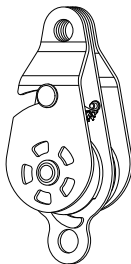




If you have any doubts or difficulties in understanding this manual, please contact XINDA.

400-8856993

No.19 Xinchao Road, Wangjiang Community, Baiyun Street,
Dongyang City, Jinhua City, Zhejiang Province, China



风火轮 (单·双向) 滑轮使用说明书

PULLEY MANUAL

Safety precautions

This manual explains how to use the equipment and only appropriate techniques and uses are described. Warning signs tell the potential risks but they don't cover everything. Please read every each warning carefully and use your equipment properly. Any misuse might lead to danger. If you are in doubt, please contact XINDA.



Risk of severe injury or death



Risk of accident or harm

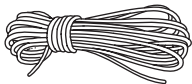
OK!

Appropriate way of use



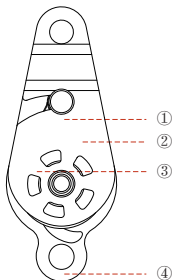
Incorrect way of use

Compatible rope diameter

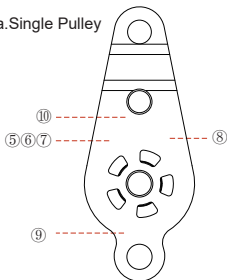


$$10.5 \leq \phi \leq 12\text{mm}$$

 **Note:** Using ropes with excessively high elongation, such as dynamic ropes, may affect the auxiliary locking performance due to rope elasticity at the moment of locking. For single-sheave use, do not use ropes with unreleased elongation or ropes with excessively high elongation. The Wind-Fire Wheel performs best when used in combination with a pulley system.

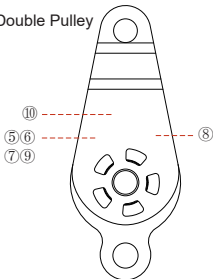


a. Single Pulley

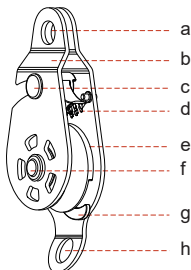


1. Name of the manufacturer or the marketed brand name;
2. Direction of use;
3. Instruction logo reminding the user to read the manual before use;
4. Breaking strength of the anchor point;
5. Applicable standard;
6. Compatible rope diameter;
7. Product serial number;
8. Working load;
9. Place of manufacture;
10. Product name

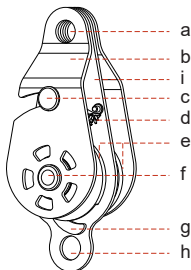
b. Double Pulley



Nomenclature



- a. Connection Hole
- b. Side Plate
- c. Rivet
- d. Cam (Ratchet Pawl)
- e. Sheave
- f. Pulley Axle
- g. Centrifugal Flap
- h. Anchor Point



