

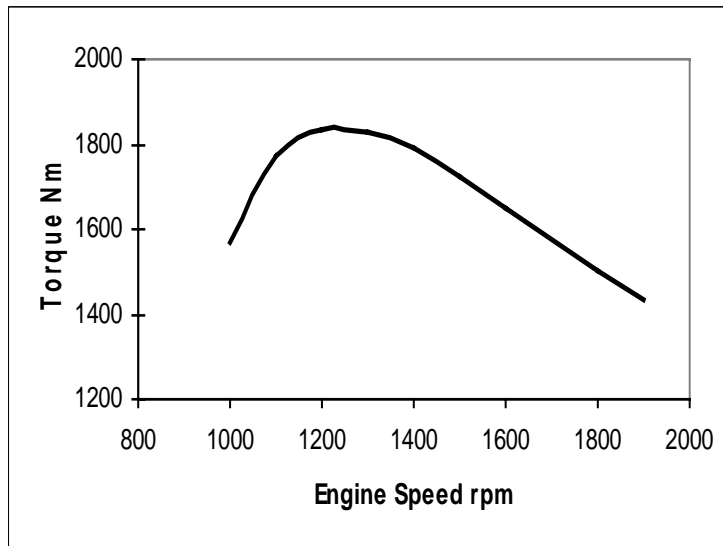
# Cummins



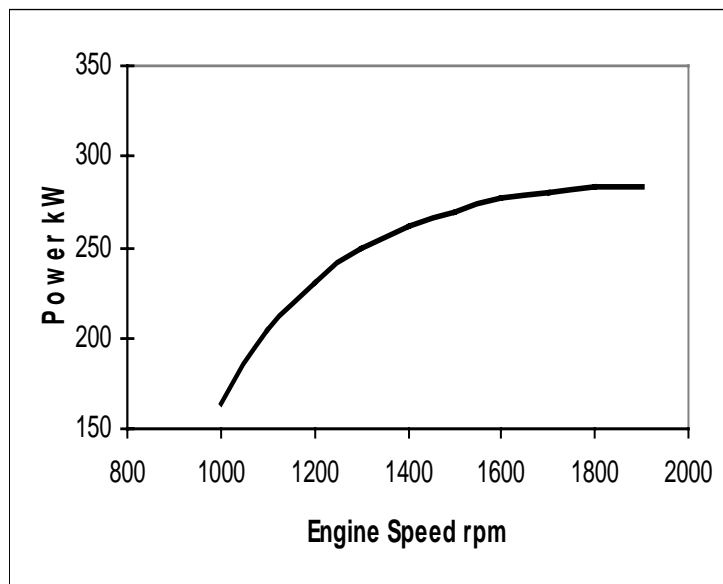
Engine Model : ISM<sup>®</sup>385 30  
Preliminary Curve and Datasheet : FR2855

EURO IIIEngine Model: ISM<sup>®</sup>385 30Advertised Power: 283kW @ 1900rpm  
380HP @ 1900rpm

CPL: 2830

Peak Torque: 1835Nm @ 1200rpm  
1354bft @ 1200rpmDisplacement: 10.8Litre  
Configuration: 6 cylinder in-lineBore: 125mm  
Stroke: 147mmAspiration: Turbocharged & Aftercooled  
Fuel System: Cummins

Torque		
rpm	Nm	lb-ft
1000	1572	1160
1100	1775	1310
1200	1835	1354
1300	1830	1351
1400	1790	1321
1500	1724	1272
1600	1652	1219
1700	1578	1165
1800	1501	1108
1900	1431	1056



Power		
rpm	kW	bhp
1000	164	220
1100	204	274
1200	230	308
1300	249	334
1400	262	351
1500	270	362
1600	277	371
1700	281	377
1800	283	380
1900	283	380

Performance data shown is nominal, and is to 80/1269/EEC (as amended) conditions of 990mbar barometric pressure and 25 °C air intake temperature. Not included are Compressor, Fan and Alternator



