

NEF 370

N60 ENT M37

FOR MARINE APPLICATIONS
6 CYLINDERS IN LINE - DIESEL CYCLE
272 kW (370 CV) @ 2800 rpm (A1)
243 kW (330 CV) @ 2800 rpm (B)
199 kW (270 CV) @ 2800 rpm (C)



T E C H N O L O G I C A L E X C E L L E N C E

**IVECO
MOTORS**

N60 ENT M37 FOR MARINE APPLICATIONS

Thermodynamic cycle		Diesel 4 stroke - C.R.
Air intake		TAA
Arrangement		6L
Bore x Stroke	mm	102 X 120
Total displacement	l	5.9
Valves per cylinder		4
Cooling		liquid
Direction of rotation (viewed facing flywheel)		CCW
Compression ratio		17.5 : 1
Rotation mass moment of inertia (without flywheel)	kgm ²	0.31
Standard flywheel inertia	kgm ²	0.71

Air induction

Max suggested intake restriction with clean air filter	kPa(bar)	3.5 (0.035)
Max allowable restriction with dirty air filter	kPa(bar)	6.5 (0.065)
Air requirement for combustion at 100% load/rated speed (comb. + ventilation)	kg/h (m ³ /h)	6700 (5750)
Turbocharging pressure at full load/rated speed	kPa(bar)	200 (2)
Turbocharging air max temperature (engine inlet)	°C	45

Exhaust system

Max allowable backpressure	kPa(bar)	10 (0.1)
Max exhaust temperature at maximum power	°C	640
Exhaust flow at max output	kg/h	1560

Lubrication system

Minimum oil pressure at idle (at 100°C)	kPa(bar)	70 (0.7)
Max oil temperature at full load/rated speed	°C	120
Engine angularity limits continuous operation: max front up and front down	0/360	16
max left hand and right hand	0/360	22° 30'
Total system capacity including pipes, filters etc.	liters	16.5

Sea water cooling system (open circuit)

Max intake restriction	kPa(bar)	20 (0.2)
Sea water pump flow	m ³ /h	12
Heat rejected (total) at max power	kJ/s(kcal/h)	212.3 (182,000)
Sacrificial zinc anodes	n°	2

Cooling system (closed circuit)

Coolant capacity (engine only)	liters	24.5
Water pump flow at rated speed	m ³ /h	15
Thermostat (modulating range)	°C	72 ÷ 82
Cooling liquid max temperature	°C	103
Min/max inner pressure in the cooling circuit (for keel cooling)	kPa(bar)	10/100 (0.1/1)
External cooling system max pressure drop (for keel cooling)	kPa(bar)	35 (0.35)

Fuel system

Injection system		Common Rail
Gas oil max intake restriction	kPa(bar)	35 (0.35)
Gas oil max intake temperature	°C	70
Max fuel backpressure to tank	kPa(bar)	20 (0.2)

