

## DAFTAR PUSTAKA

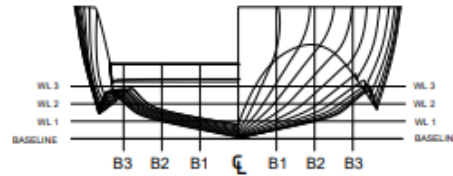
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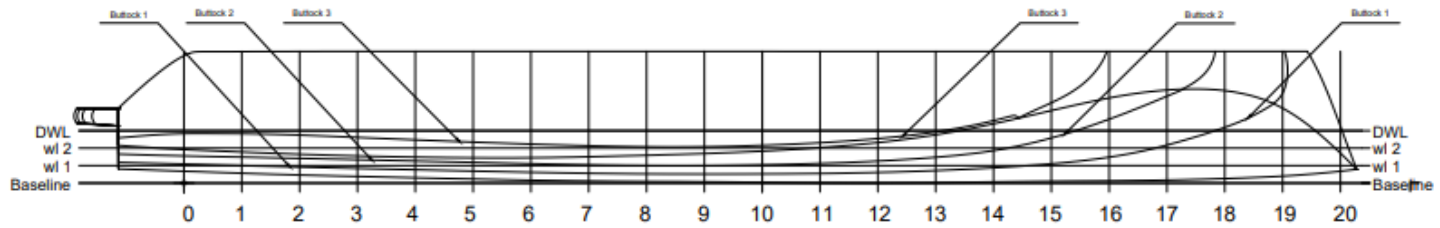
## **LAMPIRAN**

