

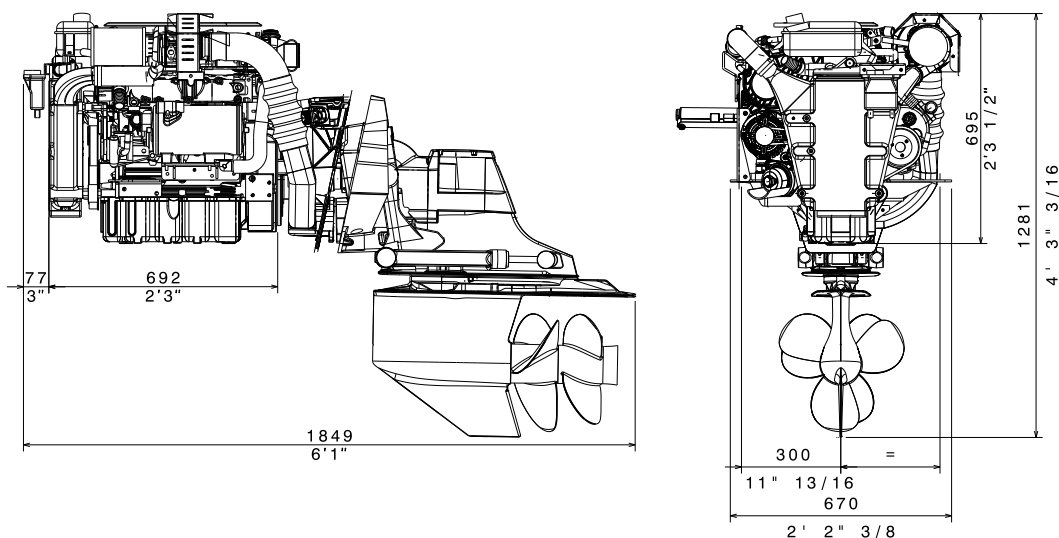


IN/OUTBOARD MARINE ENGINE **20HPEP**

Models:
20HPEP 180 - 20HPEP 150 - 20HPEP 120

FNM® 4-cylinder 20HPEP marine engine is based on the new 2LT Multijet engine, that equips a large number of small and medium size cars in Europe. The engine uses a common-rail fuel injection system controlled by an ECU (Electronic Control Unit), especially made for it. The engine is small and powerful, its wide distribution is the proof of its **reliability** and **wide availability of spare parts**.

Dimensions | FNM 20HPEP with BRAVO 3



Technical data

Engine designation	20 HPEP 180	20 HPEP 150	20 HPEP 120
Crankshaft Power [kW] (hp)	129 (175)	108 (147)	88 (120)
Propeller shaft power [kW] (hp)	125 (170)	105 (143)	85 (116)
Engine speed [min-1]	4100	4100	3800
Displacement [l] - (cc)	2,0 - 1956,5		
Number of cylinders	4		
Bore/stroke [mm] (in)	(83,0/90,4) - (3,27/3,56)		
Compression ratio	16,5:1		
Dry weight without Bravo [kg]	290		
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

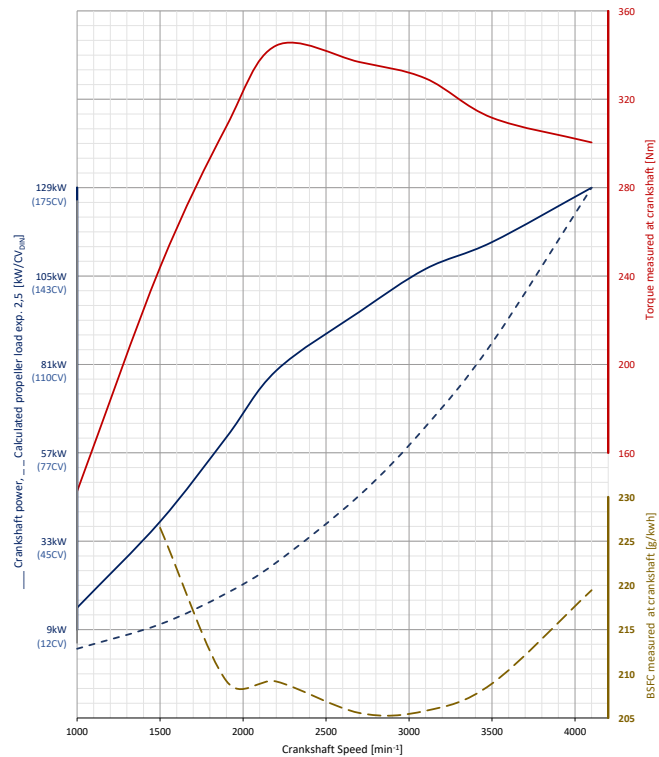
ELECTRICAL SYSTEM

- 12V standard two-pole electrical system
- 12V-1,8kW starter
- Alternator 12V - 105A
- 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
- Additional PTO (ISO4183 Z/SPZ)
- Steering pump
- NMEA2000 compatibility kit
- Wide range of additional instruments
- BRAVO X-1 stern drive Red. 1.65:1 or BRAVO 2 Red.2:1 - BRAVO 3 Red. 2:1
- Stainless steel propeller for BRAVO X-1
- Aluminium propeller for BRAVO X-2
- Stainless steel propeller for BRAVO X-3
- Multiple Sterndrive Steering Tie for twin-engine
- Alignment tool
- Volvo coupler kit

Performance curves



Referred to **20HPEP 180**

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.

