



MARINE DIESEL ENGINES

INBOARD MARINE ENGINE

20HPE

Models:

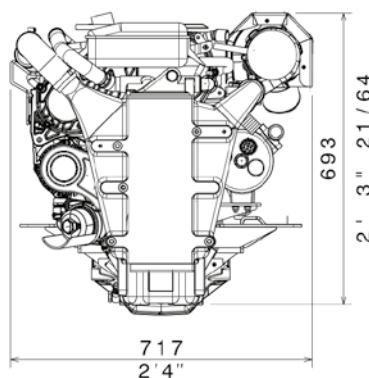
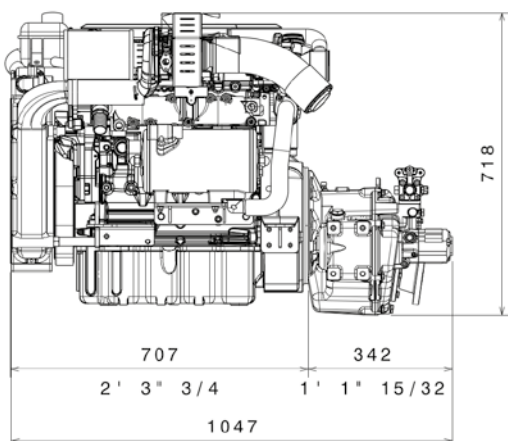
20HPE 180 - 20HPE 150 - 20HPE 120



FNM® 4-cylinder 20HPE 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 20HPE with TM485A gearbox



Technical data

Engine designation	20 HPE 180	20 HPE 150	20 HPE 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 with TM 485 [kg]	290		
Dry weight with ZF 45 [kg]	280		
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

- TM485A1 (8°): R. 1,51:1, 2,09:1, 2,40:1
- ZF45A (8°): R. 1,26:1, 1,51:1, 2,03:1, 2,43:1

V-LINE GEARBOXES

- ZF48-IV (20°): R. 1,46:1, 1,72:1, 1,95:1

IN-LINE AND COAXIAL GEARBOXES

- ZF45-1 (in line): R. 2,20:1, 2,51:1, 3,03:1, 3,74:1
- ZF45C (coaxial): R. 1,00:1

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

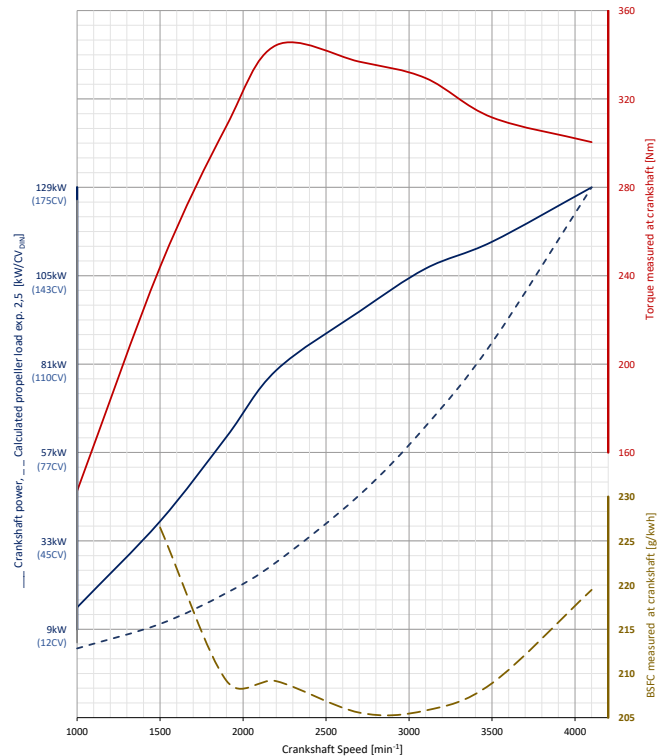
ELECTRICAL SYSTEM

- 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
- NMEA2000 compatibility kit
- Wide range of additional instruments

Performance curves



Referred to **20HPE 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.

