

Orange Marine cable layer

René Descartes

A laying vessel fully fitted with the highest technology



Tailored-built for Orange Marine in 2002, cable ship Descartes is a versatile, high technology vessel, designed to lay and repair submarine fibre optic systems.

As it is the result of 150 years of business experience, the Descartes combines the benefits of a unique design, modern equipment and the expertise of internationally recognised teams.

In all areas, C/S Descartes is on top level of performance among the units of the latest generation.

All onboard equipment are the result of the most advanced technology, fueled by the feedback of Orange Marine. C/S René Descartes is equipped with submarine vehicles dedicated to laying, repair and survey.

Operational range

This sizeable cable ship may stay at sea during two months on laying operations. Provided with three tanks of 1,000 m³ each plus a spare tank of 200 m³, cable ship Descartes may load 5,800 tons of cable and 184 repeaters.

She is able to lay up to 8,000 km of cable without interruption, the equivalent of a transpacific submarine system.

Speed of response on maintenance operations

In the maintenance field, the time premium is a major factor. Cable ship Descartes offers the fastest speed of

response to repair requirements: she can load the cable with three cable engines and sail at 16 knots. 144.50 meters long and 22 meters large, C/S Descartes is one of the biggest units in the world fleet. She is also one of the most powerful:

- her engine allows her a towing capacity of 125 tons;
- she can tow against strong currents (2 knots) and cross-winds (25 knots).

An unrivaled tailored design

C/S Descartes was designed according to the technical specifications defined by Orange Marine. As she is equipped with the state-of-the-art technologies,

she answers at best the highest market requirements. With 7 thrusters - propellers - and two rudders, C/S Descartes demonstrates good maneuverability and excellent stationkeeping capabilities.

The Dynamic Positioning system interfaced with various positioning systems - differential GPS, taut wire - is securing high levels of sea-keeping capabilities, even at sea state 6.

The three electric cable engines allow accurate cable operations during laying or repair.

Specifications

Entering service: 2002

Registration

- Classification: Bureau Veritas
- Flag: French
- Entering service: 2002
- Notations: AUT-IMS, ICE CLASS IC, DPS-2/FMEA
- OMI: 9248100 - call sign: FNWZ

Main particulars:

- Length overall: 144.50 m
- Breadth: 22 m
- Design draft: 7,40 m
- Full load speed: 16 knots
- Endurance: approx. 13,500 NM at 16 knots
- Traction (bollard pull): over 125 t
- Gross tonnage: approx. 11,700 t
- Deadweight: 8,200 t

Cable capacity:

- Cable: 5,500 t + 300 t
- Repeaters: 184

Cable tanks: 4

- 3 x 16 m each 1,000 m³
- 1 x 7.3 m: 198 m³

Propulsion:

- 4 diesel generator x 4,000 kW
- 2 main shaft x 4,000 kW
- 4 tunnels x 1,500 kW
- 1 forward azimuthing unit x 1,500 kW

DP system:

- DP2 Alstom duplex ADP22

Cable machinery:

- 1 x 20 wp LCE
- 2 x 4 m cable drum
- 2 x 4 wp DO/HB
- 3 x 2 wp LCE transporters

Deck equipment for sea plough:

- 1 x A-Frame x 40 t SWLSS 5
- 1 x 80 MT winch pull
- 1 x 4,000m tow wire
- 10 t/m² deck

ROV facilities:

- Power 225 kW - Weight 9 t
- Burial perf 1.5 m
- Depth 2,000 m

Equipment:

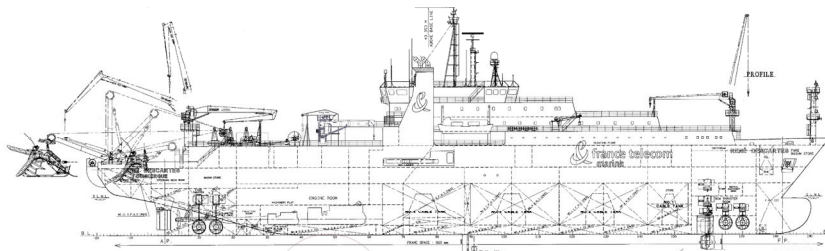
- Echo-sounder 6,000 m / 10,000 m
- HPR: Sonardyne 2,000 m

Accommodation:

- 75 single cabins:
 - 40 crew cabins
 - 30 officer class cabins
 - 5 class captain cabins

Lifting capacity:

- Stern crane 5 t - 14 m / 3 t - 24 m
- ROV crane 9,5 t - 8 m sea state 6
- A-Frame 40 t 12m sea state 5



Onboard equipment

Hector 6 ROV

Hector are powerful and full customised work class ROVs dedicated for cable works. The Hector ROV are specialised in burial by jetting after the laying of repaired cables. They can also operate surveys. Their HD video cameras allow finding cables down to 2,000 m depth.

Capacities:

- Operations: burial, inspection, survey, gripping and cutting
- Power: 225 kW
- Operating depth: 2,000 m
- Trenching depth: 1.5 m
- Speed trenching: 750 m/h
- Speed free swimming: forward 2.5 knots
- Speed on tracks: 2500 m/h



Elodie Plough

Elodie is a strong and heavy 3m plough dedicated for cable works. Completely designed and manufactured by SIMEC. The plough Elodie has already buried more than 5000km of cable.

Capacities:

- Operations: simultaneous laying and burial.
- Power: 20kw of hydraulic power
- Operating range: up to 2,000 m
- Cable diameter: up to 150mm
- Burial depth: up to 3m
- Laying speed: 0.6 knots
- Traction force: 40 T nominal, 60 T peak

