

## MARINE

Our efficiency. Your edge.





Our efficiency. Your edge.

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# THE WAVE OF INNOVATION

FPT

FPT Industrial's engines for pleasure and commercial boats stand out for superb quality, features and application versatility. They bring maximum and continuous specific power and torque at low revolutions. They achieve better efficiency in all sea conditions. They also boast an impressive durability.

A dramatic reduction of noise and vibrations combines power with sailing pleasure. Exhaust emissions have been cut down too, lowering environmental impact and complying with the most stringent legislation.

Our engineering experience has delivered a lightweight design, with low volume/power and weight/power ratios, for easier installation and superior performance.

## Superior Technology & Outstanding Advantages

### Performance

Maximum and continuous high specific power. High torque at low revs. Lightness (weight/power low ratios).

### Flexibility

Compactness (volume/power low ratios). Full range of accessories available. Wide range of emission and propulsion certifications. Keel cooling versions availability. Low Environmental Impact Drastic reduction of exhaust emissions. Low noise and vibrations.

### Low Operating Costs

Lower fuel consumption. Longer maintenance intervals costs. Longer overhaul intervals.



Our range of marine solutions for pleasure and commercial application brings you freedom, speed, reliability and safety.



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## **Engines Line-Up**

		(L**xWxH)				
Application	LaboM	Dimensions* Millimeters	Dry Weight Kilograms	Cylinders Arrangement Injection Aspiration	Displacement Liters	
0 •	S30 230 E	780 x 775 x 753	330	4L / CR / TCA	3	
•	N40 170***	850 x 708 x 785	490	4L / CR / TCA	3,9	
•	N40 250 E	850 x 708 x 785	490	4L / CR / TCA	3,9	
•	N45 100	811 x 700 x 836	450	4L / MEC / NA	4,5	
• •	N60 400 E	1072 x 739 x 778	595	6L / CR / TCA	5,9	
• •	N67 150	1052 x 705 x 910	530	6L / MEC / NA	6,7	
•	N67 170***	1089 x 724 x 788	600	6L / CR / TCA	6,7	
•	N67 220	1072 x 749 x 800	605	6L / MEC / TC	6,7	
•	N67 280	1072 x 749 x 800	605	6L / MEC / TCA	6,7	
• •	N67 450 N	1089 x 724 x 788	600	6L / CR / TCA	6,7	
• •	N67 550	1089 x 850 x 825	721	6L / CR / TCA	6,7	
0	N67 570 EVO	1089 x 847 x 825	721	6L / CR / TCA	6,7	
•	C90 380	1288 x 868 x 961	940	6L / CR / TCA	8,7	
• •	C90 620 E	1288 x 823 x 961	940	6L / CR / TCA	8,7	
0	C90 650 E	1288 x 823 x 961	940	6L / CR / TCA	8,7	
0	C90 650 EVO	1218 x 881 x 984	1014	6L / CR / TCA	8,7	
•	C13 330	1465 x 1000 x 1058	1320	6L / CR / TC	12,9	
•	C13 500	1465 x 1000 x 1058	1345	6L / CR / TCA	12,9	
•	C13 825 E	1465 x 1000 x 1058	1395	6L / CR / TCA	12,9	
•	C16 600	1465 x 1000 x 1160	1570	6L / CR / TCA	15,9	
•	C16 1000	1465 x 1136 x 1160	1690	6L / CR / TCA	15,9	

#### Legend

Arrangement

L

Application O Pleasure • Professional

In line vertical

 Air Intake

 NA
 Naturally Aspirated

 TC
 Turbocharged

 TCA
 Turbocharged After

 Cooled
 Cooled

 Net rating at flywheel according to ISO 3046-1 and delivered after ~ 50 hours running. Engine performance within ± 5%
 Dimensions can be changed according to engine options

