FIBER OPTIC
MICRODUCT SYSTEM

Metro--Jet

Products presentation

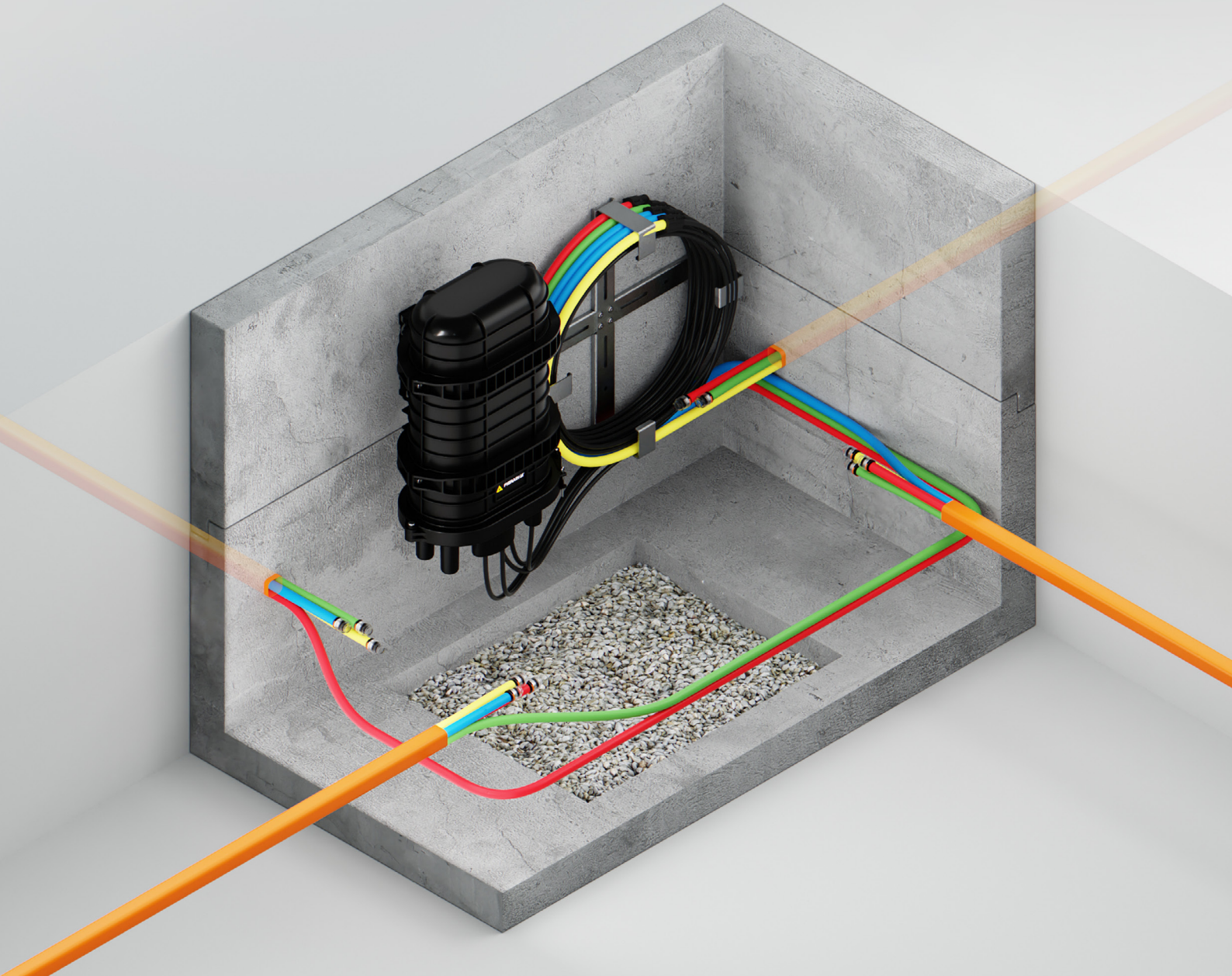
General information

MetroJet microduct system is a multiway ground teletechnical structure.

