



# **IVERNA** **2000**

*Technical Datasheets*

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## **Manhole steps**

- Classic line
- Modern line of manhole steps
- Ecosteps line
- Special manhole steps

## **Safety equipment**

- Handles for ascent and descent to manholes
- Adjustable safety rings
- Flexible safety ladders
  - Aluflex
  - Tejaflex
- INOXPAT
- GRP - Fiberglass solutions

## **Ventilation (special for sanitation)**

- BVG Box series
- BVG series - Air box
- CVG series - Sparkproof
- Motovent series - Autonomous gas exhauster
- Pozovent series
- Turbovent series
- Sugarpod

## **Climatization**

- Hot air generators
- Evaporative conditioners
- Helical and paddel wheelpan
- Air conditioners

## **ALQUICLIMA Renting of climatization equipment**

## **FUNDILOCK Anti-theaf solution for manholes**

## **Customized services**





# IVERNA

## 2000

## *Pates*

*Classic line*

*Modern line of manhole steps*

*Ecosteps line*

*Special manhole steps*



**CLASSIC LINE**



Characteristics

Pate Sugar is manufactured with non-recycled polypropylene copolymer and high-quality steel (hardness tensile 65 kg/ mm<sup>2</sup>) to ensure durability and long life of the step.

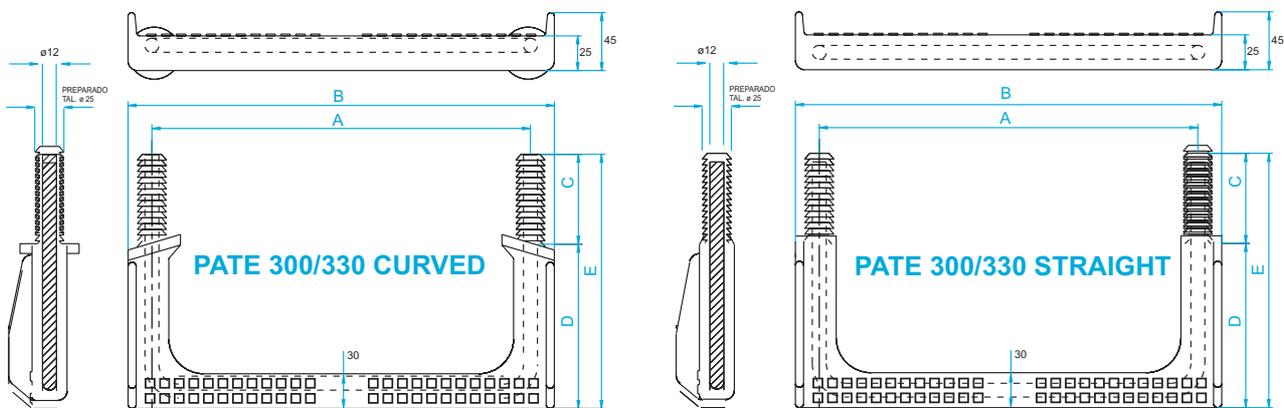
It's the only step on the market that complies with and surpasses the European norm EN 13101, American norms ASTM C-478 and C-497 and German norm DIN 19555.

Manufactured in classic models: Curved or Straight.

Installation

Drill two holes with a heavy hammer drill (85mm. depth), using a 25mm ø broach. The distance between the center of the holes is 330, 320 or 300mm depending on model). Introduce the Pate hitting alternatively in both sides of it with a big size nylon hammer.

The



Modelo/ model	Medidas/ measures					Embalaje/ package	Color/ colour
	A	B	C	D	E		
300 recto	300	340	80	160	240	Palet 1000 uds./units	naranja / orange
300 curvo	300	340	80	160	240	Palet 1000 uds./units	naranja / orange
330 recto	330	370	80	140	220	Palet 1000 uds./units	naranja / orange
330 curvo	330	370	80	140	220	Palet 1000 uds./units	naranja / orange
330 recto taco Barna	330	370	100	120	220	Palet 1000 uds./units	naranja / orange
330 recto largo taco 100	330	370	100	140	240	Palet 1000 uds./units	naranja / orange
330 curvo largo taco 100	330	370	100	140	240	Palet 1000 uds./units	naranja / orange



**MODERN LINE**

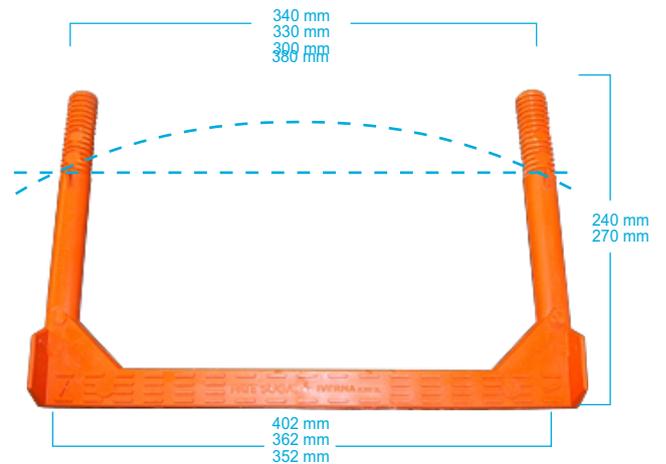
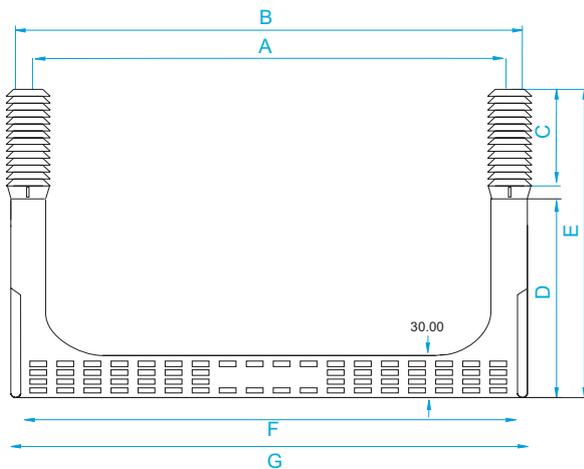


Characteristics

- All the Classic Line characteristics.
- Ergonomic design with slip proof grooves.
- Doser grooves for chemical plugs.
- Same step for curved and straight. manholes to minimize stock.
- Crash limit for a perfect fit.
- Customizable anti-slip floor.

Installation

Drill two holes with a heavy hammer drill (85mm. depth), using a 25mm ø broach. The distance between the center of the holes is 330, 320 or 300mm depending on model). Introduce the Pate hitting alternatively in both sides of it with a big size nylon hammer.



