



MAVITEC GROUP

**Rendering, Gasification &
Green Energy Solutions**

MAVITEC



TURNING BY-PRODUCTS INTO VALUABLE END-PRODUCTS

Mavitec specializes in high-quality recycling processes and is an expert in building, coordination and delivery of individual components up to complete turnkey projects. Mavitec finds and maximizes value from by-products material. It's about processing waste materials and turning them into new products, thereby preventing wastage of potentially useful materials.

Mavitec has always been focussing on building high quality recycling systems. We provide complex process solutions in a simple and effective way. Mavitec is one of the leading companies in **engineering, designing, construction, manufacturing, installation and servicing** high quality process systems. Our focus is on handling in the most Economic, Ecologic and Ergonomic way (the EEE principles).

Mavitec is an innovative, flexible, project oriented organization, ready to serve its customers in the best way possible. Our goal is to offer the highest quality and excellent service to make a plant more profitable as well as to improve the environment.

Mavitec headquarters is based in The Netherlands and has sales and service offices worldwide, completed by an international network of representatives.

Mavitec Group consists of three divisions:

Mavitec, Mavitec Environmental and Mavitec Green Energy.

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Mavitec Group specializes in creating high quality recycling systems.

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MAVITEC

MAVITEC
Environmental

MAVITEC
Green Energy



BUILDING THE FUTURE: HIGH QUALITY RECYCLING SYSTEMS

Mavitec Group was founded in 2002 and was specialized in spare parts, service and components for the rendering industry. A few years later Mavitec expanded its activities to engineering, designing, manufacturing, installation and servicing of individual components up to turnkey projects worldwide. All based on the commitment to taking by-products from one process and recycling them into valuable materials.

Our **rendering** technology turns animal by-products into high quality proteins, oils, fats and tallow, suitable for many applications, from pet food to cosmetics. The key of this technology is successfully applied into other fields.

In 2008 Mavitec developed a shop return system and other solutions for the **food waste and recycling** industry. Mavitec Green Energy was founded in 2009 and is specialized in recycling systems for the food industry and agricultural sector.

In 2015 Mavitec developed an innovative **gasification** system: a new way of solving manure issues. Our gasifier converts various kinds of manure, litter and other organic waste into green energy and EcoChar, a powerful soil improver. In 2018 Mavitec made its third division official under the name Mavitec Environmental.

Mavitec is private owned and has over 200 employees: professional people with passion for the highest quality, techniques and services, ready to offer you the best rendering, green energy and gasification solutions.

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*Taking by-products
from one process and
recycling them into
valuable materials.*
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Photo: Natascha Libbert

Maco van Heumen
Founder and CEO of Mavitec Group



RENDERING SOLUTIONS

Mavitec Rendering offers complete systems and equipment for processing and rendering. Our systems recycle animal by-products that are not intended for human consumption. The solutions are based on the separation of liquids (such as water, oil, fat and tallow) from solids.

We are specialized in the designing, manufacturing and installation of high quality process systems. Mavitec offers two types of rendering solutions: continuous and batch systems. The choice between these processing methods is driven by economic arguments, where continuous processing can achieve higher capacities. Our rendering solutions create end-products with the best nutrient values in the market for meat and bone meal, poultry meat meal, feather meal, blood meal, whole meal, tallow, fat and oil. Mavitec is a leader in the rendering industry.

Due to our extensive network we are able to make installations designed to clients preferences.

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Rendering is about making the best profit out of animal by-products.

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HIGH QUALITY PROCESS SYSTEMS FOR ANIMAL BY-PRODUCTS

Create the best nutrient values in the market

Mavitec rendering solutions create the best possible end-products:

- Meat and bone meal
- Poultry meat meal
- Feather meal
- Blood meal
- Whole meal
- Tallow
- Fat
- Oil



By-products transformed into high valuable meals, tallow, fat and oil.



GASIFICATION SOLUTIONS

Mavitec Environmental provides an innovative gasification system. It converts manure, litter and organic waste into green energy and high value EcoChar. The system is based on a chemical reaction caused by heating material in an oxygen-starved environment.

Our gasification system maximizes the value of waste streams. It offers a lot of advantages such as volume reduction up to 85%, renewable energy, reduction of CO₂ and the production of EcoChar. Gasification is a powerful solution: the best economic, ecologic and ergonomic way of handling manure, litter and organic waste challenges.

