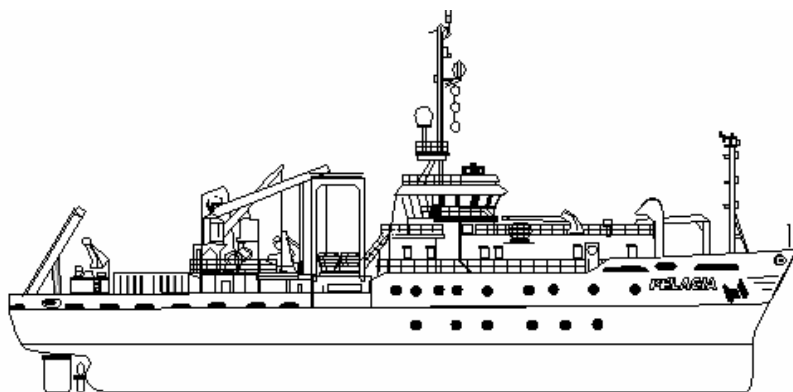


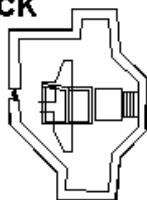
# RV PELAGIA



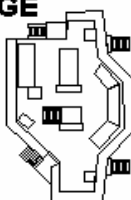
## RV PELAGIA G/A Plan and deck lay-out



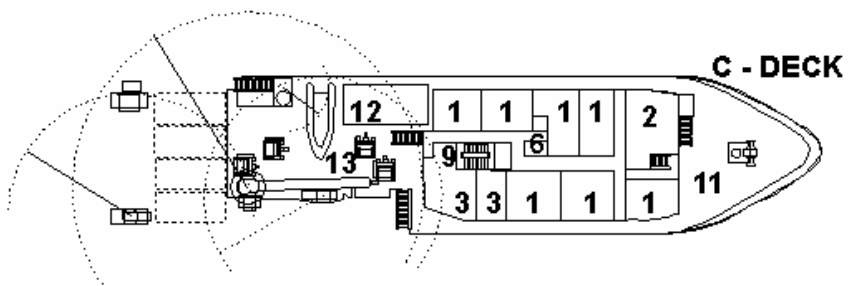
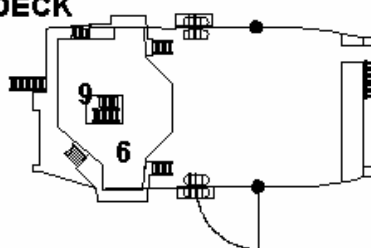
**TOPDECK**



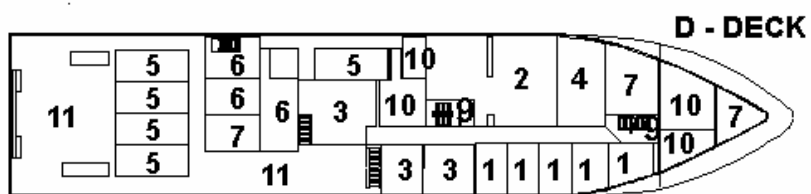
**BRIDGE**



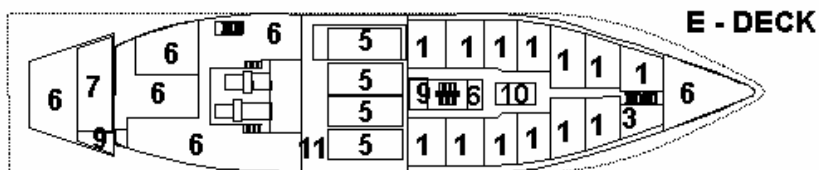
**B - DECK**



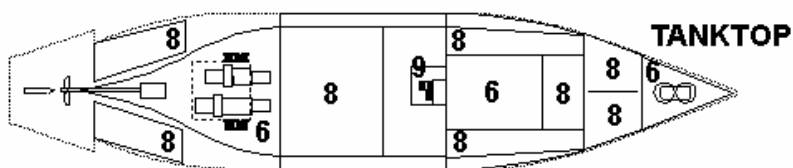
**C - DECK**



**D - DECK**



**E - DECK**



**TANKTOP**

1	Single cabins
2	Mess/lounge Meetingroom
3	Laboratories
4	Galley
5	Containers
6	Technical spaces
7	Stores
8	Tanks
9	Staircase
10	Public space
11	Workspace
12	Hatch
13	Winch deck