Due to its design, it provides the installation of many fiber optic microcables into one bundle of single microducts with diameters in the range from 5 to 16 mm. The main advantage of installing foiled bundles is a one-time application of all microducts at the same time, which dramatically speeds up the implementation of projects and creates a coherent and orderly network infrastructure.

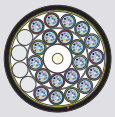
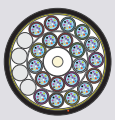
MetroJet system offers a wide range of products for the construction of new ground fiber optic networks, as well as the modernization of existing ones. All elements of the system, starting from microducts, connectors as well as microcables, fiber optic closures, cable blowing machines and accessories, provide the possibility of creating even the most complex structures, while maintaining simplicity of installation.

At the stage of designing and installing cables in a microduct, the appropriate ratio of microcable filling in the space inside the microduct should be maintained. This is important to achieve the best performance when installing microcables using the pneumatic method (blowing microcables). To facilitate this process, a MetroJet compatibility table has been developed (next page).



Compatibility table MetroJet

CABLE TYPE		CABLE DIAMETER
MICRODUCT (OD/ID) 7 / 3,5		
	MK-DX 2-4F	1,8 mm
MICRODUCT (OD/ID) 7 / 4		
	MK-DX 2-24F	2,6 mm
MICRODUCT (OD/ID) 10 / 6		
	MK-LX4 4-24F	4,2 mm
	MK-LX45 LSOH 24F	4,5 mm
MICRODUCT (OD/ID) 12 / 8		
	MK-UX5 12-144F	4,4-5,9 mm
	MK-LX5 4-60F	5,2 mm
	MK-LXS6 2-72F	5,3 mm
	MK-LX6 4-72F	5,6 mm
	MK-FM6 12-72F	6,0 mm
	MK-LXS7 32-96F	6,2 mm
	MK-FM7 96F	6,3 mm

CABLE TYPE		CABLE DIAMETER
MICRODUCT (OD/ID) 14 / 10		
	MK-UX6 12-192F	5,2-6,6 mm
	MK-LX7 32-96F	6,7 mm
	MK-UX8 12-288F	6,8 -7,9 mm
	MK-LXS8 48-144F	7,8 mm
	MK-FM8 144F	7,9 mm
MICRODUCT (OD/ID) 16 / 12		
	MK-LX8 12-144F	8,6 mm
	MK-LXS9 168-216F	8,7 mm
	MK-LX9 168-216F	8,9 mm
	MK-LXS10 288F	9,3 mm
	**MK-LXS11** 288F	9,4 mm
MICRODUCT (OD/ID) 18 / 14		
	**MK-LX11** 240-288F	10,5 mm

MetroJet system components

1

Microcables

2

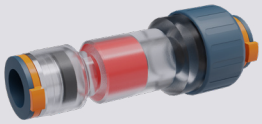
Microducts

3

Foiled bundles

4

HDPE opto pipes



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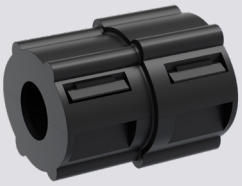
Microduct connectors