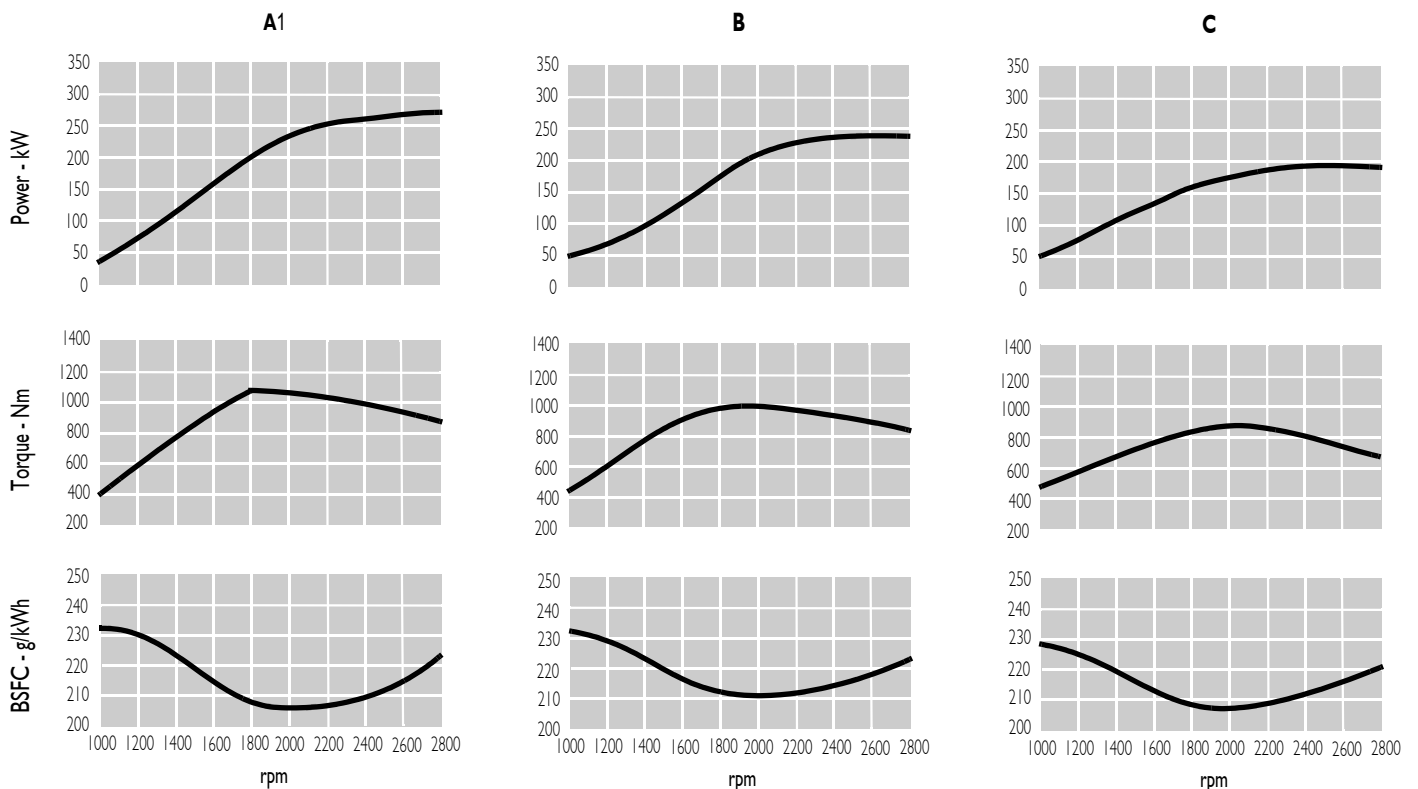
Electrical system

Voltage	V	12
---------	---	----

N60 ENT M37 FOR MARINE APPLICATIONS

Rating type		A1	B	C
Maximum power *	kW(CV)	272 (370)	243 (330)	199 (270)
At speed	rpm	2800	2800	2800
Maximum no load governed speed at max rating	rpm		3000	
Minimum idling speed	rpm		600	
Mean piston speed at rated speed	m/s		11.2	
BMEP at max torque	kg/cm ²	23.0	21.8	19.8
Available certifications			CCNR	IMO MARPOL
Specific fuel consumption at full load (best value)	g/kWh @ rpm		207 @ 2000	
Oil consumption at max rating	(% of fuel consumption)		≤ 0.2	
Minimum starting temperature without auxiliaries	°C		- 15	
Oil and oil filter maintenance interval for replacement	hours		600	
Dry weight (without marine gear)	kg		595	

* **Net Power** at flywheel according to ISO 3046/1, after 50 hours running, fuel Diesel EN 590. Power tolerance 5%
Test conditions : ISO 3046/1, 25 °C air temperature, 100 kPa atmospheric pressure, 30 % relative humidity.