ISO9001 Standards Complied

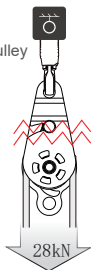


贴条码处



Load

a.
Single Pulley

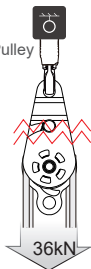


WLL: 4kN

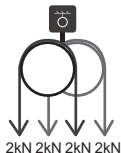


MBS: 28kN

b.
Double Pulley

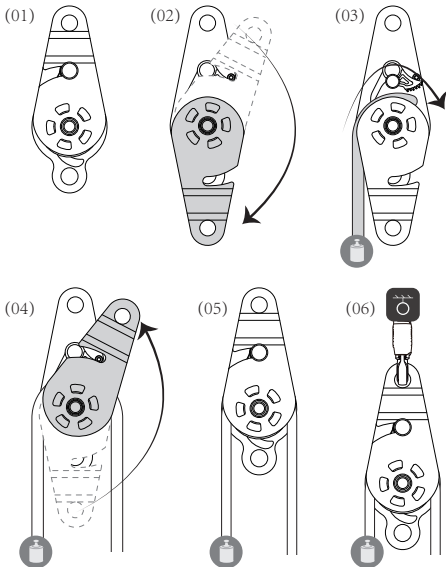


WLL: 8kN



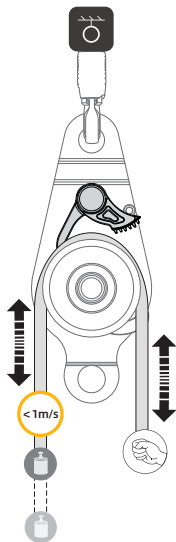
MBS: 36kN

Rope Installation

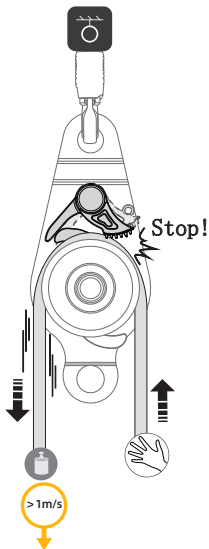


Working Principle

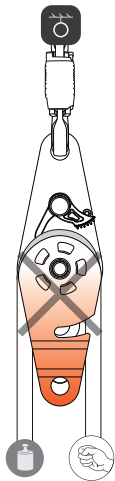
a. Operation



b. Braking



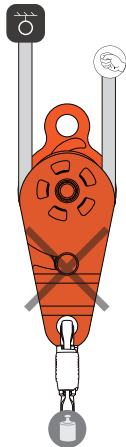
Incorrect Example



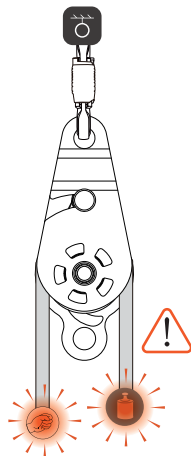
Side plate not fully closed



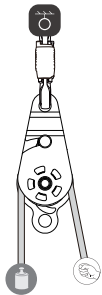
Foreign objects on the cam



Pulley installed in reverse



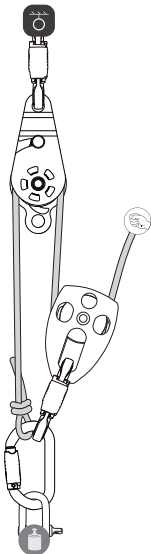
Load end and hand-held end installed incorrectly, resulting in no locking effect



Theoretical Efficiency
1:1



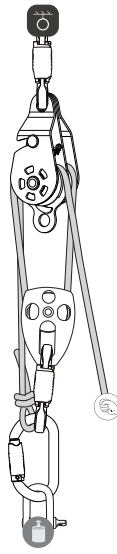
Theoretical Efficiency
2:1



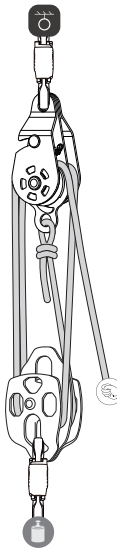
Theoretical Efficiency
of a Single Pulley
3:1



Theoretical Efficiency
of a Single Pulley
4:1



Theoretical Efficiency
of a Double Pulley
3:1



Theoretical Efficiency
of a Double Pulley
4:1

Instructions

APPLICATION SCOPE

Designed for use in engineering and industrial work environments to improve hauling efficiency.

This pulley is intended only for use with ropes. It must never exceed its rated load and must not be used for any purpose other than its original design.

RESPONSIBILITY

WARNINGS

All activities involving the use of this equipment carry inherent risks.

You are responsible for your own actions, decisions, and safety.

Before using this equipment, you must:

- Read and fully understand this entire instruction manual;
- Receive specific training for the use of this device;
- Familiarize yourself with the equipment, its performance, and limitations;
- Understand and accept the risks involved.

Failure to follow any of the warnings may result in serious injury or death.

This product must be used only by competent and responsible persons, or under direct visual supervision of such persons.

You must be able to take responsibility for your actions and consequences. If you cannot fully understand or accept the responsibilities, do not use this equipment.

INSPECTION & KEY CHECKPOINTS

Before each use:

- Check the product for cracks, deformation, corrosion, or other damage;
- Ensure the pulley rotates smoothly;
- Inspect the clearance between the side plates and the sheave;
- Check for wear on the sheave, side plates, and attachment holes;
- Ensure the cam (ratchet pawl) moves freely and the spring functions properly. Make sure the cam is clean and unobstructed;
- Check for any wear or damage on the cam;
- Ensure the pulley is loaded correctly, the connector is aligned with the main axle, and the rope remains tensioned without foreign objects entering the pulley.

Note: Mud, sand, water, or contaminants can reduce pulley efficiency and even prevent the sheave from rotating.

MAIN MATERIAL: Steel;

CAM OPERATING LOAD RANGE: 20–150 kg.

