



FUJIKURA NEWS

Fujikura Adds 864-Fiber Air Blown Wrapping Tube Cable™ to Product Line

Fujikura starts shipping 864 fiber-count Air Blown Wrapping Tube Cable™ (AB-WTC™). This cable applies our proprietary 12-fiber Spider Web Ribbon™ (SWR™) technology, and the diameter of the fibers used is 200 microns.

The AB-WTC is a WTC cable designed for air-blown installation method, in which the cable is installed into micro-duct with compressed air. The maximum fiber-count for AB-WTC was 432 by now, but the introduction of 864 fiber-count AB-WTC expands our product line-up.

With the spread of IoT in various scenes of people's lives and the full-scale implementation of 5G services, data traffic will increase more and more in the future, and building large-capacity optical fiber network supporting traffic increase are being accelerated everywhere in the world especially in the North

America and Europe.

In those regions, cables are installed often in underground micro conduit (with a small-diameter for accommodating optical fiber cables), and an air-blown method is widely used for cable installation.

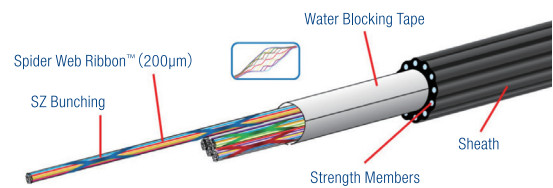
Therefore, in order to quickly and economically increase the capacity of the optical fiber network with the existing micro-ducts, cables designed for air-blown installation, and with bigger fiber-count cables than conventional loose-tube cables are needed.

Fujikura will continue to contribute to the value creation of society and customers with our various optical fiber cable products

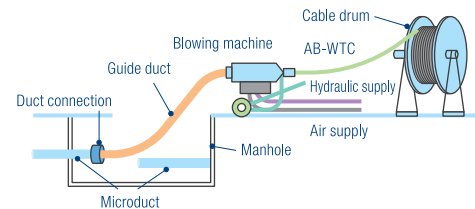
[Product features]

- The maximum fiber-count in conventional air-blown optical cables with a loose-tube structure, popular in those regions, has been 288. Now, larger-capacity network can be built using smaller-diameter AB-WTCs that holds as much as 864 fibers.
- Since conventional air-blown cables use individual optical fibers, the fibers need to be fusion-spliced one by one. On the other hand, since AB-WTC uses a 12-core ribbon, 12-core mass fusion-splice is possible, which considerably reduces splicing time, and also the cable is lighter in weight. These dramatically improve the construction work efficiency of optical cables.

■ Structure of AB-WTC



■ Schematic diagram of blowing machine and cable setup



■ Points applicable to SDGs17

The cable that is produced by the use of our proprietary technologies responds to the progress of 5G and increase in network capacity and contributes to the advancement of safe, robust infrastructures.



launch of fusion splicer related products

The 90S+ core alignment fusion splicer

Fujikura Co., Ltd. is proud to announce the latest evolution in the development of the single fusion splicer with the launch of the NEW 90S+.

The 90S+ now comes equipped with "ACTIVE FUSION CONTROL TECHNOLOGY" to realize low splice loss. The technology incorporates the following features:

- Optimized fusion control depending on fiber cleaved end face condition before fusion splicing.
- Optimized fusion parameter selection based on the automatic discrimination result of the optical fibers.
- Real-time optical fiber brightness intensity analysis and control during fusion splicing.

In addition, 90S+ equips "ACTIVE BLADE MANAGEMENT TECHNOLOGY" which manages the condition of the optical fiber cleaver blade by wireless communication. These two technologies, "ACTIVE FUSION CONTROL TECHNOLOGY" and "ACTIVE BLADE MANAGEMENT TECHNOLOGY", allow customers to achieve more stable low splice loss, reducing the need for re-installation.

Due to the influence of expanding telework, network traffic has increased drastically, and optical fiber network construction has also increased. With over 30 years of Fujikura R&D experience developing core alignment fusion splicers, the 90S+ continues to help build and maintain stable and high-quality telecommunication networks.



