



FNM® MARINE DIESEL ENGINES INBOARD DIESEL ENGINE

20HPE_{180,150,120,100,40}

TECHNICAL DATA



Engine designation	20HPE180	20HPE150	20HPE120	20HPE100	20HPE40
teljesítmény f tengelyen Crankshaft Power [kW] (hp)	129 (175)	108 (147)	88 (120)	73 (100)	29 (40)
teljesítmény propeller tengelyen Propeller shaft power [kW] (hp)	125 (170)	105 (143)	85 (116)	71 (97)	28 (39)
fordulatszám max. Engine speed [min ⁻¹]	4100	4100	3800	3800	3200
henger rtartalom Displacement [l] (in ³)	2,0 (119)	2,0 (119)	2,0 (119)	2,0 (119)	2,0 (119)
hengerek száma Number of cylinders	4	4	4	4	4
furat / löket Bore/stroke [mm] (in)	83,0/90,4 (3,27/3,56)	83,0/90,4 (3,27/3,56)	83,0/90,4 (3,27/3,56)	83,0/90,4 (3,27/3,56)	83,0/90,4 (3,27/3,56)
kompreszió arány Compression ratio	16,5:1	16,5:1	16,5:1	16,5:1	16,5:1
száraz tömeg TM485A váltóval Dry weight with TM485A [kg]	301	301	301	301	301
száraz tömeg ZF45-IV váltóval Dry weight with ZF45-IV [kg]	312	312	312	312	312
Power Rating	A	B	C	D	D

The engine illustrated may not be entirely identical to production standard engines.

Emission compliance

RCD Stage II 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.

RELIABLE AND ENDURING

FNM® 4-cylinder 20HPE engine is based upon B-family platform by GM, that equips a large number of small and medium size cars in Europe. The engine uses a common-rail fuel injection system electronically controlled by a proprietary electronic control unit, expressly set for this unit. The engine is small and powerful, and its great diffusion results in reliability and parts availability.

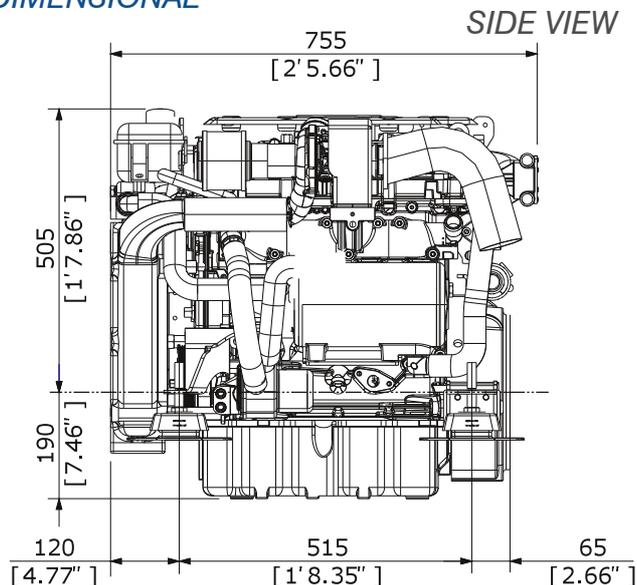
FIRST CLASS PERFORMANCE

Set for recreational use, where the engine reaches up to 129kW (175HP), or for any of the commercial rating, where this engine is capable to achieve up to 3000h per year, this unit will guarantee first-class performances in every functioning condition.