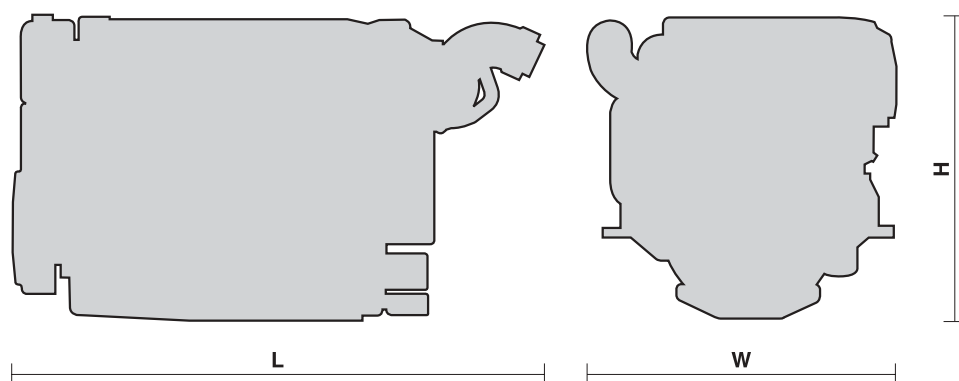


A1 = High performance crafts.
 Full throttle operation restricted within 10% of total use period.
 Cruising speed at engine rpm < 90% of rated speed setting - Maximum useage 300 hours per year.

B = Light duty.
 Full throttle operation restricted within 10% of total use period.
 Cruising speed at engine rpm < 90% of rated speed setting - Maximum useage 1500 hours per year.

C = Medium duty.
 Full throttle operation < 25% of use period.
 Cruising speed at engine rpm < 90% of rated speed setting - Maximum useage 3000 hours per year.

L = 1333 mm
 W = 805 mm
 H = 774 mm



N60 ENT M37 FOR MARINE APPLICATIONS

Standard configuration

Flywheel housing	SAE	3
Flywheel size	inch	11.5
Air filter		rear side
Turbocharger		cooled
Heat exchanger		tube type
Exhaust cooled elbow		-
Water charge tank		included
Fuel filter	n°	1 - left side
Fuel prefilter		included (loose)
Fuel pump		included
Oil filter	n°	1 - right side
Oil sump		aluminium
Oil vapours blow-by circuit		rear
Oil heat exchanger		built in the crankcase
Oil filler		on timing cover frontward
Starting motor		12 V - 3 kW
Alternator		12 V - 90 A
Engine stop device		by electronic central unit
Wiring harness		with EDC (Electronic Diesel Control)
Painting	colour	white "ICE"

Not included in the standard configuration

Battery - minimum capacity recommended		120 Ah
Battery - minimum cold cranking capacity recommended		900 A

IVECO MOTORS OFFERS THE WIDEST AVAILABILITY OF ENGINE BUILD OPTIONS TO CUSTOMER SPECIFIC REQUIREMENTS WITHIN THE ENGINE SUPPLY. TO FIND OUT MORE ABOUT THE CONFIGURATIONS AND ACCESSORIES WHICH ARE AVAILABLE, CONTACT THE IVECO MOTORS SALES NETWORK.