The ability to use the thermal energy product as heat, steam, hot water or electricity is a simple matter of adding equipment. The modular design makes construction quick and easy, and the addition of components is comparatively simple. EcoChar is an amazing end-product with a lot of unique properties and applications such as soil improver, animal bedding, water filtration and heavy metal remediation.

“Gasify organic streams into a number of usable energy forms and reduce CO₂.”

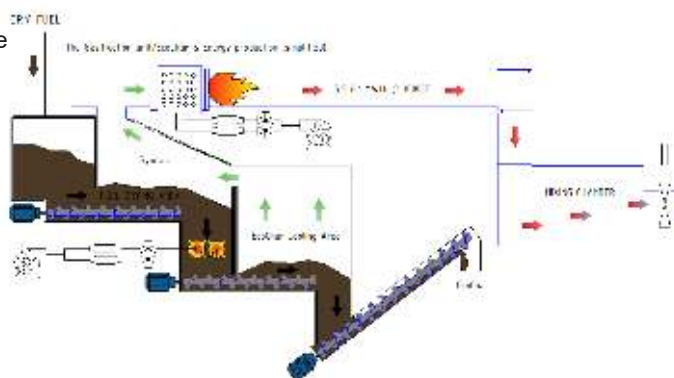


GASIFICATION: A NEW WAY OF SOLVING MANURE ISSUES

Convert various kinds of manure into green energy & high value EcoChar

The most feasible fuels to gasify have a high output of syngas combined with a high quality output of EcoChar:

- Poultry litter/manure
- Cattle manure
- Porcine manure
- Sludge
- Biosolids



Gasification offers advantages such as renewable energy and the production of EcoChar.



GREEN ENERGY SOLUTIONS

Mavitec Green Energy is an expert in designing and producing recycling systems for processing organic co-products from the food industry and agricultural sector. Our food waste and depackaging solutions are designed to handle, depack and resize organic by-products in the most effective way.

With decades of experience we fine tune processes to ensure higher quality end-products and a better turnover as a result. We help to convert organic fraction into value. We are specialized in food waste and depackaging solutions with short payback times, high separation efficiency and proven concepts. We engineer, deliver and install systems for the unpacking of (semi) wet and dry co-products, recycling of kerbside/brown bin waste, melting of fats/yellow grease, size reduction of agricultural co-products, sterilization and pasteurization of co-products.

Our depackaging machines separate the organic material from the packaging and deliver a clean organic output (> 99,5% clean) which is extremely suitable for several purposes such as biogas installation.

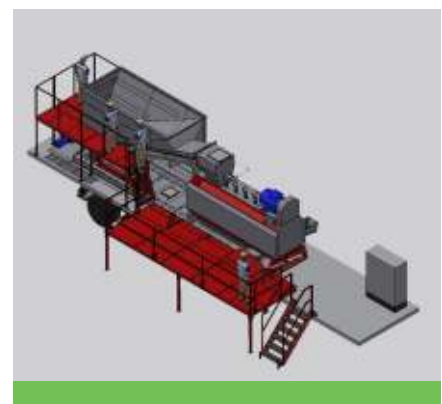
“ Highest separation results in the market: > 99,5% clean organic output. ”

FOOD WASTE & DEPACKAGING SOLUTIONS

Recycling systems for processing organic co-products

Solutions for handling various kinds of waste in a green way:

- Resizing systems
- Depackaging systems
- Storage & Handling solutions
- Stand alone equipment for:
 - Washing
 - Pressing
 - Degritting
 - Sterilizing
 - Drying
 - Melting



The Paddle Depacker Roadshow: a mobile rental unit to test your own material at your own site.



TURNKEY PROJECTS & SINGLE SOLUTIONS

Mavitec is specialized in high quality recycling processes and an expert in building, coordinating and installing of stand alone equipment up to complete turnkey projects, containerized solutions and essential spare parts.

We are also a reliable partner for overhauling, replacing, upgrading and expanding current machines. Optimization or expansion must always be possible for an operational line. In time new needs and wishes may come up, such as:

- Capacity increase
- Efficiency increase
- Wear & tear
- Process optimization
- New requirements by law or clients
- Replacement of components (such as conveyors, bins, tanks)
- Project studies

Areas of expertise:



Rendering factory



Gasifier



Stand alone equipment



Paddle Depacker Model S



Containerized solution



High quality spare parts



RESEARCH & DEVELOPMENT

Our Research and Development (R&D) department innovates and introduces new projects, equipment and services. It is often the first stage in the development process. Our goal is to take new products and services to market and to improve existing equipment and processes.