Modelo/ model	Medidas/ measures							Embalaje/ package	Color/ colour
	A	B	C	D	E	F	G		
340 C-R Plus	340	367	80	190	270	349,77	362	Palet 1000 uds./units	naranja / orange
330 C-R Plus	330	357	80	190	270	339,77	352	Palet 1000 uds./units	naranja / orange
300 C-R Plus	300	327	80	190	270	309,77	322	Palet 1000 uds./units	naranja / orange
340 C-R	340	367	80	160	240	349,77	362	Palet 1000 uds./units	naranja / orange
330 C-R	330	357	80	160	240	339,77	352	Palet 1000 uds./units	naranja / orange
300 C-R	300	327	80	160	240	309,77	322	Palet 1000 uds./units	naranja / orange

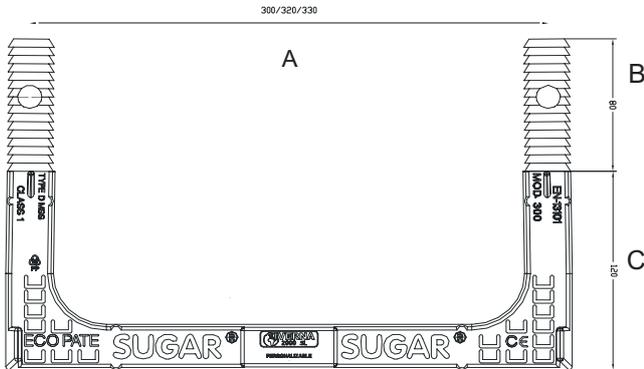


Characteristics

- Polypropylene with reinforced steel calibrated with hardness of 65 kg / mm<sup>2</sup>.
- Adaptable to curved and straight surfaces.
- An ergonomic, compact, robust design, highly resistant to impact.
- Non-slip surfaces and side flaps.
- Anvil for the proper introduction of pate.
- Customizable to best suit customer needs.
- It complies with the European standard EN-13101 quality regulation.

Installation

Drill two holes with a heavy hammer drill (85mm. depth), using a 25mm ø broach. The distance between the center of the holes is 330, 320 or 300mm depending on model). Introduce the Pate hitting alternatively in both sides of it with a big size nylon hammer.



Modelo/ model	Medidas/ measures			Embalaje/ package	Color/ colour
	A	B	C		
ECOPATE 300	300mm	80mm	120mm	40 unid/caja 40 units/box Palet 1600 uds./units	naranja / orange
ECOPATE 320	320mm	80mm	120mm	Palet 1600 uds./units	naranja / orange
ECOPATE 330	330mm	80mm	120mm	Palet 1600 uds./units	naranja / orange



**MANHOLES STEPS: SPECIAL LINE**



General characteristics

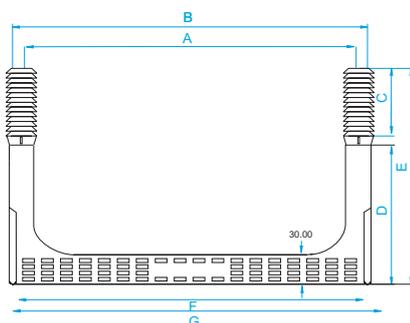
- Polipropileno copolimero reforzado con acero calibrado F1 con dureza de 65kg/mm<sup>2</sup>.
- Fabricados para superficies curvas y rectas.
- Diseño ergonómico, compacto, robusto y con gran resistencia al impacto.
- Superficie y aletas laterales antideslizantes.
- Tope de golpeo para la correcta introducción del PATE.
- Personalizable al gusto del cliente.
- Conformidad a normativa europea de calidad EN-13101, Americanas ASTM C-478 y C-497 y Alemana DIN 19555.
- Única empresa con laboratorio propio para pasar la Norma Europea EN 13101 por lotes de 1000 unidades tal y como exige la norma.

Installation

Drill two holes with a heavy hammer drill (85mm. depth), using a 25mm ø broach. The distance between the center of the holes is 330, 320 or 300mm depending on model). Introduce the Pate hitting alternatively in both sides of it with a big size nylon hammer.

**Pate 400 C-R y Pate 400 C-R Plus**

400 C-R and 400 C-R PLUS steps are the only manhole steps on the market that exceed and surpass the quality tests and standards established by LPRL 31/1995 law, Law of Prevention of Labour Risks and Royal Decree 486/1997, for security and health in working places.



Modelo / model	Medidas / measures							Embalaje / package	Color / colour
	A	B	C	D	E	F	G		
400 C-R	380	407	80	160	240	389,77	402	Caja/box 25uds./units	naranja / orange
400 C-R ZINC	380	407	80	160	240	389,77	402	Caja/box 25uds./units	naranja / orange
400 C-R INOX AISI 304	380	407	80	160	240	389,77	402	Caja/box 25uds./units	naranja / orange
400 C-R INOX AISI 316	380	407	80	160	240	389,77	402	Caja/box 25uds./units	naranja / orange
400 C-R PLUS/ZINC	380	407	80	190	270	388,77	402	Caja/box 25uds./units	naranja / orange

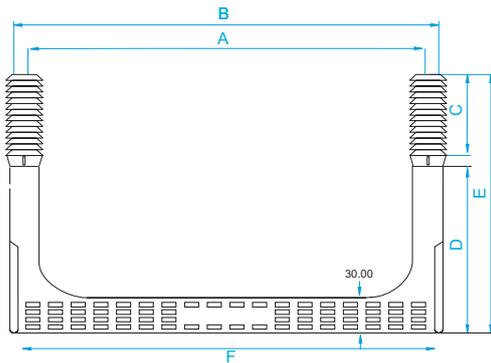


## MANHOLES STEPS: SPECIAL LINE

**PATE SUGAR®**

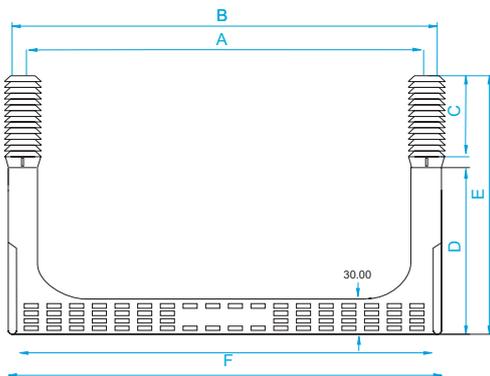
### Inoxgrip 330CR

Designed for intensive use, Inoxgrip comes with extra grip made in stainless steel to evacuate the mud from the work boots, having an extra security during the ascent and/or descent of the operator.



### Sugargrip 330CR

Our Sugargrip manhole step has an extra non-slip rung that offers better grip and comfort than the traditional steps.