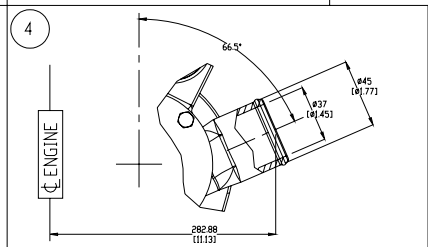
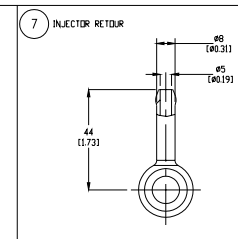
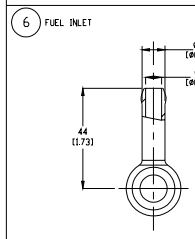
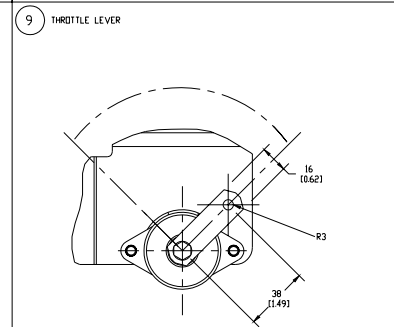
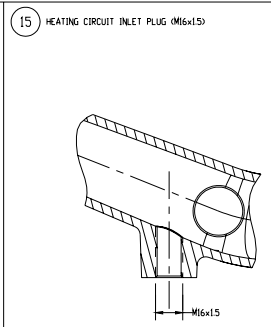
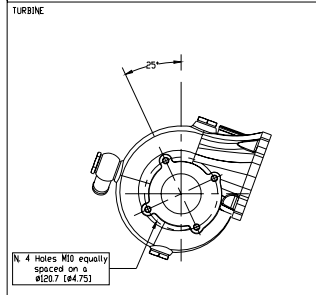
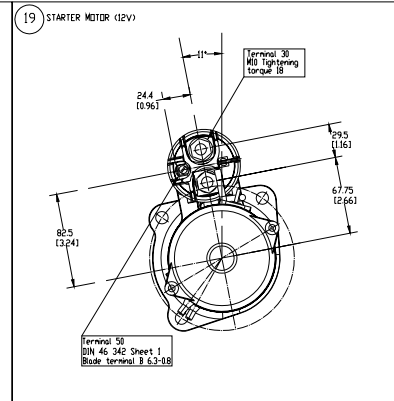
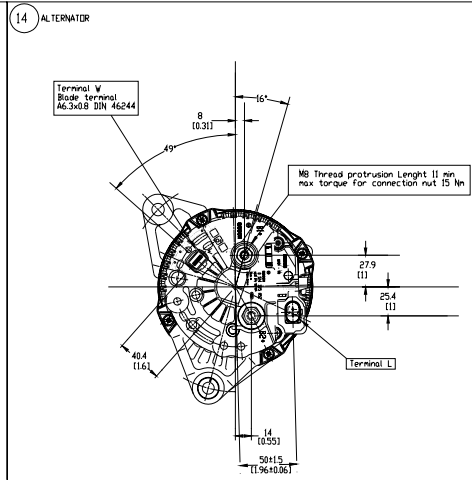
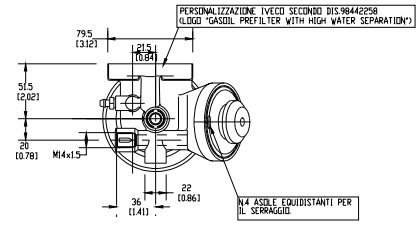
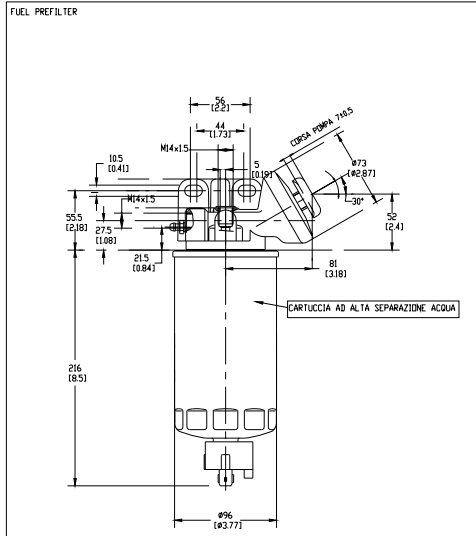
HEAD OFFICE AND BRANCHES

<p>IVECO S.p.A. Iveco Motors Lungo Stura Lazio, 49 - 10156 Torino Tel. +39 (011) 0076245 - Fax +39 (011) 0076275 www.ivecomotors.com</p>	<p>Italy</p>	<p>IVECO S.p.A. Iveco Motors Viale dell'Industria, 15/17 - 20010 Pregnana Milanese - Milano Tel. +39 (02) 935101 - Fax +39 (02) 93590029</p>	<p>Italy</p>
<p>IVECO FRANCE S.A. Iveco Motors 50 Rue Ampère - B.P. 103 - 69685 Chassieu Cedex Tel. +33 (04) 72472222 - Fax +33 (04) 78905990</p>	<p>France</p>	<p>IVECO N.V. Iveco Motors - Liaison office-India Second Floor - 50, Okhla Industrial Estate - Phase III 110020 New Delhi Tel. +91 11 51613573 - Fax +91 11 26931271</p>	<p>India</p>
<p>IVECO MAGIRUS A.G. Iveco Motors Heiner Fleischmann-Strasse, 9 - 74172 Neckarsulm Tel. +49 (07132) 97690 - Fax +49 (07132) 976935</p>	<p>Germany</p>	<p>IVECO FIAT Representative Office in P.R. China 10/F Jinling Hotel World Trade Center 2 Hanzhong Road - 210005 Nanjing. Tel. +86 25 4710981 - Fax +86 25 4701105</p>	<p>China</p>
<p>IVECO U.K. Ltd Iveco Motors Road One - Industrial Estate CW7 3QP Winsford Tel. +44 (01606) 541027 - Fax +44 (01606) 541124</p>	<p>Great Britain</p>	<p>IVECO LATIN AMERICA Ltda. Iveco Motors Rua Alameda da Serra, 222 Vale do Sereno - 34000 - 000 Nova Lima (MG) Tel. +55 31 3286 3732/33/34 - Fax +55 31 3286 3735</p>	<p>Brazil</p>
<p>IVECO SWEDEN A.B. Iveco Motors Lergöskgatan, 12 - 42150 Västra Frölunda Tel. +46 (31) 492450 - Fax +46 (31) 492457</p>	<p>Sweden</p>	<p>IVECO Motors of N.A. 245 E. North Avenue Carol Stream, IL 60188 - 2021 USA Tel. +1 630 260 4226 - Fax +1 630 260 4267</p>	<p>North America</p>

