

Joint closures and distribution boxes

# NAFICON





Naficon was established in 1994 and is specialized in products for Passive Optic Networks (PON). Naficon is located in Nauvo, in the archipelago of Turku. Over the past three decades we have established ourselves as one of the leading operators on the field of endproducts for optical fiber networks in Finland. Quality, flexibility and understanding are the three words that describe best the way we operate. Using high-class materials, the newest production equipment and continuous development of skills are the reasons for maintaining good quality year in and year out.

In July 2015 we founded subsidiary in Dubai, United Arab Emirates. The name of the company is NFOM (Naficon Fiber Optic Manufacturing) LLC. NFOM manufactures similar products as we do in Finland using the same materials and production equipment. Certain products, like trunk cables for mobile masts and other cell sites, are still made from start to finish in Nauvo. The production in NFOM started in February 2016. In April 2017 NFOM quality management system got ISO 9001 quality certification.

As said our manufacturing plant in Finland is in Nauvo. We manufacture pigtails, patch cords and multifiber cables with connectors ready-made. Used cables are for indoor and outdoor applications according to customer needs. Beside those products we manufacture pre-terminated fiber panels for different purposes.

We manufacture products with all the most common connectors: SC, LC, FC and ST. All of them can be polished with UPC (no angle) and SC, LC and FC connectors are available as APC connectors. APC connectors feature fiber end face that is polished at an 8-degree angle. Other ready-made connectors, such as MTP/MPO and E2000, can be supplied via our partners. Besides comprehensive stock of our own products, we have all the essential PON products in stock. Adapters, splice protector sleeves, attenuators, splitters, CWDM etc. We have thousands of products in stock so even bigger deliveries within a day can be made.

Flexibility, quality and understanding - three words that describe Naficon's products and operations



# Joint closures and distribution boxes

# NAF FTTH joint closure









- Product code <u>7269293</u>
- Suitable for extending and branching FTTH cables
- Simple and sturdy construction
- Cable glands are sealed with vulcanized tape
- Can be opened and closed after first installation
- Capacity for 24 splices
- Dimensions 240 x Ø 110 mm
- Includes rubber cable glands at both ends which open
- Suitable for different cable structures
- IP 68
- Can be placed directly on the ground
- Installation instructions







- Product code <u>7269376</u>
- Suitable for extending or branching FTTH cables.
- Three cables can be brought into the joint closure.
- Capacity for 12 splices
- Oval shape
- Plastic frame

- The cable gland is carried out with a cable shrink and a branch block.
- The shell of the joint closure is shrinking from one end, so that there is no steep step between the cables and the shell.
- Dimensions: 240x45x80 mm
- Installation instructions



NAF FTTH 12 metal joint closure 10mm NAF FTTH 12 metal joint closure 7mm



- The shell and the splice tray is made of acidproof stainless steel
- Mechanical cable gland for three cables or microducts with outer diameter of max. 10 mm or alternatively max. 7 mm
- Suitable for various FTTH cable
   structures and for microducts.

- Installation instructions for direct buried cables
- NAF FTTH 12 metal joint closure 10mm <u>7263439</u>
  - NAF FTTH 12 metal joint closure 7mm 7263450
  - Suitable for extending and branching FTTH cables
  - Capacity for 12 splices



# NAF general joint closures (NAF GJC)

# NAF mini GJC



#### Product code <u>7263227</u>

- The closure is so called butt joint consisting of a lower part with splice tray and a protective cover.
- Capacity for 48 splices.
- The closure can be used for mid span access.
- External dimensions 489 x 182 x 94 mm.
- Can be used as an extension for the trunk cable or as a branch extension for 1 to 4 smaller cables.
- There is one oval pass-through for mechanical cable glands on the lower part.

