



## COES Shen Da Hao Pipelay Vessel

### Havfram

Havfram is a Norwegian subsea and offshore wind contractor with a global footprint headquartered in Stavanger.

The Shen Da Hao is a state of the art DP3 pipelay vessel with a reel-lay system capable of rigid, flexible, umbilical and piggyback lay.

The vessel is equipped with ROV hangars for 2 ROVs, 4000t reel, 5000t carousel below deck, PLET handling system, 800t AHC subsea crane and a 550t pipelay system.

The vessel is designed to operate efficiently under demanding conditions and is purpose built for pipelay operations.

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## COES Shen Da Hao

### Vessel Main Particulars

Design Classification	DNVGL, +1A, CRANE VESSEL PIPE LAYING VESSEL, SPS COAT-PSPC(B), E0, DYNPOS(AUTR) DYNPOS-AUTRO DK (+), HELDK-SH CLEAN DESIGN NAUT-(OSV(A)) Comf-V(3) C(3), ICE C, SF, BWM(T) RECYCLABLE
Built	QWHI, China

### Principal dimensions

Length overall	184,1 m
Breadth	33,0 m
Max draught	8,5 m
Deadweight	14 000 t
Gross tonnage	29 272 t
Net tonnage	8782 t

### Propulsion & thruster systems

Main engines	6 x 4630 kW
Propulsion Thrusters	3 x 5500 kW 2 x 3100 kW retractable 2 x 3100 kW tunnel
Speed	15 knots (service speed)

### Accommodation

Total number of bunks	180
1 man cabins	64
2 man cabins	58

### ROV

- Capacity for 1 off WROV launched over the side
- Capacity for 1 off WROV launched through moonpool
- 3000m working depth
- Active heave compensated LARS system with 3000m working depth

### Communication

- Vessel communication according to class / flagstate requirements
- Dual VSAT system for phone and electronic communication

### Deck cranes

Main crane	800 t AHC (double fall), 1500 m 400 t AHC (single fall), 3000 m
AUX crane	100 t AHC (double fall), 300m 50 t AHC (single fall), 600m
Reel assist crane	10 t
Tower Cranes	20 t (top tower crane) 10 t (mid tower crane)

### Dynamic position system

DP classification	DYNPOS-AUTRO DP Class 3
Reference Systems	3 x DGPS 2 x Taut wire 2 x Cyscan 1 x Mini radar scan 2 x Sonardyne ranger 2 USBL HPR 1 x Sonardyne Marksman DPS-INS

### Capacities

Fuel oil	2 490 m <sup>3</sup>
Marine Gasoil	2 410 m <sup>3</sup>
Potable Water	1 150 m <sup>3</sup>
Technical FW	300 m <sup>3</sup>
Heeling Tanks	3 170 m <sup>3</sup>
Deck space	1 800 m <sup>2</sup> Aft
Deck strength	15 t/m <sup>2</sup>

### Helicopter deck

Approved for Sikorsky S-92 and S-61N

D value 22,0 m and weight 12,8 t

### Lay equipment

- IHC 550t lay tower with 2 x 275 t – 4 track tensioners
- Integrated piggyback system in tower
- PLET handling system – 100 t capacity, 11 m x 7 m x 8 m
- Integrated A&R winches: primary 615 t and secondary 200t
- Adjustable tower angle - 40° to 90°
- 4000 t storage reel
- 5000 t underdeck carousel
- Pipe diameter capacity – 18" Rigid / 24" Flexible