EDER
MASCHINENBAU GmbH

EN
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Operating instructions

Eder Pulleys

Alu:
Single sheave pulley
Double sheave pulley
Triple sheave pulley

Steel:
Single sheave pulley

Schweigerstraße 6 – 38302 Wolfenbüttel - Germany

General information

Eder pulley for ground traction in forestry work according to DIN 30754.

About this guide

Validity

These instructions apply to the Eder Alu single, double, triple sheave pulleys and steel single sheave pulley. The instructions are intended for trained and qualified forestry professionals. The instructions contain important information on how to safely commission and use the pulleys, as well as on the risks and dangers involved in using them.

Warranty

The device is covered by the statutory warranty period. The seller must be notified immediately of any defects that can be proven to be due to material or assembly errors. Proof of purchase of the device must be provided by presenting the invoice and receipt when making a claim under the warranty. The warranty is excluded with regard to the parts concerned if the defects are caused by natural wear and tear, temperature, weather conditions as well as defects resulting from faulty connection, installation, operation, lubrication or force. Furthermore, no warranty is given for

damage caused by unsuitable improper use of the pulleys, e.g. inappropriate modifications, or for deliberate overload.

Guarantee

The warranty period shall be 12 months from the date of delivery for commercial or professional use or application. The statutory warranty remains unaffected. Warranty claims must always be proven by the buyer by means of the original purchase receipt. A copy of this is to be enclosed with the warranty application. The purchaser's address must be clearly identifiable Any defects occurring within the warranty period due to material or manufacturing faults will be remedied by repair if they have occurred despite proper operation and care of the machine.

The manufacturer does not accept any warranty/guarantee for:

- Parts which are subject to natural wear and tear
- Non-compliance with the operating instructions and insufficient or incorrect care, e.g. too little lubrication
- The consequences of improper maintenance and servicing
- Damage from improper handling and incorrect operation

Safety instructions

The EDER pulleys have been manufactured in accordance with the generally recognized rules of technology. Nevertheless, there is a risk of personal injury and damage to property if you do not observe the following basic safety instructions and the warnings preceding instructions in this manual.

> Read this manual thoroughly and completely before operating the pulley.
> Keep the manual in a legible condition.
> Make sure that the manual is accessible to all users at all times and pass it on to third parties if necessary.

Intended use

- The Eder pulleys are only to be used for ground traction in forestry work.
- Use of synthetic ropes with a maximum rope diameter of 13mm.
- Maximum winch traction force of 1.8 t (FTF 1.8) at a maximum rope speed of 25m/min.
- Use of textile round slings and loop straps as slings, e.g. on the trunk.

General safety instructions

> Always follow the instructions in this manual to avoid hazards and prevent damage.
> Observe the relevant accident prevention regulations and other generally recognised safety and occupational health rules.

> Only use the pulleys when they are in perfect condition.
> Always use both shackles as rear attachment points.
> Ensure that the capstan rope is untwisted.
> It is imperative that the instructions for use of all equipment used are followed.
> Protective and safety equipment must never be disabled and must be cleaned if necessary.
> When setting up a pulley system, the rope strands must not cross each other.
> No persons are allowed to be in the inner angle of the rope during the pulling process!

Scope of delivery

Aluminum pulleys: The scope of delivery includes two retaining rings in addition to the pulley.

Steel pulley: The scope of delivery includes a shackle in addition to the pulley.

Design and function of the aluminum pulley

By having the rope going through the pulley, the pulley is subjected to twice the traction force of the winch for every run. If the single inner attachment point is also used, e.g. when setting up a pulley system, the simple traction force also acts here in addition. Figures 1-3 show the maximum acting forces. When choosing the sling and the attachment point, take into account the acting forces.

FTF = Forestry Traction Force | FTF = 1.8 to = 17.658 kN

Figure 1: Forces acting on a single sheave pulley

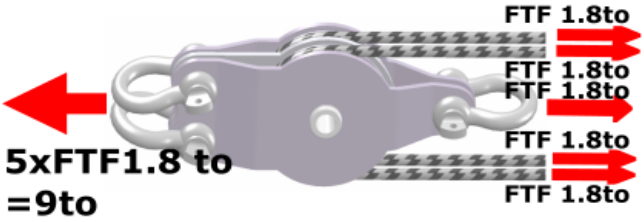

Figure 2: Forces acting on a double sheave pulley

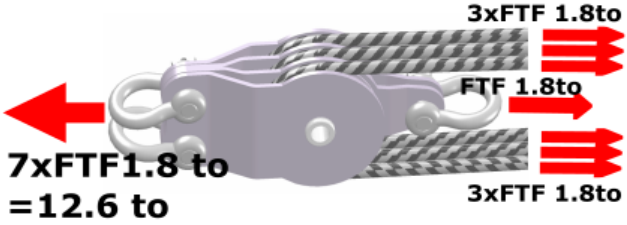

Figure 3: Forces acting on a triple sheave pulley

Make sure that the fastener is of sufficient length. The attachment angle must be less than 120° (see fig. 4).

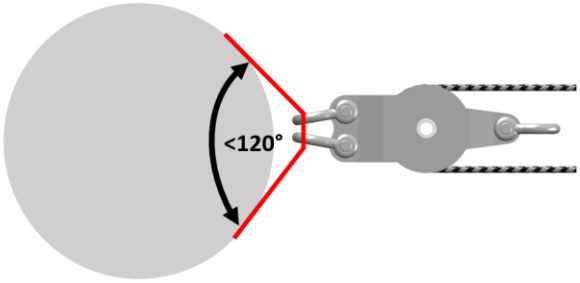

Figure 4: Attachment angle

In the case of rope assemblies where free rotation is necessary, e.g. in the case of winch-assisted felling with additional deviation, the pulley must be attached using one choke hitch (see Fig. 6). Both shackles must always be used. For applications that take place in one plane, the pulley can also be attached in two directions (see Fig. 5).

