

MULTI-PURPOSE SURVEY & SUPPORT VESSEL

## **MPSV NG WORKER**



Owned and operated by Next Geosolutions (NextGeo), the NG WORKER is a versatile offshore DP2 multi-purpose support vessel, providing integrated geoscience survey and construction support services worldwide.

She is equipped with most advanced survey systems and is fitted for deployment of two deep-water work-class ROVs simultaneously, one through a sheltered moonpool and one in a dedicated hangar, thus being permanently equipped with at least one 5000m rated work-class 150hp Schilling HD ROV.

Acquired by NextGeo in 2020, the NG WORKER delivers a wide range of services, including Marine Geophysical, Geotechnical and UXO Surveys, as well as Offshore Construction Support Services and Subsea Operations.

### **MAIN CHARACTERISTICS**

- Kongsberg class DP2 system
- Kongsberg HiPAP 502 USBL system
- Active Heave Compensated 50t offshore crane
- Fitted for 2x Schilling HD 5000m WROVs
- 1 x ODIM AHC A-frame
- 1 x ODIM Moonpool LARS installed in 50ft tower
- Accommodation for 66 persons
- 630 m<sup>2</sup> deck area plus 270 m<sup>2</sup> cargo holds
- Voith Schneider propulsion with active roll stabilization
- ERN 99,99,95



## VESSEL SPECIFICATIONS

### GENERAL INFO

|                         |                                                               |
|-------------------------|---------------------------------------------------------------|
| <b>Vessel Name</b>      | NG WORKER                                                     |
| <b>Builder</b>          | Fjellstrand AS, Norway                                        |
| <b>Year of Build</b>    | 2009                                                          |
| <b>Flag</b>             | Italian                                                       |
| <b>Port of registry</b> | Naples                                                        |
| <b>IMO</b>              | 9533244                                                       |
| <b>Call sign</b>        | ICID                                                          |
| <b>Classification</b>   | RINA, AUT-UMS, CLEAN, COMF-<br>NOISE, COMF-VIB-C, DYNAPOS DP2 |
| <b>ERN</b>              | 99,99,95                                                      |

### MAIN ENGINES & GENERATORS

|                        |                                   |
|------------------------|-----------------------------------|
| <b>Main engines</b>    | 4 x Cummins QSK 60DMI 4 x 1800 kW |
| <b>Generators</b>      | 4 x 1800 kW Stern                 |
| <b>Thrusters/Prop.</b> | 2 x 2500 kW Voith                 |
| <b>Fwd Thrusters</b>   | 2 x 1000 kW Tunnel                |
| <b>Fwd Azimuth</b>     | 1 x 1000 kW Azimuth               |

### PRINCIPAL DIMENSIONS

|                            |                    |
|----------------------------|--------------------|
| <b>Length Overall</b>      | 88.80 m            |
| <b>Length between P.P.</b> | 78.15 m            |
| <b>Breadth</b>             | 16.00 m            |
| <b>Draft lightship</b>     | 5.70 m             |
| <b>Draft maximum</b>       | 7.15 m             |
| <b>Draft minimum</b>       | 6.30 m             |
| <b>Deck space</b>          | 630 m <sup>2</sup> |
| <b>Gross tonnage</b>       | 3923 tonnes        |
| <b>Net Tonnage</b>         | 1177 tonnes        |

### CAPACITIES

|                               |                           |
|-------------------------------|---------------------------|
| <b>Cargo holds</b>            | 270 m <sup>3</sup>        |
| <b>Water ballast (approx)</b> | 1168 m <sup>3</sup>       |
| <b>Fresh water (approx)</b>   | 671 m <sup>3</sup>        |
| <b>Fresh water production</b> | 10-15 m <sup>3</sup> /day |
| <b>Fuel oil (approx)</b>      | 900 m <sup>3</sup>        |
| <b>Endurance at sea</b>       | Approx. 50 days           |

