

SOFIM

8140.43

FOR AUTOMOTIVE APPLICATIONS

4 CYLINDERS IN LINE - DIESEL CYCLE

Max. 107 kW (146 CV) @ 3600 rpm

320 Nm @ 1500 rpm



T E C H N O L O G I C A L E X C E L L E N C E

**IVECO
MOTORS**

8140.43 FOR AUTOMOTIVE APPLICATIONS

Technical code		8140.43B	8140.43S	8140.43N
Thermodynamic cycle		Diesel 4 stroke - C.R.		
Air intake		TAA		
Arrangement		4L		
Bore x Stroke	mm	94.4 X 100		
Total displacement	l	2.8		
Valves per cylinder		2		
Cooling		liquid		
Direction of rotation (viewed facing flywheel)		CCW		
Compression ratio		18.5 : 1		
Rotation mass moment of inertia (without flywheel)	kgm ²	0.045		
Standard flywheel inertia	kgm ²	0.35 (without clutch disk)		

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)	6.5 (0.065)		
Air requirement for combustion at 100% load/rated speed	kg/h (m ³ /h)	520 (440)	590 (498)	610 (515)
Turbocharging pressure at full load/rated speed	kPa(bar)	125 (1.25)	130 (1.30)	135 (1.35)
Turbocharging air max temperature (engine inlet)	°C	60 (at 20°C amb.)		
Heat rejected to intercooler at maximum power	kJ/s(kcal/h)	12 (10,315)	15.5 (13,324)	17 (14,613)
Intercooler system max pressure drop	kPa(bar)	9 (0.09)	9 (0.09)	10.1 (1.01)

Exhaust system

Max allowable backpressure	kPa(bar)	150 (1.5)		
Max exhaust temperature at full load/rated speed	°C	620		
Exhaust flow at max output	kg/h	540	615	640

Lubrication system

Minimum oil pressure at idle	kPa(bar)	80 (0.8)		
Max oil temperature at full load/rated speed	°C	130		
Engine angularity limits continuous operation: max front up and front down	0/360	30		
max left hand and right hand	0/360	30		
Total system capacity including pipes, filters etc.	liters	6.2		

Cooling system

Coolant capacity (engine only)	liters	4.05		
Water pump flow at rated speed	l/h	8700		
Heat to reject by heat exchanger at max power	kJ/s(kcal/h)	52 (44,700)	58 (49,800)	65 (55,900)
Thermostat (modulating range)	°C	82 to 94		
Cooling liquid max temperature	°C	108		
Max inner pressure in the cooling circuit	kPa (bar)	150 (1.5)		
External cooling system max pressure drop	kPa (bar)	120 (1.2)		

Fuel system

Injection system		Common Rail		
Minimum diesel fuel pressure in engine input	kPa(bar)	150 (1.5)		
Minimum diesel fuel pressure in engine output	kPa(bar)	50 (0.5)		
Gas oil max intake temperature	°C	70		

Electrical system

Voltage	V	12		
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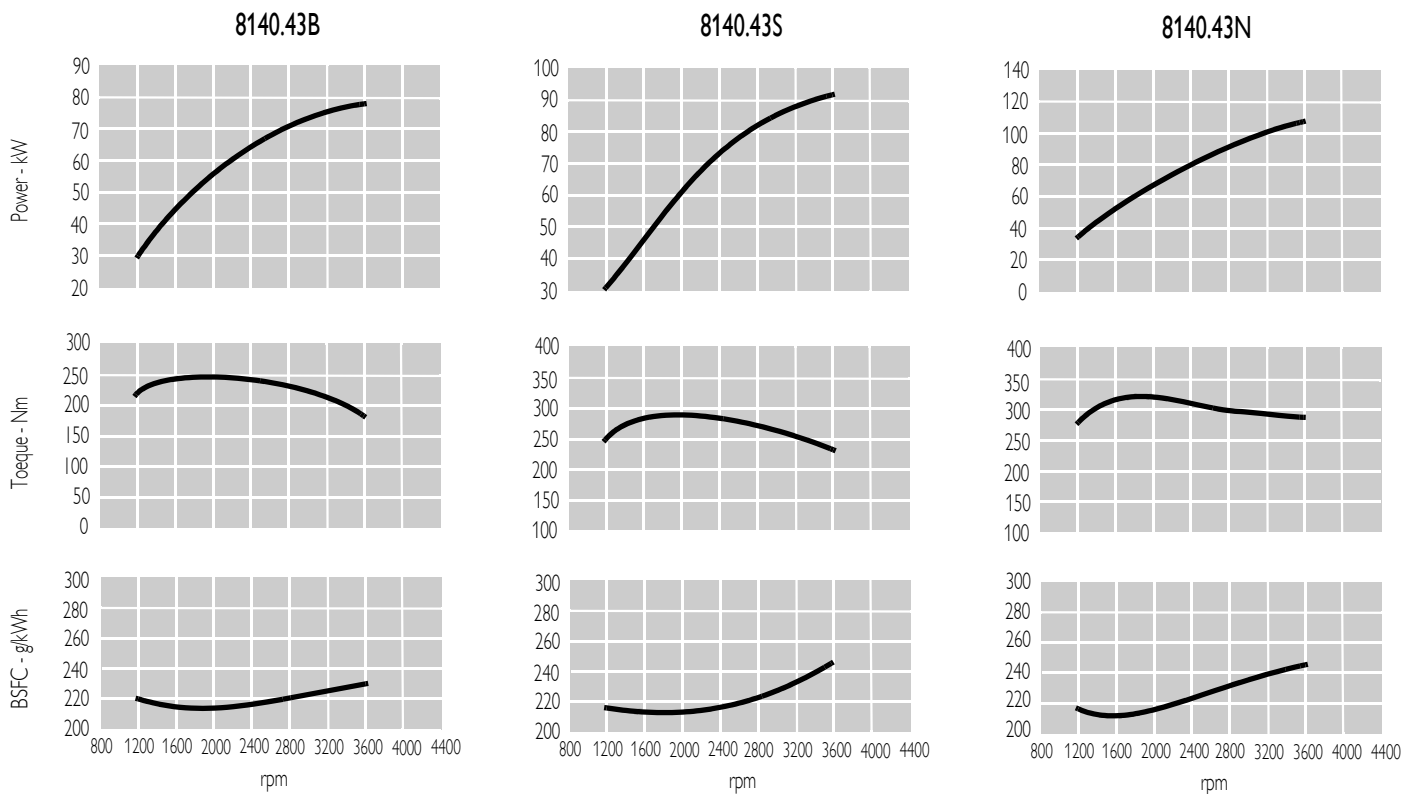
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		8140.43B	8140.43S	8140.43N
Maximum rating *	kW(CV)	78 (106)	92 (125)	107 (146)
At speed	rpm	3600	3600	3600
Maximum torque	Nm (kgm)	250 (25.5)	290 (29.6)	320 (32.6)
At speed	rpm	1800	1800	1500
Maximum no load governed speed at max rating	rpm		4250	
Minimum idling speed	rpm		800	
Mean piston speed at rated speed	m/s		12	
BMEP at max torque	kg/cm ²	11.3	13.3	14.6
Available certifications		2001 / 27 / EC - EURO 3		
Specific fuel consumption at full load (best value)	g/kWh @ rpm	215 @ 1800		
Oil consumption at max rating	(% of fuel consumption)	0.1		
Noise at max rating (ISO 3744)	dBA	99		
Minimum starting temperature without auxiliaries	°C	-10		
Oil and oil filter maintenance interval for replacement	km	25,000 km		
Dry weight (standard configuration)	kg	245		

