



HYPOGEO

Special well for the safe installation and monitoring of drainage systems



IPOGEO is a special inspectionable manhole (inner diameter 800 mm - outer diameter 935 mm; inner diameter 1000 mm - outer diameter 1200 mm) made of double-walled HDPE whose function is to improve the safety conditions of workers during the installation of the drainage panels and to allow the drainage system to be monitored and inspected over time.



IPOGEO can be used:

FIXED for:

- Installation of drainage panels (inspectable by the operator in diameters 1,200-1,500);
- Drain inspection and monitoring over time (diam.800-1200-1500)

MOBILE for:

- Installation of drainage panels (diam. 1.200- 1.500)

Dimensional diagram of the well:

**CONSTRUCTION
DATA**

The manhole is custom-made. Height = between 2 and 6 m

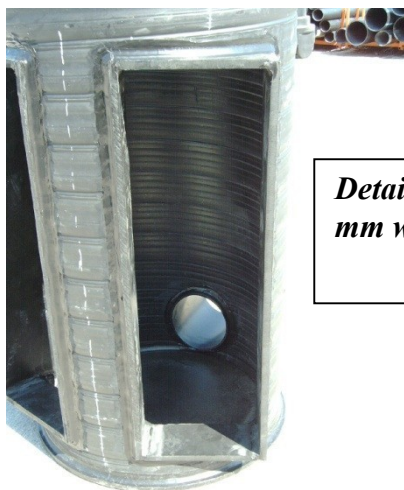
Number of slots = 1 to 3

Slot angle = 30°- 90°

Drain = 160-250 mm



Well 800 mm, slots with angle of 30°



Details of slots $H=1.100\text{mm} \times 350\text{ mm}$ with pipe 250 mm

PHYSICAL AND MECHANICAL CHARACTERISTICS*		
Internal diameter of well (mm)	Weight (kg/m)	Resistance classes **
800	45	1st - 2nd
1,200	70	1st - 2nd - 3rd
1,500	85	1st - 2nd

*of the pipe constituting the well

*the resistance classes are defined on the basis of the 3% deformation undergone by the shaft subjected to vertical load σ_N :

