COMMERCIAL DOCUMENTATION

2D - LIFTING SYSTEMS | TF1 LIFTING CLUTCHES

2D LIFTING CLUTCHES

Load group [kN]	Lifting system	Anchor group [kN]	Load range anchor [kN]
15 (12.5 kN – 15 kN)	**TF1 - 012**	12.5 – 15	12.5 15
25 (7 kN – 25 kN)	**TF1 - 025** **TF2 - 025**	14 – 25	7 14 20 25
50 (30 kN – 50 kN)	**TF1 - 050** **TF2 - 050**	30 – 50	30 40 50
100 (53 kN – 100 kN)	**TF1 - 100** **TF2 - 100**	53 – 100	53 75 100
260 (125 kN – 260 kN)	**TF1 - 260** **TF2 - 260**	125 – 260	125 140 220 260

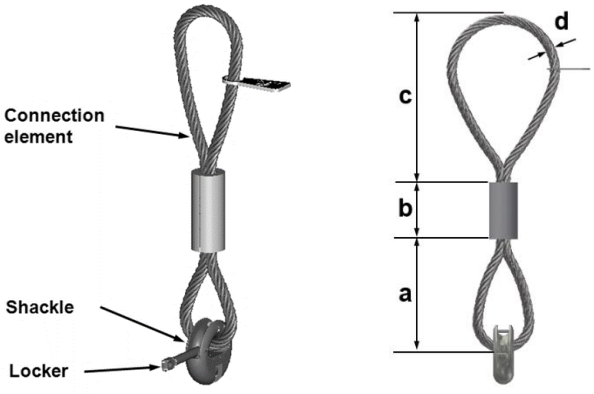
Only components in the same load group can be combined.

TF1 – 12.5 kN
TF1 – 25 kN
TF1 – 50 kN
TF1 – 100 kN

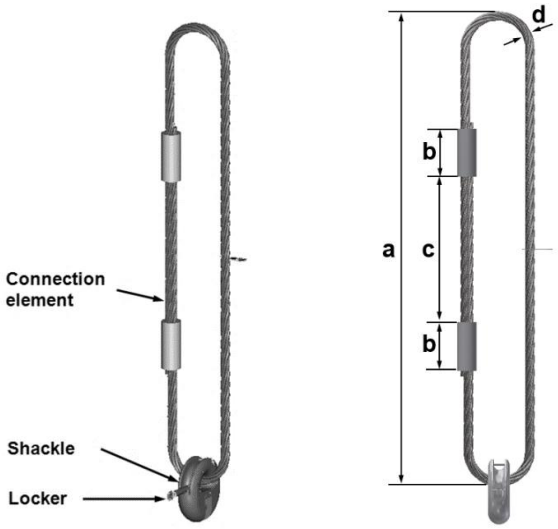
TF1 - 260 kN

The lifting systems TF1 are made of high-grade steel wire rope according EN 12385-4, swaged in a ferrule made of AlMg1.8, and a shackle produced from high-strength steel. TF2 are made of high-quality steel and are designed with a safety factor c= 5. When TF1 and TF2 systems are assembled with the corresponding anchor, together they have the anchor minimum safety factor of c= 3.
Before delivery, the working load of each system is tested three times, and individual testing certificates are attached.
TF2s are different from TF1s due to the connection element (bracket) to the crane hook: the TF1 system's connection element is made with heavy-duty wire cable according EN12385-4.
The clutch head (shackle) in each load group matches the shape of the recess former RBF and incorporates a locker, which is inserted in the appropriate head anchor hole.

2D LIFTING CLUTCHES – DIMENSIONS AND COMPONENTS



TF1-012 / TF1-025 / TF1-050 / TF1-100



TF1-260

Note: Each lifting clutch TF1 is marked with the anchor load group, the CE marking, the manufacturer and identification numbers.