LOAD INFORMATION

A pulley is subjected to the combined forces generated by the rope on both ends. When this combined force reaches the pulley's Minimum Breaking Strength (MBS), failure will occur. Pulley efficiency refers to how effectively the rope runs through the pulley at a 180° direction change within the Working Load Limit (WLL). Actual efficiency is affected by rope angle, applied load, and friction caused by other equipment or environmental factors. Excessive load may damage the bearings, increase friction, or cause the sheave to stop rotating.

WORKING PRINCIPLE

— Operation: After proper rope installation, the rope can move bidirectionally for lifting or lowering—one end attached to the load and the other controlled manually.

— Braking: During lowering, when the pulley reaches a certain speed, centrifugal force causes the flaps to open, activating the ratchet mechanism. The cam engages the moving rope, creating braking action.

Warning: Incorrect or reversed rope installation may result in danger.

COMPATIBILITY

Ensure this product is compatible with all other components in your system.

- Connect the pulley using a locking carabiner. The carabiner must engage all main attachment holes on the side plates.
- Dual-sheave pulleys must use both sheaves simultaneously. Using only one sheave will create unbalanced loads and cause excessive side plate wear.
- Do not subject the pulley to lever forces.
- Choose ropes with the correct diameter. Incorrect rope diameter will cause rapid wear. Thin accessory cords may become trapped between the sheave and side plate.
- Ensure the rope is always tensioned and avoid dynamic shock loading.
- Control speed to avoid violent impacts.
- Avoid entanglement of soft, thin objects such as hair or branches.
- Warning: Dynamic shock loads and high mechanical advantage systems generate high forces on anchors and components. Ensure anchor strength and system compatibility to avoid overload.
- All equipment connected to the pulley (anchors, ropes, carabiners, etc.) must meet appropriate standards. If unsure, contact XINDA for guidance.

SERVICE LIFE, PERIODIC INSPECTION & RETIREMENT CRITERIA

Metal components stored in good conditions have no storage lifespan limit.

Plastic components have a lifespan of 10 years, and rubber components 3 years.

Improper operation, accidents, or compatibility issues may damage the product upon first use.

Actual service life depends on environment, frequency of use, and exposure to harsh conditions (marine, extreme temperatures, mud, etc.).

PPE requires a comprehensive inspection at least every 12 months. Heavily used equipment may require more frequent checks.

Retire the product immediately if:

- The usage history is unknown;
- You have any doubt about its performance, strength, or safety;
- It fails a PPE inspection;
- The product functions abnormally;
- It no longer meets updated regulations or standards;
- It has been subjected to a major load event or severe fall.

How to retire equipment:

Mark permanently or irreversibly damage the product (e.g., drilling or cutting) to prevent further use, or return it to the manufacturer for disposal.

RESPONSIBILITY

- You are responsible for your own actions and decisions. If you cannot assume the consequences, do not use this product.
- Only trained and competent persons may use this product, or persons under direct supervision of a qualified individual.
- Training must include theory and hands-on practice. Users must understand principles of work-at-height, equipment operation, and safety systems.
- When reselling to another country/region, instructions must be provided in the local language.
- XINDA shall not be liable for any direct or indirect consequences caused by improper use.

STORAGE & TRANSPORTATION

After use, remove all moisture and contaminants. Store the equipment in a dry environment between 10°C and 30°C, away from abrasion, heavy pressure, chemicals, sharp objects, or heat sources. During transportation, store the metal device in a protective bag or container under the same environmental requirements. It is recommended that equipment be assigned to a dedicated person for use and maintenance.

MAINTENANCE

Proper maintenance and storage prolong service life and ensure user safety.

Wear Treatment: Minor burrs or scratches from metal contact may be smoothed with sandpaper.

Cleaning: Use clean water (around 20°C) and a soft brush. Do not use high-pressure water or industrial cleaners. Rinse with clean water and allow to air-dry naturally. Keep away from heat sources.

Lubrication: Long-term use may reduce bearing lubrication. Apply light oil or grease to the rotation axle as needed.

Warning: Any unauthorized modification, part replacement, or repair is strictly prohibited. Repairs may only be performed at XINDA's factory.

3-YEAR WARRANTY

We provide a 3-year warranty against defects in materials or manufacturing. The warranty does not cover: Wear, deformation, oxidation, Unauthorized modification or repair, Incorrect operation, improper storage or maintenance, Damage caused by use outside the product's intended purpose.