\*\* Lenght at flywheel \*\*\* IWV Stage V Certification



Power1 - KW (HP) @RPM

A1	A2=B1	В	С	D
169 (230) @4000	-	129 (175,5) @3500	85 (115,6) @3500	-
		-	125 (170) @2800 110 (150) @2800 74 (100) @2800 63 (85) @2800	-
184 (250) @2800	169 (230) @2800 110 (150) @2800 74 (100) @2800	147 (200) @2800	-	-
74 (100) @2800		66,5 (90) @2800	63 (85) @2800	63 (85) @2800
294 (400) @3000	272 (370) @3000	243 (330) @3000	199 (270) @3000	-
110 (150) @2800		99,5 (135) @2800	92 (125) @2800	92 (125) @2800
		-	-	125 (170) @2300
162 (220) @2800		-	132 (180) @2800	110 (150) @2800
206 (280) @280		191 (260) @2800	169 (230) @2800	132 (180) @2500
331 (450) @3000	309 (420) @3000	272 (370) @3000	258 (350) @3000	-
405 (550) @3200	368 (500) @3200	353 (480) @3200	-	-
419 (570) @3000		-	-	-
	-	-	301 (410) @2000	280 (380) @2000
456 (620) @2530	405 (550) @2530	368 (500) @2530	331 (450) @2530	-
478 (650) @253		-	-	-
478 (650) @2530	460 (625) @2530	-	-	-
		-	-	243 (330) @1800
	-	-	382 (520) @2000	368 (500) @2000
607 (825) @2400	522 (750) @2400	478 (650) @2400	442 (600) @2400	-
	-	-	-	442 (600) @1800 404 (550) @1800 368 (500) @1800
	- 735 (1000) @2300	662 (900) @2300	599 (815) @2300 551 (750) @2300 478 (650) @2300	-

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.

**A2=B1** Pleasure/commercial vessels. Full throttle operation restricted within 10% of total use period Cruising speed at engine rpm <90% of rated speed setting. Maximum useage 1000 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.

**D** Heavy duty. Maximum rating utilisation up to 100% of use period, for unlimited hours per year.



# THE F1 SERIES

From 85 (115,6) to 169 (230) KW (HP)

#### Performance

Electronic Common Rail and multi-valve technology to provide maximum power density (up to 56 kW/ litre) and rapid response.

## Efficiency

Reliability

downtime.

& Serviceability

Easy engine servicing.

Up to 600 hours oil

intervals minimize

& Productivity High torque and power performance with minimum fuel consumption and low emmisions.

### Marinization

Engine and turbocharging cooling systems are and filters replacement specifically optimized for marine duties.

The F1 Series features common-rail and electronic technologies. It brings substantial benefits, including high specific power, torque at low RPM resulting in better planing, low fuel consumption and emissions.

Marine

A variety of options for stern drive pre-arrangements extends applications to pleasure and light commercial duties with any light-planing or semiplaning boats up to 8 meters (26 ft).



S30 230 E



FPT Marin	e The F1 Series	18	FPT	Marine	The F1 Series
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**Engine Specifications** 



Power <sup>1</sup> - KW (HP) @RPM									
 A1	A2=B1	В	c	D					
 169 (230) @4000		- 129 (175,5) @3500	85 (115,6) @3500	-					

Legend

•

Application

Pleasure 0 Professional Arrangement In line vertical

L

Air Intake (1) Net rating at flywheel TCA Turbocharged After Cooled according to ISO 3046-1 and delivered after ~ 50 hours running. Engine performance within ± 5% \* Dimensions can be changed according to engine options \*\* Lenght at flywheel

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.

**A2=B1** Pleasure/commercial vessels. Full throttle operation restricted within 10% of total use period Cruising speed at engine rpm <90% of rated speed setting. Maximum useage 1000 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.

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

FPT

## Key Advantages

Marine

	Features	Benefits		Features	Benefits
Specific Features	State-of-the-art 2nd generation Common Rail System (ECR); accurate fuel delivery to achieve high performance in terms of torque and power.	High torque and power performance. Minimum fuel consumption and exhaust gas emission.	Components Integration	Improved technical solutions such as: integrated oil cooler, integrated oil pump and water pump, blow-by system.	Leakage prevention.
Technological Innovations	Innovative technologies and production processes such as: ECR, 4 valves/ cylinder, ladder frame cyl- inder block, fracture split connecting rods.	Engine efficiency and stiffness. Vibrations & noise reduction.	Option List	Wide range of accessories including control & monitoring systems, stern drives pre-arrangement, propulsion and emission certifications.	Customer orientation.
Technological Solutions for Servicing	F1 Series engines adopt a valves clearance hydraulic adjustment for the dual overhead camshaft drivenby chain and oil cooled pistons by J-jets.	Reduced maintenance, improved engine life and Reliability.	Serviceability & Maintainability	Easier engine servicing thank to advanced diagnostic equipment & widespread worldwide service network.	Quick and accurate service support.
Solutions for Low Operating Costs	High functional engine design and solutions for long intervals in oil and filters replacement (up to 600 h).	Reduced maintenance and operating costs.			
Marinization	Functional engine lay-out, design and specific settings focused on marine duties. Optimized engine and turbo- charging cooling systems.	Marine lay-out & settings focused on safety and protection on board.			

