CMB

PASSION FOR PLANTS

COMPANY PROFILE

COMPANY PROFILE



OUR PROFILE

Through the long experience of our managers and staff in the field of both edible and industrial Oils and Fats industry, CMB offers proven and advanced technologies to this specific market in order to fulfill the more and more stringent product quality, requested by the market; this target is achieved through a continuous improvement of our in-house technology, taking into consideration the yield and quality of the final product, the energy saving and. plant automation. Thanks to the experience of our actual ability and know-how, we are currently developing new technologies that will be available in the next coming months or years in order to satisfy the future market demand for new and better products. Since our clients are the final end users we are sure that we will be able to carry on our mission as it has been accomplished until now with a great satisfaction.





CORE VALUES



CORE VALUES

- We work to meet and exceed the most stringent expectations of our Clients
- We trust in technological innovation and professional excellence
- We believe in respecting and protecting the environment

The constant pursuit of these values has granted to our Company a continued leadership in the international market.









WORKSHOP



OUR WORKSHOP

The workshop is equipped with modern machines and equipments for mechanical working, welding controlling and mechanical polishing. All welding procedures, automatic and manual, are qualified by national and international institutions.

Due to high specialized personnel and high quality level of working, we are ready to answer in a quick and economical way to all needs of our clients.



ORGANIZATION

COMPANY ORGANIZATION

Total workforce of 80 units approximately (including workshop and services). Highly qualified technicians and engineers having a long and specific experience in the oils, fats, oleochemicals and biodiesel technologies. Prompt reaction time and flexibility. Capability to cope with variable workload by means of subsidiary companies.

Cooperation with an important engineering company, a multidiscipline engineering group.



ENGINEERING



ENGINEERING CAPABILITIES

- In-house process know-how e Experience with plant automation by integrated computer systems
- Expertise in the application of process computer-aided simulation
- Capability to design in accordance with all the international codes and standards
- Design and drafting computerised to a large extent by means of the most advanced software packages.



ENGINEERING CAPABILITIES

- Possibility of monitoring remote plants from head office
- Efficient and reliable materials management
- Autocad with ESAPRO application for:
 - P&ID
 - Cables Routing
 - Stress Analysis
 - Piping & Sketch
- Chemcad Station (Simulation Process)





ENGINEERING CAPABILITIES

Seed Preparation before Solvent Extraction is a key operation for the overall performance of the process. Preparation includes several main steps depending on the seeds to be processed. It may include then: Seed Dehulling

- Cracking
- Cooking-conditioning
- Cleaning
- Flaking

CMB utilizes the key equipment of this process sourced from the most qualified European Vendors. The remaining equipment, especially transports, and the plant layout are designed by CMB in order to provide an efficient and trouble-free operation and maintenance.

PRE-PRESSING / PRESSING / COLD PRESSING

In case of high oil content seeds, a pressing unit is recommended. Full pressing is recommended in case of small medium capacity when the investment in a solvent extraction unit is not justified. Pre-pressing is the usual case for large capacities, whereas the cold pressing is a solution when niche quantities of "biological" oil unaffected by heat are produced.

CMB utilizes presses sourced from European Manufacturers.

Solvent Extraction

SOLVENT EXTRACTION

This process includes three main different stages:

- Oil extraction
- Meal desolventising and toasting
- Solvent distillation

The key equipment are the extractor and the meal desolventiser toaster dryer cooler.

CMB proposes a rotary two decks extractor and a belt extractor having long experience with both types.

CMB design of this unit takes a very special care of the solvent consumption to guarantee at the same time minimum solvent losses, very high meal quality and great safety in Plant operations safety in Plant operations.





CMB provides the complete range of processes for refining and fat modification suitable for all kind of vegetabile oils.

CMB proposes the traditional process, to whom however CMB has implemented several and significant improvements based on its research and experience aiming at the following targets:

- Improved products quality;
- Increased overall plant efficiency with special consideration to energy saving;
- Effluents minimizing, targeting "zero effluent" plants.

Some examples of such improvements are:



Refining & Fat Modification

COLD NEUTRALIZING

- Optimization of temperatures profile: reduction of oil losses in waxes
- Increased oil residence time in crystallizers: improved «cold test» results

HOT / NEUTRALIZING

- Strict control of heating rate and special pump design to avoid crystals breaking: increased efficiency and yield.
- Partial recycling of discharge water: water consumption reduction
- Improved oil / chemicals interaction by the use of special design mixers:

chemicals consumption reduction

.....



BLEACHING

Use of activated carbon for contaminants removal to less than 1ppm (e.g. IPA, aromatic polycyclic hydrocarbons coming from solvent used in extraction plants).

