strength class 10.9** are to be used.

In the event that TPs are secured with screw nuts, these nuts must correspond to strength class 10 and be crack-tested.

Tighten by hand with a spanner until flush with the bearing surface, e.g. open-ended wrench according to DIN 895 / DIN 894, in the event of a one-off transport procedure. Should the attachment swivel remain in the load on a permanent basis or should it be used to rotate and turn loads, the tightening is to be carried out with a higher tightening torque in accordance with the following Table 1:



Using an open-ended wrench, all Theipa Points (TP, TP-F) must at least be hand-tight !


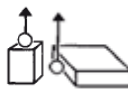
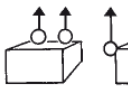
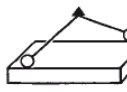
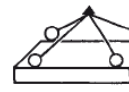
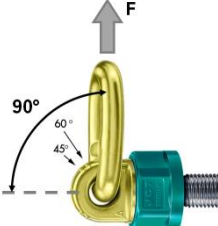















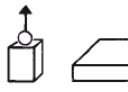
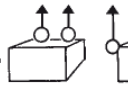
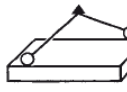
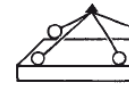




When dealing with weldable sling points (TP-S), the separate welding information's are to be observed.


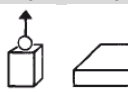
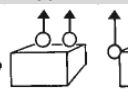
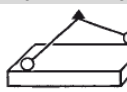
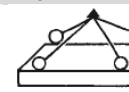




Working load limit and temperature use

The attachment swivels are labelled with the respective working load limit and are listed below in the technical data sheet to the respective nominal size in tabular and graphic form. These working load limits may not be exceeded. **In case of an asymmetrical load distribution, the working load limit applicable to the 2- to 4- leg sling types is the same as for 1-leg sling type with an inclination angle of 90°.** This corresponds to the working load limit marking on the attachment point.

Table 1

	Kind of attachment											
	Number of pieces Inclination angle		1 0°		2 0°		2 0°-45° 45°-60°		3 o. 4 0°-45° 45°-60°			
	Marking		Tightening torque [Nm]		WLL [t]		WLL [t]		WLL [t]			
	TP 0.7	M 10	10-40	1	0.5	2	1	0.7	0.5	1		0.75
		M 12	15-40	1.4	0.7	2.8	1.4	1	0.7	1.4		1
		M 14	30-40	2	1	4	2	1.4	1	2.12		1.5
	TP 1.4	M 16	45-130	2.8	1.4	5.6	2.8	2	1.4	3		2.12
		M 20	75-130	3.4	1.7	6.8	3.4	2.4	1.7	3.55		2.5
		M 24	90-130	3.4	1.7	6.8	3.4	2.4	1.7	3.55		2.5
	TP 2.5	M 20	100-170	5	2.5	10	5	3.55	2.5	5.3		3.75
	TP 4	M 24 / M 30	190-280	8	4	16	8	5.6	4	8.5		6
	TP 6.7	M 30	230-400	12	6.7	24	13.4	9.5	6.7	14		10
	TP 8	M 30	270-600	12	8	24	16	11.2	8	16		12
	TP 10	M 36	270-600	15	10	30	20	14	10	21.2		15
	TP 12.5	M 42	270-700	15	12.5	30	25	17	12.5	25		18
	TP 12.5	M 45 / M 48	270-700	15	12.5	30	25	17	12.5	25		18
	TP 17	M 42	350-800	20	13	40	26	18	13	27		19
	TP 17	M 45	350-800	25	17	50	34	23.5	17	35		25
	TP 17	M 48	350-800	25	17	50	34	23.5	17	35		25
	TP 17	M 56	350-900	25	18	50	36	25	18	37.5		26.5
	TP 20	M 64	350-900	25	20	50	40	28	20	42.5		30
	TP 28	M 64	500-1000	32.5	28	65	56	39	28	58		42
	TP 28	M 72 / M 80	500-1200	32.5	28	65	56	39	28	58		42
	TP 35	M 80	500-1400	40	35	80	70	49	35	74		52.5
	TP 35	M 90	500-1500	40	35	80	70	49	35	74		52.5
	TP 40	M72/M80/M90	500-1500	50	40	100	80	56	40	84		60
	TP 40	M 100	500-1700	50	40	100	80	56	40	84		60