resistance classes	$\sigma_N (\text{kN/m}^2)$
1st	2
2nd	4
3rd	8

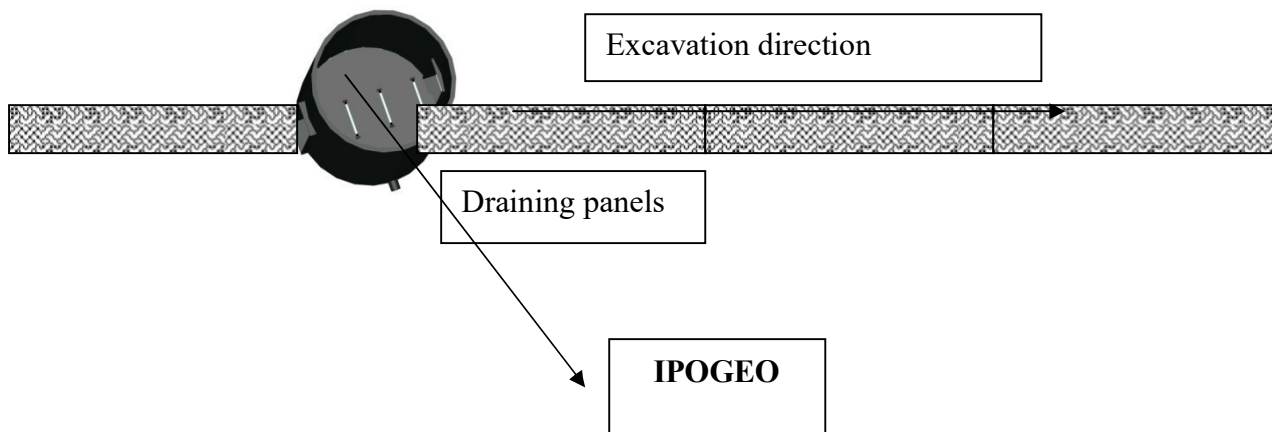


WAYS TO USE

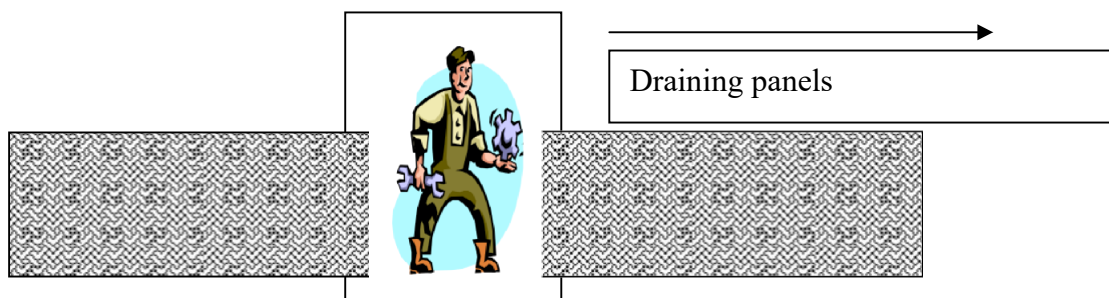
IPOGEO manhole is installed ; after preparing the off-site panel sections, these sections must be inserted into the manhole through one of the **IPOGEO slots** . This way, the panels can be tied partly off-site and partly directly in the excavation, thanks to the protection of the manhole. Inside the manhole, a worker ties the panel sections together, allowing the tied pieces to emerge from the opposite slot.

IPOGEO

(fig.2)-CROSS SECTION



The operator inside the manhole can proceed with tying the drainage panels or carrying out inspections in safe conditions.



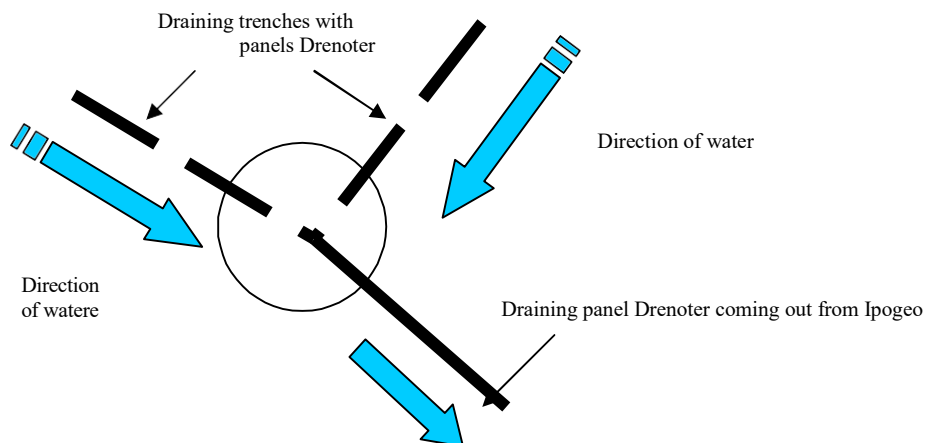


MOBILE IPOGEO (3 fissures 90°)

If the excavation conditions allow it, it is possible to extract the manhole and reuse it elsewhere; if the excavation walls are particularly unstable and it is therefore difficult to recover the manhole intact, it is advisable to leave it inside the excavation and proceed as follows:

1. Convey the drainage trenches into the manhole so as to capture any water coming from upstream;
2. Connect a drain pipe (or another panel, see figure 1) to the connection located at the base of the well, apply the HDPE flange to close the top part of the well.

(figure 4) – CROSS SECTION





FIXED IPOGEOA (3 slots at 120 °C)

- a) If it remains fixed inside the excavation, the **IPOGEO manhole** performs the following functions:
1. Fixed point of connection between drainage panels;
 2. Center for conveying water drained from the panels or any drainage pipes;
 3. Safety -compliant inspection pit

Example: fixed well with three slots (two upstream and one downstream):