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The Large Diameter optical fiber Cleaver CT105+ series

Fujikura Co., Ltd. is proud to announce the latest evolution in the development of the large diameter cleaver with the launch of the CT105+ series.

Fiber laser manufacturers that require high-power optical energy transmission tend to use large diameter optical fibers. In order to obtain a good cleaving angle for large diameter optical fibers, it is necessary to set the optimum optical fiber clamping force and tension during cleaving.

If the clamping force is too strong, the fiber optical coating may deform and affect the transmission characteristics of light energy. On the other hand, if the clamping force is too weak, the optical fiber may slip during the cleave tension process, and then a good cleaving angle may not be obtained.

The new large diameter optical fiber cleaver equips with a function that automatically detects the optimum optical fiber clamping force. As a result, it is possible to set a high-precision optical fiber clamping force in a shorter time than before.

In addition, by reviewing the design of the cleave blade, we have succeeded in greatly improving the number of times an optical fiber can be cleaved.

Please try out our CT105+ series of cleaver for large diameter optical fibers, which can be applied to various optical fibers such as large diameter fibers, polygonal fibers, photonic crystal fibers, and capillary, hollow glass tube.



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For more details, please refer to the URL below.
[【https://www.fusionsplicer.fujikura.com】](https://www.fusionsplicer.fujikura.com)



■ Points applicable to SDGs17



By using Fujikura's fusion splicers, optical cable installation dealing with expanding network capacity makes progress and contributes to constructing and maintaining stable, high-quality networks.



Fujikura Receives the Heat Transfer Society of Japan Technology Award 2020 for Development of Thin Heat Pipe and Vapor Chamber

Eight members, including Yuji Saito as the representative researcher, of Next-generation Product Development Center, Electronics Business Unit of Fujikura have received the Heat Transfer Society of Japan Technology Award 2020*1 for the development of a thin heat pipe and vapor chamber. This award is granted people who have developed excellent heat transfer technology among four awards given by the Society.

Our thin heat pipe*2 and thin vapor chamber*3 are characterized by high heat transfer performance*4 to dissipate heat given off by electronic devices despite their compactness. Such high performance was made possible largely by our proprietary wick structure*5 inside the product and technology to control the flow of vapor and liquid there. This award was granted us since the society recognized our achievements in developing heat transfer technology through presentations at the academic society conferences and in applying for patents as well

as in commercializing thin cooling units based on our advanced technology.

Recently, many mobile electronic devices such as smartphones, thin notebook PCs, and wearable devices become more sophisticated in functionality. In addition, higher performance of these mobile devices has brought about increased volume of information that needs processing. Accordingly, the performance of data centers to proceed the data has been improved. With these improvements, the volume of heat generated by electronic devices and servers used in data centers tend to grow, and thus the challenge is how fast the heat can be released.

To address this challenge, we will benefit the development of heat transfer technology by improving the heat transfer performance of heat pipes and vapor chambers, developing and commercializing these units with a compact body and high cooling efficiency. We will also help different products grow in performance.

[Members who received the award]

- Next-generation Product Development Center, Electronic Components Business Unit: Yuji Saito
- Development Group, Thermal Tech Development Department, Electronic Component Business Division, Electronic Components Business Unit: Yoji Kawahara, Thanh-Long Phan, Harutoshi Hagino, Bradley Orr
- Technology Group, Thermal Tech Development Department, Electronic Component Business Division, Electronic Components Business Unit: Akihiro Takamiya, Ahamed Mohammad Shahed, Randeep Singh

*1. The Heat Transfer Society of Japan: An academic society that aims at the theoretical and technological progress in terms of heat transfer, the spread of the knowledge, and exchange among domestic and international members. (<http://www.htsj.or.jp/>)



*2. Heat pipe: A vacuum pipe made of high-thermal conductive materials, such as metal, and containing a small amount of liquid. The transfer of heat causes evaporation and condensation. The pipe uses the cycle of evaporation (absorption of latent heat) and condensation (dissipation of latent heat) of liquid to cool heated portions of electronic devices. Generally, the thinner the pipe is, the smaller the cross-sectional area, which lowers heat transport volume due to weaker circulation power. However, Fujikura has used its long-time know-how and technology to succeed, the first in the world, in volume-production of thin heat pipes that can maintain high heat-transfer performance.