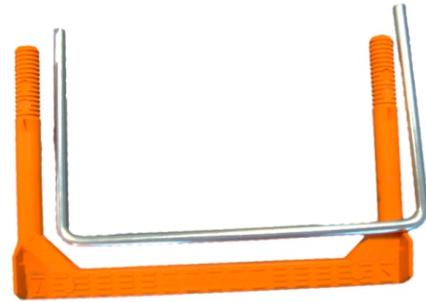
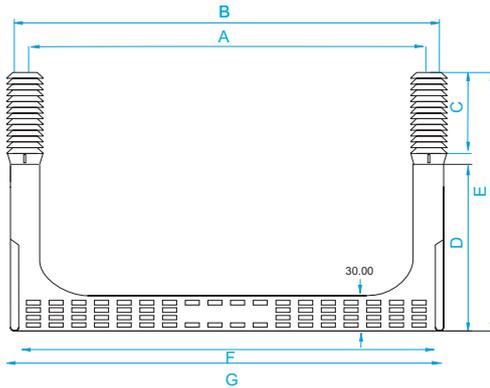


**MANHOLES STEPS: SPECIAL LINE**



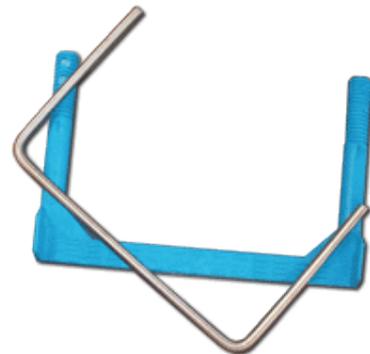
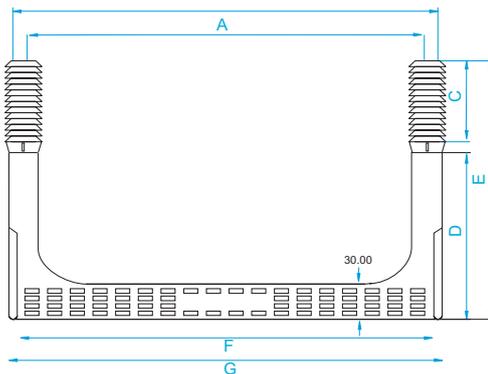
**330CR Manhole step reinforced with zincated steel**

Manhole step made with polypropylene copolymer 100% virgin for excellent strength and durability of the step, reinforced with zincate steel of quality.



**Marine step 330CR**

This MARINE Step is manufactured using a 12mm ribbed bar of stainless steel with quality AISI-304 o AISI-316 and the polypropylene is protected by a master that prevents damages and deterioration in the long term caused by sunlight and ultraviolet rays. It is ideal for docks and all kinds of aggressive environments.



Modelo / model	Medidas / measures							Embalaje / package	Color / colour
	A	B	C	D	E	F	G		
330 C-R INOXGRIP	330	357	80	160	240	339,77	352	Caja/box 25uds./units	naranja / orange
330 C-R SUGARGRIP	330	357	80	160	240	339,77	352	Caja/box 25uds./units	naranja / orange
330 C-R ZINC	330	357	80	160	240	339,77	352	Caja/box 25uds./units	naranja / orange
330 C-R MARINO INOX AISI 304	330	357	80	160	240	339,77	352	Caja/box 25uds./units	naranja / orange
330 C-R MARINO INOX AISI 316	330	357	80	160	240	339,77	352	Caja/box 25uds./units	naranja / orange



## ANCHORABLE MANHOLE STEPS

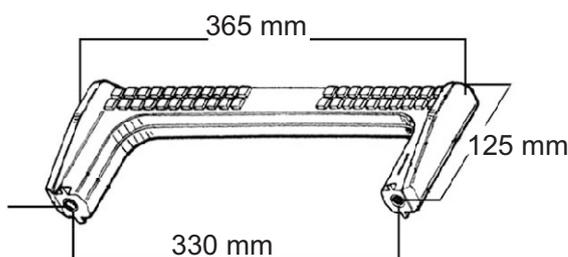
**PATE SUGAR®**

### Characteristics

- Manufactured with a 12mm ribbed steel core, 100 % non-recycled Polypropylene copolymer, and 35 mm. and 12mm. diameter ferrule tips.
- PATE SUGAR® anchorable step is a versatile, insulating and liquid-tight step that can be applied to either plain or curved surfaces. Customers are able to choose the type of binding screws needed.
- Uses and applications:
  - Gas or water conduits.
  - Manholes made from fiberglass, PVC or even concrete.
  - Containers and Lorries, tanks and dumpers.
  - Silos made from fiberglass or steel.
  - Various structures made from wood or steel.
- The insertable pate comes with 70 neoprene washers for sealing and 70 stainless steel washers for the structure. \*Optional: Wedge for curved wells.

### Installation

Make two size 12 drills, choose the appropriate M 12 screws and  
The neoprene washers assure the sealing of the Pate.  
The stainless-steel washers assure the perfect hold of the pate.



Modelo / model	
INSERTABLE ACERO ZINCADO	Caja/box 35uds./units
INSERTABLE INOX AISI-304	Caja/box 35uds./units
ARANDELA NEOPRENO / <i>Neoprene washers</i>	Caja/box 70uds./units
ARANDELA ACERO / <i>Steel washers</i>	Caja/box 70uds./units
CUÑA - CURVATURA DE POZOS / <i>Curved wedge</i>	Caja/box 70uds./units





# MOUNTAIN STEPS

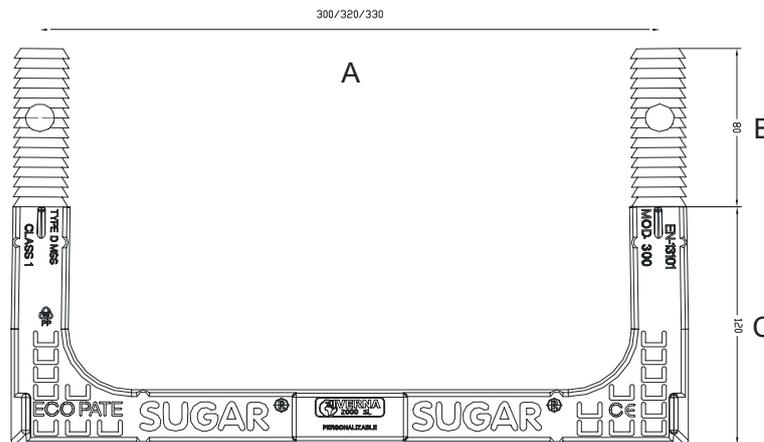


## Characteristics

- Specially designed to be integrated into a background of mountains and coasts, providing invaluable aid when accessing difficult places.
- The mountain steps are environment-friendly and do not degrade or pollute.
- They are available in green, brown and white colours, so they go unnoticed in natural environments as they easily camouflage among stones and vegetation.
- They are a great solution for safety in the practice of high mountain sports such as climbing or alpinism.
- Manufactured with a stainless-steel rod of great hardness 85kg / mm<sup>2</sup> and Ø12mm, to guarantee the safety of climbers.
- The steps are also covered with high impact polypropylene plastic, UV protection to avoid damages caused by the sunlight.
- It has a non-slip run and fins on the sides, in order to stop you from sliding and avoiding lateral falls.

## Installation

Drill two holes with a heavy hammer drill (85mm. depth), using a 25mm ø broach. The distance between the center of the holes is 330, 320 or 300mm depending on model). Introduce the Pate hitting alternatively in both sides of it with a big size nylon hammer.



