

An Introduction to Continental Engines Ltd.

Corporate Office : Global Business Park, Tower-D, M.G. Road, Gurgaon, Haryana, 122 002

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Introduction

- CEL is a part of the Bakshi Group, which has been present in the fields of Automotive Components, Civil Engineering and Real Estate, for more than **30 years**.
- Under the leadership **Mr. Amarjit Singh Bakshi** who holds the **Managing Director** position in the company.
- Global employment exceeds **1600 numbers** and the current year turnover is expected to be over **Rs.600 crores**.
- Manufacturing facilities at **Bhiwadi (Rajasthan)** and **Roorkee (Uttarakhand)**.
- Acquired **VEGE Intermotor BV**, at **Holland**
 - Engine re-manufacturing facility in Tunisia,
 - Marketing & distribution network spanning almost the whole of Europe.

CONTINENTAL ENGINES LIMITED

Global Presence

W O R L D P R E S E N C E



CEL Automotive-Bhiwadi

CEL is among the fastest growing Automotive Companies from India with international operations carried out as under:

"CEL Automotive" - BHIWADI (Rajasthan)

- **Designing, manufacturing and distribution of automotive components**
- The current products are of aluminum alloy cylinder heads, cylinder blocks, manifolds, assembled cylinder heads, gears and other critical engine components.
- The Company is a major supplier of engine cylinder heads and other automotive components mainly for the exports market.
- Adoption of contemporary practices to meet the ever increasing customer requirements.
- Total Productive Maintenance (TPM)
- Total Quality Management and Lean Manufacturing
- TS 16949 certified and has ISO 14001& OSHAS certifications.
- A number of awards in exports from ACMA and Exports council of India.



Crankcase



Cylinder Head
Assembly



Intake Manifold



EGR Housing

CONTINENTAL ENGINES LIMITED

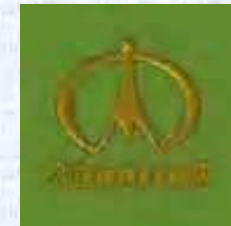
CEL Automotive - Domestic Customers



Sona Koyo



AVTEC



CEL Automotive - International Customers



EATON



PIAGGIO



BorgWarner

**MEGA
MOTOR**



ARCTIC CAT
SHARE OUR PASSION.



IVECO

Iran Khodro Ind Group



Valeo



DEUTZ



VM MOTORI



MANN+HUMMEL



INTERNATIONAL

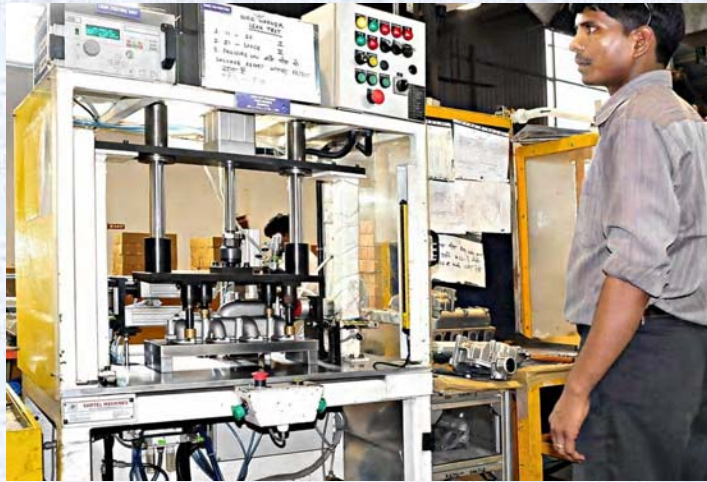
CEL Automotive - Certifications

CEL has been acknowledged with numerous certifications for practicing global standards of quality, performance and safety in all its units.

- VDA 6.1/6.3 Certified by Deutz
- VDA 6.1/6.3 Certified by Mann Hummel
- ISO / TS 16949:2002
- ISO 14001
- OHSAS 18001

CONTINENTAL ENGINES LIMITED

CEL Automotive- Bhiwadi Plant



“Vege” - Rebuilding of engines

- VEGE Intermotor BV - wholly owned subsidiary of CEL
- Plant in Tunisia and distribution network in UK, France, ITALY, Germany, Sweden. Holland and Spain.¹⁰
- One of the world's largest re-manufacturer of Engines and Cylinder Heads
- Remanufacturing of Engines for passenger cars and light commercial vehicles since 1936.
- Sells a variety of other automotive components like gearboxes, fuel pumps and turbochargers under the Vege umbrella

Continental Engines Ltd.