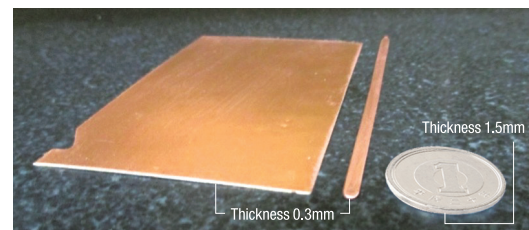
*3. Vapor chamber: A plate with the same function as a heat pipe and more flexibility in shape than the pipe.

*4. Heat transfer performance: Heat transfer is a phenomenon that heat flows from the surface of a solid object with higher thermal energy to a fluid (vapor or liquid) that comes in contact with the object or the other way around. The performance of heat transfer depends on how much heat a device can transfer at a minimum temperature difference.

*5. Wick structure: It produces capillary action to circulate the fluid in a heat pipe by returning the liquid turned from vapor in the cooling unit to the heated unit along micro paths in the wick.

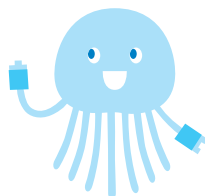


Award-winning shield



Ultra-thin vapor chamber (left) Ultra-thin heat pipe (right)

Points applicable to SDGs17



We will benefit the development of heat transfer technology by improving the heat transfer performance of heat pipes and vapor chambers, developing and commercializing compact heat transfer units with high cooling efficiency. We will also contribute to the development of higher functionality products.



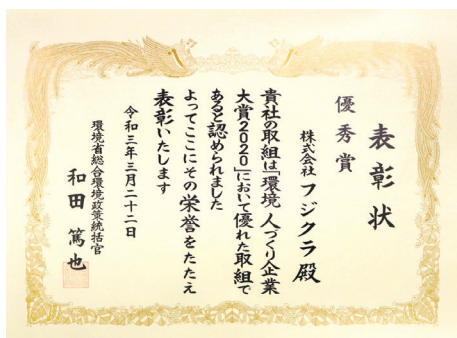
Fujikura Receives Excellent Company Award for Environmental Human Resource Development in 2020, sponsored by the Ministry of the Environment

Fujikura received an excellent company award (in the category of a large company) for Environmental Human Resource Development in 2020 first, sponsored by the Ministry of the Environment and Environmental Consortium for Leadership Development (EcoLeaD). (📄)

They also aim to commend companies that develop human resources capable of leading company activities with consideration for the environment and support these activities based on the Act on the Promotion of Environmental Conservation Activities through Environmental Education.

Fujikura's different environmental efforts have been recognized with the award. They include environmentally-conscious production, wide-ranging initiatives including employee training, and joint activities with local communities and the government, as represented as those in the Fujikura-Kiba Millennium Woods to secure the diversity of life forms.

We will take the advantage of receipt of the award to make further efforts in protecting the environment and continue to reduce the burden on the environment toward the realization of the Fujikura Group's Long-term Vision 2050.



Testimonial



The Fujikura-Kiba Millennium Woods

Reference

The Environment Ministry's Press Release by the Ministry of the Environment Announcement of the excellent companies award for that have won 2020 Environmental Human Resource Development Corporate Awards in 2020 (Japanese only) <https://www.env.go.jp/press/109332.html>



(📄) List of companies awarded companies (Japanese only) <https://www.env.go.jp/press/files/jp/115827.pdf>



The Fujikura Group Long-term Environmental Vision 2050 <https://www.fujikura.co.jp/eng/esg/environmental/index.html>



About the Fujikura-Kiba Millennium Woods <https://www.fujikura.co.jp/eng/esg/efforts/bio-garden.html>



Points applicable to SDGs17



Fujikura will engage in protecting the environment jointly with people in local communities and continue to reduce environmental burden toward the achievement of The Fujikura Group Long-term Environmental Vision 2050.

✉ Corporate Communications Division

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