Modelo/ model	Medidas/ measures			Embalaje/ package	Color/ colour
	A	B	C		
300 INOX AISI-304	300mm	80mm	120mm	Caja/box 40uds./units	verde / green
320 INOX AISI-304	320mm	80mm	120mm	Caja/box 40uds./units	verde / green
330 INOX AISI-304	330mm	80mm	120mm	Caja/box 40uds./units	verde / green
300 INOX AISI-316	300mm	80mm	120mm	Caja/box 40uds./units	verde / green
320 INOX AISI-316	320mm	80mm	120mm	Caja/box 40uds./units	verde / green
330 INOX AISI-316	330mm	80mm	120mm	Caja/box 40uds./units	verde / green



# IVERNA

## 2000

### *Safety*

- Handles for ascent and descent to manholes
- Adjustable safety rings
- Flexible safety ladders
  - Aluflex
  - Tejaflex
- INOXPAT
- GRP - Fiberglass solutions
  - GRP Stairs with safety rings
  - New Iverplastic Ladder
  - Access platform
  - Fiberglass protection rings
  - Abisagrated anti-access trap



## *Handholds for ascent and descent of manholes*

### **1 - Handholds INOX Polyvalent Removable 4 options.**

#### Characteristics

- Support made of calibrated steel.
- Wall fixation is done by using two concrete screws (M10x70mm.)
- No maintenance is required once deployed.
- Manufactured using laser in order to achieve a perfect precision in manhole's grooves.
- Anchorable both on walls and on manhole steps.
- Easy to store it inside the well using the support.
- The product comes with a pair of butterfly screws which can be used without tools.

The most complete version features the following characteristics:

- Mirror polish.
- Made of stainless steel AISI 316.
- Support + non-removable bar for steps.
- Support + non-removable bar for concrete.
- Support + removable bar for steps.
- Support + removable bar for concrete.

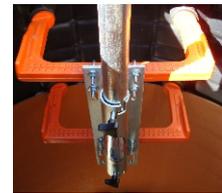




## *Handholds for ascent and descent of manholes*

### **2 - Handhold type A - for fixing on steps**

- Support + Removable Bar.
- Installation base for manhole steps.
- Made of galvanized steel.
- T shape handles.



### **3 - Handhold type A2 - for concrete**

- Support + Removable bar.
- Installation base for concrete walls.
- Made of galvanized steel.
- Fits existing ladders and steps.
- T shape handles.



### Installation - Types A and A2

- If you only want to use one manhold for every well: couple just T.1.
- In order to keep the manhold inside the well so you can use it at will: couple just T.2
- In order to keep the manhold blocked so you can get up and down, couple and secure both T.1. and T.2.



### **4 - Handhold type B - for fixing on steps**

- Support + non-removable bar.
- Installation base for manhole steps.
- Made of galvanized steel.
- T shape handles.



### **5 - Handhold type B2 - for concrete**

- Support + non-removable bar.
- Installation base for concrete walls.
- Made of galvanized steel.
- T shape handles.



### Installation - Types B and B2

In order to secure the bar in the support, you just have to follow with the bar (and its screw) the zig-zag path.

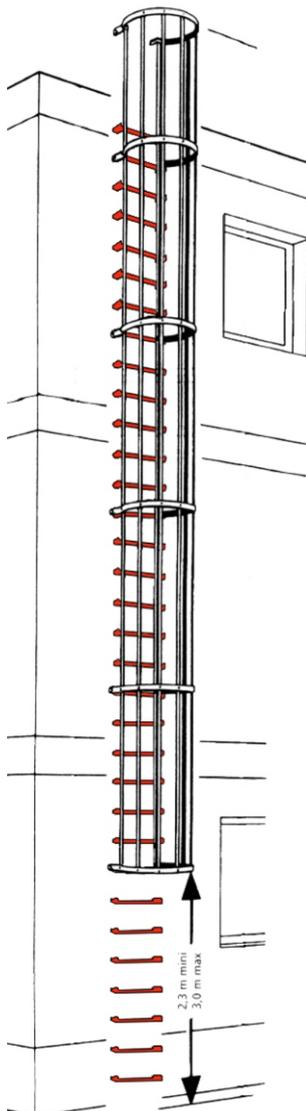
Inverse process must be followed in order to remove the bar.



## ADJUSTABLE SAFETY RINGS

### Characteristics

- Adjustable safety rings – Fall protection: Zinc - or - Stainless steel AISI-304
- Fall protection safety rings, zinc of 800mm depth by 800mm width.
- Zinc billets of union, with torn hole of 50mm of 40 x 4 x 330mm.
- Zinc adjustable billets of union with torn hole of 50mm of 40 x 4 x 660mm.
- Angular of completion for the assembly of security hoops a meter over the end of the wall of 1500 x 50 x 5 mm.
- Screw M 10 x 25mm zinc nut and washer.



*Internal detail*



*External detail*

### Installation

1. Place the first rings at level fixing it to the wall.
2. Screw a line of billets in top of the ring.
3. Mount the second ring.
4. Fix the second ring to the Wall.
5. Place another line of billets, using the same screws.

Be aware that the product is supposed to be installed from the ground and not from the top of the structure.

Needed tools:

- Drill with M 10 concrete drill.
- Monkey wrench or fixed key 16/17.



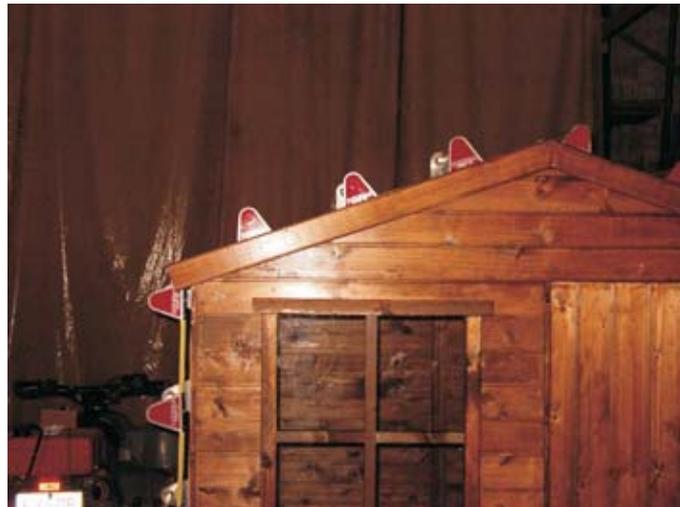
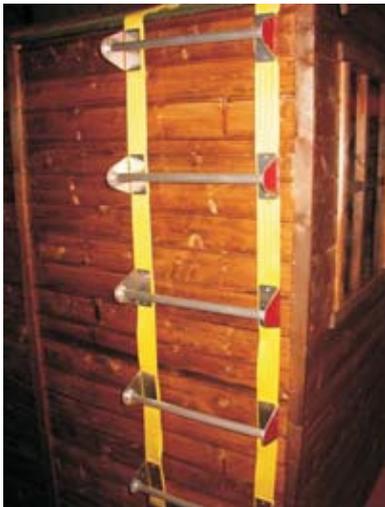
## ALUFLEX

### Characteristics

- Length – 3 meters – interconnectable units..
- Weight - 6 kg.
- Steps material – Aluminium.
- Strips material – Polyester 2 double strips 5300kg
- Loading limit – One person + equipment
  
- High visibility and durability even under water.
- Aluflex is supplied with carabiners and stainless pivot screw.
- USES: Roofs, Reservoirs, Canals, Mountain and Rescuing.
- If required, Aluflex can be supplied with neoprene strips under every step to ensure a slip-proof surface.

### Installation

You only have to put the different segments together by using the provided pieces. You have to anchor the end of both terminations with an homologated mooring plate. It's also possible to fix the ladder directly in a steel, concrete or wood surface by using the holes that the ladder itself has at the end.





## ALUFLEX

Maintenance, storage and transportation instructions.