Engines & Vehicles SBU

**Designing, Manufacturing and Distribution of Diesel Engines,
Silent Diesel Gensets, Power Trains and Vehicles**

H.O : 240 & 241, Udyog Vihar, Phase-IV, Gurgaon-122016, Haryana. Telephone: +91 124 4608 900-930

Plant : K.I.E. Industrial Estate, KM Stone-158-159, NH-58, P.O: Gurukul Narsans, Tehsil : Roorkee, Dist-
Haridwar, Uttarakhand -249 406, Telephone: 01332-229700/01

Introduction

Designing, Manufacturing and Distribution of Diesel engines, Silent Diesel Gensets, Power Trains and Vehicles

- Collaboration with **V.M. Motori, Italy**, an erstwhile **DaimlerChrysler** Group company, for manufacturing **diesel engines** for automotive and stationary needs. Already approved by ARAI for emissions norms of Bharat stage II/III and Silent Genset by CPCB for noise pollution.
- Also developed **Power Trains** and Three Wheelers, both for goods and passenger applications. **Already approved by iCAT and ARAI.**
- Production capacity of **three hundred thousands engines and 50 thousand three wheelers**, a big 8.5 acres plant with more than ten thousand square meters covered area has been built at NH 58, Roorkee.(uttarakhand)
- Engines & Vehicles SBU's turnover is expected to reach 500 crores within a span of five years.



8.2 Hp, 430 CC DI Diesel Engine



Diesel Engine Power pack



CEL 5kVA DG



CEL 3 Wheeler

Vision

“To emerge as a strong player in the manufacturing of Engines and in Automobile Segment and gain a competitive advantage through the application of superior technology, aggressive marketing, and innovation and creativity in design.”

Products- Diesel Engines



Diesel Engine

Diesel Engines

Engine Model	186A	188A	188G	288A	288G
Type	Naturally Aspirated, DI Diesel	Naturally Aspirated, DI Diesel	Naturally Aspirated, DI Diesel	Naturally Aspirated, DI Diesel	Naturally Aspirated, DI Diesel
No. of Cylinders	One	One	One	Two	Two
Rated Power (ISO-3046)	8.2 HP/6.0 kW @ 3600 RPM	8.8 HP/6.5 kW @ 3600 RPM	8.8 HP/6.5 kW @ 3000 RPM	22 HP/16.2 kW @ 3600 RPM	22 HP/16.2 kW @ 3000 RPM
Bore x Stroke	86 mm x 74 mm	88 mm x 82 mm	88 mm x 82 mm	88 mm x 82 mm	88 mm x 82 mm
Cubic Capacity	430 CC	499 CC	499 CC	998 CC	998 CC
Cooling	Oil Cooled with Forced Air	Oil Cooled with Forced Air	Oil Cooled with Forced Air	Oil Cooled with Forced Air	Oil Cooled with Forced Air
Torque	20 Nm @ 2200 RPM	22 Nm @ 2200 RPM	20.5 Nm @ 3000 RPM	52 Nm @ 2200 RPM	47 Nm @ 3000 RPM
Direction of Rotation	Anti Clock Wise (from Timing Cover Side)	Anti Clock Wise (from Timing Cover Side)	Anticlock Wise (from Timing Cover Side)	Anticlock Wise (from Timing Cover Side)	Anticlock Wise (from Timing Cover Side)
Engine Dry Weight	50 Kg	51.5 Kg	51.5 Kg	95 Kg	105 Kg
Starting	Electric Start (1.1 kW)	Electric Start (1.1 kW)	Electric Start (1.1 kW)	Electric Start (1.1 kW)	Electric Start (1.1 kW)
Oil Sump capacity	2.2 Ltrs.	2.2 Ltrs.	2.2 Ltrs.	4.2 Ltrs.	4.2 Ltrs.

Products- Diesel Engines

FEATURES OF CEL ENGINES

- Oil cooled Oil is internal so leakage is not dangerous and no contamination from outside is possible.
- Rapid achievement of thermal balance
- Advantages of both air and water cooled engines
- Lighter in weight and most compact in size.
- Simple construction, no thermostats and hoses etc.
- Engines have advance technology and support from VM Motori (an erstwhile DaimlerChrysler Group) of Italy.
- Direct injection and swirl ported cylinder head, P-type VCO nozzle and line pressures of ~ 700 bars for efficient and clean combustion system ensuring good fuel economy on the vehicle and emission regulations anywhere in the world.

Engines-Application of CEL Engines



DG Set



3/4 Wheeler

Power Tiller

Pump set



CEL Engine

Soil Compactor

Concrete Cutter

Products- CEL Silent Diesel Genset

Range of CEL DG Set

- 5 kVA
- 7.5 kVA
- 10 kVA
- 12.5 kVA
- 15 kVA
- Genset cum Weld Set



Products- CEL Diesel Genset

ENGINE

Engine Model	: 188G
Type	: Naturally Aspirated, DI Diesel
No. of Cylinders	: One
Cubic Capacity	: 499 cc
Rated Power (ISO-3046)	: 6.5 kW @ 3000 RPM
Bore X Stroke (mm)	: 88 X 82
Cooling	: Oil Cooled with Forced Air
Torque	: 20.5 Nm @ 3000 RPM
Governing Class	: A1 (as per BS 5514)
Direction of Rotation	: Anticlockwise from Timing Cover side
Starting	: Electric Start
Oil Engine capacity	: 2.2 Ltrs.
Oil Change interval	: 250 Hrs.
Fuel Tank Capacity	: 50 Ltrs. (Std.)
Battery Rating	: 12V 35Amp Hr.