Note that the breaking strength of the fasteners reduces by 20% in the choke hitch.

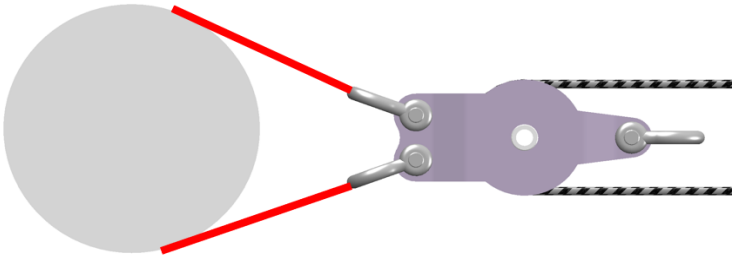

Figure 5: Pulley attached in two directions - non-rotating

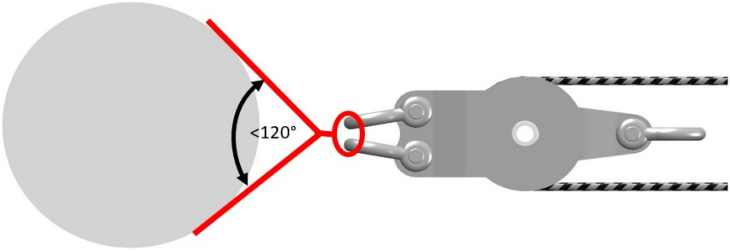

Figure 6: Pulley attached using one choke hitch - rotating

Make sure that the rope is unwound and installed without twisting.

Design and function of the steel pulley

By deflecting the rope around the pulley, the deflection pulley is loaded up to a maximum of twice the tractive force of the rope winch. Figure 1 shows the maximum acting forces.
Observe the acting forces when selecting the slinging equipment and the slinging point.
FTF = Forestry Traktion Force | FTF = 1,8 to = 17,658 kN

Figure 7: Forces acting on 1-fold pulley

Make sure that the length of the fastener is sufficient. The stop angle must be less than 120° (see Fig. 8).

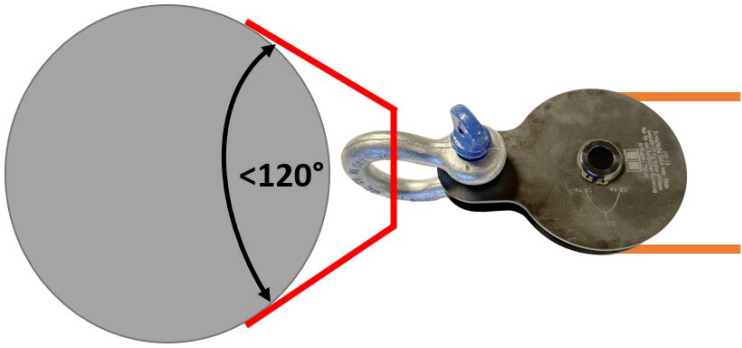

Figure.8: Angle stop

Make sure that the rope is unwound and installed without twisting.

Setting up for use

Rope installation: Remove all shackles. After twisting the cheeks sideways, the rope can be inserted. Insert the sling into the two rear shackles, then reinstall and tighten all the shackles.

In the case of multiple sheave pulleys, always use the sheaves symmetrically.

Points to verify before each use:

> Check that the sheave(s) rotate smoothly. If a sheave rotates unevenly or if loud noises are heard, the pulley must be taken out of service.
> Check that both circlips are in place and not deformed. Replace the circlips if necessary.
> Check the aluminium cheeks of the pulley for damage or deformation.
> Check the shackles to make sure that the bolts screw in smoothly and are tightened.

First bring the load to low tension until the rope strands and pulleys lift off the ground. Before applying full load, check all rope strands for correct rope guidance.

The rope must always lie neatly in the sheaves and must not be guided over the aluminium cheeks.

For winch-assisted felling, the forces according to the Calmbach table must be observed.

Maintenance and storage

> Clean the thread of the shackles regularly.

> Using creepable spray grease, regrease the axle bolt from the outside regularly, especially if it is heavily contaminated.

> The axle bolt must be disassembled and lubricated every 30 hours of operation. To do this, remove the circlip on one side with assembly pliers and pull the bolt out of the aluminium cheeks and sheaves.

> The circlip must be replaced after each disassembly. Only use original circlips (ref. 710110).

> Store the EDER pulleys in a dry place, protected from dirt, dust or moisture.

Technical data

	Aluminium Pulleys			*Steel pulley*
Data	**Single sheave**	**Double sheave**	**Triple sheave**	**Single sheave**
Weight with shackles (kg)	1,9	3,2	4	2,7
Weight without shackles (kg)	1	1.7	2.5	1,7
Ground traction force (t)	FTF 1.8	FTF 1.8	FTF 1.8	FTF 1.8
Max. resulting force (t)	5.5	9	12.6	3,6
Sheave diameter (mm)	130	130	130	130
Max. rope speed (m/min)	25	25	25	25
Max. rope diameter (mm)	13	13	13	13
Rope type	Synthetic ropes			

FTF = Forestry Traction Force 1,8 t = 17,658 kN

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