

FIBRAMÉRICA

# MANHOLE & HANDHOLE CHAMBERS





# FIBRAMÉRICA

MINQING FIBRAMERICA TECHNOLOGY

## Complete solutions for the intelligent development of fiber optic networks

Minqing Fibramerica Technology, under its trade name FIBRAMÉRICA, is one of the world's leading companies dedicated to the design, development, manufacture, distribution and marketing of advanced optical connectivity solutions. We work closely with the main players in the telecommunications market, such as operators, distributors and importers and installers all over the world, both as OEMs and under our own brand.

Its headquarters are located in Fuzhou, Fujian, China, with sales offices in Shanghai and Ningbo. It also has direct sales units in America, located in Brazil, where all commercial and technical support is provided in Spanish through its engineers and sector specialists. This expansion not only demonstrates its global vision, but also reflects its commitment to localized customer service, providing commercial and technical assistance in the same time zone and language as our customers.

On its path to excellence, FIBRAMÉRICA has adopted a continuous focus on improving processes, integrating emerging technologies and implementing effective communication strategies. Their dedication translates into competitive prices, efficient production times and comprehensive support, from the manufacturing process to product transportation.

Following the strictest international quality norms and standards, such as ISO9001, it guarantees that each of its products meets the quality and functionality expectations of the most demanding customers.

With a vision of the future, FIBRAMÉRICA focuses its efforts on developing and adapting new products, tailored to the specificities and needs of each project, from the initial design stage to final production.





# REINFORCED RESIN UNDERGROUND CHAMBERS

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Underground chambers made of reinforced resin represent a significant advancement in modern infrastructure solutions. Designed to meet growing demands for durability, safety, and practicality, these structures efficiently replace traditional concrete and metal models, delivering superior performance in both urban and industrial environments. Manufactured through high-precision molding processes, manhole and handhole chambers feature light weight, chemical resistance, and excellent sealing properties — characteristics that ensure reliable application in electrical networks, telecommunications, sanitation, and stormwater systems. Their composite construction provides greater structural integrity, reduces maintenance requirements, and extends the overall service life of underground installations.

The use of reinforced resin in the production of these chambers reflects a global shift toward the modernization of infrastructure systems. By combining technology, engineering, and high-performance materials, composite chambers offer key advantages such as corrosion

resistance, electrical insulation, and ease of handling and transportation — essential factors in projects that demand efficiency and agility in implementation. In addition, their modular design allows for customization according to specific installation needs, enabling safer and more organized integration of cables, connections, and technical components without compromising urban space or environmental conditions.

These solutions represent a new generation of components for underground networks, designed to meet the contemporary challenges of urban expansion and infrastructure modernization. The application of reinforced resin manhole and handhole chambers embodies the pursuit of more sustainable, cost-effective, and low-maintenance systems that combine lightness and strength in a single product. Blending advanced technology with practical engineering, these structures redefine the standards of quality and functionality in the sector, establishing themselves as a solid choice for projects that prioritize performance, safety, and long-term durability.





Manhole Chamber is the infrastructure of ODN, reserve fiber optic cable and joint cabinet are installed in the manhole chamber.



Suitable for different scenarios



Installation diagram of dome joint Cabinet in manhole



Installation diagram of In-line Joint Cabinet in manhole

Fibramerica Composite Telecom Chamber is used the newest fiberglass-manufacturing innovation sheet moulding compound (SMC), and it combines the best of the older Open-Mold Spray Up and Resin-Transfer Molding (RTM) methods. Compared with the traditional cast iron cover or ductile iron cover, Fibramerica's Composite Telecom Chamber has many advantages, such as Watertight, Lightweight, Non-conductive, UV protected, Non-corrosive, Anti-slip, No scrap value and cost competitive etc.