GENERATOR MODELS

Model	4500-01	5000-01	5500-03
Make	Sincro / NSM	Sincro / NSM	Sincro / NSM
Rating	4.5 kVA	5.0 kVA	5.5 kVA
Power Factor	1.0 pf	0.8 pf	0.8 pf
Phase	Single	Single	Three
Rated Current	19.1 Amp	17.4 Amp	6.1 Amp
Rated Voltage	230V, 50Hz	230V, 50Hz	415V, 50Hz
Voltage Regulation	AVR / w/o AVR	AVR / w/o AVR	w/o AVR
Battery Charger	Inbuilt, 12V/10A	Inbuilt, 12V/10A	Inbuilt, 12V/10A
Protection Class	IP21	IP21	IP21
Insulation Class	H	H	H
Mounting on Engine	C23.1.5 Taper Cone	C23.1.5 Taper Cone	C23.1.5 Taper Cone

CANOPY

Dimensions (LxWxH)	: 1350 x 800 x 980 (mm)
Noise level	: <75 dBA (1 m)
Total wt.	: 355 Kgs

SALIENT FEATURES:

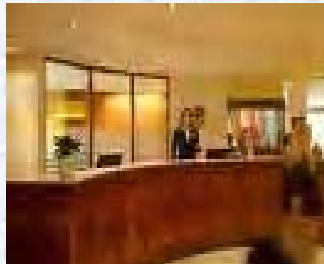
- ★ High performance, compact, European Technology, oil cooled Diesel Engine (DI) under manufacturing license of VM Motori S.p.A., ITALY
- ★ Light weight (portable)
- ★ Self voltage regulation (+5%, -10%) (Brushless)
- ★ Suited to global environment
- ★ Alternator directly mounted on Engine without any coupling

OPTIONAL EQUIPMENTS:

- ★ Auto Start
- ★ Emergency Buzzer
- ★ Fuel Gauge
- ★ Inbuilt electronic AVR



DG Set-Application of CEL DG Set's



Hotels



BTS / Telecom tower



Residential Villas



Mobile lighting Tower



Individual Floors



Nursing Homes



Banks



CEL DG Set



Laboratories



Restaurant

Engines & Vehicles SBU

DG Set- Salient Features

SILENT



ECO-FRIENDLY



LIGHTWEIGHT



COMPACT



Products- CEL Power Pack

POWER PACK

- Designed to manufacture POWER TRAIN for three wheeled vehicles with rear mounted diesel and CNG engines.
- The Power Train is suitable upto 1.5 Ton GVW vehicles.
- It has 4 forward and four reverse speeds.
- The vehicle would have a max road speed of 60Km/hr.
- Extensively tested on our in house three wheelers and *approved by ARAI.*



Products- CEL Three Wheelers

VEHICLES: THREE WHEELER

The company has designed to manufacture and market three wheeler vehicles with rear mounted diesel and CNG engines. The vehicle variants to start will be:

- 1.2 ton GVW Cargo and Passenger versions with 4 forward and four reverse gear. The vehicle would have a max road speed of 60Km/hr.
- 1.5 ton GVW Cargo versions.



3 Wheeler- Salient Features

- Cargo and passenger vehicle variants will be with highest GVW ratings, in their respective categories. Vehicles will have one of the least kerb weights.
- These three wheelers would have highly compact and fuel efficient “oil cooled” engines under the license of M/s V M Motari, Italy for the first time in India.
- The Power and Pick up of the vehicle would be the best. The turning radius is lowest.
- CEL is targeting the lowest material cost of these vehicles to give clear price positioning advantages.
- The vehicles will offer options like steering wheel /handle bar on both vehicle variants.
- The vehicle will offer the best ergonomics, comfort and space for operator.
- The vehicles will give the best top road speed (60 kmph) and 15% more fuel efficient. It is the most stable and safe vehicle on roads.
- Transmission on the passenger vehicle will have life almost double than others. Clutch life will be the best on the passenger variant.
- Very effective brakes

Future Products

*The next phase would see the **CNG Engines** and **three cylinder engine**, the modular extension of the present two cylinder engine, with turbo and intercooler and **Gensets from 20 to 30 KVA rating** and **sub one ton four wheeler for Cargo and Passenger applications**.*

Thank You