The R&D department of Mavitec is constantly improving and developing new procedures and equipment in the field of recycling, waste and environmental issues.

An example of a development is a containerized solution: a fully functional plant designed to process small quantities. With its small footprint these units are suitable to be placed inside a small building or even outside. The containers are based on plug and play: they only need to be connected to the water and electricity supply. In case of equipment with defatting container, the containers need to be connected.

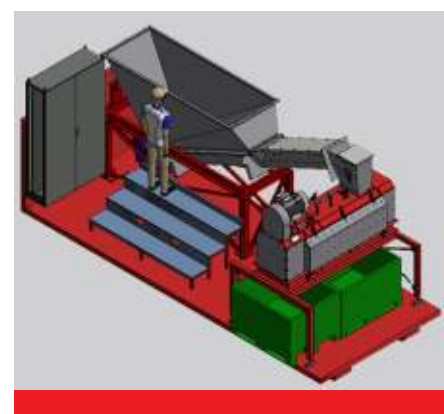
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*Constantly innovating
and improving
equipment, processes
and services.*
”

INNOVATING, INTRODUCING AND IMPROVING

From new ideas to improving existing equipment

With our extensive knowledge of rendering, green energy and gasification processes and systems, we also offer solutions for:

- Evaporating
- Size reduction
- Separating
- Conveying
- Bulk handling
- Sorting
- Insect rearing and processing



Mavitec's Paddle Depacker Model S as a containerized solution with a small footprint.



MECHANICAL ENGINEERING

Mavitec is able to finetune processes to ensure higher quality end-products and a better turnover as a result. Every jobsite has its own unique challenges. Technologies and services that can be combined and customized are required to make the most sense for our customers business.

Mavitec uses latest technologies to exceed expectations. The most modern design and simulation software (CAD, FEM and CFD) is used to enhance our products and meet national and international standards. Our engineers design equipment that is robust and has a long life expectancy.

We design our products to exceed any safety standard. The blueprint of our factories originates from the point of view of an operator: easy to operate due to advanced and smart software. Sensors and controls make the process visible and increase jobsite awareness to help people and equipment stay safe.

Mavitec equipment is designed to reduce energy consumption and to minimize environmental impact. Intelligent controls and design will benefit customers profits as well as the environment.

HIGH QUALITY MACHINERY, EXPERTISE AND INNOVATION

From single components up to complete process design

To monitor, manage and enhance operations in the most efficient way, we focus on four key areas:

- Equipment management & Quality
- Sustainability & Environment
- Productivity
- Safety

Mavitec mechanical engineering offers:

- 2D and 3D lay-outs
- 3D scanning
- Flow schematics & piping
- Instruction manuals: printed and online
- Online customer communication portal



Mavitec provides complex process solutions in a simple and effective way, customized to the needs of our clients.



ELECTRICAL ENGINEERING

Control panels are designed, programmed and built in-house. We use latest technologies and software, according to customer needs. The panels offer a complete visualisation of the working process and provide management information and live process data.

All panels are engineered, constructed and commissioned according to our 'custom made' principle. Due to our extensive experience in the field of panel construction, we are able to offer a product range varying from one switch panel to complex PLC, PC or HMI touch screen control panels.

To assure optimal performance our service engineers offer thorough analysis and problem solving for electrical issues. If eWon (remote service) is installed in your plant, we can access the system to check and support. Professional 24/7 worldwide support is essential for optimal performance of the systems.

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Mavitec has extensive experience in the field of panel construction.

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HIGH QUALITY CONTROL PANELS & REMOTE CONTROL

24/7 support is essential for an optimal performance

Our electrical engineers and programmers offer smart solutions and services:

- Design and detail component engineering
- Electrical drawings
- PLC programming and Scada/HMI visualisation
- PLC Systems: Siemens, Mitsubishi
- Safety: all control panels built according NEN 60204/61439
- Supplied control panels always 100% tested
- 24/7 availability: minimum downtime
- Remote service
- Remote login to online dashboard: view the process 24/7



Control panels and remote support: optimal performance, efficient support, low costs, minimum downtime.



FACTORY & PRODUCTION

The factory is located in Turkey, with supporting production facilities in The Netherlands. Mavitec is able to produce all systems and equipment in-house.

