

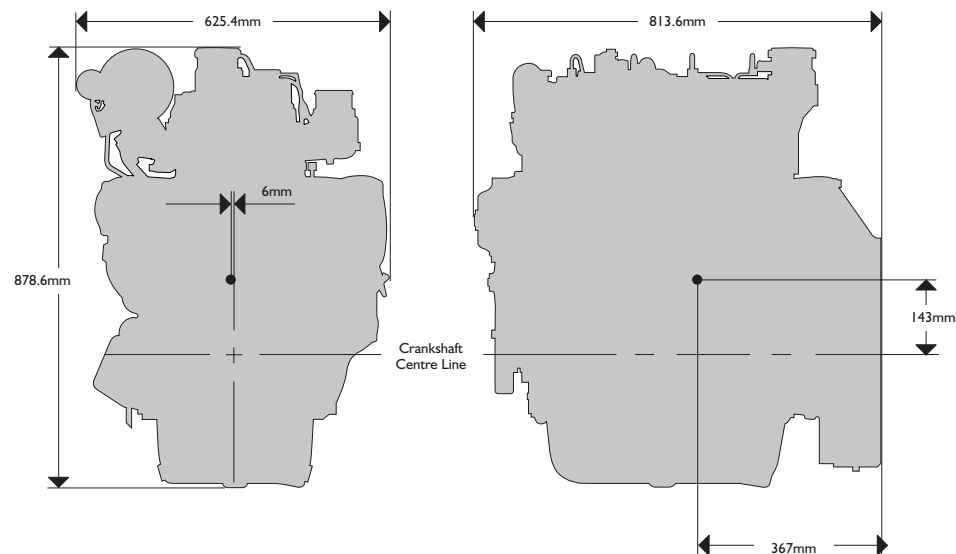


**JCB DIESELMAX**

**TIER 3/STAGE 3A TURBOCHARGED AFTERCOOLED**  
**74.2KW (100HP) & 85KW (114HP)**



## MOBILE MACHINERY



## GENERAL TECHNICAL DATA

Technical Code		T3 TCA
Thermodynamic cycle		Diesel 4 stroke
Air intake		TCA
Arrangement		in-line 4 cyl.
Bore	mm	103
Stroke	mm	132
Swept Volume	cm <sup>3</sup>	4399
Mean piston speed at rated speed	m/s	9.68
Valves per cylinder		4
Cooling		Liquid
Direction of rotation (viewed from crank nose)		Clockwise
Compression Ratio		17.2
Rotational mass moment of inertia excluding flywheel	kgm <sup>2</sup>	0.2255
Standard flywheel inertia	kgm <sup>2</sup>	0.4061
Dry weight	kg	477

Technical Code		T3 TCA - 74.2kW	T3 TCA - 85kW
Maximum rating <sup>(1)</sup> (intermittent)	kW	74.2	85
Rated speed	rpm	2200	2200
Maximum torque	Nm	440	440
Maximum torque speed	rpm	1300	1300
Maximum no load governed speed	rpm	2420	2420
Nominal idling speed	rpm	900	900
BMEP at maximum torque	bar	12.6	12.6
Emission Certification		EPA Tier3, EU St3 A	EPA Tier3, EU St3 A
Best point specific fuel consumption	g/kWh	207	208
Specific fuel consumption @ rated power	g/kWh	230	236
Specific fuel consumption @ peak torque	g/kWh	207	208
Noise at maximum rating	dBA 1m	89	89
Minimum starting temperature without auxiliaries	°C	-20	-20

<sup>(1)</sup> as per ISO 14396 (nett power without fan)