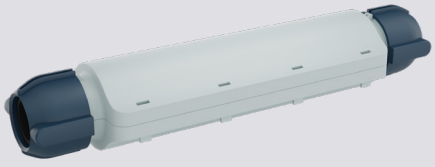
6

Microduct end caps



7

Microduct sealings



8

Divisible duct joint and branch closures

9

Telecommunication manhole chambers

10

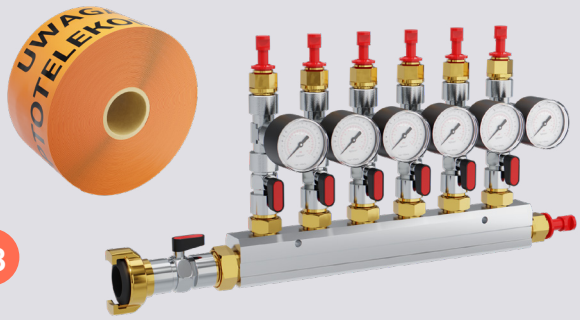
Fiber optic closures

11

Outdoor fiber optic cabinets

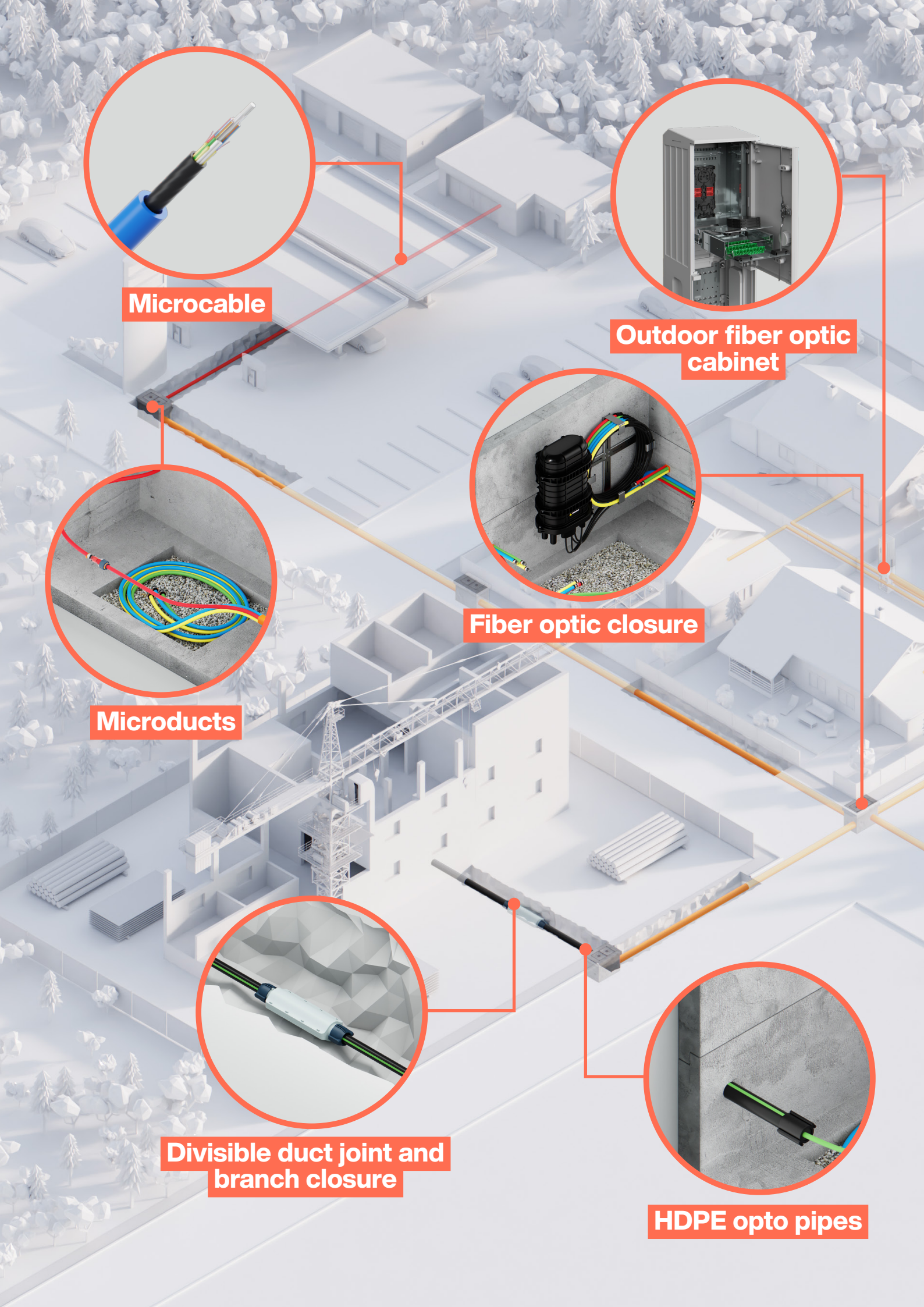
12

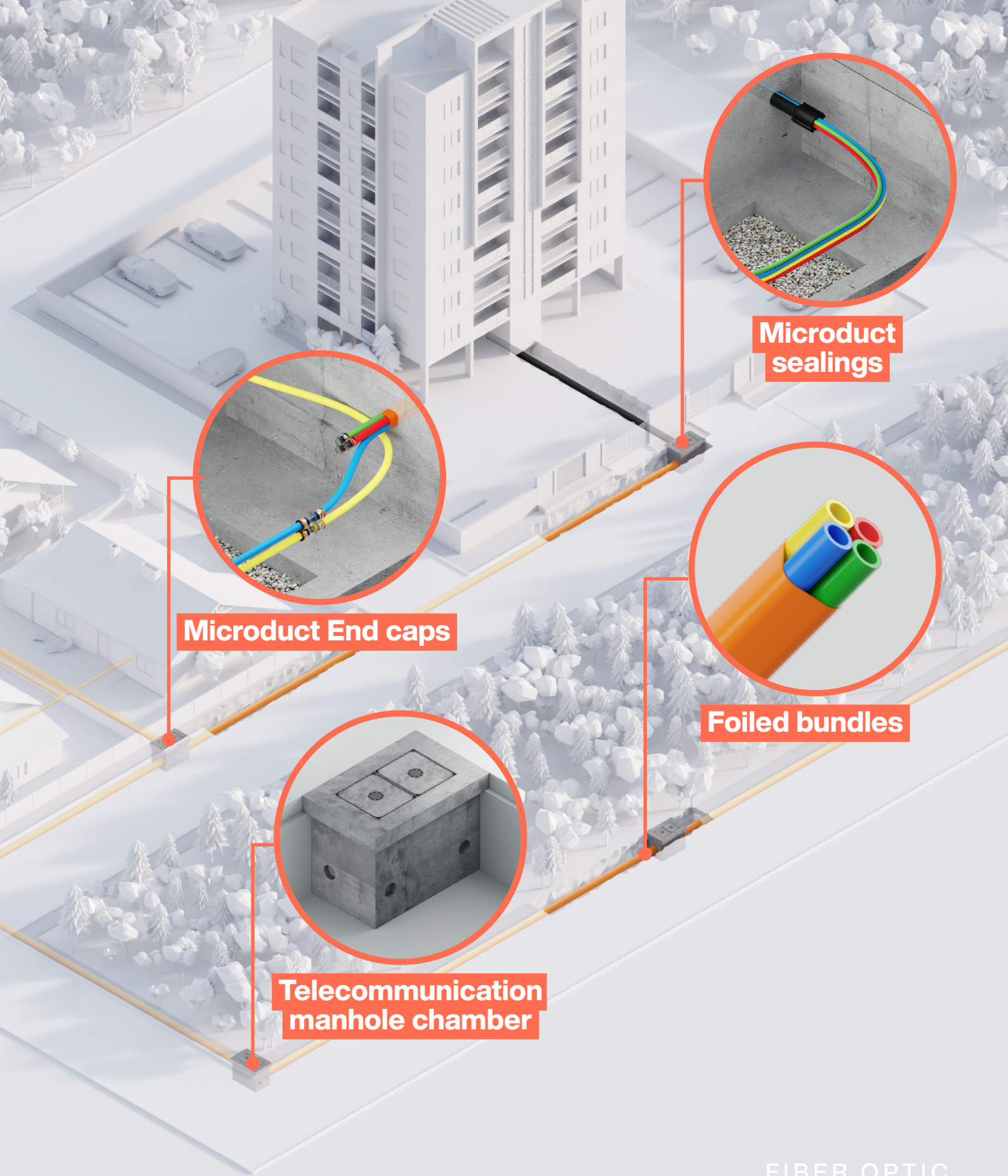
Blowing machines



13

Accessories


Microcable
Outdoor fiber optic cabinet
Fiber optic closure
Microducts
Divisible duct joint and branch closure
HDPE opto pipes



FIBER OPTIC
MICRODUCT SYSTEM

MetroJet

Microcables

MetroJet microcables are specifically adapted to installation inside the teletechnical microduct system. They are characterized by a reduced diameter and load-bearing coating which allow them to be blown over considerable distances by pneumatic method.

High fiber density