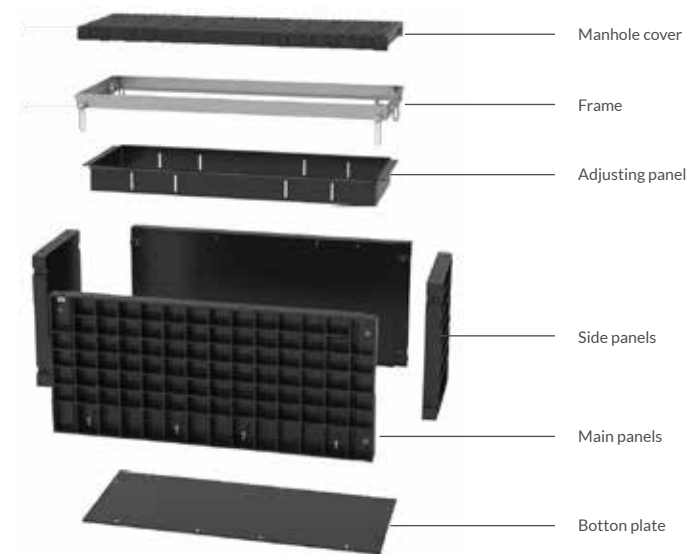
Fibramerica Composite Telecom Chamber use innovative modular design can significantly reduce freight costs and can be manually installed on site, greatly reducing the construction time of the project. All SMC components make it strong enough to withstand heavy vehicle traffic and harsh site conditions.

Fibramerica Composite Telecom Chamber is the best alternative to traditional brick manholes.

## PRODUCT STRUCTURE

SMC buried manhole chamber compose of the following parts:

- SMC Manhole cover and frame
- Height Adjustment Panel
- SMC Chamber (original with 6 knock-out holes)
- SMC Bottom panel Secure and stable design



Knock-out Holes

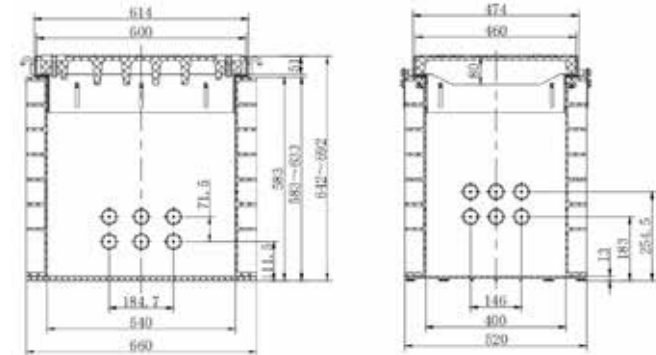


## MODULAR MANHOLE CHAMBER

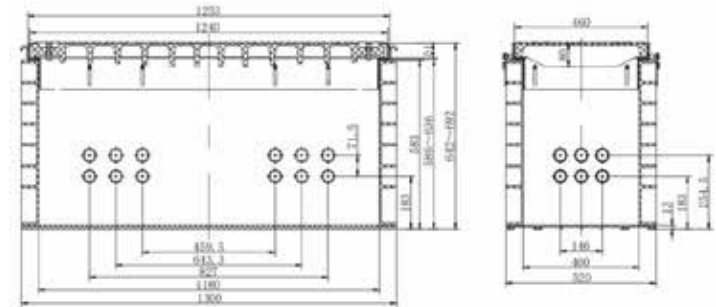
According to the actual needs of customers, the chamber parts with strong applicability can be assembled and stacked.

And the height of the chamber can be increased to meet the requirements of internal equipment.

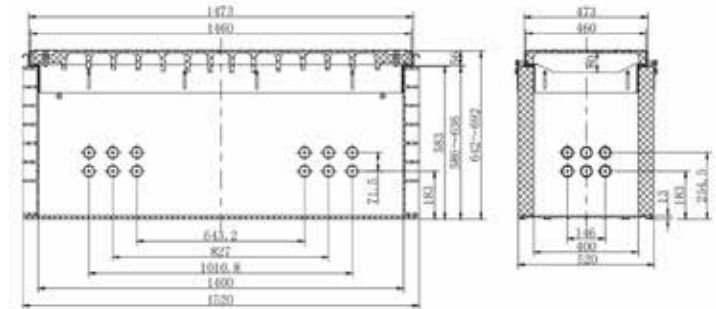
## FAB-RS-M01



## FAB-RS-M02



## FAB-RS-M03



**MANHOLE  
COVER LOAD  
GRADE**

**C250 (25T)**

Applies to residential quarters, streets, areas with slow moving traffic.

**B125 (12.5T)**

Applies to sidewalks, bicycle lanes, small car parks and underground parking.

**D400 (40T)**

Applies to heavy duty areas carriageways and industrial service roads.