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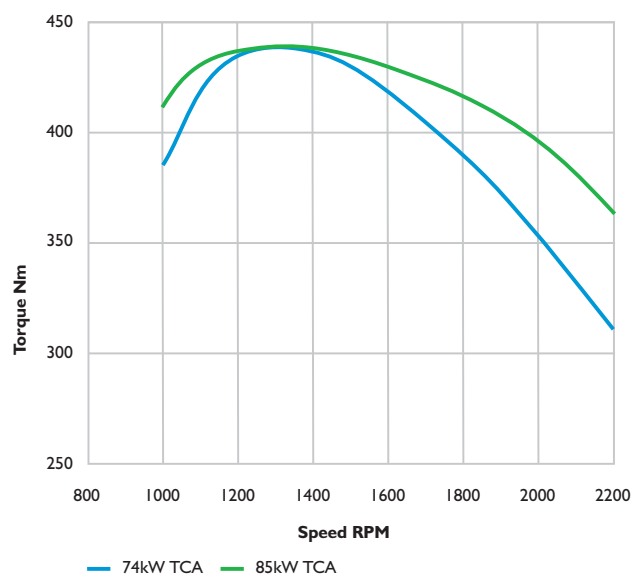
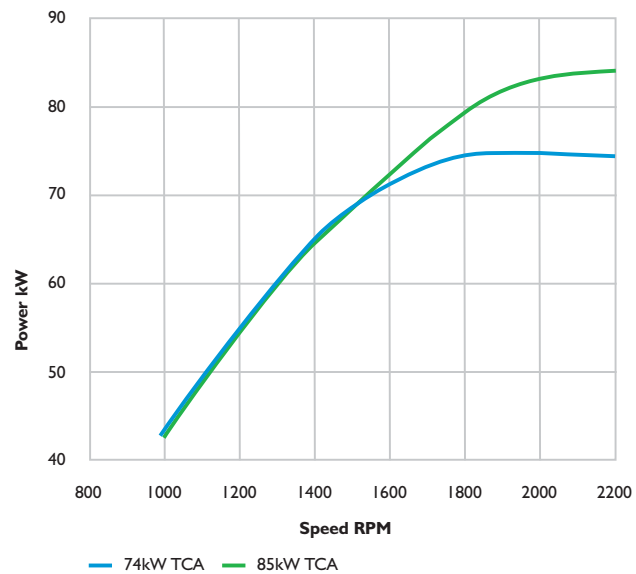


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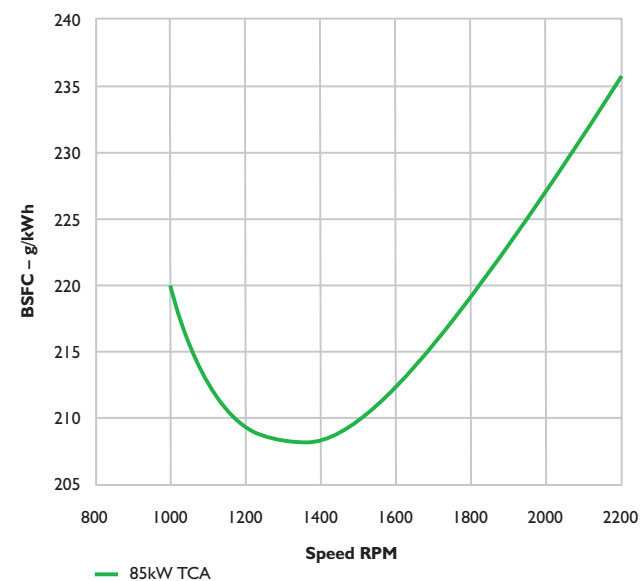
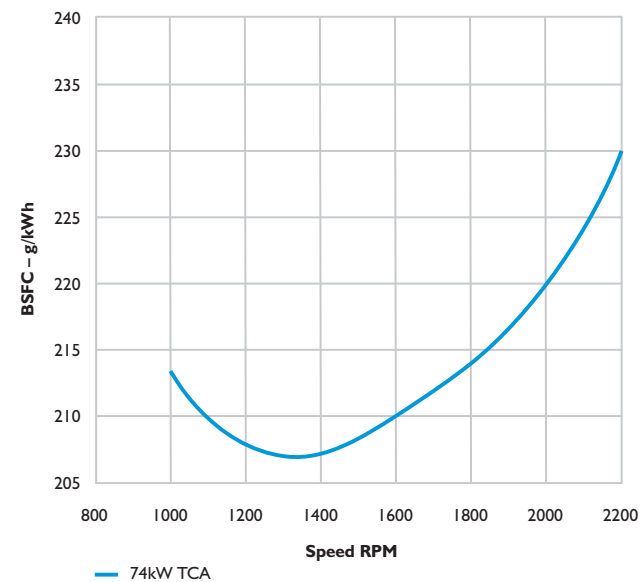
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### POWER AND TORQUE CURVES



