



MARINE DIESEL ENGINES

**IN/OUTBOARD MARINE
ENGINE JETDRIVE**

13HPE JD

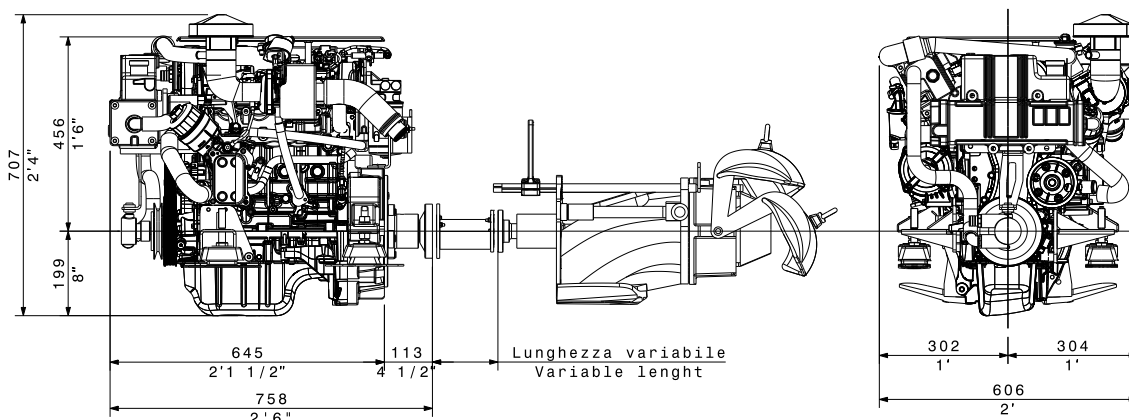
**Models:
13HPE 110**



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

FNM 13HPE with Jet Drive 160



Technical data

Engine model	13 HPE 110
Crankshaft Power [kW] (hp)	81 (110)
Propeller shaft power [kW] (hp)	78 (107)
Engine speed [min-1]	4400
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 without Jetdrive [kg]	195
Dry weight with Jetdrive [kg]	235
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

IN-LINE AND COAXIAL GEARBOXES

- ZF45C (coaxial); R. 1,00:1
- Alamarin jet-160

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

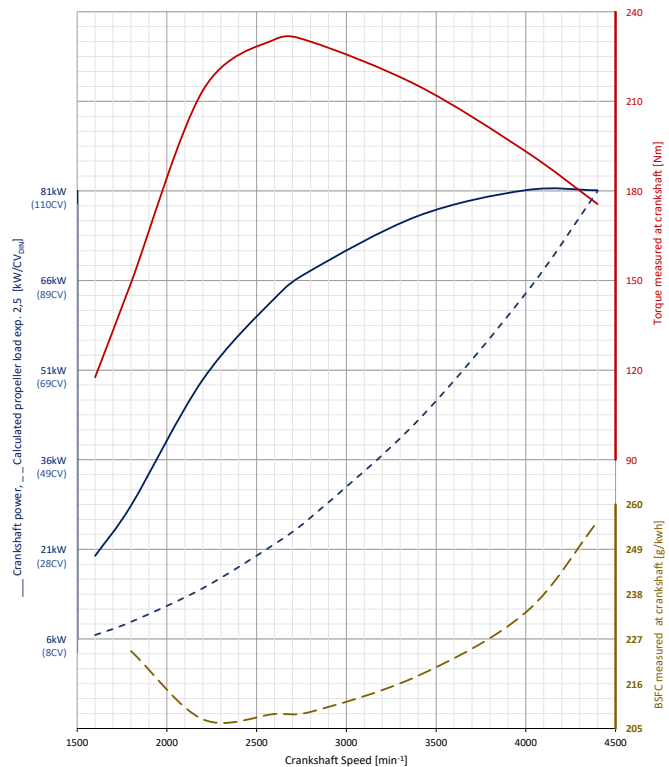
ELECTRICAL SYSTEM

- 12V standard two-pole electrical system
- 12V-1,3kW starter
- Alternator 12V - 90A
- Emergency stop button on engine's ECU
- CANBUS Panel with 8m extension and digital display of engine data

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**

Panel instrument CANBUS

Panel Instrument **high brightness 5" TFT display**, with **touchscreen** and a very simple and intuitive interface.

- Engine data acquisition with CANBUS J1939 interface.
- Data acquisition from traditional sensors for up to eight analog inputs, five digital inputs and one frequency input
- Acquisition of navigation data with NMEA0183 interface
- Up to five relay command outputs for signals and simple activations
- Alarm monitoring according to approved safety standards
- Automatic brightness adjustment and day / night mode
- USB local connectivity for firmware update and configuration

The unit is supplied already programmed and ready to work.

