

## INBOARD MARINE ENGINE

# 13HPE

Models:

**13HPE 110 - 13HPE 80 - 13HPE 40**



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.

## ECU (Electronic Control Unit)

ECU has been developed entirely in house



This unit guarantees excellent performances with low emissions



It has been conceived after a 10-year development project carried out by R&D team



It is especially designed for HPE marine engines application



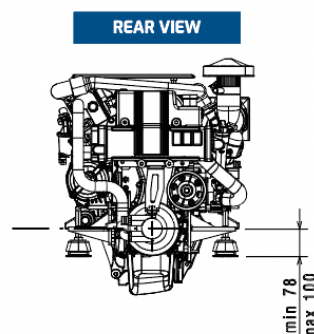
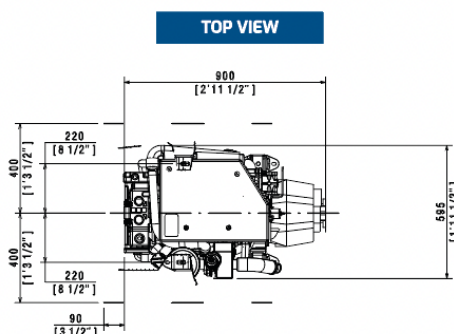
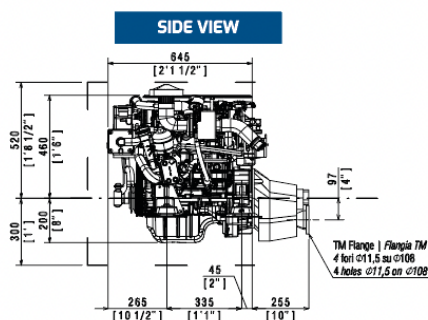
It controls common rail system parts



It includes unique control strategies which can be personalized according customers' request

## Dimensional

FNM13HPE  
with inverter TM345



## Technical data

Engine model	13 HPE 110	13 HPE 80	13 HPE 40
Crankshaft Power [kW] (hp)	81 (110)	59 (80)	29 (40)
Propeller shaft power [kW] (hp)	78 (107)	57 (78)	27 (38)
Engine speed [min-1]	4400	4000	4000
Displacement l - (cc) - (cu in)	1.3l - 1248 cc - 76 cu in		
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]	203		
Dry weight with ZF 25 [kg]	202		
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.

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 adjusters
- 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

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

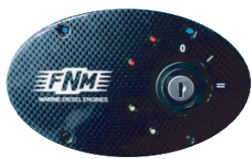
- TM345 (in line): R. 1,54:1, 2,00:1, 2,47:1
- ZF25 (in line): R. 1,97:1, 2,80:1

Optionals

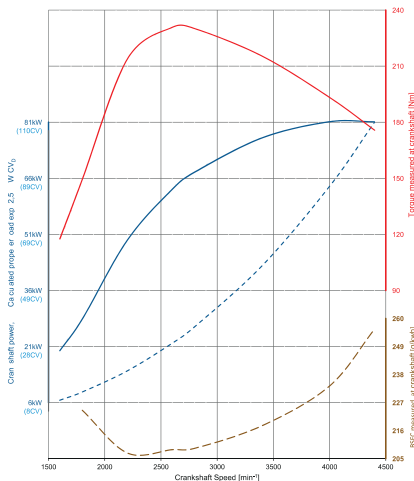
- Single or double electronic CANBUS control station
- Boiler kit for heating
- Various length panel extension
- Second control panel for flybridge installations
- RACOR and Mediterraneo filters
- Trolling Valve
- NMEA2000 compatibility kit
- Wide range of additional instruments

Technical Specification Indicator Ø85mm - OmniLink type

- Hole mounting: Ø86mm;
- Dial: Black or White backlit;
- 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)



Performance curves



Referred to 13HPE 110