# Research Vessel PELAGIA

## NIOZ Royal Netherlands Institute for Sea Research

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## \_\_\_\_SHIPDATA\*\_\_\_\_

### OWNER

NIOZ Royal Netherlands Institute for Sea Research  
Acronym: NIOZ  
Part of: Netherlands Organization for Scientific Research (NWO)  
Address: Landsdiep 4, 1797 SZ, 't Horntje, Texel, the Netherlands  
Postal address: P.O. Box 59, NL-1790 AB Den Burg, the Netherlands  
Phone: (+31) (0)222 369 300 (reception)  
Fax: (+31) (0)222 319 674  
URL: [www.nioz.nl](http://www.nioz.nl)

### REGISTRATION & CLASSIFICATION

Port of registration: Texel, the Netherlands  
Classification: Bureau Veritas  
1 3/3 E ✱ Special Service/Research vessel/Deep Sea Ice 111. AUT. MS  
Official Dutch registry nr: 18179 ZR 1991  
IMO nr: 9001461  
IMO Company Identification nr: 0254401

### SHIP / SHORE COMMUNICATION

Call Sign: PGRO  
Internet data and telecommunication: Seatel 4010, 40 inch dish, 8W Buc and quad LNB  
Internet tel. nr. \*\*: (+31)(0)10-71 30 742 (bridge; in operation)  
Internet tel. nr. \*\*: (+31)(0)10-71 30 743 (hospital; not yet operational)  
Internet tel. nr. \*\*: (+31)(0)10-71 30 744 (meeting room; not yet operational)  
Internet tel. nr. \*\*: (+31)(0)10-71 30 745 (computer room; not yet operational)  
Satellite tel., Fax, TV & data comm.: Mini Fleet 33  
Satcom. Phone nr. \*\*: +870.763964127  
Satcom. Fax nr: +870.764091188  
Data communication: Satcom C  
GSM nr \*\*: +31(0)6-51338399  
Radio transceivers: Sailor MF/HF/VHF

### PARTICULARS

Length over all: 66.05 m  
Beam: 12.80 m  
Depth molded: 6.80 m  
Summer draft: 4.00 m  
Gross tonnage: 1615 tonnes  
Nett tonnage: 484 tonnes  
Displacement: 1671 tonnes  
Deadweight: 525 tonnes  
Cruising speed: 10 knots  
Fuel consumption at cruising speed: 6 m<sup>3</sup> per day

*\*: Please note that these specifications can be subject to change without prior notice. Although great care was taken to present the correct data, this cannot be guaranteed. Information can be obtained from the head of the Ship's Management & Logistics department, Mr. T.C.J. (Theo) Buisman, E-mail: [theo.buisman@nioz.nl](mailto:theo.buisman@nioz.nl) ; T: +31(0)222 369 375. Date of issue: 15 September 2010.*

*\*\* : The (+31(0)10 numbers of the Seatel 4010 provide an almost world-wide connection at comparatively low cost. However, when the circumstances justify the choice of the best connection at considerably higher costs, the +870 Satcom satellite telephone number should be used. The GSM number works only in harbours or in the immediate vicinity of the coast.*

### **TANK CAPACITIES**

Fuel oil:	200 m <sup>3</sup>
Fresh water:	80 m <sup>3</sup>
Clean seawater:	23 m <sup>3</sup>
Ballast water:	210 m <sup>3</sup>
Anti rolling tanks:	2 x 45 m <sup>3</sup>
Gray water:	1 x 32 m <sup>3</sup> + 1 x 10.8 m <sup>3</sup>
Lubricating oil:	7.5 m <sup>3</sup>
Hydraulic oil:	3 m <sup>3</sup>
Used oil:	4.5 m <sup>3</sup>
Sludge:	2.8 m <sup>3</sup>

### **ACCOMODATION**

Cabins:	25 single berth + toilet / shower (Upon request, double berth occupation is available in 9 cabins)
Crew:	11 persons
Scientists and/or technical assistants:	14/23 persons
Messroom + lounge:	28 m <sup>2</sup> + 25 m <sup>2</sup>
Meeting room:	18 m <sup>2</sup>
Gymnasium:	in the hold
Laundry:	12 m <sup>2</sup>
Changing room:	16 m <sup>2</sup> + toilet and shower
Air conditioning:	suitable for tropics

