

N45 MSS X

74 kW (101 HP) @ 2200 rpm - 410 Nm @ 1400 rpm
Stage IIIA / Tier 3

SPECIFICATIONS

Technical code		F4GE9454H*J603
Thermodynamic cycle		Diesel 4 stroke
Air intake		TC
Arrangement		4L
Bore x Stroke	mm	104 x 132
Total displacement	L	4.5
N° valves per cylinder		2
Cooling		liquid
Direction of rotation (seen from flywheel side)		CCW
Compression ratio		17.5 : 1
Rotation mass moment of inertia (without flywheel)	kgm ²	0.19
Standard flywheel inertia	kgm ²	0.708

FUEL SYSTEM

Injection system		Mechanical
Injection pressure	kPa(bar)	24,500 (245)
Gas oil max intake temperature	°C	70 (at 25°C amb.)

AIR INTAKE

Max suggested intake restriction with clean air filter	kPa(bar)	3.5 (0.035)
Max suggested intake restriction with dirty air filter	kPa(bar)	4.5 (0.045)
Air flow at 100% load / rated speed	kg/h	460 (360)
Turbocharging pressure at full load/rated speed	kPa(bar)	-
Max temperature rise admitted at intake manifold (T engine inlet - T amb.) °C		≤25
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

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LUBRICATION SYSTEM

Minimum oil pressure at idle	kPa(bar)	70 (0.7)
Max oil pressure at idle	kPa(bar)	-
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.	L	12.8

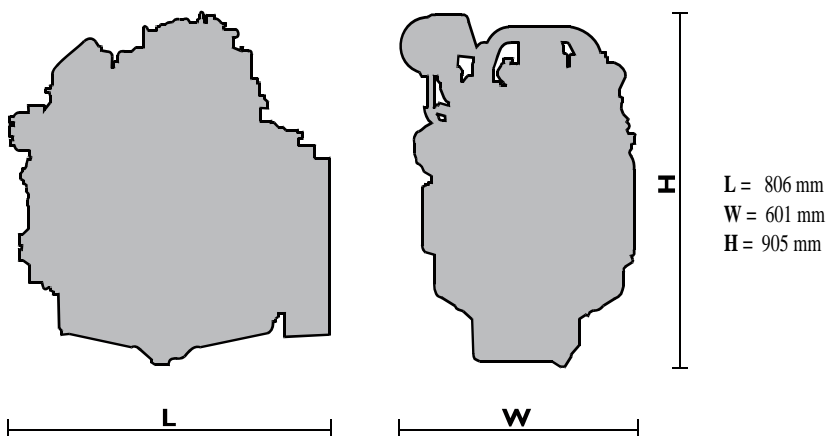
COOLING SYSTEM

Coolant capacity (engine only)	L	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)	38.5 (33,000)
Thermostatic valve (adjustment 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)

ELECTRICAL SYSTEM

Voltage	V	12
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Dimensions



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PERFORMANCE

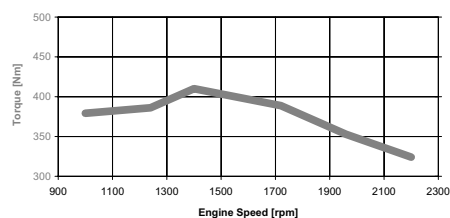
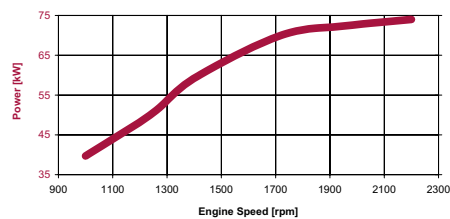
Rated power [*]	kW(HP)	74 (101)
At speed	rpm	2200
Peak power	kW(HP)	74 (101)
At speed	rpm	2200
Peak torque	Nm(kgm)	410 (41)
At speed	rpm	1400
Maximum no load governed speed at max rating	rpm	2430
Minimum idling speed	rpm	800
Mean piston speed at rated speed	m/s	10.1
BMEP at max torque	bar	11.72
Available certifications		CE 97/68 Stage IIIA - EPA Tier 3
Specific fuel consumption at full load (best value)	g/kWh	260 @ 1400
Oil consumption at max rating	% fuel cons.	0.1%
Rumore alla potenza massima (ISO 3744)	dBA	92
Minimum starting temperature without auxiliaries	°C	-15
Oil and oil filter maintenance interval for replacement [**]	h	600
Dry weight (standard configuration without: oil, cooling, starter, clutch, Compressor A/C, alternator)	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 560.

[**] Oil type: Approved engine oil specification: 15W-40 ACEA E7 / API CI-4 or 10W-30 ACEA E7 / API CI-4 (ambient temperature below -15°C). 10W-40 ACEA E9/API CJ-4 as alternative.

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.



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STANDARD CONFIGURATION

Flywheel housing	type	SAE 3 - (Narrow gear train)
Flywheel size	inch.	11" 1/2
Intake manifold location		right side / backward inlet
Exhaust manifold location		right side / frontward outlet
Turbocharger		fixed geometry
Turbocharger location		top frontward / right side
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		-
Fuel pump		mechanical pump - left side
Oil filter	n°	single cartridge - right side
Oil sump		cast iron / central sump / high inclination
Oil vapours blow-by circuit		on timing cover - 4 th cyl.
Oil heat exchanger		integrated into the block
Oil filler		on timing cover - 1 st cyl.
Exhaust counter flange		V Clamp
Starter		12V - 3kW
Alternator		12V - 90A with W contact
Engine stop device		electrical excitation
Wiring harness		-
Painting	color	grey

NOT INCLUDED IN THE STANDARD CONFIGURATION

Power take off - transmission ratio		-
PTO maximum available torque	DIN 4 / SAE B	-
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.