- Material is acid-proof stainless steel
- Plastic fasteners for the uncut fiber tubes can be placed under the splice tray.
- IP 68. Designed and manufactured in Finland
- In addition to normal accessories, the basic package includes a mechanical cable gland of 2x15mm + 4x10mm (7263242) and a cable shrink with branching pieces as an alternative to this.
- Suitable shrink-free cable lead throughs: <u>7263240</u>, <u>7263241</u>, <u>7263242</u>, <u>7263243</u>
- NAF mini GJC, with all other accessories except mechanical cable gland, has an identification code <u>7269419</u>

Installation instructions

- The benefits of metallic general joint closures
- Simple and sturdy structure
- Easy and fast installation
- Shrink-free cable glands for cables with max. 20mm outer diameter
- Suitable for different cable structures
- The closures can be used for mid span access



#### NAF mini 48/96 GJC



- Product code <u>7269476</u>
- The closure is so called butt joint consisting of a lower part with splice tray and a protective cover.
- Capacity for 48 splices and with additional splice tray (<u>7269478</u>) the capacity doubles to 96 splices.
- Suitable for different cable structures and the closure can be used for mid span access.
- Microducts can be brought directly into the closure
- External dimensions 391 x 180 x 94 mm.
- There are two oval pass-throughs for mechanical cable glands or heat shrinks on the lower part.
- Material is acid-proof stainless steel
- IP 68. Designed and manufactured in Finland
- Suitable shrink-free cable lead throughs: <u>7263240</u>, <u>7263241</u>, <u>7263242</u>, <u>7263243</u>



- Equipment: 2 cable shrinks (56/16-250mm), 2 branch blocks, 1 shrink cap, 1 splice tray with 2 pcs of 24-fiber splice holders preinstalled, 1 extra 24-fiber splice holder, 6 pcs grounding connectors, 12 pcs mounting screws M4x12mm, 12 pcs cable ties 2,5x100mm, 1 earthing connector M6-16mm<sup>2</sup>, 1 cleaning wipe and 1 silica gel bag 25g.
- NAF mini 48/96 GJC without shrinks 7269481
- Installation instruction for direct buried cables
- Installation instructions for microduct cables



#### NAF GJC 48/96





- Product code <u>7269294</u>
- The closure is so called butt joint consisting of a lower part with splice tray and a protective cover.
- Capacity for 48 or 96 splices
- In addition to normal accessories, the basic package includes mechanical cable glands of 4x15mm (7263241) and 6x10mm (7263243) and cable shrinks with branching pieces as an alternative to this.
- The closure can be used for mid span access.
- External dimensions 489 x 235 x 94 mm.
- There are two oval pass-throughs for mechanical cable glands on the lower part.

- Material is acid-proof stainless steel
- Plastic fasteners for the uncut fiber tubes can be placed under the splice tray.
- IP 68. Designed and manufactured in Finland.
- Suitable shrink-free cable lead
   throughs: <u>7263240</u>, <u>7263241</u>, <u>7263242</u>, <u>7263243</u>
- The product code for NAF GSC 48/96 without cable glands, but otherwise the same package,
   is <u>7263341</u>
- Installation instructions





#### NAF GJC 96/192



- Product code <u>7269477</u>
- The closure is so called butt joint consisting of a lower part with splice tray and a protective cover.
- Capacity for 96 splices and with additional splice tray (7269479) the capacity doubles to 192 splices.
- Suitable for different cable structures and the closure can be used for mid span access.
- External dimensions 498 x 235 x 125mm.
- There are two oval pass-throughs for mechanical cable glands or heat shrinks on the lower part.
- Material is acid-proof stainless steel
- IP 68. Designed and manufactured in Finland
- Suitable shrink-free cable lead throughs: <u>7263240</u>, <u>7263241</u>, <u>7263242</u>, <u>7263243</u>

- Equipment: 2 cable shrinks (56/16-250mm), 2
  branch blocks, 1 shrink cap, 1 splice tray with 4 pcs
  of 24-fiber splice holders preinstalled, 1 extra 24fiber splice holder, 8 pcs grounding connectors, 16
  pcs mounting screws M4x12mm, 12 pcs cable ties
  2,5x100mm, 2 grounding wires with connectors, 1
  earthing connector M6-16mm<sup>2</sup>, 2 pcs corrugated
  arc clips, 1 cleaning wipe and 1 silica gel bag 25g.
- NAF GJC 96/192 without shrinks <u>7269482</u>
- Installation instructions



