

- 3 in-line cylinders
- 1028 cm³
- 22,0 kW/30,0 HP
- 3600 r.p.m.
- Nm 65,0@1800



Construction

- 4-stroke Diesel engine with 3 in-line cylinders
- Combustion sequences 1-3-2
- Vertical or 35° tilted (exhaust upwards)
- Cast iron engine block with integral reborable liners
- Aluminium cylinder head
- “Crossflow” intake and exhaust system
- Unit Pump Common Rail System
- Single overhead camshaft driven by toothed belt
- Roller followers type II with hydraulic lash-adjusters
- Common Rail Direct injection (max available injection pressure: 1450bar)
- Inlet metering valve
- Electric feed pump (optional)
- Remote fuel filter
- Forced lubrication with vane pump
- Full flow cartridge filter
- High capacity oil sump
- Water cooling
- Water pump on engine block
- ECU
- Electric starter (optional)
- Belt driven alternator
- Engine wiring harness
- Oil breather system with recirculated blow-by

- Pneumatic EGR Valve with feedback position sensor
- EGR Cooler
- Oxidation Catalyst (optional)
- Timing belt cover complete with dust protection

EMISSION LIMITS (with DF; in g/km)	
EMISSION NORM	BS IV
4 wheeler N1 Class, Kerb mass < 1305 kg	CO = 0.45 NOx = 0.25 HC + NOx = 0.30 PM = 0.021
Validity	
11 Metro Areas Rest of India	from April 1 st 2010 not yet defined

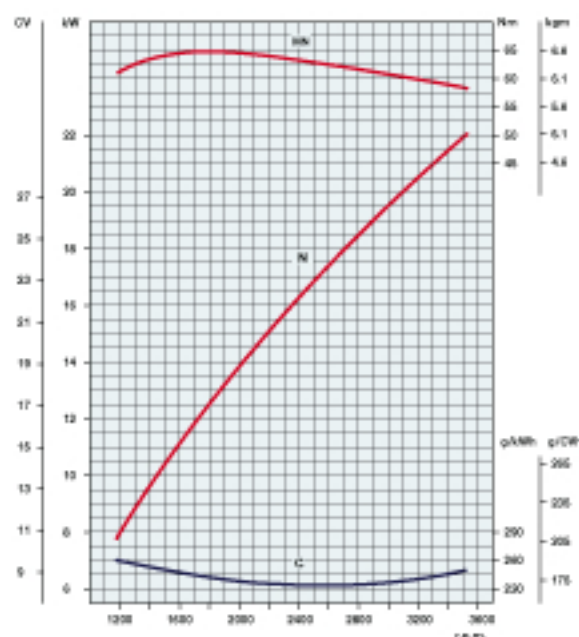
Main Application

- Light duty truck (BS IV)
- **Vehicle Type:** Light Commercial Vehicle (LCV), class N1
- **Inertia reference Mass:** 1020kg
- **Gear box type:** Manual (5+1)

Specifications

Setting	kW @ rpm	22 @ 3600 rpm
Dry weight	kg	90 (estimate)
Emissions regulation conformity		Bharat Standard IV
Displacement	cm ³	1028
Nr of cylinders		3 in-line
Bore x Stroke	mm	75 x 77.6
Working cycle		4-stroke DIESEL
Combustion sequences (cranks)		1-3-2
Intake system		Naturally aspirated
Injection system		Unit Pump Common Rail
Cooling system		Liquid
Max torque	Nm @ rpm	65 @ 1800
Specific fuel consumption (at max power)	g/kWh	230
Max idle speed	rpm	4000
		(TBC according to customer's requests)
Low idle speed	rpm	900
		(TBC according to customer's requests)
Alternator	13.5 Volt	40 or 55 Ampere
Water pump rated flow @ 4750 rpm	l/min	60
Oil sump capacity	l	4,5
Oil level max / min gap	l	1,5
Engine oil specification	10W40 API SJ/CF	ACEA A3/B3
Starter motor (optional)	kW	1,6
Engine stop		ECU controlled

Curve



N Power curve - 80/1269/CEE - ISO 1585 -

MN Torque curve

C Specific fuel consumption

Power ratings refer to engines equiped with air filter, standard muffler, after being run in and in ambient conditions of 20°C and 1 bar. Power levels drop by 1% every 100m altitude and by 2% every 5°C above 20°C.

Technical drawing

