

CURSOR

C78 ENT

FOR INDUSTRIAL APPLICATIONS

6 CYLINDER IN-LINE - DIESEL CYCLE

220 kW (295 hp) @ 2200 rpm

1250 Nm (922 lb.ft) @ 1200 rpm



TECHNOLOGICAL EXCELLENCE

**IVECO
MOTORS**

C78 ENT FOR INDUSTRIAL APPLICATIONS

Technical code		F2BE0687_*B3..
Thermodynamic cycle		Diesel 4 stroke - D.I
Aspiration		TAA
Configuration		6L
Bore x Stroke	mm (in.)	115 X 125 (4.53 X 4.92)
Total displacement	liters (cu. in.)	7.8 (476)
Valves per cylinder		4
Cooling		liquid
Direction of rotation (viewed facing flywheel)		CCW
Compression ratio		16 : 1
Rotation mass moment of inertia (without flywheel)	kgm ² (lbf ²)	0.30 (7.12)
Standard flywheel inertia	kgm ² (lbf ²)	1.93 (45.80)

Air induction

Max suggested intake restriction with clean air filter	kPa (in. H ₂ O)	3.5 (14)
Max allowable restriction with dirty air filter	kPa (in. H ₂ O)	6.0 (24)
Air requirement for combustion at 100% load/rated speed	kg/h (lb/h)	1280 (2822)
Turbocharging pressure at full load/rated speed	kPa (psi)	160 (23.2)
Turbocharging air max temperature (engine inlet)	°C (°F)	50 (122) @ 77°F amb.
Heat rejected to intercooler at maximum power	kW (BTU/min)	38.5 (2191)
Intercooler system max pressure drop	kPa (in. H ₂ O)	10 (40.1)

Exhaust system

Max allowable backpressure	kPa (in. Hg)	10 (2.95)
Max exhaust temperature at full load/rated speed	°C (°F)	510 (950)
Exhaust flow at max output	kg/h (lb/h)	1330 (2932)

Lubrication system

Minimum oil pressure at idle	kPa (psi)	150 (21.75)
Max oil temperature at full load/rated speed	°C (°F)	120 (248)
Engine angularity limits continuous operation: max front up and front down	degrees	17
max left hand and right hand	degrees	17
Total system capacity including pipes, filters etc.	liters (quarts)	28 (29.6)

Cooling system

Coolant capacity (engine only)	liters (quarts)	15 (16)
Water pump flow at rated speed	m ³ /h (gal/min)	21.5 (94.7)
Heat rejected to coolant at max power	kW (BTU/min)	110.8 (6307)
Thermostat (operating range)	°C (°F)	83 to 95 (181 to 203)
Cooling liquid max temperature	°C (°F)	105 (221)
Min/max pressure in the cooling circuit system	kPa (psi)	30/160 (4.35/23.2)
Radiator max pressure drop	kPa (psi)	35 (5)

Fuel system

Injection system		Electronic Unit Injection (E.U.I.)
Fuel inlet max restriction	kPa (in. H ₂ O)	30 (120.3)
Fuel inlet max temperature	°C (°F)	40 (104) @ 77°F amb.