## VESEL SPECIFICATIONS

### SPEED

|                     |          |
|---------------------|----------|
| Economical Speed    | 9 knots  |
| Service speed       | 11 knots |
| Max speed (approx.) | 12 knots |

### MAIN CRANE

|                      |                               |
|----------------------|-------------------------------|
| Model                | National Oilwell Offshore AHC |
| Main winch (dual)    | 50 t / 8m radius              |
| Main winch           | 50 t / 20m radius             |
| Wire length main     | 3000 m                        |
| Max outreach         | 30 t / 25 m radius:           |
| Hook speed full load | 0-30 m/min                    |
| Hook speed light     | 0-60 m/min                    |
| Aux winch            | 10 t / 26 m radius            |
| Wire length aux      | 100 m                         |
| Tugger winch         | 3 t                           |

### DECK CRANES

|              |                                                        |
|--------------|--------------------------------------------------------|
| Deck crane 1 | 1x Palfinger 32002 on moonpool tower, 6t / 4.5m radius |
| Deck crane 2 | 1x Palfinger 4501A in ROV hangar 780kg / 5m radius     |

### ACCOMMODATIONS

|               |                                |
|---------------|--------------------------------|
| Total         | 66 persons                     |
| Berths        | 10 x 1 / 28 x 2                |
| Lounge        | 1 x 40 m <sup>2</sup>          |
| Mess room     | 1 x 80 m <sup>2</sup>          |
| Meeting room  | 1 x 15 m <sup>2</sup>          |
| Online room   | 1 x 25m <sup>2</sup>           |
| Offline/Geo   | 1 x 40 m <sup>2</sup>          |
| ROV ctrl room | 1 x 31 m <sup>2</sup>          |
| Office        | 1 x 15 m <sup>2</sup> (client) |
| Hospital      | 1 x 14 m <sup>2</sup>          |
| Gym           | 1 x 23m <sup>2</sup>           |

### NAVIGATION / DP SYSTEM

|                |                                                                      |
|----------------|----------------------------------------------------------------------|
| Radar:         | 1x Furuno 10cm (S-band) w/Arpa<br>1x Furuno 3cm (X-band 9Ghz) w/Arpa |
| Gyro           | 3x Gyro compasses                                                    |
| GPS            | 2x DGPS Systems                                                      |
| Additional DP  | Taut wire                                                            |
| Heading Sensor | 1x Seapath 200                                                       |
| MRU            | 3x Kongsberg MRU 5                                                   |
| DP             | 2x Kongsberg DP Op. Stations                                         |
| Sensors        | 2x wind sensors                                                      |
| Echo Sounder   | 1x navigation echo sounder                                           |
| Speed Log      | 1x speed log                                                         |
| ECDIS          | Dual ECDIS paperless navigation                                      |
| USBL           | 1x HiPAP 502                                                         |



## VESEL SPECIFICATIONS

### COMMUNICATION EQUIPMENT

|                     |                                                              |
|---------------------|--------------------------------------------------------------|
| <b>VHF</b>          | 2 x VHF w/DSC, 2 x VHF                                       |
| <b>MF / HF</b>      | 1 x MF/HF w/DSC                                              |
| <b>Inmarsat</b>     | 2 x Inmarsat-C with SSAS alarm                               |
| <b>GMDSS</b>        | 1 x GMDSSA3                                                  |
| <b>Fleet</b>        | 1 x Fleet 77 w/fax & interface to DP                         |
| <b>Navtex</b>       | 1 x Navtex                                                   |
| <b>VSAT</b>         | 2 x Ku-band VSAT                                             |
| <b>GSM</b>          | 1 x GSM mobile phone                                         |
| <b>Portable VHF</b> | 3x Portable VHF (GMDSS) (emergency)                          |
| <b>UHF</b>          | Portable & stationary, available for internal communications |
| <b>ClearCom</b>     | Available in office and ops areas                            |

### ROV VEHICLES & LARS

#### ROV 1

- Schilling HD 5000 m Work Class ROV
- ODIM A-frame installed in ROV hangar
- AHC winch with 5500m umbilical capacity