### **SAFETY EQUIPMENT**

Man overboard boat:	1 x 6 persons
Life rafts:	4 x 25 pers. dinghy + 34 survival suits
Fire-alarm system:	Eltek (Honeywell)
Engine room:	CO <sub>2</sub> fire extinguishing system

### **MAIN DIESELENGINES - ALTERNATOR DRIVE**

Port:	Caterpillar 3508B DITA - 856 bkW @ 1500 Rpm
Starboard:	Caterpillar 35012B DITA - 1020 bkW @ 1500 Rpm

### **PROPULSION - ALTERNATORS**

Port side:	1000 kVA – Main diesel driven
Starboard:	1130 kVA – Main diesel driven
Voltage:	3 x 660 Volt

### **PROPULSION - ELECTRIC MOTOR**

Power:	1000 kW
Voltage:	3 x 660 Volt
Revolutions, thyristor contr:	1000 - O - 1000 rpm

### **PROPELLOR**

Number:	1 - with fixed pitch
Revolutions:	230 - O - 230 rpm

### **BOW THRUSTER**

Type:	Omni-directional
Power - Thrust:	450 kW - 4200 kg thrust power
Voltage:	3 x 660 Volt
Revolutions / drive:	O - 600 rpm / electro motor

## **ELECTRIC SUPPLIES**

Boardnet alternators:	2 * main diesel driven
Power:	275 kVA each
Boardnet supply:	3 x 380 Volt - 50 Hz, max 125 Amp.
Laboratory supply:	via trafo 3 x 380 Volt + zero - 50 Hz, max 80 KVA
Container laboratory supply:	via trafo 3 x 380 Volt + zero - 50 Hz, max 80 KVA
Laboratory supply:	220 Volt-single phase - 50 Hz
Lab supply via UPS:	2 x 10 kVa, 220 Volt stabilised - 50 Hz
Shore connection:	3 x 380 Volt - 125 Amp.
Aft ship; sockets:	2 x 32 Amp, 3 x 380 Volt + zero - 50 Hz

## **HARBOUR -/- EMERGENCY SET**

Engine:	Cat 3406 DITA
Power:	288 kVA
Voltage:	3 x 380 V - 50 Hz

## **SPECIAL SYSTEMS**

RO water maker :	Capacity 5m <sup>3</sup> /day
Water Ballast Treatment system:	Hyde Marine Guardian 60 (60 m <sup>3</sup> /hr)
Air cooled container hold	
Refrigerators and freezers for sample storage up to - 80°C for biochemical purposes	
CCTV system for observation of work deck	

## **NAVIGATION SYSTEMS**

Auto pilot (adaptive):	C. Plath Navipilot type V HSC
Arpa radar:	Manta Digital 20" Desktop (10 kW X Band)
Arpa radar:	Manta Digital 20" Desktop (Sharp Eye S Band)
Ecdis:	Manta Digital 20" Desktop Dual Ecdis
SB Wing console:	20" Wing display, Ecdis with Radar overlay
Speedlog:	JRC JLN-205 Doppler log
Echosounder:	Skipper GDS-102 Dual frequency (50/200)
Deep sea echosounder	Kongsberg/Simrad EA 600 System 12 kHz
Direction finder:	Furuno VHF Model FD525
GPS Beacon Receiver:	Linemaster
DGPS:	2x SIMRAD MX500 DGPS
Gyro compass	C. Plath Navigat X MK2

## **NAUTICAL INSTRUMENTS**

NAVTEX Receiver:	JRC NCR 333
Marine Weather Information Service:	MetManager (ChartCo)
Direction finder VHF:	(Optional)
Ship Security Allert System SSAS:	Furuno Felcom 12
AIS	Furuno FA-100

## **LABORATORIES -- DECKSPACE -- WORKSHOPS**

### **Fixed laboratories**

Computer room:	8 m <sup>2</sup> on C-deck
Measuring room:	20 m <sup>2</sup> on C-deck
General wet lab:	30 m <sup>2</sup> on D-deck
Dry laboratory:	15 m <sup>2</sup> on D-deck
Wet chem. lab:	15 m <sup>2</sup> on D-deck

## **Additional facilities to enable (special) expeditions**

### **Containerised laboratories**

In total 24 containerised Laboratories

6 general - wet lab

3 auto analyser labs

2 clean labs

1 clean CTD sample lab

4 Temperature controlled labs

2 isotope-labs (C-14)