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**General**

Reference: Turbocharged and Air to Air Aftercooled  
 Certification: ECE Reg24.03, EC Directive 88/77(as amended)  
 Data on this sheet refers to Installation Diagram: TBA  
 Weight Dry: kg (with flywheel and alternator, but less electrics). 940  
 Weight Wet: kg 986  
 Compression Ratio: 16.2:1  
 C.G.Distance from F.F.O.B: mm 450  
 C.G.Distance above crank centre line: mm 191  
 Maximum bending moment at R.F.O.B: Nm 1350  
 Thrust bearing load limit;  
 Maximum intermittent: N 9000  
 Maximum continuous: N 4000

**Performance Data**

Minimum full load BSFC 199g/kw.hr  
 Idle Speed: rpm 600 - 800  
 Maximum no load governed speed: rpm 2130  
 Maximum overspeed capability; rpm (15secs max.) 2600  
 Maximum altitude for continuous operation: m TBA  
 Clutch engagement torque at 800rpm: Nm 1250  
 When using exhaust brakes;  
 Exhaust pressure, at 2100rpm, at turbocharger outlet, must not exceed: kPa 450  
 Brake blade must have orifice to control exhaust pressure.  
 Approximate engine retardation: kW 110  
 Compression Brake: kW at 2100rpm 240  
 Maximum no.load speed for braking 2300rpm

RPM	Oil Pressure	Air to Turbo	Air From Turbo		Exhaust Flow	Exhaust Temp	Fuel Flow	Coolant Flow	Heat Rejection		Friction Power
			Flow kg/min	Pressure kPa					Coolant kW	Air kW	
1900	274	23.9	27.9	183	56.3	480	190.0	307	115.6	58.3	34.0
**1700	250	22.8	26.7	189	55.1	412	188.0	275	122.1	56.3	29.0
1200	250	16.5	19.4	179	41.4	488	185.0	197	97.3	40.0	16.0

All values within ± 5% Data Ref. 0002.FT144, flows from 0002.FT137

\* Updated Data Since Previous Issue

\*\* Cooling System Check Point



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**Lubrication System**

Oil pan capacity	
High: litre	34
Low: litre	26
Total capacity with LF 9001 Combo Filter: litre	39
Angularity low oil level: Front up 30°, Rear up 30°, F/P side up 30°, Exh side up 30°	

**Air Intake System**

Max. temp. rise between ambient air and turbo air inlet: °C	15
Max. intake restriction with dry type air cleaner, with clean filter	
Medium Duty: kPa	2.9
Heavy Duty: kPa	3.7
Max. intake restriction with dirty filter: kPa	6.2

**Charge Air Cooling**

Max. temp. rise between ambient air and air intake manifold : °C	30
Max. ΔP between turbo out/manifold in: kPa	13
Intake pipe size normally acceptable: mm dia	90
For further information see AEB 20.14	

**Exhaust System**

Max. back pressure imposed by piping and silencer: kPa (mmHg)	10.0 (76)
Exhaust pipe size normally acceptable: mm dia	125

**Fuel System**

Max. restriction at fuel pump with clean filter: mmHg	152
Max. return line restriction: mmHg (measured at rated condition)	64
Min. fuel tank vent capacity: m <sup>3</sup> /hr	0.85
Max. fuel temperature at pump outlet: °C	70

**Cooling System**

Engine coolant capacity: litre	9.5
Standard modulating thermostat (range): °C	82 - 93
Max. coolant pressure (no pressure cap and thermostat closed): kPa	276
Max. coolant temperature (engine out): °C	100
Max. deaeration time: mins	25
Max. coolant flow to accessories: litre/min	75
Min. coolant temperature: °C	70
Min. fill rate: litre/min	19
Min. coolant expansion space % of system capacity	6
Min. drawdown capacity excluding expansion space : litre	Ref Bulletin: 3884920
Min. allowable pressure cap: kPa	50
Coolant alarm activation temperature: °C	104
Air on fan, typical operating temperature range: °C	75 - 80
Shutter opening temperature: °C	Do Not Use
Min. cooling capability at normal fuel rate:	See AEB 20.14

**Electrical System 24Volt**

Max. resistance of starting circuit: ohms	0.002
Min. recommended battery capacity as per DIN72311 and BS3911	
Engine only with de-clutched load cold cranking amperes: CCA	510

**Starting System**

Min. unaided cold start temperature -5 °C @ 150 average rpm.	
Min. aided (ether) cold start temperature -25 °C @ 100 average rpm.	