

Elodie Plough

General specifications



Elodie is a strong and robust 3m-plough dedicated for cable burial. Designed and built by SIMEC, producers of some of the world's highest quality submarine burial equipment, Elodie has benefited from high quality feedback from Orange Marine and is the result of 15 years of experience. The engineers, cables ship crews and specialists from Orange Marine have acquired valuable experience in the course of burying over 16,000km of submarine cable in all seas and under all conditions. Elodie has already buried about 6,000km of cable and is able to achieve a trench of 3m depth.

Key cable burial capabilities include:

- Burial to depths up to 3 metres
- Ability to operate in water depths up to 2,000 metres
- Burial in any type of seabed, from hard clay silty sand to soft clay

Elodie combines features developed for earlier SIMEC cable-ploughs with new innovations:

- A single cable for towing and handling greatly simplifies launching and recovery
- A twin flap system for repeater burial
- A «tooth» to penetrate chalky seabeds

Technical characteristics

Physical characteristics

- **Length:** 10.5m
- **Width:** 5m
- **Height:** 5.2m
- **Weight in air:** 31 tons
- **Maximum water depth:** 2,000 m
- **Trench width:** 190 mm
- **Maximum trench depth:** 3.0 m depending on seabed conditions
- **Maximum towing tension:** 40 Nominal / 60 Max.
- **Typical burial speed:** 0.5 knot

Towing cable on traction winch

- **Length:** 4,000 m
- **Breaking strength:** 1,800 kN

Umbilical

- **Floating umbilical:** power / optical fibre
- **Length:** 4,000 m
- **Winch:** 10 tons SWL

Telecommunication cable

- **Max cable diameter:** 70 mm
- **Max diameter of repeater:** 400 mm
- **Mini cable bending radius:** 1.50 m

Instruments

- 4 cameras (3 pan & tilt, 1 wide angle)
- Acoustic transducer
- Sonar - range 300 m
- Distance counter
- Hydrophone
- Water depth, pressures gauges (3)
- Temperature gauges (3)

Control container

- Control console
- Video screens with video recorders

Alarms

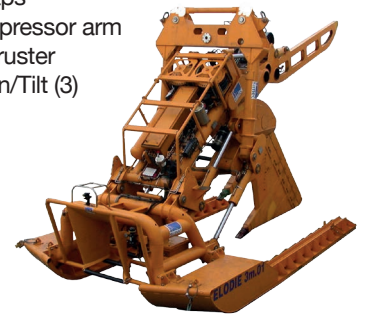
- Share tips (2)
- Umbilical insulation
- Hydraulic temperature
- Water ingress in watertight container

Structure

- Share mobile relative to the frame, skid articulated relative to the structure
- Share and skid in high resistance steel
- Piping and fittings in stainless steel 316L
- Same towing and lifting point
- Cable guided through the share and pushed into the bottom of the trench by depressor arm

Electro-hydraulic power pack enabling to move the following items :

- Ploughshare
- Lifting hoop
- Flaps
- Depressor arm
- Thruster
- Pan/Tilt (3)

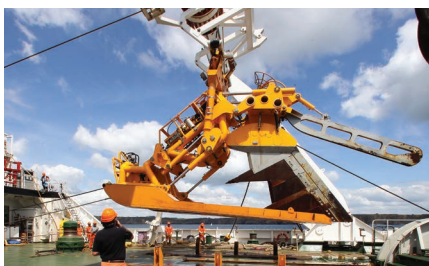


Unique design

SIMEC designed Elodie around the cable it lays, an idea developed in conjunction with Orange Marine. The design features a unique «depressor arm» device, which means Elodie scarcely modifies the natural hang of the cable it lays; it simply guides the cable into the trench.

Stress-free

Elodie's unique cable path places the cable in the trench in such a way that no length of cable is left suspended. Combining technological innovations and a unique overall design, the new generation Elodie ensures minimal stress on the telecom cable constantly.



Down to 2,000 metres

Elodie is designed to operate to depths of 2,000 metres, meeting the deepest standards set by the Australians.

Robust and stable

Elodie is designed to operate on uneven terrain and pushes the limits set by precious ploughs. It is compact, tough, highly stable and designed to take the knocks of underwater works.

Powerful and efficient

A cable-plough's mass and mass distribution have a direct impact on how well it embeds cable. These parameters have been carefully optimized to ensure efficient cable burial at all times.

All seabeds

From the hardest chalks to the softest clay, Elodie constantly adapts the burial depth for optimal cable protection. The design already meets the latest BPI=1 standard (Burial Index Protection).

Permanent control of the burial depth

Elodie consistently ensures uniform burial from 0 to 3 metres. Burial depths can be controlled consistently and accurately because the plough shear penetrates the seabed at a constant angle of incidence.