#### ROV 2 (temporarily removed)

- Schilling HD 5000 m Work Class ROV
- ODIM LARS installed in moonpool
- AHC winch with 5500m umbilical capacity

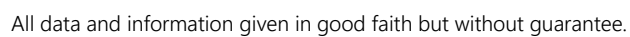
### ROV HANGAR

A **ROV hangar** is located aft of the accommodation area. The hangar can be closed to function as a protected work area for storage, maintenance and handling of the ROV systems. The vessel also has an in-house ROV control room and a ROV mechanical/electrical workshop.

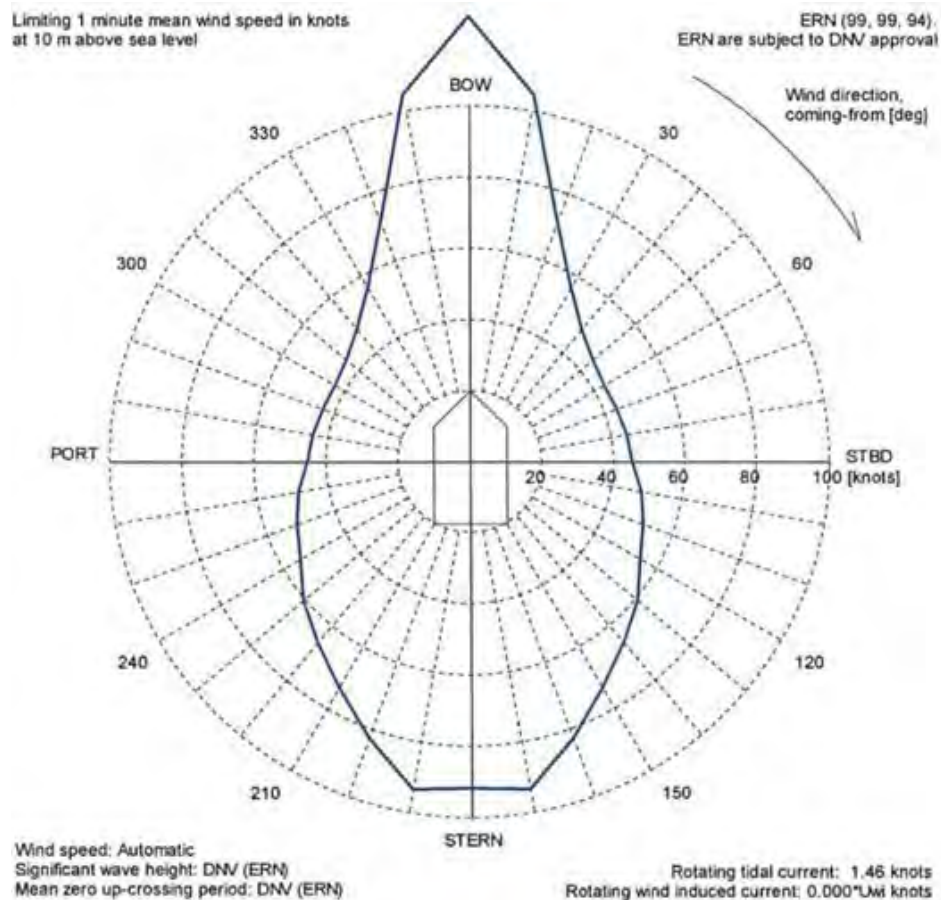


### FUEL CONSUMPTION

| Operating situation         | Sea state        | Fuel consumption/day |
|-----------------------------|------------------|----------------------|
| Max transit speed           | Light            | 18-22 tonnes         |
| 11-12 knots transit speed   | Moderate - Heavy | 12.5 - 15 tonnes     |
| 11-12 knots transit speed   | Light            | 10.5 - 12.5 tonnes   |
| 9-10 knots economical speed | Moderate         | 9.5 - 10.5 tonnes    |
| DP                          | Heavy            | 10 - 11 tonnes       |
| DP                          | Moderate         | 8 - 9 tonnes         |
| DP                          | Light            | 7 tonnes             |
| In port                     | n/a              | 2 - 3 tonnes         |