The 6.000 m² production area in Turkey offers a modern production flow from beginning to end. The factory, with more than 100 production employees, produces single pieces of equipment as well as seamlessly integrated high-performance processing lines. Together with the knowledge, backing and cooperation of the Dutch headquarters a powerful combination is created.

Mavitec factory:

- ISO 9001:2015
- Steel machining
- Assembly
- Preservation
- Separate production halls for carbon and stainless steel
- Computer Numerical Controlled (CNC)
- Certified for TUV/PED, RTN, TRCU03/21013, DIN EN ISO3834-2, GOST-R, GOST-RTN

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*From integrated
high-performance
processing lines up to
single components.*
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SPARE PARTS & STOCK MANAGEMENT

Mavitec holds a large stock of essential spare parts which are ready to ship within 24 hours. The spare parts are located worldwide at warehouses in The Netherlands, Turkey, U.S.A. and Russia.

Maintenance plays a key role in the total uptime of production lines. Together with our exclusive partner The Dupps Company, Mavitec sold many installations worldwide for decades. As Original Equipment Manufacturer we have optimized our spare parts to be of the highest quality. The result: premium materials and a perfect fit in your machinery to realize the most optimal performance, the best capacity and the least wear and tear possible.

To assure efficient stock management we work with advanced business software. Essential spare parts are available anytime and at short notice. This way we are able to minimize any possible downtime and maximize continuity for our customers.

“
*Original spare parts:
premium materials
and perfect fit for an
optimal performance.*
”

THE HIGHEST QUALITY WITH PREMIUM MATERIALS

Minimizing operational expenses and maximizing turnover

Mavitec stock management offers a lot of advantages:

- 'One-stop-shop' for all your original spare parts
- Largest spare parts stock in the rendering industry
- > 95% essential spare parts in stock
- Premium materials for a perfect fit
- Competitive prices
- 24/7 delivery: essential parts available for fast and direct shipment
- Advice on which spare parts should be kept in stock
- Complete spare part packages



Original spare parts: optimal performance, the best capacity and the least wear and tear possible.



AFTER SALES SERVICE

Mavitec After Sales Service offers preventive maintenance and process optimization in order to minimize downtime, reduce overall costs and ensure the best quality end-products with a better turnover as a result.

Our service engineers conduct inspections on a regular basis and provide a full report with findings and recommendations. We combine in-depth knowledge of processes and techniques to realize process improvement, optimal product quality and highest line efficiency.

Service locations all over the world serve customers locally and on short notice to ensure quick support, reduced travelling times and support in local languages. With decades of experience on process optimization, machine spare parts, overhaul, revisions and improvements, we can make your plant more profitable.

Our service teams are also able to assist with installation jobs and turnkey projects.

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Make your plant more profitable: optimal product quality and highest line efficiency.
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PREVENTIVE MAINTENANCE & PROCESS IMPROVEMENT

Mavitec After Sales Service offers 24/7 services, 365 days a year

Mavitec After Sales Service offers:

- Process optimization
- Mechanical inspection
- PLC / Electrical inspection
- Remote Engineering / Helpdesk
- Periodic inspections
- Service contracts
- Small projects
- Custom made solutions & services
- Original spare parts
- 24/7 helpdesk & emergency service
- Local presence, local languages



After Sales Service ensures minimal maintenance expenses and downtime.