**LAMPIRAN A**  
**GAMBAR LINES PLAN**

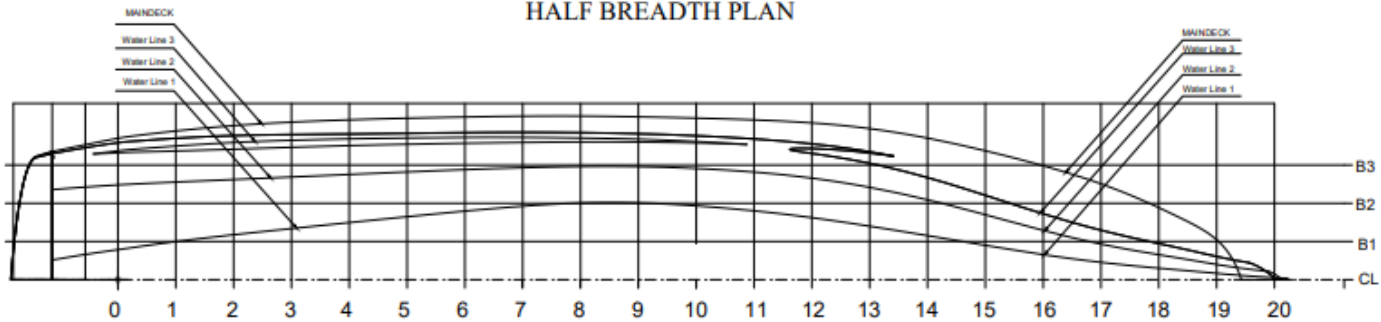
### BODY PLAN




### SHEER PLAN



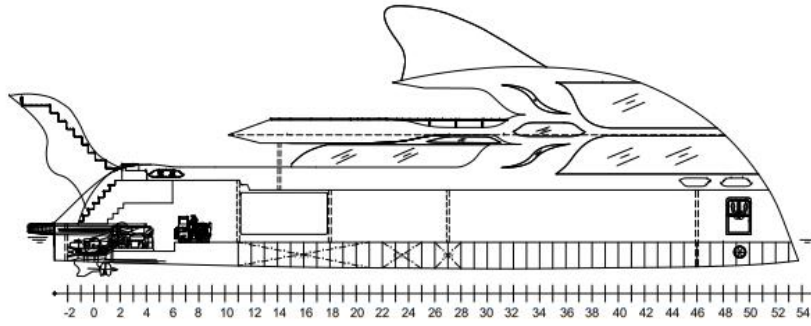
### HALF BREADTH PLAN



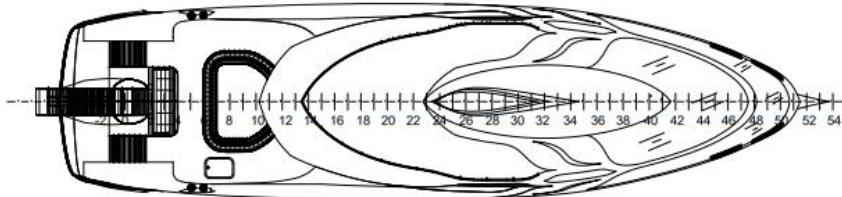
FORM COEFFICIENT		PRINCIPLE PARTICULAR	
Cb	+ 0.43 m	LWL	+ 28 m
Cua	+ 0.63 m	LBP	+ 28.5 m
Cw	+ 0.77 m	B	+ 7.5 m
Cp	+ 0.70 m	H	+ 3 m
		T	+ 1.2 m
		Speed Max	+ 30 knot
		Crew	+ 8 Person

 DEPARTEMEN PERKAPALAN FAKULTAS TEKNIK UNIVERSITAS HASANUDDIN		TITLE	
		LINES PLAN	
PROJEKSI	DESAIN KAPAL YACHT LUMBA-LUMBA	T. TANGGAL	KETERANGAN
SKALA	1 : 100		
DIGAMBAR			
DIPERIKSA			
DIBYAJI		REVISI	

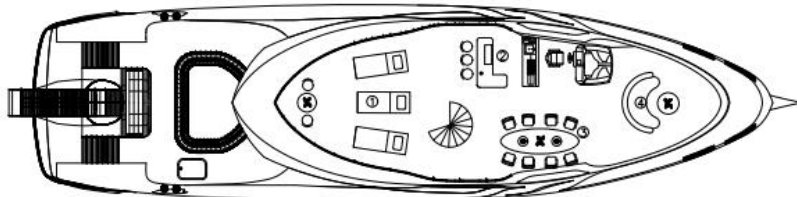
**LAMPIRAN B**  
**GAMBAR GENERAL ARRANGEMENT**



TOP VIEW



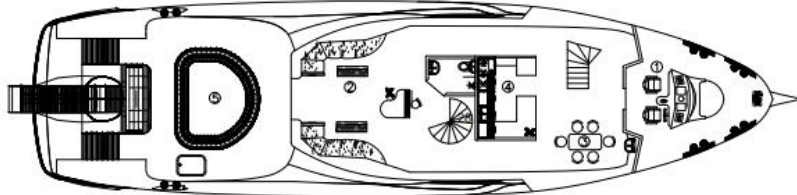
UPPER DECK



UPPER DECK

1. TEMPAT BERJEMUR
2. MINI BAR
3. TEMPAT MAKAN
4. RUANG SANTAI

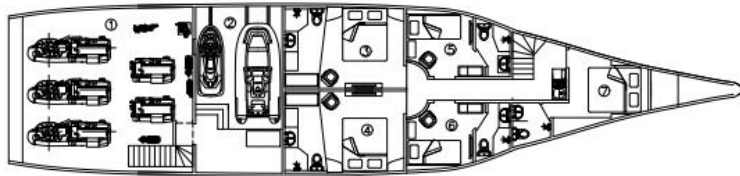
MAIN DECK



MAIN DECK

1. RUANG NAVIGATION
2. RUANG SANTAI
3. RUANG MAKAN
4. DAPUR
5. KOLAM RENANG

LOWER DECK



LOWER DECK

1. KAMAR MESIN
2. RUANG JETSKY
3. KAMAR PENUMPANG
4. KAMAR PENUMPANG
5. KAMAR PENUMPANG
6. KAMAR PENUMPANG
7. KAMAR PENUMPANG