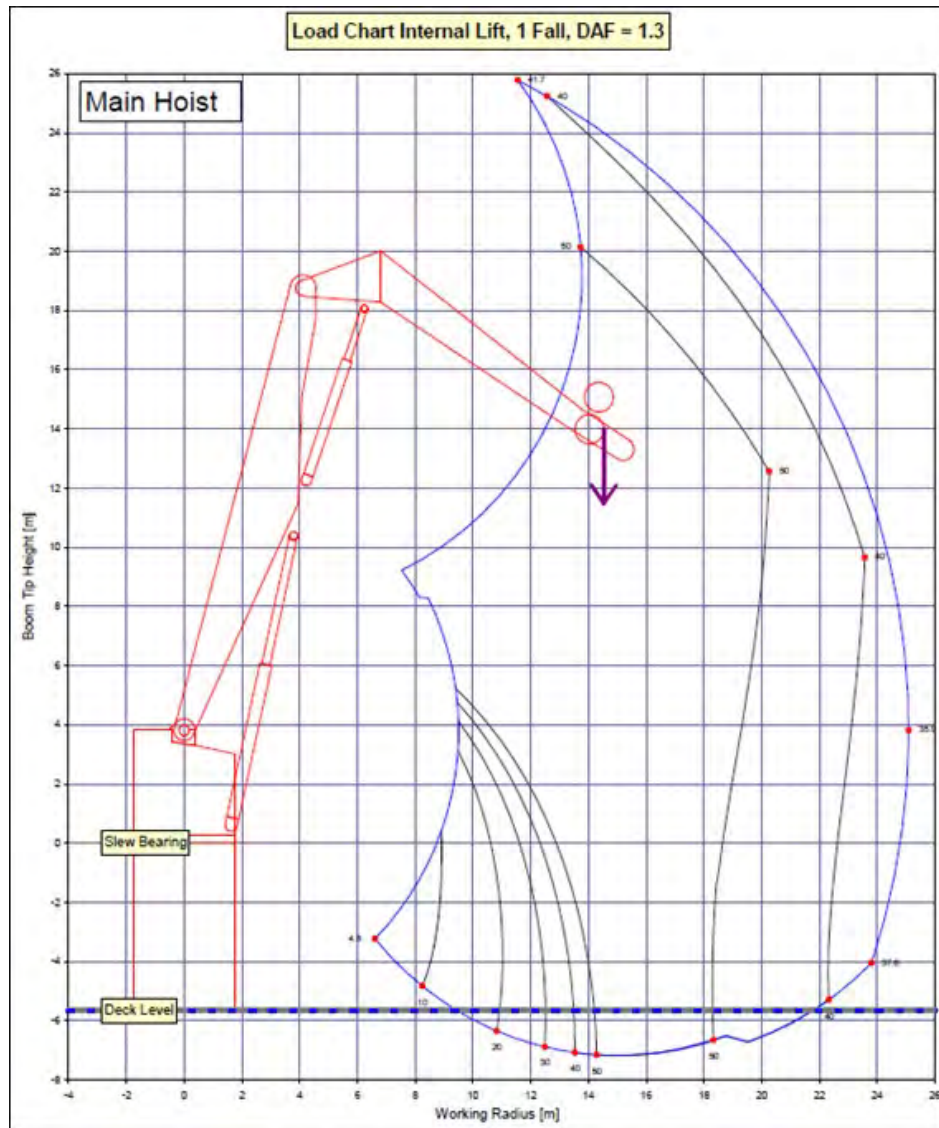


## DP CAPABILITY PLOT



|                                    |       |                                     |         |         |         |         |        |  |
|------------------------------------|-------|-------------------------------------|---------|---------|---------|---------|--------|--|
| Input file reference               | :     | Foot_2653.scp                       |         |         |         |         |        |  |
| Last modified                      | :     | 2009-01-30 09.30 (v. 2.7.0)         |         |         |         |         |        |  |
|                                    |       |                                     |         |         |         |         |        |  |
| Length overall                     | :     | 88.8 m                              |         |         |         |         |        |  |
| Length between perpendiculars      | :     | 78.2 m                              |         |         |         |         |        |  |
| Breadth                            | :     | 16.0 m                              |         |         |         |         |        |  |
| Draught                            | :     | 5.7 m                               |         |         |         |         |        |  |
| Displacement                       | :     | 5200.0 t (Cb = 0.71)                |         |         |         |         |        |  |
| Longitudinal radius of inertia     | :     | 19.5 m (= 0.25 * Lpp)               |         |         |         |         |        |  |
| Pos. of origin ahead of Lpp/2 (Xo) | :     | 0.0 m                               |         |         |         |         |        |  |
| Wind load coefficients             | :     | Calculated (Blendermann)            |         |         |         |         |        |  |
| Current load coefficients          | :     | Calculated (Strip-theory)           |         |         |         |         |        |  |
| Wave-drift load coefficients       | :     | Database (Scaled by Breadth/Length) |         |         |         |         |        |  |
|                                    |       |                                     |         |         |         |         |        |  |
| Tidal current direction offset     | :     | 0.0 deg                             |         |         |         |         |        |  |
| Wave direction offset              | :     | 0.0 deg                             |         |         |         |         |        |  |
| Wave spectrum type                 | :     | JONSWAP (gamma = 3.30)              |         |         |         |         |        |  |
| Wind spectrum type                 | :     | NPD                                 |         |         |         |         |        |  |