MAVITEC WORLDWIDE



WAREHOUSES, PRODUCTION, SALES & SERVICE LOCATIONS

With a growing amount of international representatives

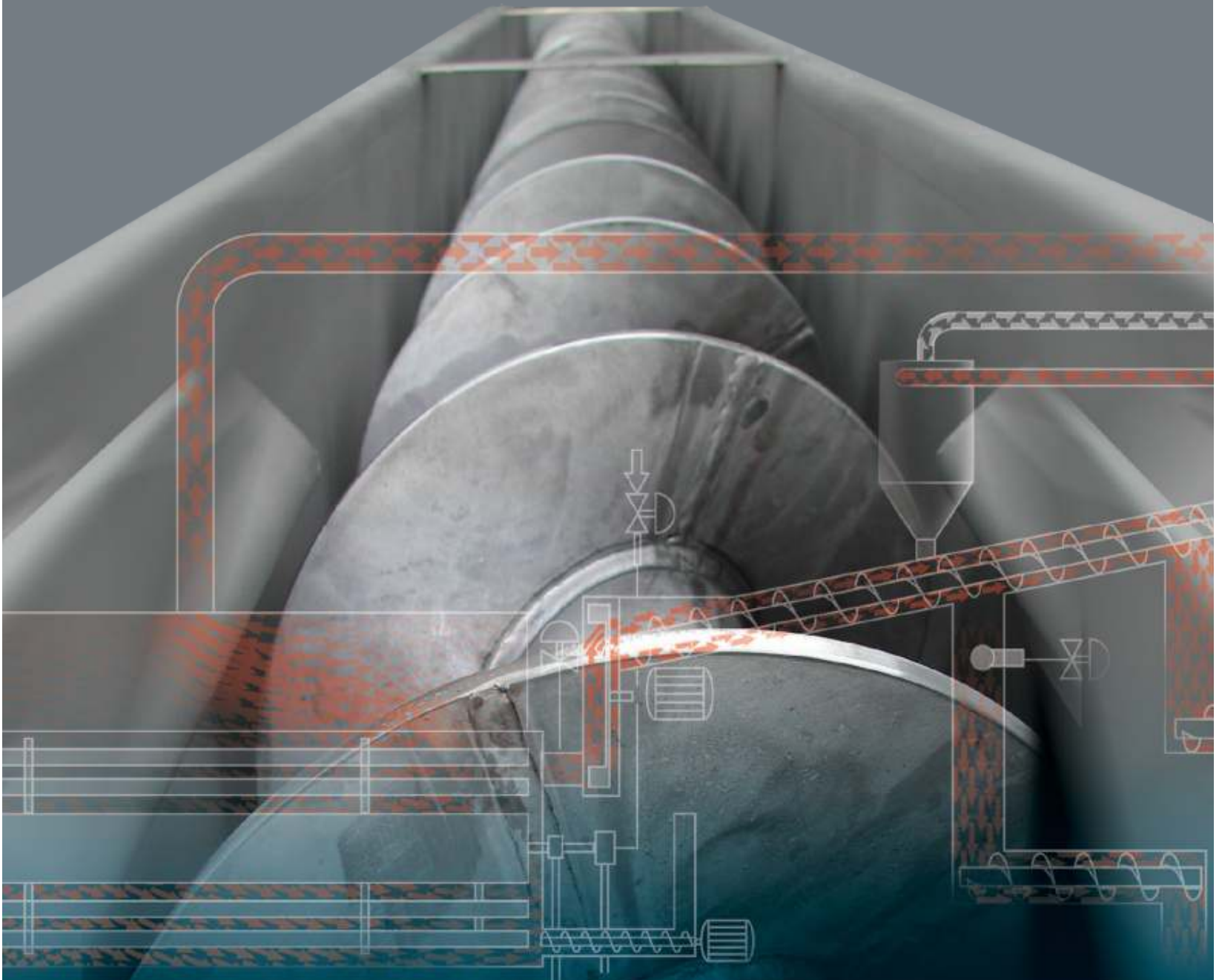
- **The Netherlands**
- **Turkey**
- **U.S.A.**
- **Russia**
- Australia
- Baltic States
- Belarus
- Brasil
- France
- India
- Israel
- Japan
- Kazakhstan
- Lithuania
- Pakistan
- Philippines
- Romania
- Saudi Arabia
- Scandinavia
- Serbia
- South-Korea
- Spain
- Sri Lanka
- Thailand
- Ukraine
- Uzbekistan
- Poland
- Vietnam

Export to over 50 countries worldwide!



THE SUCCESS OF MAVITEC

- Single components up to multiple processing lines and turnkey solutions
- High quality equipment for long term operation
- Premium materials for a perfect fit in your machine
- Private owned manufacturing of equipment (OEM)
- ISO 9001 certified
- The most optimal performance, best capacity and least wear and tear
- Highest quality end-products meeting the highest required standards
- Lowest processing costs per ton of product
- In-house engineering & manufacturing for customized solutions
- Highly experienced supervisor for installation and training of local personnel
- Service locations in The Netherlands, Turkey, Russia and U.S.A.
- Dedicated after sales department (24/7 service)
- Focus on handling in the most Economic, Ecologic and Ergonomic way (EEE)
- Export to over 50 countries, over 200 installations operational





MAVITEC

Maximize the value of your by-products!

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