#### NAF GJC 192 3xOval





- Product code 7269420
- The closure is so called butt joint consisting of a lower part with splice tray and a protective cover.
- Capacity for 192 splices. Includes two 96-fiber splice trays, of which the upper splice tray is hinged.
- Suitable for different cable structures and the closure can be used for mid span access.
- Suitable for direct buried microducts.
- External dimensions 498 x 235 x 125 mm.
- There are three oval pass-throughs for mechanical cable glands or heat shrinks on the lower part.
- Material is acid-proof stainless steel
- IP 68. Designed and manufactured in Finland

- Suitable shrink-free cable lead
   throughs: <u>7263240</u>, <u>7263241</u>, <u>7263242</u>,
   <u>7263243</u>
- Equipment: 2 cable shrinks (56/16-250mm), 2 branch blocks, 1 shrink cap, 2 splice trays with 4 pcs of 24-fiber splice holders preinstalled, 1 extra 24-fiber splice holder, 8 pcs grounding connectors, 16 pcs mounting screws M4x12mm, 24 pcs cable ties 2,5x100mm, 3 grounding wires with connectors, 1 earthing connector M6-16mm<sup>2</sup>, 3 pcs corrugated arc clips, 1 cleaning wipe and 1 silica gel bag 25g.
- NAF GJC 192 3xOval without shrinks <u>72629483</u>
- Installation instructions



#### NAF GJC 192





- Product code <u>7269300</u>
- The closure is so called butt joint consisting of a lower part with splice tray and a protective cover.
- Capacity for 192 splices. Includes two 96-fiber splice trays, of which the upper splice tray is hinged.
- In addition to normal accessories, the basic package includes mechanical cable glands of 4x15mm (7263241) and 6x10mm (7263243) and cable shrinks with branching pieces as an alternative to this.
- The closure can be used for mid span access.
- External dimensions 498 x 235 x 125mm.

- There are two oval pass-throughs for mechanical cable glands on the lower part.
- Material is acid-proof stainless steel.
- IP 68. Designed and manufactured in Finland.
- Suitable shrink-free cable lead throughs: <u>7263240</u>, <u>7263241</u>, <u>7263242</u>, <u>7263243</u>
- NAF GJC 192 with out mechanical cable glands and shrinks <u>7269475</u>
- Installation instructions



## NAF GJC 480





- Product code <u>7263251</u>
- The closure is so called butt joint consisting of a lower part with splice tray holders and a protective cover.
- Capacity for 480 splices
- Suitable for different cable structures and the closure can be used for mid span access.
- External dimensions 180x 495 x 287 mm.
- 48 fiber and 96 fiber hook-fastened splice trays can be placed on the splice tray holder. Identification codes for suitable splice trays: 7264145 and 7269282
- There are three oval pass-throughs for mechanical cable glands or heat shrinks on the lower part.

- Material is acid-proof stainless steel
- IP 68. Designed and manufactured in Finland.
- In addition to normal accessories, the basic package includes mechanical cable glands of 2x20mm (7263240), 4x15mm (7263241) and 6x10mm (7263243) and cable shrinks with branching pieces as an alternative to this. Splice trays are not included.
- Another suitable mechanical cabel gland: <u>7263242</u>
- NAF GJC 480 without mechanical cable glands <u>7269474</u>







# Shrink-free mechanical cable glands (MCG) for NAF GJCs



- NAF MCG 2/20
- Product code <u>7263240</u>
- Shrink-free cable gland for NAF GJC. For one or two cables with max. outer diameter of 20 mm.



- NAF MCG 4/15
- Product code <u>7263241</u>
- Shrink-free cable gland for NAF GJC. For one to four cables with max. outer diameter of 15 mm.



- NAF MCG 2/15+4/10
- Product code <u>7263242</u>
- Shrink-free cable gland for NAF GJC.For one to

   six cables, with max. outer diameter of 15 mm
   for two of them and with max. outer diameter
   of 10 mm for four of them.



- NAF MCG 6/10
- Product code <u>7263243</u>
  - Shrink-free cable gland for NAF GJC. For one to six cables with max. outer diameter of 10 mm.