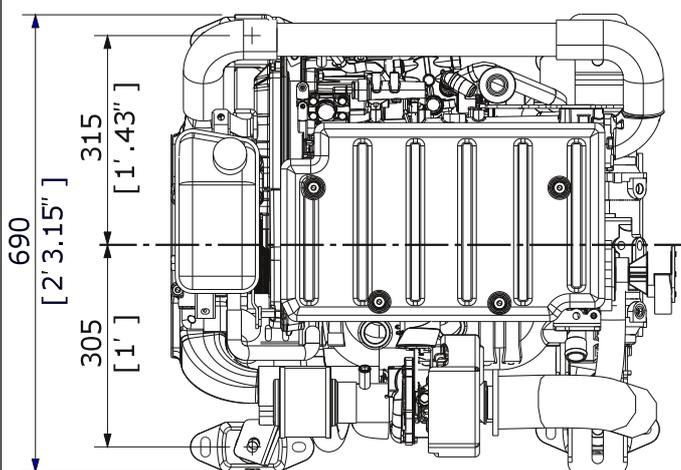
A PROPRIETARY ELECTRONIC CONTROL UNIT

The engine electronic control unit results from a 10-year development by CMD electronic department and is especially made for HPE engine's marine application. The ECU fits the first-class Bosch common rail system parts that carry out the fuel injection perfectly; this ECU includes unique control strategies, such as anti-shutdown on gear insertion for high-inertia installation, or fast-reversing situations, and guarantees high performances within emission limits.

DIMENSIONAL



20HPE BOBTAIL Measures in mm [in] *Not valid for installation*
TOP VIEW





20HPE180,150,120,100,40

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INBOARD DIESEL ENGINE

TECHNICAL CHARACTERISTICS

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

Oil-cooled pistons with compression and scraper rings
Five bearing crankshaft

Automotive-class availability of service and parts
Rubber belt timing

Engine mounting

Flexible engine mounting

Lubrication system

Oil filter
Oil separator with filtering technology

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

Coolant-cooled turbocharger

Raw-water cooled intercooler

Cooling system

Exhaust manifold coolant-cooled

Thermostatically regulated freshwater cooling

Thermal unit that integrates thermostat and tubular heat exchanger
Easily accessible seawater impeller pump

Electrical system

12V standard two-pole electrical system

12V-2,3kW starter

Alternator 12V-110A

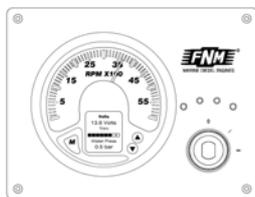
Emergency stop button on engine's ECU

CANBUS Panel with 8m extension and digital display of engine data

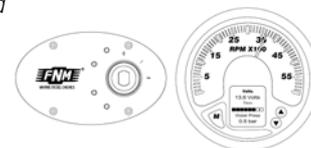
CONTROL PANEL

Every tachometer integrates CANBUS technology and spots a multifunction display for monitoring alarms, engine hours, coolant temperatures, oil pressure, battery voltage, turbo pressure, fuel level, trim angle, rudder angle and water tank level. Standard CANBUS J1939 can be upgraded to NMEA2000.

Assembled panel (standard for gearboxes applications): integrates tachometer, alarm lights and key block.



Disassembled panel (standard for sterndrive and jetdrive applications): panel with alarm lights and key block, separated tachometer (5", available upon request 4").



GEARS

Angled gearboxes

- TM345A (8°) (20HPE100/40): R. 1,54:1, 2,00:1, 2,47:1
- TM485A1 (8°): R. 1,51:1, 2,09:1, 2,40:1
- ZF25A (8°) (20HPE120/100/40): R. 1,55:1, 1,93:1, 2,48:1, 2,23:1, 2,71:1
- ZF45A (8°): R. 1,26:1, 1,51:1, 2,03:1, 2,43:1

V-line gearboxes

- ZF45-IV (20°): R. 1,21:1, 1,46:1

In-line and coaxial gearboxes

- ZF45-1 (in line): R. 2,20:1, 2,5:1, 3,03:1, 3,74:1
- ZF45C (coaxial): R. 1,00:1

OPTIONALS

Single or double electronic CANBUS control station

Boiler kit for heating

Various length panel extension

Second control panel for flybridge installation

RACOR and Mediterraneo filters

Trolling Valve

NMEA2000 compatibility kit

Wide range of additional instruments

CONTACT US

www.fnm-marine.com



FNM is a registered brand of
CMD - Costruzioni Motori Diesel SpA
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PERFORMANCE CURVES

