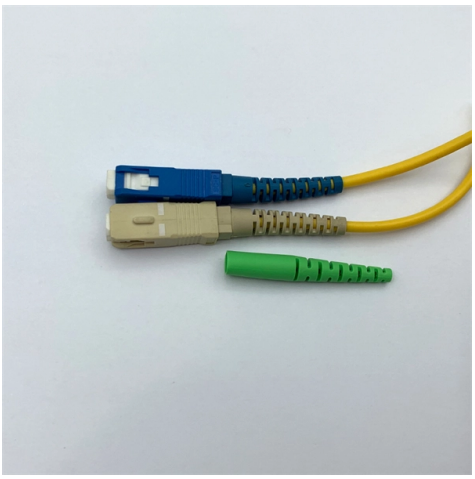
Principle of Optical Cable Re-hanging Machine



Overview

CN115215156A The invention provides an optical fiber cable winding and unwinding device for optical communication. Optical Fiber Cable rewinding MachineThe.

Key Takeaways

An optical cable re-hanging machine operates by controlling the tension and movement of fiber optic cables using mechanical spooling, gear transmission, and automated tension regulation to ensure safe and efficient winding or unwinding.

Mechanical Operation

The core principle of an optical cable re-hanging machine involves controlled spooling and unspooling of fiber optic cables. The cable is mounted on a take-up or pay-off roller, which is supported by a rotating pipe and support rods. Gear transmission mechanisms, including racks, gears, and connecting rods, coordinate the movement of the rollers, allowing the cable to be wound or unwound smoothly without manual intervention.

Electromagnets and clamping rods are often used to secure the rollers during operation, enabling easy replacement or repositioning of spools.

Tension Control

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Maintaining proper tension is critical to prevent fiber breakage or deformation. Modern machines use electronic tension control systems that continuously monitor the cable as it moves through the machine. Sensors detect tension variations, and the system adjusts the roller speed or braking force to maintain a consistent tension, ensuring the cable is wound evenly and safely.

Automation and EfficiencyHigh-speed optical cable re-hanging machines incorporate programmable logic controllers (PLCs) and touch-screen interfaces to manage winding patterns, speed, and spool changes. Linear traversing systems allow the cable to be distributed evenly across the spool, preventing overlapping or tangling. Some machines can achieve winding speeds up to 1000 meters per minute while maintaining precise tension and coil quality.

This automation reduces manual labor, minimizes cable damage, and improves operational efficiency.

Applications

These machines are widely used in telecommunications, data centers, and fiber optic installation projects to handle long lengths of fiber optic cables. They are essential for both production environments and field installations, ensuring that cables are stored, transported, and deployed without compromising integrity. In summary, the principle of an optical cable re-hanging machine combines mechanical support, gear-driven movement, tension regulation, and automation to safely and efficiently manage fiber optic cables during winding and unwinding operations.

Article Content

CN115215156A

The invention provides an optical fiber cable winding and unwinding device for optical communication.

Optical Fiber Cable rewinding Machine

The Optical Fiber Winder Cable Take up Machine is a device that uses a servo control system and is driven by a high-precision servo motor to neatly wind the

vom Hagen & Funke GmbH – Fiber Optics

Many applications in the area of coiling / re-winding and extrusion form the major part of our product range in the fiber optic field whereby low tension and tension variation is an important component of

Install 06 Issue 3 Aerial Cable Installation Practices

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Using this method, the fiber optic cable is pulled into place beneath the strand using cable blocks. Lashing the cable to the strand then begins at the far end of the cable route with the lasher being

Placement Method of Aerial Fiber Optic Cable

There are currently two methods of placing overhead fiber optic cables: one is the fixed pulley Traction method, including artificial traction method and mechanical traction method; the other

High Speed Rewinding Machines

For fast and precise rewinding of fiber optic cables or optical fibers, our high-speed rewinding machines offer the ideal solution. With winding speeds of up to 1000 m/min, the machine rewinds fiber, wire,

Rewinding machines

Each rewinding system is based on a modular machine architecture that adapts easily to evolving production needs. Whether a simple respooling unit or a multi-stage system with in-line inspection,

Fiber Optic Reel: Technical Deep Dive on ''Fiber Optic Cable Reel ...

The physical interface between the fiber optic cable and the reel drum itself plays a crucial, often overlooked, role in preventing damage. The material composition of the reel, its surface finish, and

Handbook Optical fibres, cables and systems

The simultaneous availability of compact sources and of low-loss optical fibres led to a worldwide effort for developing optical fibre communication systems. The real research phase of fibre-optic

Automatic Fiber Cable Tying Machine / Cable Tie Hanging Machines

T Automatic Cable Tying Machine is a hand-held, climb-free cable fast tying tool with an integrated intelligent control module, which can automatically complete all the steps of cable tying, and can be

Principles of Cable Reeling

Vertical Recovery – For a reel mounted on a machine, the cable is suspended from a fixed point. The reel does not need to pull the weight of the cable. Since all the weight of the hanging cable is felt at

Fully automatic optical cable with hanging machine: the high ...

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The fully automatic optical cable attached hanging machine integrates a variety of practical functions. it can not only be used for optical fiber attachment, but also can be used for cable bundling

Cable Reeling Machines: Types, Applications and Benefits

What are Cable Reels or Cable Reeling Machines? Cable reeling machines, or simply "cable reels," are specialized equipment designed to efficiently store, unwind, and rewind electrical or fiber optic

Fault Analysis and Diagnosis Method for Intelligent ...

OPGW optical cable is an important part of the power communication system, its common faults are relatively more, which will directly affect the safety performance of power grid

Cable armoring machine working principle

The cable armoring machine is an important mechanical equipment. It is mainly used to metal armor the optical cable to prevent the optical cable

Research of Optical Cable Overhead Laying Automation

The structure of the optic fiber cable overhead laying winding machine developed and applied abroad is relatively more complex.[7,8] When laying the fiber optic cables, the cable tray is hanging in the air

Optical Fiber Winder Cable Take up Machine with PLC

The Optical Fiber Winder Cable Take up Machine is a device that uses a servo control system and is driven by a high-precision servo motor to neatly wind the

How to oprate Fiber Optical Cable pulling

In this channel you will konw that how to oprate Fiber Optical Pulling Machine~□Fully automatic□

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