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

* **Power** at flywheel according to directive EEC 88/195 (ECE 24.03) after 50 hours operation at the engine test bench.

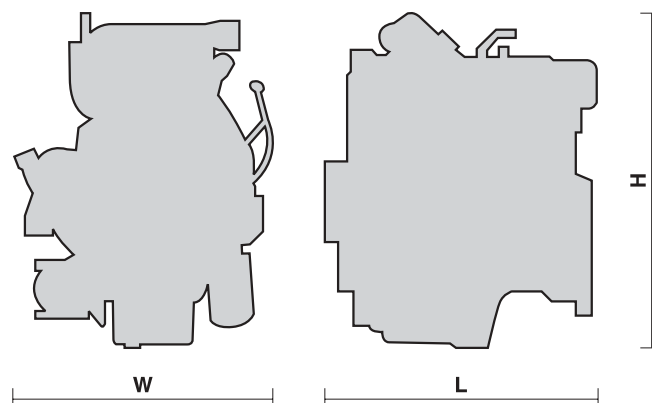
Test conditions: compressor input temperature: 25°C - intercooler outlet temperature: 45°C - atmospheric pressure: 100 kPa - loss of load in engine input: 3.5 kPa - diesel density: 835 g/dm³ - cetane number: >52.



L = 718 mm

W = 648 mm

H = 844 mm



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Standard configuration

Flywheel housing	SAE	N.A.
Flywheel size	inch	9" 1/4 - 10" 1/2
Intake manifold location		right side
Exhaust manifold / turbocharger location		right side
Turbocharger (8140.43B and 8140.43S)		waste gate controlled
Turbocharger (8140.43N)		VGT
Turbocharger location		right side /middle position
Fan transmission ratio		1.20 : 1
Distance between fan - crankshaft centers	mm	y = -19 z = 165
Fuel filter	n°	included
Fuel prefilter		included
Fuel pump		included
Oil filter	n°	1 - left side
Oil sump		sheet steel / front well
Oil vapours blow-by circuit		recycled blow-by
Vacuum pump		on the engine
Steering pump		on the engine
Oil heat exchanger		plate exchanger
Oil filler		onto the valve cover
Exhaust counter flange		included
Starting motor		12 V - 2.3 /2.6 kW
Alternator		12 V - 90/120 A
Engine stop device		electronic switch-off device
Wiring harness		engine harness
Power take off (PTO)		in front of crankshaft by pulley
PTO transmission ratio		1 : 1
PTO maximum available torque		80 Nm
Painting		grey and black on ferrous components and final transparent protection

Not included in the standard configuration

Battery - minimum capacity recommended	110 Ah
Battery - minimum cold cranking capacity recommended	580 A

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.

IVECO S.p.A.

Iveco Motors
Lungo Stura Lazio, 49 - 10156 Torino
Tel. +39 (011) 0076245 - Fax +39 (011) 0076275

Iveco Motors
Viale dell'Industria, 15/17 - 20010 Pregnana Milanese - Milano
Tel. +39 (02) 935101 - Fax +39 (02) 93590029

www.ivecomotors.com

Local Distributor