Long-range blowing performance

Reduced diameter

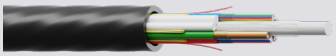
Low coefficient of friction

Drop microcables

MK-DX
1,8 mm 2-4F

MK-DX
2,6 mm 2-24F

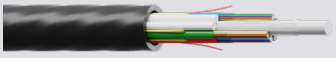
Microcables MK-LX



MK-LX4
4,2 mm 4-24F
tube 1,0 mm

MK-LX5
5,2 mm 4-60F
tube 1,6 mm

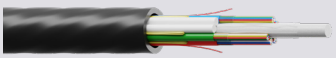
MK-LX6
5,6 mm 4-72F
tube 1,6 mm



MK-LX7
6,7 mm 32-96F
tube 1,6 mm

MK-LX8
8,6 mm 12-144F
tube 1,6 mm

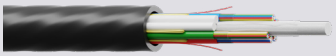
MK-LX9
8,9 mm 168-216F
tube 1,6 mm



MK-LX11
10,5 mm 240-288F
tube 1,6 mm

Microcables

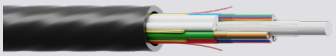
Microcables MK-LXS



MK-LXS6
5,3 mm 2-72F
tube 1,4 mm

MK-LXS7
6,2 mm 32-96F
tube 1,4 mm

MK-LXS8
7,8 mm 48-144F
tube 1,4 mm

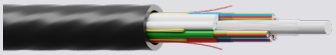


MK-LXS9
8,7 mm 166-216F
tube 1,4 mm

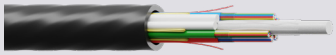
MK-LXS10
9,3 mm 288F
tube 1,4 mm

MK-LXS11
9,4 mm 288F
tube 1,4 mm

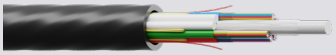
Microcables MK-UX



MK-UX5
4,4-5,9 mm 12-144F
fiber 200 µm
tube 1,2-1,6 mm

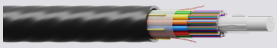


MK-UX6
6,8-7,9 mm 12-288F
fiber 200 µm
tube 1,2-1,6 mm

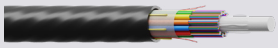


MK-UX8
6,8-7,9 mm 12-288F
fiber 200 µm
tube 1,2 mm

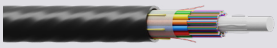
Microcables with ESM micromodules



MK-FM6
6,0 mm 12-72F
micromodule 1,3 mm



MK-FM7
6,3 mm 96F
micromodule 1,3 mm



MK-FM8
7,9 mm 144F
micromodule 1,3 mm

Indoor Microcables

MK-LX45 LSOH
4,5 mm 24F
tube 1,0 mm

Microducts

Microducts are main elements of MetroJet microdcut system. They are designed for mechanical and environmental protection of installed microcables. They are also used to multiply already existing secondary pipes of microduct systems.

