

N45 MNS - N45 MSS

66 kW @ 2200 rpm - 400 Nm @ 1250 rpm

Engine N45 MNS - N45 MSS

Technical code		F4GE9454J*J6XX
Thermodynamic cycle		Diesel 4 strokes - D.I.
Air intake		TC
Arrangement		4L
Bore x Stroke	mm	104 x 132
Total displacement	L	4,5
Valves per cylinder		2
Cooling		liquid
Direction of rotation (viewed facing flywheel)		CCW
Compression ratio		17,5:1
Rotation mass moment of inertia (without flywheel)	kgm ²	0,19
Standard flywheel inertia	kgm ²	0,708

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)	4,5 (0,045)
Air requirement for combustion at 100% load/rated speed	kg/h(m ³ /h)	460 (360)
Turbocharging pressure at full load/rated speed	kPa(bar)	91,2 (0,912)
Turbocharging air max temperature (engine inlet)	°C	200
Heat rejected to intercooler at maximum power	kJ/s(kcal/h)	-
Intercooler system max pressure drop	kPa(bar)	-

EXHAUST SYSTEM

Max allowable backpressure	kPa(bar)	10 (0,1)
Max exhaust temperature at full load/rated speed	°C	510
Exhaust flow at max output	kg/h	477

LUBRICATION SYSTEM

Minimum oil pressure at idle	kPa(bar)	70 (0,7)
Maximum oil pressure at max load	kPa(bar)	350 (3,5)
Max oil temperature at full load/rated speed	°C	140
Engine angularity limits continuous operation:		
max front up and front down	0/360	35
max left hand and right hand	0/360	35
Total system capacity including pipes, filters etc.	liters	12,8

COOLING SYSTEM

Coolant capacity (engine only)	liters	8,5
Water pump flow at rated speed	m ³ /h	11,3
Heat to reject by heat exchanger at max power	kJ/s(kcal/h)	47,6 (40.810)
Thermostat (modulating range)	°C	83 ÷ 99
Cooling liquid max temperature	°C	106
Min/max inner pressure in the cooling circuit	kPa(bar)	30/275 (0,3/2,75)
External cooling system max pressure drop	kPa(bar)	35 (0,35)

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FUEL SYSTEM

Injection system		Rotary pump
Gas oil max ir Gas oil max intake restriction	kPa(bar)	15 (0,15)
Gas oil max ir Gas oil max intake temperature	°C	70 (at 25°C amb.)

ELECTRICAL SYSTEM

Voltage	V	12
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Maximum rating	kW(HP)	66 (90)
At speed	rpm	2200
Maximum torque	Nm(kgm)	400 (41)
At speed	rpm	1250
Maximum no load governed speed at max rating	rpm	2430
Minimum idling speed	rpm	800
Mean piston speed at rated speed	m/s	10,1
BMEP at max torque	kg/cm ²	11,43
Available certifications		CE 97/68 Phase IIIA - EPA Tier 3
Specific fuel consumption at full load (best value)	g/kWh @ rpm	246@1700
Oil consumption at max rating	(% of fuel consumption)	0,1
Noise at max rating (ISO 3744)	dBA	92
Minimum starting temperature without auxiliaries	°C	-15
Oil and oil filter maintenance interval for replacement	hours	600
Dry weight (standard configuration)	kg	390

FOR INFORMATION ON THE AVAILABLE RATINGS NOT LISTED IN THIS DOCUMENT PLEASE CONTACT THE FPT SALES NETWORK.

* **Power** at flywheel according to 97/68 EC (without fan), after 50 hours running, 3% tolerance, fuel Diesel EN 590

Test conditions : ISO 3046/1, 25 °C air temperature, 100 kPa atmospheric pressure, 30 % relative humidity - Applicable also to DIN 6271, BS 5514, SAE J1349 Standards.

STANDARD CONFIGURATION

Flywheel housing	SAE	SAE3 (wide/narrow geartrain) - cast iron
Flywheel size	inch	11' 1/2
Intake manifold location		high /right side/rear
Exhaust manifold location		high/ right side / front
Turbocharger		fixed geometry with waste gate
Turbocharger location		high/middle/right
Fan transmission ratio		1,4 : 1
Distance between fan - crankshaft centers	mm	x=0 ; y=296
Fuel filter	n°	single cartridge-left side
Fuel prefilter		supplied loose
Fuel pump		mechanical pump-left side

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STANDARD CONFIGURATION

Oil filter	n°	single cartridge - right side
Oil sump		sheet suspended / front sump/ 35° angulariy limit in continuous operation in all directions
Oil vapours blow-by circuit		on timing cover
Oil heat exchanger		incorporated in the pump
Oil filler		on timing cover
Exhaust counter flange		included
Starting motor		12V - 3kW
Alternator		12V - 90A with W contact
Engine stop device		incorporated in the pump
Wiring harness		-
Power take off (optional) - transmission ratio		1,03 : 1
PTO maximum available torque	SAE A	100Nm (9 teeth) - 150Nm (11teeth)
	SAE B	240Nm (13 teeth)
Painting	color	grey

NOT INCLUDED IN THE STANDARD CONFIGURATION

Battery - minimum capacity recommended	180Ah (12V)
Battery - minimum cold cranking capacity recommended	950A (12V)

FPT 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 FPT SALES NETWORK.