### FUEL CONSUMPTION





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### AIR INDUCTION

		T3 TCA - 74.2kW	T3 TCA - 85kW
Maximum allowable air intake restriction with clean air filter	mbar	50	50
Maximum allowable restriction with dirty air filter	mbar	80	80
Air requirement for combustion at full load rated speed	g/s	122	135
Turbocharging pressure at full load rated speed	mbar	1100	1250
Turbocharger compressor outlet air temperature	°C	131	140
Charge cooler outlet temperature	°C	60	60
Heat rejected to charge cooler at maximum power	kW	8.2	12
Charge cooler system max pressure drop	mbar	125	125

### EXHAUST SYSTEM

		T3 TCA - 74.2kW	T3 TCA - 85kW
Maximum allowable back pressure	mbar	150	150
Exhaust gas temperature at full rated speed	°C	480	545
Exhaust flow at maximum output	g/s	127	140

### COOLING SYSTEM

		T3 TCA - 74.2kW	T3 TCA - 85kW
Coolant capacity - Engine only	ltrs	7	7
Water pump flow at rated speed	ltr/min	240	240
Heat to reject from coolant at maximum power	kW	47 est	54 est
Thermostat temperature	°C	88	88
Cooling liquid maximum temperature	°C	110	110
Headertank pressure cap setting	bar	1	1
Coolant Specification Approved (JCB HP High Performance)		ASTM D6210	ASTM D6210

### LUBRICATING SYSTEM

		T3 TCA - 74.2kW	T3 TCA - 85kW
Lubricating oil pressure	bar	4.9	4.9
Maximum oil temperature at full rated speed: continuous	°C	125	125
Maximum oil temperature at full rated speed: intermittent	°C	135	135
Engine angularity limits in continuous operation:			
- Maximum front up and front down	deg	35	35
- Maximum right hand and left hand	deg	35	35
Total system capacity - including pipes, filters etc	ltrs	14	14
Minimum recommended oil grade	API	CH4	CH4
Oil filter maintenance service interval (<75% duty cycle)	hrs	500	500
Oil consumption at maximum rating	% of fuel consumption	0.03	0.03

### FUEL SYSTEM

		T3 TCA - 74.2kW	T3 TCA - 85kW
Injection system		Rotary Mechanical	Rotary Mechanical
Fuel maximum intake restriction	mbar	150	150
Fuel maximum intake temperature	°C	50	50
Engine Pre-Filter	Micron	30	30
Engine Main Filter	Micron	5	5

### ELECTRICAL SYSTEM

		T3 TCA - 74.2kW	T3 TCA - 85kW
Type (ETR - Energised To Run)		Negative Ground ETR	Negative Ground ETR
Standard (Starter & Alternator)	V	12	12
Option	V	24	24
Minimum Cranking Speed	rpm	105	105
Battery (not included) - minimum capacity recommended		145Ah.	145Ah.
Battery (not included) - minimum cold cranking capacity		850 CCA	850 CCA

**JCB DIESELMAX****TIER 3/STAGE 3A TURBOCHARGED AFTERCOOLED  
74.2KW (100HP) & 85KW (114HP)****STANDARD CONFIGURATION**

Technical Code	JCB 444 T3 TCA
Flywheel housing	SAE 3
Intake manifold location	Left hand forward
Exhaust manifold / Turbocharger location	Right hand rearward
Turbocharger	Wastegate controlled
Fan drive ratios	0.85:1, 1:1, 1.16:1 or 1.25:1
Distance between fan - crankshaft centres	262mm or 356mm
Main Fuel Filter & Pre-Filter	Included
Fuel pump	Included
Oil filter	1 off, left side
Oil sump	Press steel, low noise transmission structure
Oil vapours blow-by circuit	Open filtered, breather hose included
Oil heat exchanger	Left side
Oil filler position	Top and left hand side
Starter motor	12V, 4.2kW
Alternator	12V, 95A
Engine stop	Electrical
Power Take-off: Heavy Duty	60kW SAE B, RHS
Power Take-off: Light Duty	10kW SAE A, LHS
Finish	Lacquered

**OPTIONAL EQUIPMENT**

Extensive range of configuration options available from JCB Dieselmex Sales Option Manual - contact JCB Power Systems dealer or JCB Power Systems Sales Dept. for availability of specific configuration options



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