# THE NEF SERIES

## From 63 (85) to 419 (570) KW (HP)



#### Performance

High power density with minimum fuel consumption.

#### Efficiency & Productivity

Innovative technologies and production processes to save fuel while ensuring maximum performance and reliability. Easy engine servicing. Up to 600 hours oil and filters replacement intervals (among the best in the category).

Reliability

& Serviceability

## Marinization

Engine and turbocharging cooling systems are specifically optimized for marine duties.

The NEF series is the result of prime production quality. It includes the broadest offering of FPT Industrial marine engines for pleasure and commercial use.

Marine

The pleasure-range engines are the state of the art in diesel technology (electronic-control common-rail systems, 4 valves/cylinder). They combine high performance with a lightweight, compact design. With low smoke, noise and vibrations, they are an environmentally-friendly solution for cruisers and yachts up to 12 meters (39 ft).

The commercial range uses advanced mechanical systems for fuel injection to ensure high continuous power and torque, reliability, low fuel consumption and modest servicing costs. This range also includes keel-cooling versions.



FPT



N60 400 E

N67 170





N67 450 N

N67 550





N67 570 EVO





## **Engine Specifications**

Application	Model	Dimensions* (L**×W×H) Millimeters	Dry Weight Kilograms	Cylinders Arrangement Injection Aspiration	Displacement Liters
•	N40 170***	850 x 708 x 785	490	4L / CR / TCA	3,9
•	N40 250 E	850 x 708 x 785	490	4L / CR / TCA	3,9
•	N45 100	811 x 700 x 836	450	4L / MEC / NA	4,5
•	N60 400 E	1072 x 739 x 778	595	6L / CR / TCA	5,9
•	N67 150	1052 x 705 x 910	530	6L / MEC / NA	6,7
•	N67 170***	1089 x 724 x 788	600	6L / CR / TCA	6,7
•	N67 220	1072 × 749 × 800	605	6L / MEC / TC	6,7
•	N67 280	1072 x 749 x 800	605	6L / MEC / TCA	6,7
•	N67 450 N	1089 x 724 x 788	600	6L / CR / TCA	6,7
•	N67 550	1089 x 850 x 825	721	6L / CR / TCA	6,7
0	N67 570 EVO	1089 x 847 x 825	721	6L / CR / TCA	6,7

Д	<b>\1</b>	A2=B1			В			с			D	
	-		-			-	125 110 74 63	(170) (150) (100) (85)	@2800 @2800 @2800 @2800			-
184 (2	250) @2800	169 (230) 110 (150) 74 (100)	@2800 @2800 @2800	147 (	(200)	@2800			-			-
74 (1	100) @2800		-	66,5	(90)	@2800	63	(85)	@2800	63	(85)	@2800
294 (4	400) @3000	272 (370)	@3000	243 (	330)	@3000	199	(270)	@3000			-
110 (1	150) @2800		-	99,5 (	(135)	@2800	92	(125)	@2800	92 (	(125)	@2800
162 (2	220) @2800		-			-	132	(180)	@2800	110	(150)	@2800
	-		-			-			-	125	(170)	@2300
206 (2	280) @2800		-	191 (	(260)	@2800	169	(230)	@2800	132	(180)	@2500
331 (4	450) @3000	309 (420)	@3000	272 (	(370)	@3000	258	(350)	@3000			-
405 (5	550) @3200	368 (500)	@3200	353 (	(480)	@3200			-			-
419 (5	570) @3000		-			-			-			-

Power1 - KW (HP) @RPM

Legend

0

Application Pleasure

• Professional Arrangement In line vertical

L

Air Intake NA Naturally Aspirated

тс Turbocharged TCA Turbocharged After Cooled

(1) Net rating at flywheel according to ISO 3046-1 and delivered after ~ 50 hours running. Engine performance within ± 5% \* Dimensions can be changed according to engine options \*\* Lenght at flywheel \*\*\* IWV Stage V Certification

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.

