

# INSTALLATION INSTRUCTIONS FOR D-400/F-900 ARTICULATED MANHOLES

Validity: Manholes 1160, 1164, 1174, 2160, 2164, 1165, 1168, 1184, 2184, 2130, 1108.

## 1. Guarantee conditions

Strict compliance with these instructions as well as the installer's knowledge of them is required for the product's guarantee. These are freely available from the web site [www.cofunco.es](http://www.cofunco.es).

## 2. INSTALLATION PROCESS

*Correct use of the product in the shaft: If the shaft is round, use a round frame. If the shaft is square, use a square frame. Under no circumstances should traffic be allowed to pass unless the installation of the product is finished.*

### PREPARATION OF THE SEAT

- Prepare a seat corresponding to the dimensions of the manhole.
- Clean up to the solid concrete on the base, avoiding gravel falling into the well.
- Clean the face of the seat to remove dust, residues and grease.
- "Air-bricks" or blocks may not be used as the seating for the frame.

### POSITIONING, LEVELLING AND FORMING THE FRAME

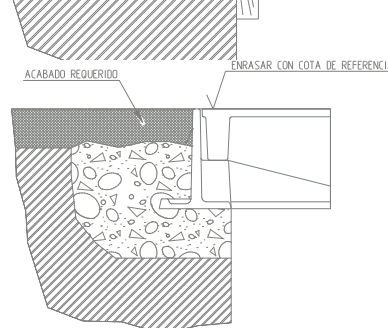
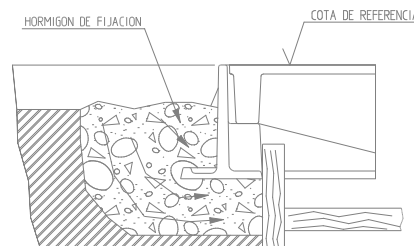
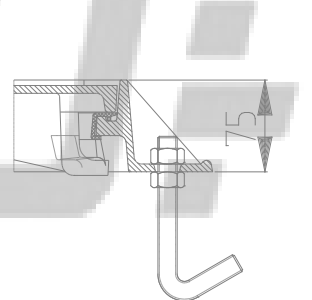
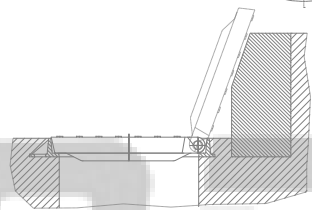
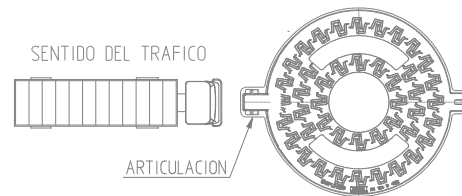
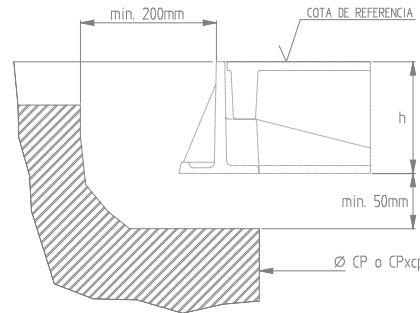
- Place the manholes according to the direction of the traffic as indicated.
- Deposit a 2-6cm fine layer of cement on the seating area for the frame.
- Place the frame on this layer. Centre the frame pass elevations and the shaft.
- Level the frame by tapping with a mallet. Level it according to the incline of the roadway with wedges, hooks or with another system that will be stable during the following phases. The frame must be between 0 and 1cm below the final level of the roadway.
- Line the inside of the frame with planks to avoid concrete going into the shaft.
- It is advisable to perform levelling operations with the covers installed???
- Frames with a height of less than 100mm must be installed with suitable anchors.

### FILLING WITH SETTING CONCRETE

- Prepare the concrete in accordance with the EHE standard (quality, treatment, setting time).
- Place the concrete on the outside of the enclosure.
- Vibrate it so that it penetrates the frame's cavities.
- Fill the seat up to the required height according to the type of finish required.
- Great care must be taken in the measures to avoid undesired setting.
- There must be no mortar or concrete inside the frame in the closing area or the hinging area. Remove it before closing the cover.
- There must be 3cm free of mortar or concrete below the joint profile. The concrete/mortar must never touch the joint or make it difficult to re-position it.

### FINISHING AND PUTTING INTO CIRCULATION

- Remove lining planks.
- Before using a compacting roller, ensure the cover does not protrude from the frame, that there is no gravel/stones on the joint and that the frame does not protrude from the final level of the pavement.
- Carry out the final paving required (mortar, asphalt, tiling). The frame must be between 0 and 1cm below the final level of the final paving.
- Close the cover and check that it is correctly supported on the frame. Brush down the cover and frame seating areas.
- Brush the joint on the seating area (above and below) and remove the gravel.
- Carry out appropriate testing for any other manhole specification.
- Clean the affected area and put it into circulation.



## 3. IMPORTANT NOTES

- The manholes must be handled gently, manipulating and depositing them without striking.
- The frame cover does not need to be removed for installation.
- If the cover is removed, handle it carefully to avoid striking the closure (spring bars).
- Mortar must never be placed inside the frame and specifically in the closure housing area and on the hinge. Mortar residues must be avoided in both areas. See photo 1.
- Mortar must never be placed underneath the joint. This may alter the correct position of the elastic joint or make re-positioning difficult in the future. See photo 2.
- Once the manhole is installed and the final paving around it completed, waste must be cleaned from the cover support area around the joint, as well as the hinge housing and closure. See photos 3 and 4.
- Never allow circulation of any kind of vehicle over the manhole unless it is installed, with all surrounding pavement finished and unless the frame's base is resting on a fine 2-3cm layer of mortar (between the lower part of the frame and the upper face of the shaft).
- It is recommended to put sand on the cover in order to avoid the asphalt layer adhering to the surface of the cover. Also, later remove the asphalt that has been left on top.
- It is recommended that the upper layer of the asphalt elevation in the area around the frame is between +0-+1 cm above the frame. This precaution avoids the asphalt compacting roller from damaging the frame, the product's sound-insulated joint and the shaft seating itself.
- The frame must never be supported on air-bricks or blocks. They may break when the asphalt compacting roller is passed over and result in deterioration of the pavement around the frame.

## 4. MINIMUM DIMENSIONS TABLE FOR THE FORMING BY REFERENCE

Reference	INSIDE FORMING	A x B
1160, 1164, 1174, 2160, 2164, 1184, 2184		1,300 x 1,300
2130, 1168		1,400 x 1,400
1108		1,500 x 1,500
1165		1,200 x 1,200