Local Distributor

NEF 6CYL 4V TAA

N60 ENT M37



CAD DRAWING
HANDLING IN CAD SYSTEM ONLY

<p>Drawn: [] Checked: [] Approved: []</p>		<p>Revision: []</p>	
<p>Part Name: []</p>		<p>Quantity: []</p>	
<p>Material: []</p>		<p>Notes: []</p>	
<p>Scale: []</p>		<p>Sheet: [] of []</p>	
<p>Project: []</p>		<p>Date: []</p>	
<p>Customer: []</p>		<p>Location: []</p>	
<p>Version: []</p>		<p>Author: []</p>	
<p>Checked: []</p>		<p>Approved: []</p>	
<p>Part Name: N60ENTM37.10</p>		<p>Part Name: ENGINE LAYOUT FIGURING MOTORE</p>	
<p>Company: IVECO SpA</p>		<p>Company: IVECO SpA</p>	
<p>Part Number: 8032800 D A 54-9800</p>		<p>Part Number: 8032800 D A 54-9800</p>	

Revision date 14/01/05



N60 ENT M37

6 CYL - 5,9 L - TAA - 4V - 12V

Main Components	Description
Engine std setting	272 kW @ 2800 rpm (ISO 8665)
Rigid mounting	N° 4 rigid mountings, transversal mounting distance = 710 mm
Flywheel housing	Rear, aluminium, SAE#3
Flywheel	11,5", Inertia 0,71 kgm ²
Power Take Off	None
Crankshaft Pulley	8 groove, ø 173 mm - No additional groove available
Injection system	Electronic Common Rail
Fuel filter	Single cartridge, left side
Fuel pre-filter	Mandatory - Loose prefilter with sedimenter, water presence and priming manual pump
Engine electrical system	12 V
Engine Control Unit	EDC 7 + box relais & relevant harness, loose
Wiring Harness	Onto the engine
Engine Starter	3 kW, 12 V, right side
Alternator	90 A, 12 V with W terminal, right side
Cold starting device	None
Engine shut off	Energize to run (E.C.U. function)
Air cleaner	Wet air cleaner with clogging sender
Turbocharger	Soft water cooled turbocharger
Intercooler - Intake Manifold	Raw water cooled intercooler directly connected to the intake manifold, left side
Exhaust manifold	Cooled by soft water, right side
Cooling system heat exchanger	Soft water / raw water heat exchanger, right side
Thermostat	Temperature operating range : 72°C - 82°C
Soft water pump	Poly-V belt driven soft water centrifugal pump (anticavitation profile fibre impeller)
Raw water pump	Gear driven raw water pump (1 ½ " centrifugal pump with neoprene impeller)
Load water tank	Integrated in load soft water tank, front side
Expansion tank	Loose
Oil pump	Cylinder block integrated gear-type oil pump (crankshaft driven)
Oil heat exchanger	Cylinder block integrated plate-type oil cooler
Oil filter	Single cartridge oil filter, right side
Oil pan	Aluminum, max.continuous operating limits: longitudinal 16°- transversal 22°30'
Closed crankcase ventilation	Oil vapours recirculation by Mann&Hummel valve.
Oil dipstick	Vertical pull dipstick, left side
Oil drain pump	Manual oil drain pump, left side
Oil Fill	Onto the cylinder head cover, cyl#1
Engine Testing	Standard test bench
Engine painting	White ice paint (IC 194)