**A2=B1** Pleasure/commercial vessels. Full throttle operation restricted within 10% of total use period Cruising speed at engine rpm <90% of rated speed setting. Maximum useage 1000 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.

с 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.

D Heavy duty. Maximum rating utilisation up to 100% of use period, for unlimited hours per year.

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## **Mechanical Engines Key Advantages**

Marine

	Features	Benefits		Features	Benefits
Injection System	The NEF Mechanical Series is characterized by advanced systems for fuel injection with high continuous power and torque.	High torque and power performance. Reliability, minimum fuel consumption and exhaust gas emissions, low servicing costs.	Components Integration	Improved technical solutions such as: integrated oil cooler, integrated oil pump and water pump, blow-by system.	Leakage prevention.
Technological Innovations	Advanced injection system, ladder frame cylinder block, fracture split connecting rods, rear gear-train timing system.	Engine efficiency and stiffness. Vibrations & noise reduction.	Option List	Wide range of accessories, including keel cooling version, monitoring systems, international certifications on emissions and propulsion such as RINA homologation.	Customer orientation.
Technological Solutions for Servicing	The NEF mechanical Series engines adopts plateaux machined cylinder walls and oil cooled pistons by J-jets.	Reduced maintenance operations, longer engine life and improved reliability.	Serviceability & Maintainability	Widespread worldwide service network.	Quick and accurate service support.
Solutions for Low Operating Costs	High functional engine design and solutions for long intervals in oil and filters replacement (up to 600 h).	Reduced maintenance and operating costs.			
Marinization	Functional engine lay-out, design and specific settings focused on marine duties. Optimized engine and turbo- charging cooling systems.	Marine lay-out & settings focused on safety and protection on board.			

FPT

## Electronic Engines Key Advantages

Marine

	Features	Benefits		Features	Benefits
Specific Features	State-of-the-art diesel technologies (Common Rail, electronic systems, 4 valves/ cylinder), for cruisers, yachts and light/medium duties commercial boats.	High torque, high performance, lightness, compactness, design, low environmental impact, minimum fuel consumption.	Components Integration	Improved technical solutions such as: integrated oil cooler, integrated oil pump and water pump, blow-by system.	Leakage prevention.
Technological Innovations	Innovative technologies and production processes such as: ECR, ladder frame cylinder block, fracture split connecting rods, rear gear- train timing system.	Engine efficiency and stiffness. Vibrations & noise reduction.	<b>Option List</b>	Electronic remote control, monitoring systems, emission standards as IMO MARPOL, EU-RCD, EU-IWV, EPA and propulsion homologation as RINA.	Customer orientation.
Technological Solutions for Servicing	The Electronic Common Rail NEF Series adopts plateaux machined cylinder walls and oil cooled pistons by J-jets.	Reduced maintenance operations, improved engine life and reliability.	Serviceability & Maintainability	Easier engine servicing thanks to advanced diagnostic equipment & widespread worldwide service network.	Quick and accurate service support.
Solutions for Low Operating Costs	High functional engine design and solutions for long intervals in oil and filters replacement (up to 600 h).	Reduced maintenance and operating costs.			
Marinization	Functional engine lay-out, design and specific settings focused on marine duties. Optimized engine and turbo- charging cooling systems.	Marine lay-out & settings focused on safety and protection on board.			



## Innovation is our path to excellence.

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## THE CURSOR SERIES

From 243 (330) to 735 (1000) KW (HP)







#### Performance

Low fuel consumption and emissions. Structural stiffness. Low vibration and noise.

#### Efficiency & Productivity

density levels.

& Serviceability High power and torque Easy engine servicing. Up to 600 hours oil and filters replacement intervals (among the best in the category).

Reliability

Marinization

Lay-out and specific settings are focused on marine duties.

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The Cursor Series

The Cursor series brings benefits such as high injection pressure and timing precision in all conditions, superb performance, fuel efficiency and low emissions. Sea professionals trust it for its stateof-the-art technology, reduced operating costs, and ease of maintenance.

This series provides users with proven performance, reliability and simpler installation. It is designed for pleasure applications of yachts and sports fishing boats up to 18 meters (60 ft) (according to displacement).