1 fish processing lab

1 incubation lab

1 seismic lab with separate compressor container

1 ScanFish system lab

1 Oxygen/Sodium chloride temp. controlled lab

1 XRF lab

Other facilities:

1 office/data container

1 cold storage container (+15/-15)

1 workshop physics

To facilitate transport and/or on board storage of equipment:

15 transport containers

4 flat racks

Total container capacity:

3 + 1 (spare) - on D-deck aft ship

1 - in hold on D-deck

4 - in hold on tanktop

Workspace D-deck:

135 m<sup>2</sup> without containers

75 m<sup>2</sup> with 4 containers

Deck workshop:

20 m<sup>2</sup> on D-deck

Engine room workshop:

25 m<sup>2</sup> on E-deck

### **GASSES** to laboratories and lab containers

Bottles with Nitrogen--Hydrogen--Oxygen--and 1 choice gas can be connected up in a gas station on the aft. deck where the pressure will be reduced to approx 6 bar.

Dry compressed air and propane are also available.

## **DATA COMMUNICATION SYSTEM**

Network infrastructure:

Gigabit Ethernet (UTP)

Internet:

Via VSAT available on PC at bridge when in VSAT coverage area

PC network software:

Windows networking plus Active Directory, Outlook Web Access for email

Server:

VMWare cluster with Windows 2008 and Linux servers for AD, fileserver, Exchange mail and data logging

Peripherals:

2 Kyocera FS-C5300DN KX color laser printers (Bridge and meeting room)

E-mail:

If VSAT Connection is available, maximum message size is 5MB and mail is delivered with an interval of 10 minutes. If VSAT is not available, messages are received/sent once per hour via Fleet77 with a maximum message size of 100 Kbytes

## **SCIENTIFIC EQUIPMENT** (permanently installed)

Acoustic positioning system (USBL):

Kongsberg HiPAP 100, 12kHz, range 10 km

Scientific echo sounder:

Kongsberg EM302 Swath Multibeam with ping and chirp mode with Seapath GPS and motion sensors, 1° x 2°, 30 kHz, swath 4200 m at 5 km water depth.

Echosounder 3.5 kHz:

Oretech 3010 10kW Echo sounder 3.5 kHz and EK500 echo sounder

CTD / rosette sampler:

Seabird

Aqua flow system:

Seabird SBE21 plus clean seawater Membrane pump

Meteo system:

KNMI (Koninklijk Nederlands Meteorologisch Instituut)

**SCIENTIFIC EQUIPMENT** (semi-permanent)

Acoustic Doppler Current Profiler:	R & D Hull mounted
Boxcores:	Various types
Pistoncore:	Up to 24 meter at 8000m depth
Vibrocore:	Up to 6 meter at 100m depth
Fishing nets:	Various types

**DATA ACQUISITION and PROCESSING SYSTEM**

Manufacturer:	Ifremer (France)
Type:	TECHSAS, CASINO+ and SDIV+
Position from:	Simrad GPS and Seapath GPS
Course from:	Gyro compass and Seapath GPS
Depth from:	Skipper, Kongsberg EA600 and multibeam center depth
Wind speed from:	KNMI instruments
Wind direction:	KNMI instruments
Air temperature from:	KNMI instruments
Relative humidity:	KNMI instruments
Barometric pressure:	KNMI instruments
Solar radiation from:	KNMI instruments
Surface seawater from:	Seabird SBE21
Fluorescence from:	Seabird SBE21
Temperature from:	Seabird SBE21
Salinity:	Seabird SBE21
Turbidity from:	Seabird SBE21

<b>SIDE - A - FRAME:</b>	on C-deck starboard
Swl:	10 tonnes
Reach-outb/inboard:	3 m / 3m
Height above deck:	8 m
Framewidth:	3 m
Control:	bridge + on site (remote)

**SIDE-WINCHES** (hydraulic driven)

<b>CTD WINCH:</b>	on C - deck sb
Max pull:	5 tonnes
Rochester wire/type:	1-H-285A (1 conductor)
Wire size:	0.288" = 7.32 mm
Wire length:	8300 m
Workload:	18.5 KN (4150 lbf)
Breaking strength (min):	46.3 KN (10400 lbf)
Slipring - Rekofa:	SM16-500 4 poles
Wave compensation:	spring compensator
Control:	bridge + on site (remote)

