



DP MSV KREUZ INSTALLER

GENERAL SPECIFICATIONS

CAPABILITIES

The vessel has unique characteristics in terms of size and versatility that enables it to perform a wide range of oilfield construction tasks. It has more than 1,700 m² of open deck space and can carry 2,500 Te of anchor chain in below deck storage. This enables a full range of FPSO installation equipment to be carried simultaneously such as flexible pipeline/umbilical reels, permanent mooring anchors, wire rope reels, buoys, ROVs etc. The Kreuz Installer is capable of installing and pre-tensioning anchor systems up to a maximum of 1,00 Te load. The Kreuz Installer's craning capacity and configuration, coupled with her free deck space enables the vessel to install long and multidimensional spool pieces with ease and efficiency. The height of the cranes permits platform access and also the installation of rigid steel risers using the 'stalk on' method, whilst maintaining station on DP. The vessel's extensive deck storage, together with its large crane capacity and economical operation in all modes, makes the Kreuz Installer an exceptional solution to subsea development and FPSO project requirements, including:

- Floating production system installations
- Flexible flow line laying, recovery and repairs
- Umbilical laying, recovery and repairs
- Spool piece installation and tie-ins
- Subsea pipeline repairs, pigging and testing
- Hookup services and support
- Platform and riser repairs
- SBM installations, repairs and removal

DIVING SYSTEM

The saturation diving system is capable of supporting a total of 16 divers in 4 living chambers allowing for split-level diving. The system is rated to 300msw. The 3-man bell is launched and recovered through a centerline moon pool. A containerized air diving system and associated winches and A-frame can readily be fitted on deck to existing connections. The vessel has a davit launched, self-propelled hyperbaric lifeboat for 16 divers and 3 crew.

MACHINERY/PROPULSION

The vessel is powered by 5 diesel engines, each driving a generator located in two separate engine rooms and providing a total of 6,450 kW. The propulsion system consists of three azimuth and one tunnel thruster aft and two azimuth and one tunnel thruster forward.

WORKING AREAS

The main deck has an exceptionally large flat working area of 1,700m² with a loading capacity of 10 Te/m². The maximum overall load is 3,000 Te. There is an 11.3m x 2.7m working moon pool

ACCOMMODATION

Accommodation is provided for 98 people in modern, fully air-conditioned cabins. There are also office facilities, a conference room and recreation rooms.

CRANAGE

The Kreuz Installer is fitted with two pedestal cranes on the starboard side of the main deck. The midship crane is a Hydralift with 155/34 Te capacity at 6.5/26m radius and the aft crane is a Liebherr with 70/20 Te capacity at 10/25, radius. Both cranes can operate subsea to 300m. There is also one service crane with a 5 Te capacity on the starboard side.

DP SYSTEM

The Kreuz Installer is fitted with a fully redundant DP2 (IMO-class2) Kongsberg dynamic positioning system. The system accepts position references from two taut wires, a HiPAP 500 and HiPAP 350 high precision hydro acoustic system, three independent DGPS reference systems and a laser fan beam.

SPECIFICATIONS

PRINCIPAL DIMENSIONS

Length overall	129.10m
Length between pp	115.68m
Breadth overall	24.60m
Depth moulded	10.70m

OPERATING DRAFT

4.50m - 6m, plus thrusters projection of 3.1m below hull.

DISPLACEMENT 11,782 Te at 6.0m draft

GROSS TONNAGE 8,300 Te

IMO #8007171

FLAG Bahamas

CALL SIGN C6MW3

CLASSIFICATION

DNV+1A1, DSVIIISF, DYNPOS
(AUTR), EO, HELDK, SF

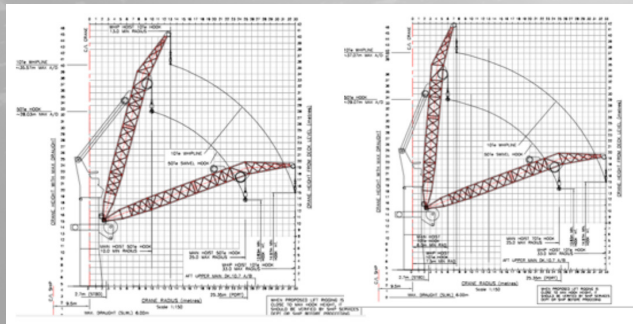
CRANAGE

Main lifting facility - starboard side

1x Pedestal crane midship (hydraulic)	155*/34 Te at 6.5/26m radius
Max wire length	430m
Whip line 8 Te at 36m radius	
Max wire length	430m
*Double fall	155t

1x Pedestal crane aft (Liebherr)	70/20 Te at 10/25m radius
Max wire length	400m

Whip line 10 Te at 33m radius	
Max wire length	400m



ADDITIONAL LIFTING FACILITIES

Starboard 5 Te at 10m radius

DECK SPACE 1,700m²
Working moon pool 11.3m x 2.7m
Suitable for fitting modular VLS as shown on page 2.

DECK LOAD 10 Te/m²
Max overall 3,000 Te

CAPABILITIES

Fuel oil	850m ³
Fresh water	659m ³
Chain lockers	2,530 Te

DECK SERVICES

2 x 15,900 l/min air compressors at 8 bar air compressors
1 x 120 l/min sea water pump

DP SYSTEM

Kongsberg SDP 22

REFERENCE SYSTEMS

1 each Simrad high precision hydroacoustic HIPAP 350 and HIPAP 500
2 x Taut wires
3 x DGPS
1 x Laser fan beam

ENVIRONMENTAL REGULATORY NUMBER

99.99.93

POWER PLANT

5 x MAK diesel engines 1,290kW
Total power production 6,450 kW

PROPULSION

FORWARD
2 x Azimuth thrusters 1,100 kW each
1 x Tunnel thruster 590 kW

AFT

2 x Azimuth thrusters 1,620 kW each
1 x Azimuth thruster 1,550 kW
1 x Tunnel thruster 590 kW

BOLLARD PULL

80 Te

ENDURANCE

Max period
Between portcalls 36 days
FW making capacity 60 Te/24 hours
Fuel consumption (typical)
in port 5 m³/day
in transit 25 m³/day
DP 10 m³/day

SERVICE SPEED

8.5 knots

HELIDECK

S92

ACCOMMODATION

98 people in 50 cabins

LIFESAVING APPLIANCES

Lifeboats 2 x 48 person
2 x 50 person
Life rafts 8 x 25 person

DIVING SYSTEM

Depth rating 300 msw
No. in sat 16
No. of bells 1
Bell volume 4.5 m³
System volume 102 m³
Gas storage 7,800 m³ at 200 bar

Diver reclaim fitted
SPHL Type: enclosed, self-launched,
self-driven
Capacity 16 divers 3 crew

Year built/builder
1981 by Weft Nobiskrug GMBH
1995 converted by Pan United

ROV SYSTEM (OPTIONAL)

Kreuz ROV system is 125HP SMD QUASAR General purpose Work Class ROV with Top Hat Tether Management System holding 400 meter excursion umbilical. This ROV is capable of survey, construction and drill support roles in waters up to 2000 meters in depth. The system comprises of an air conditioned control cabin, workshop, integrated winch and HPU and an 'A' frame launch system capable of safe launch and recovery in Sea state 6.