C90 380

C90 620 E



C90 650 E

C90 650 EVO







## **Engine Specifications**

Application	Model	Dimensions* (L**×Wxh Millimeters	Dry Weight Kilograms	Cylinders Arrangement Injection Aspiration	Displacement Liters	
•	C90 380	1288 x 868 x 961	940	6L / CR / TCA	8,7	
•	C90 620 E	1288 x 823 x 961	940	6L / CR / TCA	8,7	
0	C90 650 E	1288 x 823 x 961	940	6L / CR / TCA	8,7	
0	C90 650 EVO	1218 × 881 × 984	1014	6L / CR / TCA	8,7	
•	C13 330	1465 x 1000 x 1058	1320	6L / CR / TC	12,9	
•	C13 500	1465 × 1000 × 1058	1345	6L / CR / TCA	12,9	
•	C13 825 E	1465 x 1000 x 1058	1395	6L / CR / TCA	12,9	
•	C16 600	1465 x 1000 x 1160	1570	6L / CR / TCA	15,9	
0 •	C16 1000	1465 x 1136 x 1160	1690	6L / CR / TCA	15,9	

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Power1 -	ΚW	(HP)	@RPM
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A1	A2=B1	В	С	D
 -	-	-	301 (410) @2000	280 (380) @2000
456 (620) @2530	405 (550) @2530	368 (500) @2530	331 (450) @2530	-
478 (650) @2530	-	-	-	-
478 (650) @2530	460 (625) @2530	-	-	-
-	-	-	-	243 (330) @1800
-	-	-	382 (520) @2000	368 (500) @2000
607 (825) @2400	522 (750) @2400	478 (650) @2400	442 (600) @2400	-
-	-	-	-	442 (600) @1800 404 (550) @1800 368 (500) @1800
-	735 (1000) @2300	662 (900) @2300	599 (815) @2300 551 (750) @2300 478 (650) @2300	-

Legend

0

Application Pleasure

• Professional In line vertical

Arrangement

L

Air Intake Turbocharged TC TCA Turbocharged After Cooled

(1) Net rating at flywheel according to ISO 3046-1 and delivered after ~ 50 hours running. Engine performance within ± 5% \* Dimensions can be changed according to engine options \*\* Lenght at flywheel

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.

**A2=B1** Pleasure/commercial vessels. Full throttle operation restricted within 10% of total use period Cruising speed at engine rpm <90% of rated speed setting. Maximum useage 1000 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.

с 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.

D Heavy duty. Maximum rating utilisation up to 100% of use period, for unlimited hours per year.

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## Key Advantages

	Features	Benefits		Features	Benefits
Specific Features	ECR and Electronic Unit Injector, with 4 valves/ cylinder, provide several benefits: high injection pressure and timing precision under any operation condition.	Excellent Power performance and torque, reduced fuel consumption and exhaust gas emissions.	Components Integration	Improved technical solutions such as: integrated oil cooler, integrated oil pump and water pump, blow-by system.	Leakage prevention.
Fechnological Innovations	ECR or Electronic Unit Injector systems, bed plate cylinder block, rear gear- train timing system and superfinished helicoidal gears.	Engine efficiency and stiffness. Vibrations & noise reduction.	Option List	Electronic remote control, monitoring systems, emission standards as IMO MARPOL, EU-RCD, EU-IWV, EPA and propulsion homologation as RINA.	Customer orientation.
echnological Solutions or Servicing	To reduce maintenance operations and improve engine life and reliability, the Cursor Series adopts plateau machined cylinder walls and oil cooled pistons by J-jets.	Reduced maintenance, longer engine life and Reliability.	Serviceability & Maintainability	Easier engine servicing thanks to advanced diagnostic equipment & widespread worldwide service network.	Quick and accurate service support.
Solutions or Low Dperating Costs	High functional engine design and solutions for long intervals in oil and filters replacement (up to 600 h).	Reduced maintenance and operating costs.			
Marinization	Functional engine lay-out, design and specific settings focused on marine duties. Optimized engine and turbo- charging cooling systems.	Marine lay-out & settings focused on safety and protection on board.			

All the pictures, drawings illustrations and descriptions contained in this brochure are based on product information available to FPT Industrial at the time of printing (30)11/2019). Some of the engine line-ups may refer to a specific market configuration which may not be present or offered for sale available in all other markets. The colors featured in this brochure may differ from the originals. FPT Industrial reserves the right to introduce any modifications, at any time and without any prior advance notice, to design, material, components equipment and/or technical specifications.

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