## PRODUCT SPECIFICATION

All indicators of the product meet the standards, ensure quality and safety, and provide customers with assured services.

| CHEMICAL RESISTANCE PERFORMANCE |                                                         |                  |                 |
|---------------------------------|---------------------------------------------------------|------------------|-----------------|
| Chemicals                       | Concentrated Sulfuric acid                              | Sodium hydroxide | Sodium chloride |
| Test conditions                 | Soaked in the specified solution for 48 h               |                  |                 |
| Test results                    | No obvious corrosion on the surface, quality loss < 1 % |                  |                 |
| MECHANICAL PERFORMANCE          |                                                         |                  |                 |
| Items                           | Standard n°                                             | Requirements     | Test results    |
| Tensile strength                | GB/T1447-2005                                           | ≥100MPa          | 105MPa          |
| Tensile modulus                 | GB/T1447-2005                                           | ≥10GPa           | 11.8GPa         |
| Bending strength                | GB/T1449-2005                                           | ≥200MPa          | 213MPa          |
| Flexural modulus                | GB/T1449-2005                                           | ≥10GPa           | 11.3GPa         |
| Impact toughness                | GB/T 1451-2005                                          | ≥80KJ/m²         | 90.8KJ/m²       |
| Barr's hardness                 | GB/T3854-2005                                           | ≥50              | 56              |
| CHAMBER LOAD CAPACITY           |                                                         |                  |                 |
| Chamber type                    | FAB-RS-M01                                              | FAB-RS-M01       | FAB-RS-M01      |
| Axial test load                 | 100KN                                                   | 100KN            | 100KN           |
| Lateral test load               | 40KN                                                    | 40KN             | 40KN            |
| THERMAL PERFORMANCE             |                                                         |                  |                 |
| Items                           | Standard n°                                             | Test results     |                 |
| Heat distortion temperature     | GB/T1634.2-2004(A)                                      | >200°C           |                 |
| Bending strength                | GB/T9979-2005(-40°C)                                    | 265MPa           |                 |
| Flexural modulus                |                                                         | 1.43x10^(4)MPa   |                 |
| Bending strength retention rate |                                                         | 124%             |                 |
| Flexural modulus retention rate |                                                         | 11.16%           |                 |
| Linear expansion coefficient    | GB/T2572-2005(26°C~100°C)                               | 1.66x10^(-5)     |                 |

## FEATURES

- **Bearing capacity:** The product uses high-strength and high-modulus thermosetting SMC composite material, which has good mechanical properties, stable structure, and deformation resistance. The axial load can reach 100 KN, and the lateral load can reach 40 KN.
- **Corrosion resistance:** The product has good chemical corrosion resistance (acid, alkali, salt, organic solvent, etc.), long-term use in the underground environment.
- **Resistance to high and low temperature:** The product not only has a high heat distortion temperature, but also maintains good performance at low temperatures. The product can be used for a long time at the temperature of -40 ~ 100°C.
- **Non-conductive:** The product has excellent insulation, can maintain good dielectric properties and high reliability at high frequencies.
- **Easy installation:** The installation process is simple, and it can be completed by referring to the installation manual. Product installation won't be affected by climate, and can be constructed all day.
- **Low logistics cost:** The product has a simple structure and can be split into parts, which occupies a smaller space during transportation and storage, which is convenient for container transportation.
- **Long service life:** The product has excellent anti-aging properties, and the buried service life is more than 30 years.
- **Easy maintenance:** Compared with the traditional brick manhole, the product is easy to maintain after installation, and saves the maintenance cost.
- **Height adjustment:** The product has an adjustment function, which can adjust the height of the manhole cover according to the ground conditions. The maximum height of the manhole cover is 50mm.



**Note:** After the height is adjusted, the T-shaped steel can be used to fix the gap between the box and the manhole cover to achieve a stable state and prevent sand leakage.



## PRODUCT PROFILE

Detailed function introduction of each part of the product to help better understand and use.



### COMPOSITE LOAD-BEARING MANHOLE COVER

The manhole cover is made of SMC material, which is lightweight and has a strong bearing capacity. The cover has a non-slip surface and lockable function. The frame is equipped with adjusting bolts, the maximum adjusting height is 50mm.



### MANHOLE COVER FRAME

The frame is made of steel, used to connect to the manhole covers and underground chamber. There is a hook on each corner for easy lifting. It can effectively protect manhole covers and underground chambers.



### MANHOLE COVER

The product is made of SMC material, with a non-slip pattern on the surface.



### ADJUSTING ACCESSORIES

Used to adjust the height of the manhole cover according to the ground conditions.



### MANHOLE CHAMBER

The product is made of SMC material, split design, and modular assembly, which can effectively prevent external interference and influence on internal equipment.