Electrical system

Voltage	V	24
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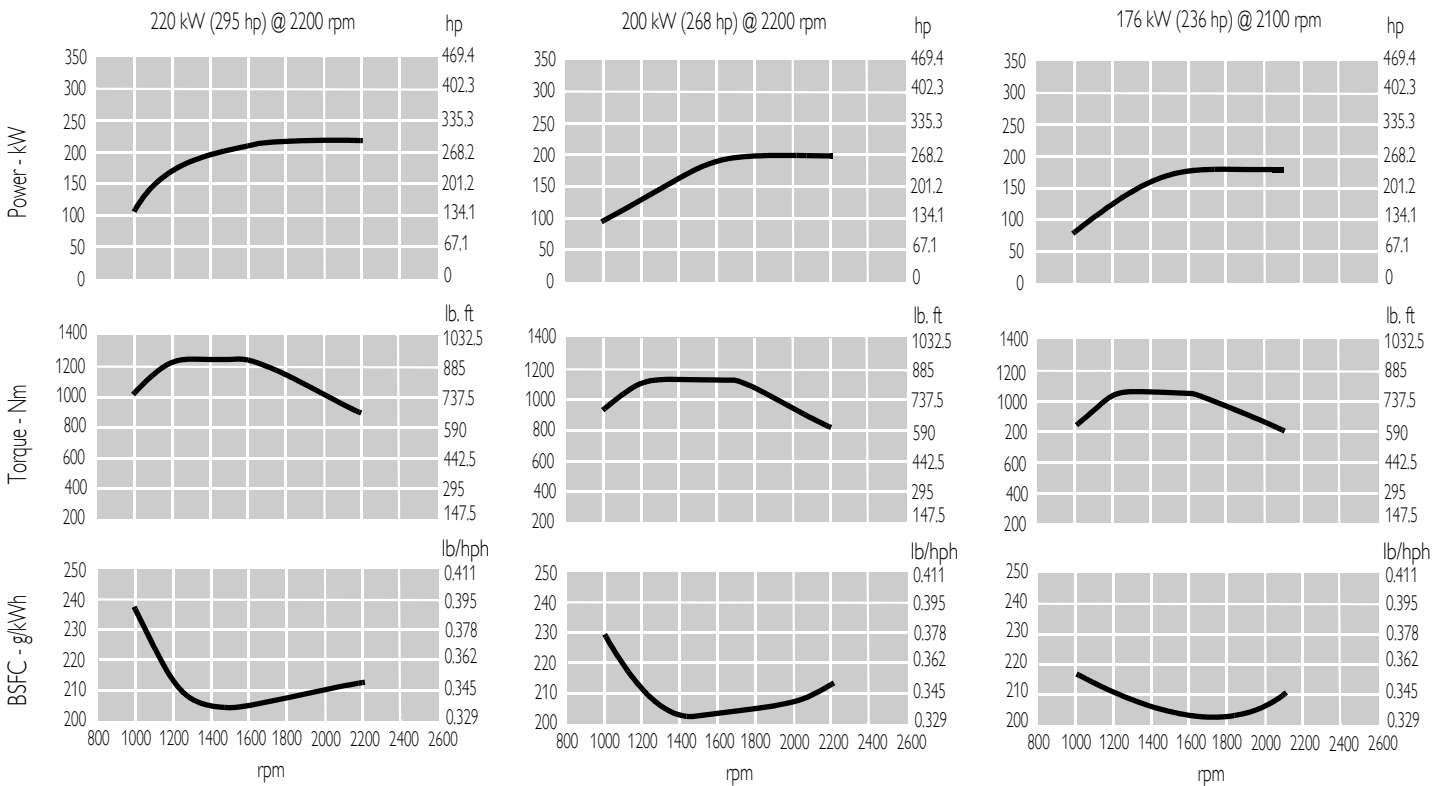
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Maximum rating *	kW(hp)	220 (295)	200 (268)	176 (236)
At speed	rpm	2200	2200	2100
Maximum torque	Nm (lb. ft)	1250 (921.9)	1150 (848.1)	1050 (774.4)
At speed	rpm	1200	1200	1200
Maximum no load governed speed	rpm		2400	
Minimum idle speed	rpm		600	
Mean piston speed at rated rpm	m/s (ft./s)	9.2 (30.2)	9.2 (30.2)	8.8 (28.9)
BMEP at max torque	kg/cm ² (psi)	20.51 (291.92)	18.87 (268.57)	17.23 (245.21)
Available certifications	EPA Tier 2 - EC 97/68 Phase 2			
BSFC	g/kWh (lb/hp h) @ rpm	206 (0.338) @ 1500		
Oil consumption at max rating	(% of fuel consumption)	< 0.2		
Noise at rated power (ISO 3744)	dB(A)	94		
Minimum starting temperature without aids	°C (°F)	-15 (+5)		
Oil and oil filter maintenance interval for replacement	hours	600		
Dry weight (standard configuration)	kg (lb)	675 (1488)		

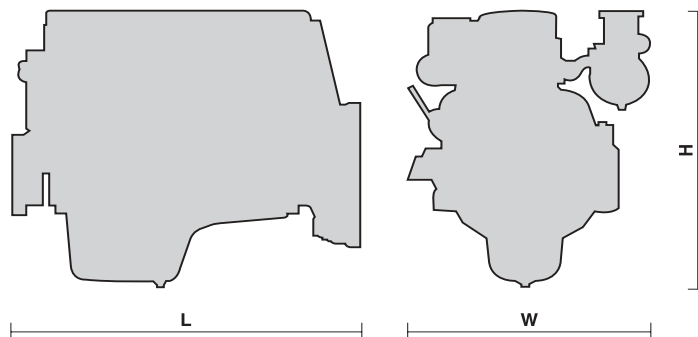
FOR INFORMATION ON THE AVAILABLE RATINGS NOT LISTED IN THIS DOCUMENT PLEASE CONTACT THE IVECO MOTORS. SALES NETWORK.

* 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.



L = 1175 mm (46.3 in)
W = 932 mm (36.7 in)
H = 1038 mm (40.9 in)



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Standard configuration

Flywheel housing	SAE	1
Flywheel diameter	in.	14
Intake manifold location		right side / forward inlet
Exhaust manifold / turbocharger orientation		left side / backward outlet
Turbocharger		waste gate controlled
Turbocharger location		left side
Fan drive ratio		1.03 : 1
Distance from fan to crankshaft center	mm (in.)	250 (9.84)
Fuel filter		1 - right side
Fuel prefilter		included, supplied loose
Fuel pump		included
Oil filter		1 - left side
Oil sump		sheet steel / front sump
Oil vapors blow-by circuit		close crankcase ventilation
Oil heat exchanger		built in the crankcase
Oil filler		on valve cover
Exhaust mounting flange		included
Starter motor		24 V - 4.5 kW
Alternator		24 V - 90 A
Engine shut-off		electronic central unit
Wiring harness		interface wiring loom with accessories
Power take off (PTO)		optional
PTO transmission ratio		1.13 : 1
PTO maximum available torque		120 Nm (88.5 lb ft)
Painting	color	grey RAL 7021

Not included in the standard configuration

Battery - minimum capacity recommended	180 Ah (24 V)
Battery - minimum cold cranking capacity recommended	800 CCA (24 V)

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.

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