	Kind of attachment											
	Number of pieces Inclination angle		1 0°		2 0°		2 0°-45° 45°-60°		3 o. 4 0°-45° 45°-60°			
	Marking		Tightening torque [Nm]		WLL [t]		WLL [t]		WLL [t]			
	TP-F 0.5	M 12x15	15-40	1.4	0.5	2.8	1	0.7	0.5	1		0.75
		M 16x20	45-130	2.8	1	5.6	2	1.4	1	2.12		1.5
		M 20x25	100-170	5	1.7	10	3.4	2.4	1.7	3.55		2.5
	TP-F 1.7	M 24x30	190-280	8	2.1	16	4	2.8	2.1	4.25		3.15
		M 30x40	230-400	12	3.2	24	6.4	4.25	3.15	6.7		4.75
		M 36x45	270-600	15	5	30	10	6.7	5	10		7.5

	Kind of attachment										
	Number of pieces Inclination angle		1 0°		2 0°		2 0°-45° 45°-60°		3 o. 4 0°-45° 45°-60°		
	Marking		WLL [t]		WLL [t]		WLL [t]		WLL [t]		
	TP-S 2.5		5	2.5	10	5	3.55	2.5	5.3	3.75	
	TP-S 4		8	4	16	8	5.6	4	8.5	6	
	TP-S 6.7		12	6.7	24	13.4	9.5	6.7	14	10	
	TP-S 10		15	10	30	20	14	10	21.2	15	
	TP-S 17		25	17	50	34	23.5	17	35	25	
	TP-S 28		32.5	28	65	56	39	28	58	42	

After use by the temperatures above 200°C, the working load limit must be **permanently** reduced for further usage according to the following table 2. An accelerated wear in the ball bearings is also possible in this case and must be monitored by the user.

Table 2

Working temperature in °C	WLL* in %	* The working temperature of the TP-F can be further restricted as a result of the used screw, the screw supplier must be questioned with regard to this matter. In the event that the TP is secured by a screw nut, the working temperatures can also be further restricted.
minus 40°C - plus 200°C	100	
plus 200°C - plus 300°C	90	
plus 300°C - plus 400°C	75	
above 400°C	not allowed	

Translation of the original operating instruction.

In case of doubts or misunderstanding, the German version of the document is decisive.



Conformity Declaration

EG-Konformitätserklärung
EC Conformity Declaration
Déclaration de conformité CE
EG-Conformiteitsverklaring
Declaración de conformidad CEE
Dichiarazione di conformità CE
EY-yhdenmukaisuustodistus
EF-Overensstemmelseserklæring
EG-Konformitetsförklaring

Im Sinne der EG Richtlinie Maschinen 2006/42 EG und weiter ergänzender Richtlinien.
As defined by the EC Guideline Machines 2006/42 EC and other complementary guidelines.
Dans le sens des directives CE Machines 2006/42 CE et des directives complémentaires.
Overeenkomstig de EG-richtlijn Machines 2006/42 EG en verdere aanvullende richtlijnen.
Conforme a la Directiva CE de Máquinas 2006/42 CE y otras Directivas suplementarias.
Ai sensi della direttiva CE sulle macchine 2006/42 CE e altre direttive integrative.
Koneista annettun EY-direktiivin 2006/42 EY ja muiden lisädirektiivien tarkoittamassa mielessä.
I overensstemmelse med EF-retningslinier maskiner 2006/42 EF og videre supplerende retningslinier.
I enlighet med EG:s Maskindirektiv 2006/42 EG samt vidare kompletterande direktiv.