TF1 (Zinc plated)		Load class	Load Range	Dimensions			
				a	b	c	d
		[kN]	[kN]	[mm]	[mm]	[mm]	[mm]
TF1 -012	49524	12.5	12.5	100	54	176	9
TF1 -025	45948	25	7 – 25	120	90	195	14
TF1 -050	45949	50	30 – 50	200	100	295	18
TF1 -100	45950	100	53 – 100	240	140	325	22
TF1 -260	45951	260	125 – 260	1570	160	480	32

CHECKING THE LIFTING SYSTEM

Just as with all lifting devices, trained personnel must inspect the TF1, TF2 lifting system at least twice a year. Any deformation of a locker indicates that the permitted load has been exceeded at least three times. A damaged locker can be replaced. No other repairs are permitted.

- ***Any deformation to the wire rope (see the type of damages mentioned on page 50), shackle, or metal structural elements weakens the lifting device with the risk of the precast element falling. Do not perform any repair work. The lifting device must be discarded. Lifting loops with broken strands or other signs of damage, kinking, bird caging, corrosion that require discarding according EN 13414-1 must not be used for further lifting.***

- ***Damage, distortions, cracks and extensive corrosion can reduce the load-carrying capacity and lead to failure. This causes a hazard to life and limb. If necessary, any affected parts must be taken out of service immediately.***

Cables must not come into contact with acids, caustic solutions or other aggressive substances.
Combining products from different companies is not recommended.

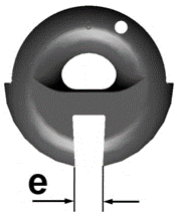
- **The locker**

A lifting system with a a worn or bent locker must be taken out of use. The wear on the locker must be less than the limits shown in the following table.

Load group [kN]	Nominal dimension d [mm]	Minimum dimension d [mm]
12.5– 15	Ø 8 +0.3/0	7.5
25	Ø 13 +0.5/0	12
50	Ø 17 +0.5/0	16
100	Ø 22 +0.5/0	21
260	Ø 32 +0.5/0	31

- **The shackle**

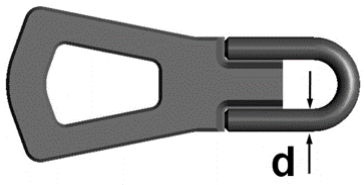
If the shackle is deformed or the opening “e” is enlarged, the lifting system must be taken out of use and cannot be repaired. The wear on the locker must be less than the limits shown in the following table.



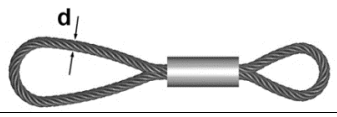
Load group [kN]	Nominal dimension e [mm]	Maximum dimension e [mm]
12.5– 15	7 +0.5/0	8
25	13 +0.5/0	14
50	20 +0.5/0	21
100	22 +0.5/0	23
260	33 +1.0/0	35

- **The connection element**

Connection elements (bracket) to the crane hook which have visible signs of damage or excessive wear must be immediately taken out of use. The wear on the bracket must be less than the limits shown in the following tables.



Load group [kN]	Nominal dimension d [mm]	Minimum dimension d [mm]
25	14	13
50	20	19
100	26	25
260	40	38,5

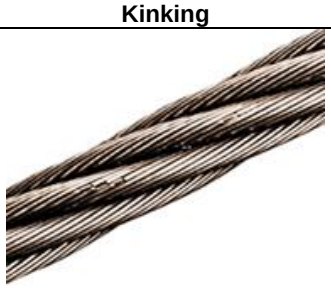


Cable type	Number of visible broken wires over a length of		
	3d	6d	30d
Stranded rope	4	6	16

d = cable diameter

Wire cables should be inspected and discarded according EN 13414-1 when the following flaws occur:

- Kinking
- One strand is broken
- Separation of the outer layer of braids
- Crushed strands
- Crushing at the shackle contact point with more than 4 ruptured wires on braided cables or more than 10 ruptured wires on cable-laid rope
- Signs of corrosion
- Damage to or severe wear of the closing bush.
- Signs of slipping between the cable and the closing bush
- A cable with several broken wires mentioned in the table above must be taken out of use

Wire rope dimensions		
		
Kinking	**Severe wear**	**Bird caging**
		
Broken wire	**Corrosion**	**Closing bush damage**

CONTACT

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