Every worker must be provided with a life line or other safety mechanisms needed before using the stairs.

Before using Aluflex, strips must be checked. They must be without cuts or damaged. Also, it's necessary to check that metallic elements aren't rusty nor deformed.

Since Aluflex strips are textiles, they must be replaced in next situations due to natural degradation process:

- Every 4 years, even if the ladder has remained unused.
- Every 2 years, periodic maintenance.
- Every year if the stair is frequently used or if it's permanently deployed.
- Immediately:
  - If it shows cuts or other visible defects.
  - If it has been in contact with chemical products or painting.
  - If it has been in contact with grease or oils.

This service can only be carried out from factory by authorized personnel.

Aluflex has been designed to hold one person plus his tools. Two persons can't use Aluflex at the same time.

Aluflex must be always tied up in both terminations in order to always keep verticality, so external factors like wind don't cause problems.

If Aluflex gets wet, it must be dried outside. You must never store it wet.

It's advisable to keep Aluflex in a dry place, protected from sunlight, extreme conditions, corrosive environments and protected from any heat source.

Clean with a soft brush, using water and neutral soap. Never use solvents nor acids. Don't dry it with a heat source.





## TEJAFLEX

### Characteristics

- Tejaflex comes in 3 meters sections, butt-jointed by cinch.
- Each section of the ladder has 4 rungs that allow full foot support and facilitate the ascent across the surface in upright posture.
- The rungs of the ladder are made of 3mm thick anodized aluminum with folded nerves to give more consistency.
- Tejaflex is foldable, which makes transportation and installation easier.

- Length – 3 metres – interconectable units
- Weight - 6 kg.
- Steps material – Slip proof, anodized aluminium
- Strips material – Polyester 2 double strips 5300kg
- Loading limit – One person + equipment

### Installation

You only have to put the different segments together by using the provided pieces. You have to anchor the end of both terminations with an homologated mooring plate. It's also possible to fix the ladder directly in a steel, concrete or wood surface by using the holes that the ladder itself has at the end.





## TEJAFLEX

### Maintenance, storage and transportation instructions.

Every worker must be provided with a life line or other safety mechanisms needed before using the stairs.

Before using Tejaflex, strips must be checked. They must be without cuts or damaged. Also, it's necessary to check that metallic elements aren't deformed.

Since Tejaflex strips are textiles, they must be replaced in next situations due to natural degradation process:

- Every 4 years, even if the ladder has remained unused.
- Every 2 years, if it has been used as a periodic maintenance tool.
- Every year if the stair is frequently used or if it's permanently deployed.
- Immediately:
  - If it shows cuts or other visible defects.
  - If it has been in contact with chemical products or painting.
  - If it has been in contact with grease or oils.

This service can only be carried out from factory by authorized personnel.

Tejaflex has been designed to hold one person plus his tools. Two persons can't use Tejaflex at the same time.

Tejaflex must be always tied up in both terminations in order to always keep verticality, so external factors like wind don't cause problems.

If Tejaflex gets wet, it must be dried outside. You must never store it wet.

It's advisable to keep Aluflex in a dry place, protected from sunlight, extreme conditions, corrosive environments and protected from any heat source.

Clean with a soft brush, using water and neutral soap. Never use solvents nor acids. Don't dry it with a heat source.





## INOXPAT

### Characteristics

- Adjustable heavy duty ladder for aggressive uses.
- Adjustable ladder capable to adapt to different degrees and angles of water channels and other vertical surfaces.
- It is made of stainless steel and high-impact plastic with UV protection to ensure maximum durability.
- It allows great visibility and has non-slip surface with side stops so the foot cannot slip or slide off the ladder.
- Its ergonomic design provides a good grip for your hands.
- Its attachable 3 meters sections, allows you to graduate its size to the desired length.
- No maintenance is required and the installation is quick and easy thanks to the numerous mounting holes disposed along the ladder.

### Installation

Inoxpat is made has 3 meters interconnectable units, so you can get the desired length. Every step has 4 holes in each side at different degrees, so you can adjust it to the needed pendent.

Inoxpat doesn't need any maintenance. The installation is easy thanks to the numerous mounting holes available along the ladder.

Inoxpat can be equipped with safety rings made of fiberglass or stainless steel.





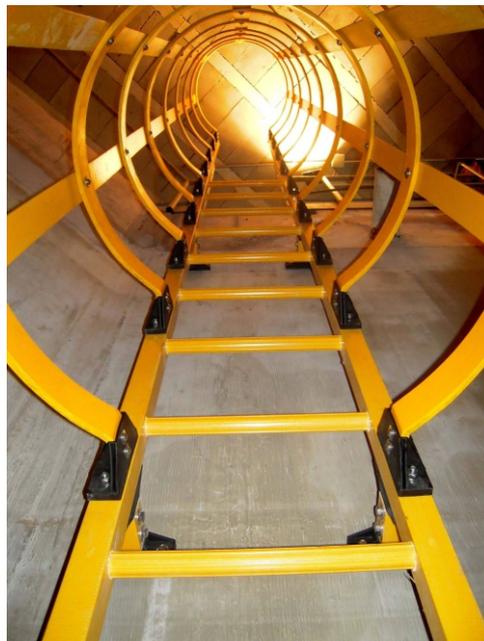
## GRP STAIRS WITH SAFETY RINGS

### Characteristics - Ladders

- The only metallic parts are the homologated A-4 quality and stainless screws.
- Ladders can be manufactured following customer's dimensions needs.
- Very robust and comfortable ladders. 400mm. step, and safety rings with 750mm. diameter.

### Characteristics - Rings

- Manufactured with hand finished rings with 750mm. diameter, 65mm. width and 10mm. thickness.
- Perfect concrete fixing thanks to its polyamide piece in both sides of the ring.
- Concrete fixing is made by using certified A-4 screws with stainless washers.
- Thanks to the fiber glass, which is currently taking over the stainless Steel, we get the following advantages: stainless, not electricity conductor, UV resistant, light weight, easily adaptable and low installation cost.
- Client must provide us with the measures of the protection needed place (always in 500mm. multiples) so we can pre-drill the product. By doing this, the protection comes completely finished (including all the needed screws and pieces, achieving an easier transport and installation).
- The product is sent disassembled, you just have to put together the rings with the union plates, after doing that the product is ready to be fixed to the wall.
- Every ring comes with 5 screws in order to put the plates together, 4 in each ring with the polyamide piece and 4 concrete screws.
- The ladder can be upgraded by adding an anti-vandalism access, made of stainless steel with a rubber seal. You can block the access using a bar and a lock.
- This system overpass the CTE and INSHT requirements.





## ACCESS PLATFORM

### Characteristics

- The platform has a railing of 1000 mm height.
- The total measures are 1500 x 1000 so the operator is always protected when stepping from one ladder to another.
- According to the CTE, when a ladder is over 9 meters, there must be a platform so that the operator can rest and leave the tools.
- Both ladders and platforms come in a kit and are lightweight so any operator can install them.



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## FIBERGLASS PROTECTION RINGS

### Characteristics

- Our protection rings are made of fiberglass and can be attached to any existing ladder or step.
- It offers high durability and low maintenance.