Der Unterzeichnende, bevollmächtigt von der
The undersigned, empowered by
Le soussigné, mandataire de
De ondergetekende, gemachtigde van de firma
El suscrito, autorizado por la
Il sottoscritto, delegato dalla
Allekirjoittanut, yhtiön
Den undertegnede, befuldmægtiget af
förklarar undertecknad, bemyndigad av

J. D. Theile GmbH & Co. KG, Postfach 18 29, D-58213 Schwerte

erklärt, daß das (die) umseitig bezeichnete(n) Anschlagmittel in der von uns in Verkehr gebrachten Ausführung bei bestimmungsgemäßer Benutzung mit den grundlegenden Sicherheits- und Gesundheitsanforderungen übereinstimmen.

declares that sling gear, listed overleaf, conform in its marketed design with the requisite basic safety and health requirement, provided they are used in accordance with their intended purpose.

déclare que le matériel de levage décrit au verso et employé conformément aux prescriptions, dans l'exécution mise en circulation par nos soins, est conforme aux exigences fondamentales de sécurité et de santé.

verklaart dat de op de achterzijde aangegeven aanslagmiddelen in de door ons in het verkeer gebrachte uitvoering bij doelmatig gebruik met de principiele eisen omtrent veiligheid en gezondheid overeenstemmen.

declara que el/(los) dispositivo/(s) de suspensión mencionado/(s) al dorso en la forma lanzada al mercado concuerdan con los requerimientos básicos impuestos a la seguridad y a la salud bajo la condición de una aplicación de acuerdo con los fines previstos.

dichiara che il/(i) dispositivo/(i) di arresto definito/(i) a tergo, nel modello da noi distribuito, se usato/(i) nel modo dovuto risponde (rispondono) ai requisiti basilari di sicurezza e sanitari.

valtuutiamana vakuuttaa, että kääntöpuolella mainittu/tut kiinnitysväline/et myyntiin tuomassamme muodossa ja sitä/niitä asianmukaisesti käytettynä ovat perustavanlaatuisen turvallisuus- ja terveysvaatimusten kanssa yhdenmukaisia.

erklærer, at det (de) omstående anslagsmiddel (-midler) i den udførelse, som vi har givet den ud, ved bestemmelsens benyttelse stemmer overens med de grundlæggende sikkerheds- og sundhedskrav.

att det (de) på omstående sida uppförda anslagmedlet (-medlen) i det av oss sålda utförandet vid ändamålsenlig sanvändning överensstämmer med de grundläggande kraven beträffande säkerhet och hälsa.

EG-Richtlinien
EC Guidelines
Directives CE
EG-richtlijnen
Directivas CEE
Direttive CE
EY-direktiivit
EF-retningslinier
EG-Direktiv

EG Richtlinien Maschinen geändert durch
EC Guideline for Machines amended by
Directives CE Machines modifiée en
EG-richtlijn machines gewijzigd door
Directiva CEE 'Maquinas' modificada por
Direttiva CE sulle macchine cambiate con
Koneista annettu EY-direktiivi muutettu direktiiveillä
EF retningslinier maskiner forandret gennem
EG:s Maskindirektiv ändrat genom

2006/42 EG

Harmonisierte Normen
Harmonized standards
Normes harmonisées
Overeenkomstige normen
Normas armonizadas
Norme armonizzate
Harmonisoidut standardit
Harmoniserede normer
Harmoniserade standarder

EN ISO 12100

EN 818-1
EN 818-2
EN 818-3
EN 818-4
EN 818-5
EN 818-6
EN 818-7
EN 1677-1
EN 1677-2
EN 1677-3
EN 1677-4
EN 1677-5
EN 1677-6
EN 13889
EN 13155

Angewendete nationale Normen
Applied national standards
Normes nationales appliquées
Toegepaste nationale normen
Normas nacionales aplicadas
Norme nazionali applicate
Sovelletut kansalliset standardit
Brugte nationale normer
Nationella normer som tillämpats

DIN 685-2 DIN 5688-1 DIN 5687-1 DIN 695
DIN 685-3 DIN 5688-3 DIN 5687-2 DIN 32891
DIN 685-4 PAS 1061 DIN 766
DIN 685-5 DIN 5692 DIN 764-1
DIN 764-2



Aberspach / Qualitätsmanager

Unterschrift

Dokumentationsverantwortlich: R. Aberspach in Fa. J.D.Theile, Letmather Str. 26-45, D-58239 Schwerte