### MAIN PANEL

It's a part of the manhole chamber, each set of manhole chambers is equipped with two pieces, and each piece weighs 13kg. There are 6 (maximum diameter 45mm) knock-out holes in the center position of the panel, and maximum 36 knock-out holes can be opened. The logo and content can be engraved by laser technology according to customer needs.



### HEIGHT ADJUSTMENT PANEL

It is used to connect the cover and manhole chamber, every set of manhole chambers equips four panels with adjusting bolts, the covers can adjust the height according to the ground condition. The adjustment structure function has applied for the national patent.



### SIDE PANEL

It's a part of the manhole chamber, each set of manhole chambers is equipped with two pieces, and each piece weighs 7.2kg. There are 6 (maximum diameter 45mm) knock-out holes in the center position of the panel, and maximum 36 knock-out holes can be opened. The logo and content can be engraved by laser technology according to customer needs.



### BOTTOM PANEL

The product is made of SMC material and removable.



### T-SHAPED STEEL

It's used to fix the height of the adjustment panel, and preventing the sand leakage.

## CONFIGURATION SELECTION

The product provides multiple configuration options and orders based on actual needs.



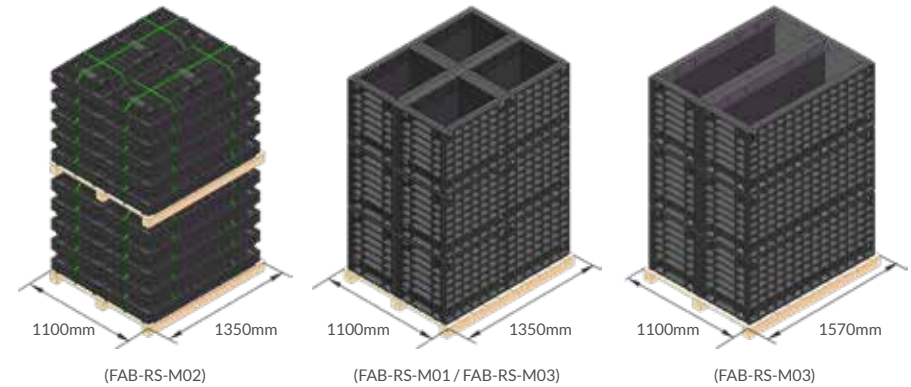
| STANDARD VERSION  |                                                        |          |        |
|-------------------|--------------------------------------------------------|----------|--------|
| Product           | Configuration                                          | Standard | Option |
| SMC manhole cover | Cover                                                  | Yes      | Yes    |
|                   | Frame                                                  | Yes      | Yes    |
|                   | Adjustable accessories with height adjustment function | No       | Yes    |



| STANDARD VERSION  |                         |          |        |
|-------------------|-------------------------|----------|--------|
| Product           | Configuration           | Standard | Option |
| SMC manhole cover | Height adjustment panel | Yes      | Yes    |
|                   | Main panel              | Yes      | Yes    |
|                   | Side panel              | Yes      | Yes    |
|                   | Bottom panel            | No       | Yes    |

## PACKING TRANSPORTATION

Due to the structural characteristics of the product, the factory packaging can be selected according to the transportation ways.



## PARTS TRANSPORTATION

The structure of the product is simple and easy to disassemble, and all the components can be split into parts, which can be stacked and bundled. It is convenient to transport and saves the transportation cost.

| Pallet size                      | Pallet capacity | Container loading capacity (40GP container) |
|----------------------------------|-----------------|---------------------------------------------|
| FAB-RS-M01 (1100mmx1100mmx130mm) | 23 sets         | 445 sets                                    |
| FAB-RS-M02 (1100mmx1350mmx130mm) | 16 sets         | 291 sets                                    |
| FAB-RS-M03 (1100mmx1570mmx130mm) | 18 sets         | 247 sets                                    |

## ASSEMBLY TRANSPORTATION

The product can be packed in pallets and delivered directly after factory assembly finishing. It saves a lot of assembly and installation time for the installers. every pallet can carry 12 sets or 6 sets according to the different product types.

| Pallet size                      | Pallet capacity | Container loading capacity (40GP container) |
|----------------------------------|-----------------|---------------------------------------------|
| FAB-RS-M01 (1100mmx1100mmx130mm) | 12 sets         | 240 sets                                    |
| FAB-RS-M02 (1100mmx1350mmx130mm) | 6 sets          | 108 sets                                    |
| FAB-RS-M03 (1100mmx1570mmx130mm) | 6 sets          | 84 sets                                     |