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## ABISAGRATED ANTI-ACCESS TRAP

### Characteristics

- This trap made of stainless steel quality AISI 304 is designed so that no one can enter the roof by accessing the emergency ladder.
- It has a padlock access which makes the access even more complicated and only the maintenance personnel can access when deploying it.
- It has retro-reflective deflectors and perimetral rubber gasket so that it has good visibility and in the case of a blow, does not cause damage to the operator.
- If an extra security level is required, it's possible to add a piece made of inox steel AISI 304 to our ladder's steps. By doing this, we enjoy a two-steps security system, avoiding unauthorized people sneaking into the installation.



**IVERNA**  
**2000**

## *Ventilation*

*BVG Box series*

*BVG series - Air box*

*CVG series - Sparkproof*

*Motovent series - Autonomous gas  
exhauster*

*Pozovent series*

*Turbovent series*

## VENTILATION EQUIPMENT FOR SANITATION

### BVG BOX series

#### Characteristics

- Insulated, high power work-station (3000 m<sup>3</sup> / h) with speed regulator.
- 20W high power Led spotlight and socket base for coupling machines up to 2000 W.
- Self-extinguishing flexible conduit, 10m extended length and 1/2 m when folded.
- Drawer to store the tube, clamps and other tools the user may need.
- Handles, anti-puncture wheels and anti-vibratory supports for easy transportation and handling.
- Protection mesh to avoid bodies of great volume being sucked or trapped.
- Washable filter

DOUBLE FUNTION



\* Access cage is sold separately

### CVG series - Sparkproof

#### Characteristics

- Gas exhauster, designed to remove gases and bad smells from inspection wells and collectors in presence of potentially explosive airstreams.
- Manufactured according to customer requirements.
- With explosion-proof motor and anti-spark fan with copper ears.



Before using any of our ventilation equipment, you must check that there aren't any flammable gases where the equipment is going to be used. If they are flammable gases, you have to first use the CVG Series – Sparkproof.



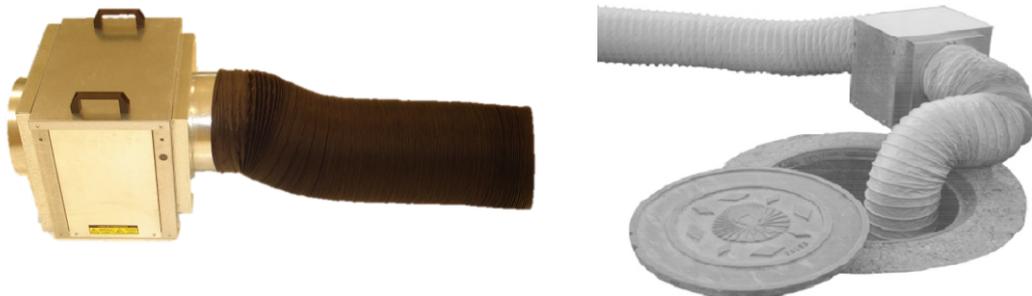
## VENTILATION EQUIPMENT FOR SANITATION

### BVG series Air box

#### Characteristics

- Our BVG Air box, is a useful tool for the ventilation and extraction of gases and bad odors from manholes and inspection conduits.
- It comes equipped with plastic pipes reinforced with steel.
- When folded down it is just 0,5 m. long and when unfolded it becomes a 10 m. long self-extinguishing conduit.
- The Air box comes with an airflow regulator and can be supplied with handrails and wheels.
- Peak flows range goes from 1,350 m<sup>3</sup>/h to 11,000 m<sup>3</sup>/h.
- Optionally, for flammable gas environments (i.e. methane) we can supply the Gas Exhauster equipped with spark-proof fan and flame-proof engine.

#### DOUBLE FUNTION



*Before using any of our ventilation equipment, you must check that there aren't any flammable gases where the equipment is going to be used. If they are flammable gases, you have to first use the CVG Series – Sparkproof.*



## VENTILATION EQUIPMENT FOR SANITATION

### Pozovent

#### Characteristics

- Manufactured in galvanized steel with an EPOXI paint protection.
- A 3mm protection grid for blade propellers.
- It incorporates an EPDM air joint that allows a perfect connection to the opening of the well.
- Easily adapted to any manhole.
- Autonomous equipments that do not need generators.
- From 1800 to 8000 m<sup>3</sup>/h flow
- E.C. Certificate
- Available in 4 versions:
  - 1) Petrol engine of 4 kw BRIGGS STRATON.
  - 2) Petrol engine of 5 kw BRIGGS STRATON.
  - 3) Petrol engine of 5 kw BRIGGS STRATON with electric starter.
  - 4) Single phase electric motor of 0.75 kw.



#### Installation

Open the cover and place the machine over the well. Thanks to its EPDM air joint you will be able to get a perfect connection to the opening of the well.

Open the closest cover so Motovent can renew more air. It's advisable to place a Motovent alongside with two shutter balls so the air makes a "U" figure.

By following these instructions, the worker will be able to work in a clean and decontaminated environment.

This unit has been tested in factory and comes with oil, since it's a four-stroke engine. The recommended oil is 100% synthetic oil 20w50.

We recommend to use Motovent at low revolutions during the first 50 hours in order reach the best performance.

For replacements or technical assistance, please get it contact with any official Briggs&Stratton technical service.

It's advisable for the workers to always carry a gas detector, since an explosion engine is not compatible with certain flammable gases such as methane.



*Before using any of our ventilation equipment, you must check that there aren't any flammable gases where the equipment is going to be used. If they are flammable gases, you have to first use the CVG Series – Sparkproof.*



## SUGARPOD - ANTI ODOR EQUIPMENT WITH ACTIVATED CARBON

### Sugarpod - Activated carbon filter - Wells models

#### Characteristics

The main functionality of the anti-odor filter with activated carbon is to minimize the effect of some chemicals and other products coming out of any kind of well by neutralizing its bad odor.

Sugarpod is safe, effective and with an extremely simple installation and maintenance. Sugarpod starts neutralizing bad odor right after being deployed.

The carbon base material is transformed into activated carbon by terminal decomposition and by using controlled atmosphere and temperature.

The resulting product features a great surface per volume unit, as well as a submicroscopic pore network where the absorption is done.

#### Installation

- 1- Firstly, you need to identify the required form of the well (circle or square) since we have adapted solutions for each case. Once decided the previous point, you must choose the model that best suits your specific needs taking into account the filter diameter, filter chamber length and the diameter of the hole where the device will be installed.
- 2- Turn 180° each one of the four metal pieces you will find on top of the device.
- 3- Deploy the device using the black handles in order to move it in an easy and comfortable way. Sugarpod is already working and doesn't need any additional action.



Filters for round cover	315	400	600	800
Mounting hole diameter (mm)	315	400	600	800
Lenght of the filter chamber (mm)	500	500	340	340
Weight of the filter element (Kg)	4,4	5,3	10,5	10,5

Filters for square cover	K600	K800	K1000
Mounting hole diameter (mm)	600x600	800x800	1000x1000
Lenght of the filter chamber (mm)	340	340	340
Weight of the filter element (Kg)	10,5	10,5	13,3



## SUGARPOD - ANTI ODOR EQUIPMENT WITH ACTIVATED CARBON

### Sugarpod - Activated carbon filter - Chimney models

#### Characteristics

The main functionality of the anti-odor filter with activated carbon is to minimize the effect of some chemicals and other products coming out of any kind of well by neutralizing its bad odor.