# <u>Joint closures</u>



# Other joint closures of the NAF-family

# NAF FTTH 96/192 branch joint





- Product code 7269377
- The closure is so called butt joint consisting of a lower part with splice tray and a protective cover.
- Capacity for 96 splices and with additional splice tray (7269480) the capacity doubles to 192 splices.
- Suitable for different cable structures
- Suitable for direct buried microducts.
- External dimensions 498 x 235 x 125 mm.
- Six round cable bushings with the inner diameter of 22,9 mm in the lower flang
- Material is acid-proof stainless steel
- IP 68. Designed and manufactured in Finland
- Equipment: 6 cable shrinks (34/8-200mm), 6 branch blocks, 4 shrink caps, 1 splice tray with 4 pcs of 24-fiber splice holders preinstalled, 8 pcs grounding connectors, 16 pcs mounting screws M4x12mm, 12 pcs cable ties 2,5x100mm, 3 grounding wires with connectors, 1 eart-hing connector M6-16mm<sup>2</sup>, 3 pcs corrugated arc clips, 1 cleaning wipe and 1 silica gel bag 25g.
  - Installation instruction



## NAF OPGW joint closure



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- Product code <u>7263252</u>
- Suitable for different type of OPGW constructions
- Can be used as a shoreline extension, beach joint, to joint submarine cable to directly buried cable.
- Capacity for 96 splices
- Measures without the inlets 381 x 200 x 60 mm.
- Includes two OPGW-inlets and one inlet with inner diameter of 26 mm for duct or directly buried cables. According to the outer diameters of the cables, one or two cables can be imported from the cable gland.

- Material is acid-proof stainless steel.
- IP 68. Designed and manufactured in Finland.
- Pole mount stand which can be installed to a steel or wooden pole.
- Installation instructions





# NAF branch joint



- Product code: <u>7263330</u>
- Used for branching of fiber optic cables in areas where the cable is lying straight on the ground.
- Suitable for different cable structures
- Allows branching of the trunk cable into one or two cables.
- Can be opened and closed after initial installation.
- Cable glands are implemented with Roxtec's pass-through solutions.
- Capacity for 48 splices
- Dimensions 1100 x Ø 110 mm
- Colour red
- All the necessary accessories included
- Installation instructions



### NAF indoor splice closure





- Product code <u>7269279</u>
- External dimensions 243x186x52mm, (HxWxD)
- For indoor installation
- Metal casing with M25-sized openings at the bottom and upper corners
- Casing-wide grounding and mounting strip at the bottom
- The cover is fastened with two screws
- The joint closure is attached to the wall from inside or outside
- Capacity for 48 splices
- Colour white
- Package includes the casing, splice holder for 12 fibers (4pcs), cable ties (6pcs), 2pcs fiber guides, 2pcs pass-through bushings M25, 2pcs of grommets M25 and 2pcs grounding brackets



# NAF distribution boxes (NAF DB)

# NAF DB





- Product code <u>7268354</u>
- External dimensions 450x350x130mm (HxWxD)
- The frame of the casing is made from polycarbonate and the lid is made from ABSplastic
- For both indoor and outdoor installation, IP66
- There is room for 5 splice trays inside (48 splices per tray (7264145))
- It can be used as an ordinary fiber joint closure or to install separate FTTH-cables inside of it (max 16pcs).
- The splice tray stand is located on the side. The trays do not reach the bottom, so the whole bottom is clear for fiber management.
- The basic package includes: 1 splice tray, 2 M40 cable glands (8 holes with 6mm diameter), 2 M25 cable glands, a protective cap for 12mm grounding opening, 1 copper grounding plate and wall-mounting system
- Accessories available are: extra grounding plate and splice trays
- Different types of rubber seals are available for cable glands



## NAF DB micro





- Product code 7268355
- External dimensions 290x180x92mm (HxWxD)
- The casing is made from polycarbonate
- For both indoor and outdoor installation, IP66
- The casing can hold 24 splices. It can be used as an ordinary fiber joint closure or to install separate FTTH-cables inside of it (max 12pcs).
- The basic package includes: 1 splice holder, 2 M32 cable glands (6 holes with 5mm diameter), 1 M20 cable gland, a protective cap for 12mm grounding opening, 1 copper grounding plate and wall-mounting system
- Different types of rubber seals are available for cable glands

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