Blowing air into the optical cable

Overview

Cable installation by using high speed air flow combined with additional mechanical pushing force is called as “blowing or jetting”.

Key Takeaways

Air blowing, or jetting, is a method of installing optical fiber cables into pre-laid ducts using high-speed compressed air combined with mechanical pushing, enabling long-distance, low-friction deployment.

Overview of Air Blowing

Air blowing, also called blown fiber installation, involves inserting optical fiber cables into pre-installed ducts or micro ducts using compressed air to propel the cable forward. The process typically starts by pushing a few hundred meters of cable into the duct using a mechanical pusher or tractor mechanism. Once the cable is partially inserted, high-velocity airflow is introduced, which suspends the cable inside the duct, reducing friction and allowing it to travel long distances with minimal mechanical stress.

How the Process Works

Cable Preparation: The fiber optic cable is attached to a blowing head with seals that grip the cable tightly. The cable is designed with a low-friction outer jacket to facilitate smooth movement. Mechanical Pushing: A pushing device or tractor mechanism applies force near the cable inlet to start the insertion.

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Compressed Air Injection: Compressed air (typically 8–12 bar) is injected into the duct, creating a high-speed airflow that propels the cable forward. The airflow partially suspends the cable, reducing contact with the duct walls and minimizing strain. Cable Floating: The cable “floats” inside the duct, allowing it to navigate bends and undulations efficiently.

Stiffer cables perform better in straight ducts, while more flexible cables handle complex routes.

Advantages Over Traditional Pulling

Longer Installation Distances: Air blowing can install cables over 1–2 km in a single run, reducing the need for splicing. Reduced Strain: The cable experiences lower mechanical tension compared to pulling, preserving fiber integrity. Smaller Ducts: Micro ducts of 10–20 mm can be used, compared to 50–100 mm for traditional conduits.

Lower Labor and Equipment Costs: Fewer technicians and lighter equipment are required, reducing installation time and cost by 30–60%. Scalability: Empty micro ducts can be installed first, and cables can be blown in later as needed, supporting phased network rollouts.

Applications

Air blowing is widely used in: FTTH (Fiber to the Home) deployments5G/6G backhaul networksData center interconnectsRural broadband projectsHigh-rise and urban environments where traditional pulling is impractical Practical ConsiderationsDuct Size: Choose a duct slightly larger than the cable to reduce required air pressure. Air Pressure: Use the minimum pressure necessary to avoid damaging the cable. Temperature: Avoid extreme cold, which can make the cable jacket brittle or cause condensation in the duct.

Cable Design: Low-friction jackets and appropriate stiffness are critical for optimal blowing performance. Air blowing has become the preferred method for modern fiber optic deployments due to its efficiency, scalability, and ability to handle high-fiber-count cables in challenging environments.

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Article Content

Installation of Optical Fiber Cable by Blowing/Jetting

Cable installation by using high speed air flow combined with additional mechanical pushing force is called as “blowing or jetting”. Cable blowing is the process of installation of optical fiber cable into a

Fiber Optic Cable Blowing Procedure: Full Guide (2024)

PDF file

Air-Assisted Installation Considerations - Corning

Jetting and blowing are two common air-assisted cable installation techniques. Both methods require pushing the cable with a tractor mechanism while blowing compressed air into a pre-installed duct

Pulling and blowing a cable in a duct

Readers of this document are encouraged to seek information on specific matters regarding Optical cables and components from the manufacturer or provider and to consider the Technical Standards

Fiber-Optic Cable Blowing With Portable Air Compressors

Learn how clean, dry compressed air supports fiber-optic cable blowing and how the ELGi GP35FP helps crews improve underground fiber installation.

Duct Installation of Fiber Duct Cable Pulling & Air Blowing Method

Air blowing method includes high air speed blowing and push/pull (piston) blowing. The basic principle is injecting the compressed air into the duct and then they flow at high speed through

How to Blow Fiber Optic Cable

The process typically involves attaching a specially designed push-in or push-out device to the fiber cable, which is then connected to the blowing apparatus. Compressed air is introduced

Blown Fiber Installation: Essential Guide & Expert Tips

Blown fiber involves inserting fiber optic cables into pre-installed micro ducts using compressed air. This method is highly efficient for covering long distances within buildings or across

How To Blow Fiber Optic Cable

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Blowing fiber optic cable, also known as air-blown fiber installation, is an efficient and effective method of installing fiber optic cables in ducts over long distances.

Why Fiber Optic Prices Exploded from Early 2026

Conclusion: Navigating the 2025–2026 Fiber Price Crisis The dramatic surge in fiber optic cable prices from late 2025 into early 2026 is primarily driven by the explosive and sustained

Microduct Connectors & FTTx Solutions Manufacturer – FCST

Several persistent problems encountered during construction are closely related to it: connector breakage due to stone impacts during backfilling, rainwater seeping into the conduit, fiber optic cable

Air-blown fiber unit | DYS

Air Blown Fiber Optic Cable Air-blown fiber unit Introduction ABF is the important part of the series, and it is the most popular product of the indoor optical fiber cables for generic cabling in Europe, Japan,

PLUMETT MiniJet Cable Blowing Machine

Designed for blowing or floating cables and fibers into preinstalled ducts, including optical fiber, coaxial, and multipair cables, as well as multiducts. Ideal for air or

Pulling and blowing a cable in a duct

The installation of optical fibre cable in duct is becoming the most popular installation method in the FTTH networks; from pulling to air jetting the network builder has the choice but the trend to reduce

Preventive Maintenance of Fiber Optic Cables and Optics

Laser power density may eventually burn contaminants into the optical surfaces causing the fiber to produce inaccurate results effectively rendering it unusable. By extension, contaminated cable

Fiber optic cable blowing machine manufacturers

Find trusted fiber optic cable blowing machine suppliers in Manufacturing Equipment for Electrical & Electronic Product and Manufacturing & Processing Machinery with bulk pricing. Ideal for long-term

High Fiber Count Optical Cables Solutions with FREEFORM Ribbon™

High Density Sumitomo Electric, the pioneer of high-fiber-count cable for decades, has been offering up to 6912-fiber count Ribbon Slotted-Core cables with advanced FREEFORM Ribbon™ technology.

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Outdoor Fiber Optic Cable | Outside Plant Fiber (OSP) Cable

Applications Duct Cables Duct Cables Ducts (or conduits) offer a highly protective environment for fiber-optic cables. They are typically buried outside, and then the cables are air-blown, jetted, pulled, or

Duct Fiber Optic Cables: What They

Learn about duct fiber optic cables—their design, key applications (FTTx, urban networks, DCI), installation methods (pulling vs. air blowing), and

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