Compressive strength

Pneumatic resistance

Low coefficient of friction

Microcables damage protection

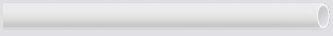
Direct-buried microducts

MT-MDB
Direct-buried microducts
5-16 mm

Standard microducts

MT-MDI
Standard microducts
5-16 mm

Non-flammable microducts



MT-MLH
Non-flammable microducts
5-14 mm

Foiled microduct bundles

Foiled bundles of the MetroJet system are microducts covered in polyethylene foil. They give the possibility of placing from a few to several tracks with different configurations of microducts at the same time at one installation cost.

Easy branching

Direct-buried applications

Various microduct filling configurations

Time saving during installation

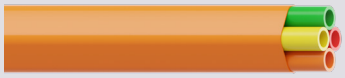
Direct-buried foiled bundles of microducts

MT-WDB Folied bundles
2x5-18 mm

MT-WDB Folied bundles
3x5-18 mm

MT-WDB Folied bundles
4x5-18 mm

MT-WDB Folied bundles
4x5-18 mm



MT-WDB Folied bundles
4x5-18 mm

MT-WDB Folied bundles
7x5-18 mm

Flat foiled bundles of microduct

MT-WDBF Flat foiled bundles
4x5-18 mm

Customized options of foiled bundles available after contact with the Sales Department.

Opto pipes

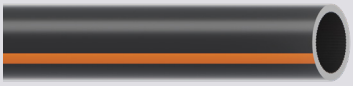
OPTO pipes of the MetroJet system are protective pipes used for the construction of secondary sewage system for cable pipelines. They protect fiber optic cables and give the opportunity to multiply them with microducts in case of expansion.

Various pipe diameters

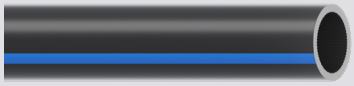
Sliding ribs

Cables/ microduct damage protection

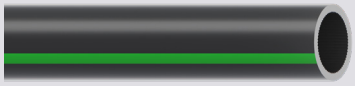
Opto pipes



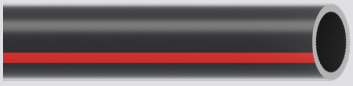
OPTO 20-50 mm pipe orange strip



OPTO 20-50 mm pipe blue strip



OPTO 20-50 mm pipe green strip



OPTO 20-50 mm pipe red strip

Connectors

MetroJet connectors are elements that guarantee the tightness of connected microducts. They ensure water resistance and create a well fitted connection which facilitates blowing microcables without having to interrupt the process.

Pneumatic resistance

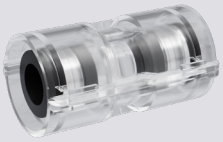
Push-in tool-free installation

Various diameter of microducts

Microduct protection against water, or dust penetration

Straight connectors

MT-ZDI
Standard straight connector
5-20 mm

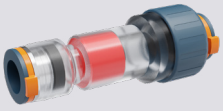


MT-ZDB
Direct-buried straight
connector 7-20 mm

Reduction connector

MT-ZR
Direct-buried reduction
connector 5-16 mm

Adjustable water-gas connectors



MT-ZG
Water-gas proof connector
5-16 mm

Valve connector

MT-VLE
Connector with pressure
valve 10-12 mm

End caps and sealings

MetroJet end caps and sealings are used to protect the ends of microducts of various sizes against the penetration of water, gases and contaminants from the outside. The patency and cleanliness of the track is extremely important when installing microcables.