| Current - wave-drift interaction   | :     | OFF                                 |         |         |         |         |        |  |
| Load dynamics allowance            | :     | 1.0 * STD of thrust demand          |         |         |         |         |        |  |
| Additional surge force             | :     | 0.0 tf                              |         |         |         |         |        |  |
| Additional sway force              | :     | 0.0 tf                              |         |         |         |         |        |  |
| Additional yawing moment           | :     | 0.0 tf.m                            |         |         |         |         |        |  |
| Additional force direction         | :     | Fixed                               |         |         |         |         |        |  |
| Density of salt water              | :     | 1026.0 kg/m³                        |         |         |         |         |        |  |
| Density of air                     | :     | 1.226 kg/m³ (15 °C)                 |         |         |         |         |        |  |
|                                    |       |                                     |         |         |         |         |        |  |
| Power limitations                  | :     | OFF                                 |         |         |         |         |        |  |
| Thrust loss calculation            | :     | ON                                  |         |         |         |         |        |  |
|                                    |       |                                     |         |         |         |         |        |  |
| # Thruster                         | X [m] | Y [m]                               | F+ [tf] | F- [tf] | Max [%] | Pe [kW] | Rudder |  |
| 1 TUNNEL                           | 31.4  | 0.0                                 | 12.2    | -12.2   | 100     | 1000    |        |  |
| 2 TUNNEL                           | 27.9  | 0.0                                 | 12.2    | -12.2   | 100     | 1000    |        |  |
| 3 AZIMUTH                          | 19.3  | 0.0                                 | 16.3    | -9.5    | 100     | 1000    |        |  |
| 4 AZIMUTH                          | -39.2 | -3.5                                | 40.8    | -23.8   | 100     | 2500    |        |  |
| 5 AZIMUTH                          | -39.2 | 3.5                                 | 40.8    | -23.8   | 100     | 2500    |        |  |

## AHC CRANE CURVE



- Max lift capacity (dual): 100 t/ 8 m
- Max lift capacity (single): 50 t/ 20 m
- Max outreach: 30 t/ 25 m
- Wire length: 3000 m
- Hook speed fully loaded: 0-30 m/min
- Hook speed light load: 0-60 m/min