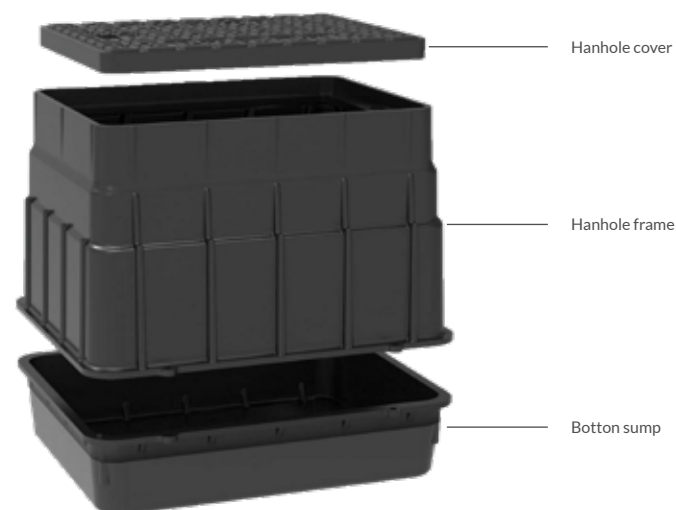


Handole Chamber is the infrastructure of ODN, reserve fiber optic cable and joint cabinet are installed in handhole chamber, and suitable for integrated pipelines and various underground environments

## PRODUCT STRUCTURE

SMC buried handhole chamber com pose of the following parts:

- SMC handhole cover
- SMC handhole frame
- SMC handhole bottom sump

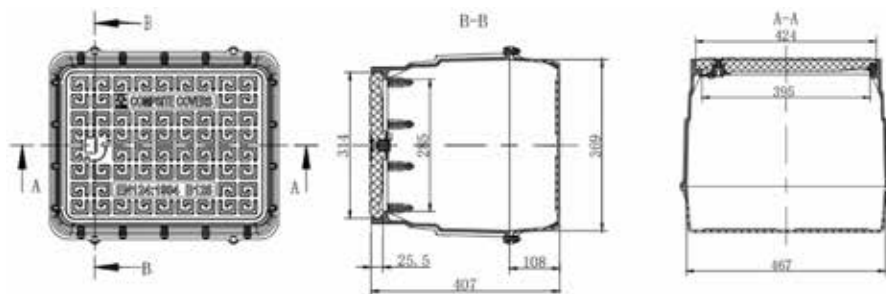


FAB-RS-H04



## MODULAR HANDHOLE CHAMBER

According to the actual needs of customers, the chamber parts with strong applicability can be assembled and stacked. and the height of the chamber can be increased to meet the requirements of internal equipment.



## PRODUCT SPECIFICATION

All indicators of the product meet the standards, ensure quality and safety, and provide customers with assured services.

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| Barr's hardness                 | GB/T3854-2005                                          | ≥50                      | 56              |
| THERMAL PERFORMANCE             |                                                        |                          |                 |
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| Flexural modulus                |                                                        | 1.43x10 <sup>4</sup> MPa |                 |
| Bending strength retention rate |                                                        | 124%                     |                 |
| Flexural modulus retention rate |                                                        | 11.16%                   |                 |
| Linear expansion coefficient    | GB/T2572-2005(26°C~100°C)                              | 1.66x10 <sup>-5</sup>    |                 |

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- **Long service life:** The product has excellent anti-aging properties, and the buried service life is more than 30 years.



## CONFIGURATION SELECTION

The product provides multiple configuration options and orders based on actual needs.



| STANDARD VERSION         |                |          |
|--------------------------|----------------|----------|
| Product                  | Configuration  | Standard |
| Modular Handhole Chamber | Handhole cover | Yes      |
|                          | Handhole Frame | Yes      |
|                          | Bottom sump    | Yes      |

## PACKING TRANSPORTATION

The structure of the product is simple and easy to disassemble, and all the components can be split into parts, which can be stacked and bundled. It is convenient to transport and saves the transportation cost.

| Pallet size                          | Pallet capacity | Container loading capacity<br>(40GP container) |
|--------------------------------------|-----------------|------------------------------------------------|
| FAB-RS-M04<br>(1100mmx1300mmx2200mm) | 48 sets         | 432 sets                                       |



(FAB-RS-H04)





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