Oil/earths mixing by live steam: increased performance and consumption reduction of earths.

Equipment and piping arrangement exclusive design: reduction of change-over time and of cross contamination.

Condensation of vapours from bleaching earths steam-out: recovery of oil and of contaminated substances.

Use of «cricket» type polishing filters: smoother change-over operation.

WINTERIZING

CMB has developed a winterizing system that allows to process almost any type of oil according to the most suitable cooling curve and under the most favorable conditions of temperature, time and agitation. Winterizing process consisting in precipitating as crystals, under programmed conditions of temperature and time, the saturated glycerides or waxes, which cause them to became cloudy. The processes normally used are as an alternative to winterizing combined with neutralizing.

Refining & Fat Modification

DEODORISING / PHYSICAL REFINING

Heat exchangers advanced train design: enhanced thermal energy recovery (up to a value of 85 %).

Improved live steam sparger design: increased oil turbulence at same steam flowrate.

Recovery of high commercial value substances (squalene, sterols, tocopherols, etc.).

"Anti-pollution system", vacuum units steam condensation utilizing chilled water:

- dramatic water consumption reduction
- reduced odorous emissions
- no pollution.





FAT SPLITTING

The CMB design of the splitting tower allows a splitting degree well above 99%. Heating by direct steam injection is under automatic temperature control.

FATTY ACID DISTILLATION AND FATTY ACID FRACTIONAL DISTILLATION

The extensive use of structured packing allows low operating temperatures and guarantees high quality products.

External pumparounds under accurate control system make the operation very flexible.

Sophisticated construction materials are utilized to avoid any corrosion in the very aggressive conditions.



Oleochemical

AA

GLYCERINE

CMB refining process guarantees a refined glycerine of the pharmaceutical grade matching all international standards, no matter how poor is the crude glycerine utilized as feedstock. CMB technologies fully solves the issue of the poor quality of glycerine obtained as by-product from transesterification reaction. A special design pretreatment allows to obtain top quality glycerine matching pharmaceutical grade requirements. This target is reached also in the case of used cooking oils feedstock. All impurities are discharged is an easy to handle solid form.







CMB has studied and tested in pilot plants innovative technologies for the production of Biodiesel Oil from a wide range of feedstock, including low grade or used oils and fats. More than thirtyfive plants based on such technologies have been supplied all over the world with capacity up to 1200 TPD. Trouble-free operation and high products quality prove the Highlights of this technology:

- continuous operation
- very low soap formation
- low consumptions of methanol and catalyst
- Biodiesel oil matching or exceeding international specifications
- capability to process feedstock of 100% used cooking oils
- "zero effluent" condition.



BIODIESEL DISTILLATION

Moreover CMB supplies Biodiesel Oil distillation unit which allows the reach of concentration over 99% and total contamination below 10 ppm.

Biodiesel Oil

ESTERIFICATION

Conversion of high FFA oil and fats (like PFAD, SFAD, PKFAD, etc.) into high added value products to be used in the biodiesel production.



CMB

The company is in position to provide any kind of services from technical/economical feasibility studies up to plant start-up. The following services can be provided:

NIN IN

SERVICES

- Research & laboratory analysis, process development
- Process & product testing on pilot plants
- Custom tailored products formulation
- Project feasibility studies
- Process and detail engineering 3D design
- Equipment fabrication and procurement
- Plant skid mounting
- Supervision to plant installation and start up
- Turn-key project
- Training of operators
- Spare parts supply





- Aftersale technical assistance
- Plant revamping, upgrading, capacity increase
- Project financing
- Partnership

Or Or

- Troubleshooting
- Plant performance (product quality, energy consumption, plant operation reliability) evaluation and optimization
- Evaluation of plant equipment operating conditions for planned maintenance (mechanical, electrical, instrumentation and control)
- Customer's personnel training
- Advisory service on new technologies, new equipment available on the market, improvements of plant operation, safety etc.
- Study and proposal for plant revamping and capacity increase.



MARKET PLACEMENT



Strong commercial presence based on:

- stable and continuous relations with costumers
- regional offices all over the world
- reliable network of representatives
- accurate alter-sale service by experienced staff

Aggressive commercial policy:

- highly competitive prices
- scrupulous attention to specific clients' requirements
- great care and close follow-up of prospects, no matter if large or small

High quality standards and innovation as key to long-term success.



KEY CLIENTS





DB

Emer

Oleochemicals

Tarımsal Enerii































CMB S.p.A. Via Appia Km. 55,900 - 04012 - Cisterna di Latina - Italy Tel. +39 06.96871028 • Fax +39 06.92942564 www.cmb.it • info@cmb.it