FORM COEFFICIENT		PENCERUPAN PARTIKELAR	
CL	1.40 m	CL	1.20 m
CS	1.40 m	CS	1.30 m
CR	1.30 m	CR	1.10 m
CP	1.30 m	CR	1.10 m
		CR	1.10 m

 DEPARTEMEN PERKAPALAN FAKULTAS TEKNIK UNIVERSITAS HASANUDIN	
DESAIN KAPAL YACHT LUMBA-LUMBA	
GENERAL ARRANGEMENT	
NO. DESAIN	1.000.000
NO. PROJEKSI	1.000.000
NO. RENCANA	1.000.000
NO. GAMBAR	1.000.000

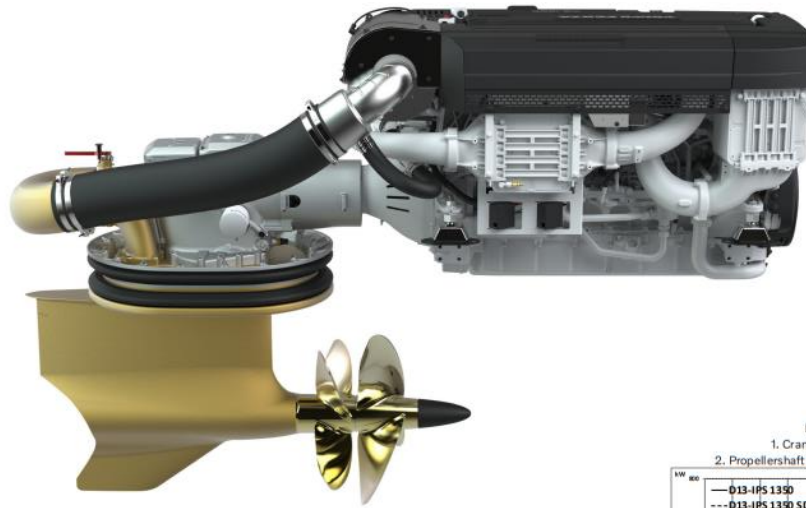
**LAMPIRAN C**  
**SPECIFICATION ENGINE**



VOLVO PENTA INBOARD PERFORMANCE SYSTEM

# D13-IPS 1350/1350 SD

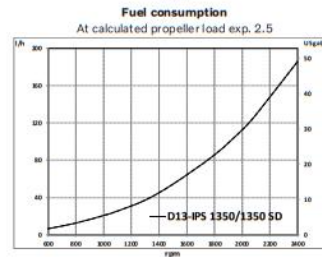
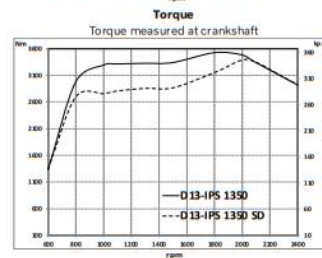
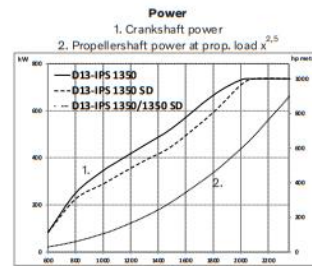
12.8 liter, in-line 6 cylinder



**General Data**

System designation	D13-IPS1350
Engine displacement, l (in <sup>3</sup> )	12.8 (780)
Configuration	in-line 6
Crankshaft power, kW (hp)	735 (1000) @ 2400 rpm
Propshaft power, kW (hp)	693 (942) @ 2400 rpm
Aspiration	Dual stage turbo with twin charge air coolers
Rating	R5
Package dry weight, incl. propellers, approx. kg (lb)	2458 (5419)
Propeller series	Q2-Q7      QS4-Q1 (SD Power setting)
Voltage	24V
Emission compliance	IMO NOx, EU RCD Stage II, US EPA Tier 3
Application	Twin/multiple engine installation in planing hulls
Speed range	19 to 42 knots

Technical data according to ISO 8665. With fuel having an LHV of 42700 kJ/kg and density of 840 g/liter at 15 °C (60 °F). Merchant fuel may differ from this specification which will influence engine power output and fuel consumption.