Sugarpod is safe, effective and with an extremely simple installation and maintenance. Sugarpod starts neutralizing bad odor right after being deployed.

The carbon base material is transformed into activated carbon by terminal decomposition and by using controlled atmosphere and temperature.

The resulting product features a great surface per volume unit, as well as a submicroscopic pore network where the absorption is done.

#### Installation

- 1- Firstly, you must choose the model that best suits your specific needs taking into account the filter diameter, filter chamber length and the diameter of the hole where the device will be installed.
- 2- Dig or find a hole where you can install the device.
- 3- Fix the device to the ground. You must use specific materials depending on the chosen place (concrete, ground...).



Internal filters for sewage pumping stations	W90	110	W140	160
Filter diameter (mm)	90	110	140	160
Length of the filter chamber (mm)	1000	1000	1000	1000
Mounting hole diameter (mm)	110	110	160	160
Weight of the filter element (Kg)	2,2	4,3	6,2	8,8



## VENTILATION EQUIPMENT FOR SANITATION

### *Turbovent - smoke extractor*

#### Characteristics

- It is a positive pressure equipment with Honda gasoline engine.
- Robust and durable, made of galvanized sheet and blades of great flow (20,000 m<sup>3</sup> / hr.)
- Ideal to evacuate and eliminate the heat, smoke and toxic gases, so you can then intervene and attack the fire once the extreme conditions are cleared.
- A flexible tube of 500mm diameter can be attached.

# HONDA



HONDA ENGINE

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### *Motovent: Autonomous gas exhauster*

#### Characteristics

- Retractable handrails and wheel for easy transportation.
- Anti-puncture tyres and safety brakes.
- Total autonomy thanks to its own engine, no need for a generator or any extra equipment.
- Made from galvanized steel, no welding used for its manufacturing.
- Peak flow of 6,500 m<sup>3</sup>/h., although can be made up to 11000 m<sup>3</sup>/h.

# HONDA



HONDA ENGINE

*Before using any of our ventilation equipment, you must check that there aren't any flammable gases where the equipment is going to be used. If they are flammable gases, you have to first use the CVG Series – Sparkproof.*





**IVERNA**  
**2000**

## *Climatization*

*Hot air generators*

*Evaporative conditioners*

*Helical and paddle wheelpan*

*Air conditioners*



### HOT AIR GENERATORS



### EVAPORATIVE CONDITIONERS



### HELICAL & CENTRIFUGAL VENTILATION



### AIR CONDITIONERS



**Request custom budgets.**  
Domestic, industrial and livestock air conditioning.  
Manufacturing, installation, spare parts and maintenance.



# IVERNA

## 2000

## *Alquiclima*

*Motovent*

*Pozuvent*

*BVG*

*Heating GT series 95-160kw*

*Heating GC series 64-160kw*

*Cool-315 Cooling system*

*VFX serie ventilation and extraction*



## RENTING: CLIMATIZATION EQUIPMENT

Alquiclíma

### Motovent

#### Characteristics

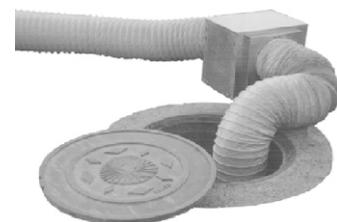
- Casing in galvanized on welded steel sheets
- Pulley transmission
- Pipe fitting on both sides and retractable handles
- Anti puncture wheels with breaks
- Diesel or petrol engine.
- Self extinguishing plastic pipes reinforced with steel
- From 6500 m<sup>3</sup>/h flow up to 11000 m<sup>3</sup>/h
- E.C. Certificate
- Uses: sewers, sewage treatment plants, collectors, etc.



### BVG

#### Characteristics

- Casing in galvanized on welded steel sheets
- Pipe fitting on both sides - Ventilator with an incorporated motor
- Self extinguishing thermal-acoustic insulation M-1
- Speed regulator that allows controlling air volume
- It can be supplied with handles and wheels
- Self extinguishing plastic pipes reinforced with steel
- Up to 11000 m<sup>3</sup>/h flow
- Three phase and single phase functioning
- E.C. Certificate
- Uses: sewers, sewage treatment plants, collectors, etc



*Before using any of our ventilation equipment, you must check that there aren't any flammable gases where the equipment is going to be used. If they are flammable gases, you have to first use the CVG Series – Sparkproof.*



**IVERNA**  
2000



## RENTING: CLIMATIZATION EQUIPMENT



### Pozovent

#### Characteristics

- Manufactured in galvanized steel with an EPOXI paint protection.
- A 3mm protection grid for blade propellers.
- It incorporates an EPDM air joint that allows a perfect connection to the opening of the well.
- Easily adapted to any manhole.
- Autonomous equipments that do not need generators.
- From 1800 to 8000 m<sup>3</sup>/h flow
- E.C. Certificate
- Available in 4 versions:
  - 1) Petrol engine of 4 kw BRIGGS STRATON.
  - 2) Petrol engine of 5 kw BRIGGS STRATON.
  - 3) Petrol engine of 5 kw BRIGGS STRATON with electric starter.
  - 4) Single phase electric motor of 0.75 kw.



#### Installation

Open the cover and place the machine over the well. Thanks to its EPDM air joint you will be able to get a perfect connection to the opening of the well.

Open the closest cover so Motovent can renew more air. It's advisable to place a Motovent alongside with two shutter balls so the air makes a "U" figure.

By following these instructions, the worker will be able to work in a clean and decontaminated environment.

This unit has been tested in factory and comes with oil, since it's a four-stroke engine. The recommended oil is 100% synthetic oil 20w50.

We recommend to use Motovent at low revolutions during the first 50 hours in order reach the best performance.

For replacements or technical assistance, please get it contact with any official Briggs&Stratton technical service.

It's advisable for the workers to always carry a gas detector, since an explosion engine is not compatible with certain flammable gases such as methane.



*Before using any of our ventilation equipment, you must check that there aren't any flammable gases where the equipment is going to be used. If they are flammable gases, you have to first use the CVG Series – Sparkproof.*



## RENTING: CLIMATIZATION EQUIPMENT

*Alquiclimate*

### HEATING GT SERIES 95-160kw

#### Characteristics

- Stainless steel chamber and exchanger.
- Centrifugal fan.
- Prepared for air outlets through distribution outlets or orientable vent.
- Efficiency over 85 %.
- Burner included.

#### Options:

1 - It can be attached to a trailer for easier transportation and handling.

2 - DWA Series diesel tank of 700 or 1000 litres (double galvanized steel wall on the outside, polyethylene inside, it includes a suction kit)

3 - Self-extinguishing plastic pipes reinforced with steel.

- Three phase functioning.
- E.C. Certificate.
- Ideal for construction areas, heating of marquee and industrial areas.