Pneumatic resistance

Push-in tool-free installation

Various diameter of microducts

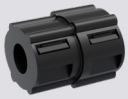
Microdcut protecion against water or dust penetration

Standard end caps

MT-ZTDI
Microduct end cap 5-20 mm

Divisible sealing end caps

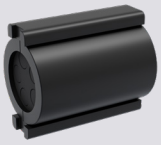
MT-ZUD
End cap sealing for microducts 5-10 mm



MT-ZUD
End cap sealing for microducts 10-25 mm

Pipe sealings

MT-ZTP
PVC end cap 5-16 mm



MT-UWD
Divisible pipe sealings 25-63 mm with microducts

FTTH entry 90°

MT-UPS ftth entry 90°
5-12 mm

Divisible duct joint and branch closures

MetroJet divisible closures are designed to protect connectors and the microducts themselves against mechanical and environmental damage. Additionally, they make it possible to upgrade the existing pipelines by dividing routes in different directions.

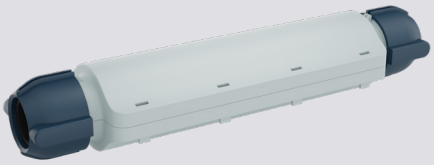
Protecion against mechanical damage

Freedom of installation

Pipelines extension

Two-part construction

Divisible closures PDC



MT-OPL
Straight closure
40-40

MT-OPL
Y closure 40-40-40

MT-OPL
Branching closure
40-40-32

Telecomunication manhole chambers

Telecomunication manhole chambers of the MetroJet system are designed to facilitate access to cabling at the connection and distribution point in the ground, while protecting the equipment (fiber optic closures, racks and cables) against mechanical damage.

Easy access to cabling

Damage protection

Reinforced concrete manholes

Composte manholes and chambers

Fiber optic closures

Fiber optic closures enable easy entrance of microcables and drop cables with the possibility of pre-connectorization, appropriate organization of tubes, splitters, adapter fields and protection of fibers during future operations.

Max. 288 splices

Cable diameter from 3 to 20 mm

Max. 18 adapter fields

Solid construction

Fiber optic closures – mechanically sealed drop ports

FOBP-M1

FOBP-M2

Fiber optic closures – thermally sealed drop ports

FOBP-T1

FOBP-T2

Outdoor cabinets

Outdoor fiber optics cabinets are designed to connect fiber optic tracts as well as perform branching and connecting end users (customers).

IP54 waterproof protection

Max. 153 adapters

Lock secure

Possibility of mounting splitters

For main and drop cables

Outdoor cabinets

FDH-D2
96 splices

FDH-E1
13x SC
96 splices

FDH-E2
39x SC
120 splices

FDH-F1
27x SC
48 splices

FDH-F2
45x SC
48 splices

FDH-F3
85x SC
96 splices

FDH-F4
153x SC
144 splices

Cable blowing machines

CBS PRODUCTS

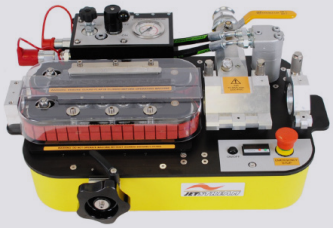
CBS Products blowing machines are devices aimed at installing a fiber optic microcables/cables over long distances in microducts/HDPE opto pipes via compressed air and drive rollers/belts.