# D13-IPS 1350/1350 SD

12.8 liter, in-line 6 cylinder

## Technical description

### Engine and block

- Cylinder block made of cast iron
- One-piece cast-iron cylinder head
- Ladder frame fitted to engine block
- Replaceable wet cylinder liners and valve seats/guides
- Drop forged crankshaft with induction hardened bearing surfaces and fillets with seven main bearings
- Four-valve-per-cylinder layout with overhead camshaft and center position of unit injectors
- Each cylinder features cross-flow inlet and exhaust ducts
- Monotherm steel pistons
- Rear-end transmission

### Engine mounting

- Flexible engine mounting

### Lubrication system

- Integrated oil cooler in cylinder block
- Rear positioned twin full flow oil filter of spin-on type and by-pass filter

### Fuel system

- Electronic high pressure unit injectors
- Gear-driven fuel pump and injection timing
- Electronically controlled central processing system (EMS – Engine Management System)
- Single fine fuel filter of spin-on type

### Air inlet and exhaust system

- Twin entry turbo technology with freshwater-cooled charge air cooler
- Air filter with replaceable inserts
- Wet exhaust elbow/riser (option)
- Loss of sea water alarm

### Cooling system

- Seawater-cooled plate heat exchanger
- Coolant system prepared for hot water outlet
- Easily accessible seawater pump in rear end of flywheel housing

### Electrical system

- 24V/110A plus an optional extra 12V/115A alternator



### Electronic Vessel Control (EVC)

- Fully integrates the engines, electronics and the unique set of EVC features, such as Joystick Docking, Dynamic Positioning System, Glass Cockpit and more

### IPS transmission

- Forward-facing, twin counter-rotating propellers
- Electronic steering, enabling features such as joystick maneuvering
- Integrated exhaust system
- Hydraulic gear shift system with low speed mode as standard
- Water in oil sensor
- Oil change from inside the boat
- Nickel Aluminum Bronze and stainless steel in all main under water components
- Complete range of propellers available, covering boat speeds from 19 to 42 knots
- Several optional jackshaft lengths



Learn more about Volvo Penta IPS and the unique functions the IPS system can be extended with.

Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice. The engine illustrated may not be entirely identical to production standard engines.

Contact your local Volvo Penta dealer for more information regarding Volvo Penta engines and optional equipment/accessories or visit [www.volvopenta.com](http://www.volvopenta.com)

## VOLVO PENTA

AB Volvo Penta

SE-405 08 Göteborg, Sweden  
[www.volvopenta.com](http://www.volvopenta.com)



Download the Volvo Penta dealer locator App for your iPhone or Android



AUXILIARY CONSTANT SPEED ENGINE RANGE

## D7A T

112–122

1,500–1,800

7.2

Volvo Penta D7A T is an in-line 6-cylinder, 7.1-liter direct-injected marine diesel auxiliary engine with a water-cooled exhaust manifold and turbo.

[Dealer Locator >](#)

[↓ See all downloads](#)

[↓ See all specifications](#)

## TECHNICAL SPECIFICATIONS FOR D7A T

Here are the key specifications for this product model. Want more details? Download the brochure or contact us.

	D7A T HE KC 116kW	D7A T HE KC 122kW	D7A T RC 112kW	D7A T RC 115kW
Detailed Segment	Marine Commercial			
Crankshaft Power kW	116	122	112	115
Crankshaft Power HP	158	166	152	156
Rated RPM	1,500	1,800	1,500	1,800
Displacement litres	7.2			
Displacement cui	436			
Number of Cylinders	6			
Control System	Mechanical, Electrical governor, Marine Commercial Control			
High-pressure fuel injection	Unit pumps			
Cooling System	Heat Exchanger Cooling			
Product Family	7 liter series			