### HEATING GC SERIES 64-160kw

#### Characteristics

- Equipment especially designed to be used in horizontal as well as in vertical position.
- Fixable or portable versions.
- Stainless steel combustion chamber and interchanger.
- Axial flow fan (series) or centrifugal (optional).
- Prepared for air outlets through distribution outlets or orientable vent.
- Efficiency over 85%.
- Three phase and single phase functioning.
- E.C. Certificate.
- Used for live stock and green houses.





## RENTING: CLIMATIZATION EQUIPMENT

*Alquiclina*

### COOL-315 COOLING SYSTEM

#### Characteristics

- Equipment with axial flow ventilation (helical).
- Pulley transmission.
- Wood fibre humidifying panel inside the prelacquered or stainless steel grid.
- Front deflector with orientable vent.
- Speed regulator.
- Total or partial construction in galvanized (painted), prelacquered or stainless steel AISI 304.
- Rigid cellulose humidifying panel: KM-505 with galvanized steel channel and frame.
- Equipped with wheels for easier mobility.
- Up to 14000 m<sup>3</sup>/h flow.
- E.C. Certificate.
- Ideal for construction sites, cooling of marquees and industrial areas.



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### VFX SERIE VENTILATION AND EXTRACTION

#### Characteristics

- Monoblock assembly.
- Entirely made in galvanized steel.
- Curved MODEL T or flat blade propellers (reversible) Model TR.
- Automatic shutter.
- Galvanized wire front protection.
- Motor: Protection IP-55.
- For operation in both directions, the equipment is supplied with flat blade propeller Mod. TR (reversible).
- Up to 48000 m<sup>3</sup>/h flow.
- Three phase and single phase functioning.
- E.C. Certificate.
- Ideal for construction sites, ventilation of marquees and industrial areas.





# **IVERNA** **2000**

*Fundilock*



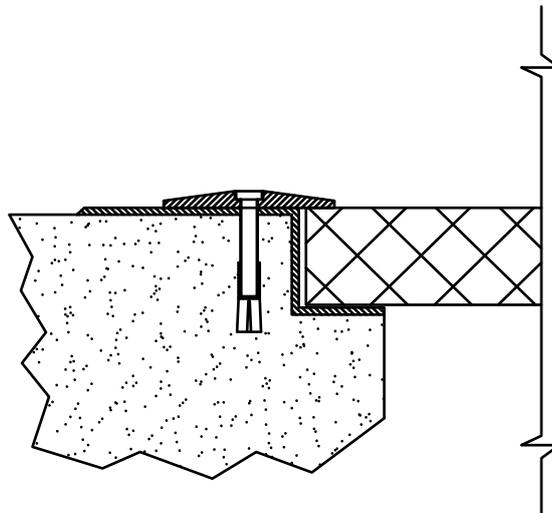
### Characteristics

Antitheft system designed to secure any manhole cap, thanks to its geometry and availability of diameters and qualities. It is a patented and innovative product that is being installed in many places including USA and some European countries.

Nuclear power plants such as ASCO, BANDELLOS, Almaraz Cáceres and Trillo in Madrid as well as several city councils rely on Fundilock to tackle the security problem that exists with the theft of caps and what they protect, such as wiring, optic fiber, etc.

We can also manufacture unique wrenches and screws for orders greater than 1000 units. In this way, we make sure to have a unique system of wrench and screw, so that the designs are changed by countries and communities.

We currently manufacture Fundilock in 3 ranges for dry or tender bonding.



Models	Protection level	Measures	Screw shape
SOLID STAINLESS STEEL AISI -304	Intense and heavy traffic	70/100/130/150 mm	Water drop / 3 Nipples
HIGH IMPACT POLYPROPYLENE with AISI-304 STANLESS STEEL CORE	Moderate traffic	100/130/150 mm	Water drop / 3 Nipples
HIGH IMPACT POLYPROPYLENE with GALVANIZED STEEL CORE	Sporadic traffic and sidewalks	100/130/150 mm	Water drop / 3 Nipples



## FUNDILOCK - Anti-theaf solution for manholes



### Installation - Dry

- 1 - First of all, you need to find the flattest ground in order to avoid thieves using tools to force the cover. If not, you must use resistant concrete.
- 2 - If it's a hinged cover, only one Fundilock is needed. If it isn't a hinged one, two fundilocks will be placed.
- 3 - Clean the produced dust and introduce the 12x50mm stopper.
- 4 - Once the place has been chosen, choose the needed measure (70 mm, 100 mm, 130 mm or 150 mm) so the cover well is protected. Start drilling vertically using a 16mm concrete drill, 120mm.-150mm. depth.  
If while drilling we found the fundition frame, we can choose to keep drilling appropriately or to find another place to drill.
- 5 - Finally, you have to introduce the expansioner, hitting it with a hammer until it complete deployment. Introduce the anti-theft screw.  
In order to difficult a potential theft even more, we advise to use the anti-theft key with the screw (4 Nm recommended).





### Installation - Wet concrete

- 1 – First of all, you need to find the flattest ground in order to avoid thieves using tools to force the cover. If not, you must use resistant concrete.
- 2 - If it's a hinged cover, only one Fundilock is needed. If it isn't a hinged one, two fundilocks will be placed.
- 3 - Once the place has been chosen, choose the needed measure (70 mm, 100 mm, 130 mm or 150 mm) so the cover is protected. Start drilling vertically using a 16mm concrete drill, 100mm. depth.  
If while drilling we found fundition frame, we can choose to keep drilling appropriately or to find another place to drill.  
It's advisable to use a 25mm. drill until we reach the fundition frame, so more material can be inserted achieving a better incarceration.
- 4 - The special provided piece, has been designed to be used in wet concrete (the total length of this piece is 80mm.). It's adjustable, so you can cut it in order to satisfy your specific needs.
- 5 - Clean the generated dust and introduce the fixing material (chemical blister o concretes like Sikadur 42, a more economical option). Introduce the provided pieces and press until you get the desired results. In order to difficult a potential theft even more, we advise to use the anti-theft key with the screw (4 Nm recommended).





**IVERNA**  
**2000**

*Other services*



## OTHER SERVICES

### PLASTIC INJECTION

#### Characteristics

We provide plastic injection and molding in different weights from 20 to 1800 gr. including engineering plastics, polyamides, polypropylene, polyethylene, ABS, etc., with hot and cold molds and fiberglass loads.

Injection capacity of 140-480 tons. We cover the entire plastic injection process from the 3D model design, selection of the most suitable materials, studies of molds, and even performing the complete process, from design to finishing pieces according to the needs and requirements of our customers.



### STEEL ROD BENDING

#### Characteristics

We offer Two-dimensional and three-dimensional steel bending services with stainless steel rods for all diameters from 4 to 12 mm.

Calibrated rod cutting as 4 to 12 mm.

Corrugated steel cutting in diameter of 12 mm.



### SHEET METAL SERVICE

#### Characteristics

Cutting and punching - Folding of any type of sheet with thin or thick thickness. - We have punching machines with automatic robot loading and sorting sheet metal. - Automatic folding machines with depleted robot cells.

High-power bending machines. - Plate sizes from 1000 x 2000 and 1500 x 3000

### OXYCUTTING SERVICE

#### Characteristics

Oxycutting service with high definition plasma machine for thicknesses up to 40mm and formats up to 2.5mts x 6mts with the thickness of your choice.







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