Long-range blowing performance

Various types of cable blowing machines

Control of blowing parameters

AirStream
Microcables/cables 2,5-11 mm
microducts 5-18 mm

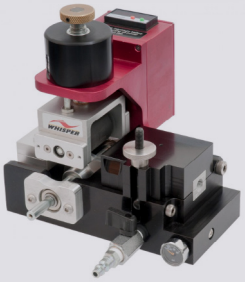


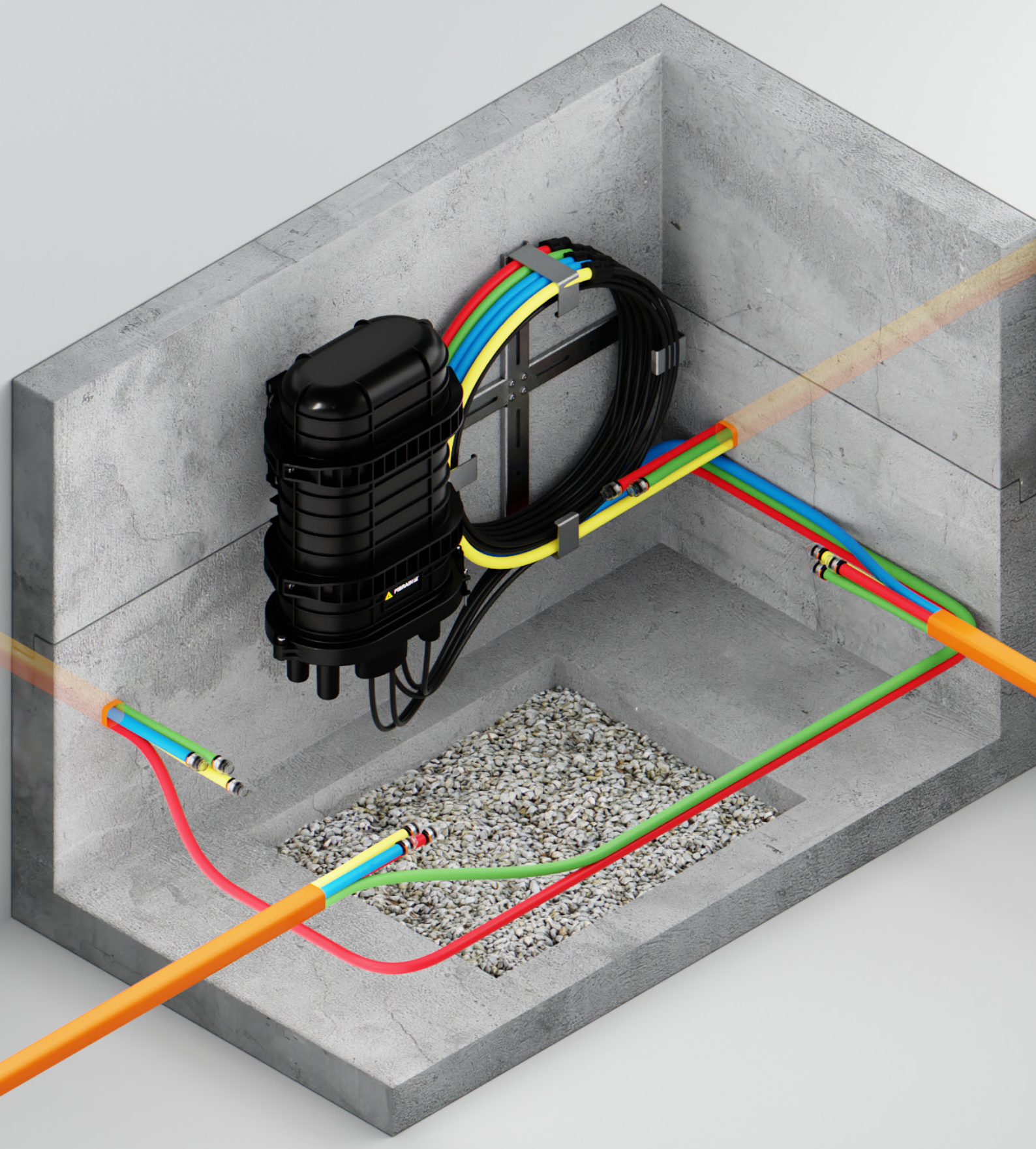
JetStream
Microcables/cables 4-20 mm
microducts/pipes 12-50 mm

Hurricane
Microcables/cables 2,5-16 mm
microducts/pipes 5-25 mm

Tornado
Microcables/cables 6-32 mm
pipes 25-50 mm

AccelAir 2
Microcables/cables 1-3 mm
microducts 3-10 mm



Whisper
Microcables/cables 3-8,5 mm
microducts 4-18 mm

GentL Air
Microcables/cables 1-3 mm
microducts 4-7 mm