<b>SIDE WINCH:</b>	on C - deck sb
Max pull:	10 tonnes
Wire:	steel 3 x 36 Seale-Filler +twk
Wire size/length/strength:	14 mm / 3000 m / 131 kN
Control:	bridge + on site (remote)

<b>AUXILIARY WINCH:</b>	in side-frame
Max pull:	5 tonnes
Wire:	steel 6 x 36
Wire size / length:	14 mm / 100 m
Control:	bridge + on site (remote)

<b>HYDROGRAPHIC WINCH:</b>	
Max pull:	200 kg
Wire:	stainless steel
Wire size / length:	6 mm / 500 m
Control:	D-deck midship starboard, valve



**Additional****Deep Sea Winch:**

Make:

With Opto Electrical Mechanical (OEM) Aramid cable  
Kley France on a 20 feet container frame  
Dedicated hydraulic and electric power supply in a 10 feet container

Ships Power supply needed:

3 phase / 380V/ 230Amp. (fused: 160 Amp.)

Max. pull winch:

9 tonnes

Brake force:

20 tonnes

Max. speed:

120 m/min (2 m/sec)

Wire:

Super Aramid

Wire size / length:

20 mm/9,400 m

Max work load wire:

4 tonnes

Cable conductors:

6 x 0,36 mm<sup>2</sup> copper

Cable Optic Fibres:

4 single mode submarine grade optic fibres

Control:

Remote (Radiographic PLC controlled).

Other facilities:

Additional winches:

3 with a container base frame

**STERN-A-FRAME**

Swl:

10 tonnes

Reach-outboard/inboard:

3 m / 5.5 m

Height above deck:

8 m. working height

Frame width:

6.5 / 8 m - total width 12 m

Control:

bridge and cabin aft deck, + remote

**STERN-WINCHES** (hydraulic driven)**TOWING WINCH:**

on C-deck aft.

Max pull:

5 tonnes

Wire size:

To be selected, bare drum

Wire length:

Up till 1200 m possible

Slipring - Rekofa:

SM16-500 12 poles

Control:

bridge and cabin aft deck, + remote

**STERN WINCH:**

on C - deck aft

Max pull:

10 tonnes

Wire:

steel, 3 x 36 Seale-Filler +twk

Wire size / length:

14 mm / 4000 m / 131 kN

Control:

bridge and cabin aft deck + remote

**AUXILIARY WINCH:**

2\* in stern frame

Max pull:

5 tonnes

Wire:

steel, 6 x 36

Wire size / length:

14 mm / 100 m

Control:

cabin aft deck + on site (remote)

**CAPSTAN (Anchor winch):**

Electric driven, 1 on C-deck fwd.

Max pull:

5 tonnes

Control :

Local

Anchors:

2 x type Pool-TW a 1080 kg

Chain:

2 x 220 m

**CAPSTAN:**

Hydraulic driven, 2 x on D-deck aft. ship

Max pull:

5 tonnes

Control :

D-deck aft

**OUTRIGGER:**

2 pc a 6 m

Location:

port + starboard side of stern frame

## **CRANES**

### **CONTAINER-CRANE:**

Lifting capacity - swl: 10 / 7.5 tonnes  
Reach min - max: 2.1 - 15.5 m  
Slewing angle: 360° continuous

### **CONTAINER HOIST:**

Lifting capacity - swl: 2 x 2 x 2500 kg  
Reach: travelling through hold  
Control: on site (remote)

### **FOLDING CRANES:**

Lifting capacity - swl:	1 on SB C-deck 2.5 tonnes	1 on SB D-deck aft 3.6 tonnes
Reach min - max:	0.6 - 9.9 m	0.6 – 10.75 m
Slewing angle:	360 ° continuous	360° continuous
Control:	on site (remote)	on site (remote)
Hydraulic system:	200 bar central system	independent 300 bar Power Pack

### **M.O.B. CRANE:**

Lifting capacity - swl: On funnel  
1100 kg  
Reach - fixed: 3.40 m  
hoisting speed: 18 m / min  
Control: Remote lowering / el. hydr. hoist

### **LIFE RAFT CRANES:**

Lifting capacity - swl: On C-deck fwd- 1 x port and 1 x starboard  
2.1 tonnes  
Reach - max: 4.35 m  
Lowering speed: 30 - 40 m / min  
Control: Remote-lowering-hand hoist