MARINE DIESEL ENGINES

INBOARD MARINE ENGINE

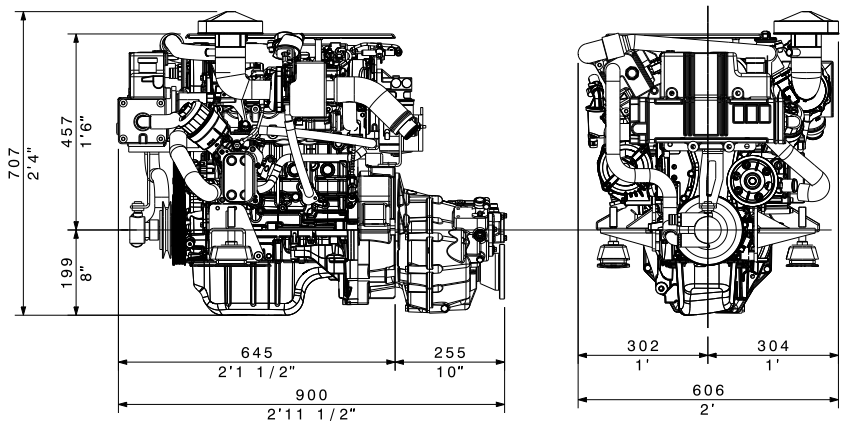
13HPE

Models:
13HPE 110 - 13HPE 80

FNM® 4-cylinder 13HPE marine engine is built according to **1,3 Multijet II** propulsion features, a key product for small diesel engines in automotive industry. **The engine uses a common-rail fuel injection system** controlled by an **ECU** (Electronic Control Unit), made specifically for this unit.

Dimensions

FNM13HPE with TM345 gearbox



Technical data

Engine model	13 HPE 110	13 HPE 80
Crankshaft Power (kW) (hp)	81 (110)	59 (80)
Propeller shaft power (kW) (hp)	78 (107)	57 (78)
Engine speed (min-1)	4400	4000
Displacement (l) - (cc)	1.3 - 1248	
Number of cylinders	4	
Bore/stroke (mm) - (in)	(69,6/82) - (2,74/3,23)	
Compression ratio	17,6:1	
Dry weight with TM 345 (kg)	215	
Dry weight with ZF 25 (kg)	214	
Emission compliance	Directive 2013/53/UE	

Technical data according to ISO8665. Fuel complies EN590. Merchant fuel may differ in specification and may influence engine power output and consumption. Production tolerance within 5% (of power). Not all models, standard equipment and accessories are available in all countries. All specifications are subject to change without notice.

Gears

ANGLED GEARBOXES

- TM345A (8°): R. 1,54:1, 2,00:1, 2,47:1
- ZF25A (8°): R. 1,55:1, 1,93:1, 2,48:1, 2,29:1, 2,71:1

IN-LINE AND COAXIAL GEARBOXES

- TM345 (in line): R. 1,54:1, 2,00:1, 2,47:1
- ZF25 (in line): R. 1,97:1, 2,80:1

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Standard technical equipment

ENGINE BLOCK AND HEAD

- Cylinder block made of cast-iron
- Cylinder head made of aluminium
- 4-valve per cylinder technology with hydraulic lash adju-
- sters
- Double overhead camshafts
- Automotive-class availability of service and parts
- Metal chain gear

ENGINE MOUNTING

- Flexible engine mounting

LUBRICATION SYSTEM

- Easily replaceable oil filter, on top of engine
- Easily to inspect or replace oil separator
- Oil vapour filter
- Integrated cooler with engine's coolant

FUEL SYSTEM

- Common rail fuel injection system
- CMD proprietary ECU
- Fuel filter with water separator and alarm

AIR INLET AND EXHAUST SYSTEM

- Air filter
- Oil vapours vented into inlet air
- Exhaust elbow or raiser depending on application
- Variable geometry turbocharger
- Raw-water cooled intercooler

COOLING SYSTEM

- Thermostatically regulated freshwater cooling
- Thermal unit that integrates tubular heat exchanger and expansion tank
- Easily accessible seawater impeller pump

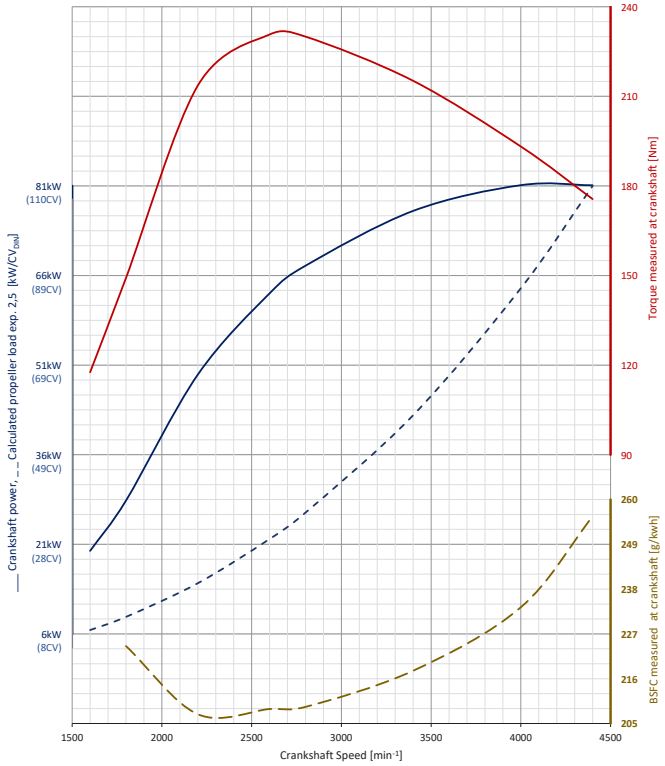
ELECTRICAL SYSTEM

- 12V standard two-pole electrical system
- 12V-1,3kW starter
- Alternator 12V-90A
- Emergency stop button on engine's ECU
- Engine information indicator panel

Optionals

- Single or double electronic CANBUS control station
- Boiler kit for heating
- Various length panel extension
- Second control panel for flybridge installations
- RACOR and Mediterraneo filters
- Trolling Valve
- NMEA2000 compatibility kit
- Wide range of additional instruments

Performance curves



Referred to **13HPE 110**

Indicator Technical Specification Ø85mm - OmniLink type

- Hole mounting: Ø86mm;
- Dial: Black or White backlighted;
- Bezel: Round in black plastic;
- Cover lens: RQ - Anti-fog plexiglass;
- Case material: Polyamide PA66 White color;
- Mounting: Flush mounting (backpanel);
- Backlight: With LED and light diffuser internal;
- Power supply: 9 ÷ 32Vdc;
- Absorption: <100mA with backlight;
- Connection: M12 - 5 pin connector - M12 - 12 pins connector
- Protection grade: IP65 on the front
- Operating temperature: -20 ÷ 70°C
- Technical reference: IEC60945 (Vibration, climatic and elettromagnetic compatibility)