

# MAGS™ [micro auto gasification system] An energy appliance fueled by waste

**Marine and Offshore industry** 

# **MAGS** offers

- Clean emissions
- Low fuel consumption
- Improved Safety
- Flexible installation
- Always Operable







# INTRODUCING A CLEAN, SAFE AND ENERGY EFFICIENT SOLUTION FOR WASTE PROCESSING ON SHIPS AND OFFSHORE PLATFORMS

MAGS<sup>TM</sup> is a safe, simple technology with exceptionally clean emissions for treatment of solid waste and sludge; it is thoroughly validated and serviced globally.

## MAGS™ Technology:

MAGS uses Terragon's patented technology: Auto Gasification Process, to thermally break down hydrocarbons in waste and transform them into a small amount (5% by weight) of harmless residue (bio-char) and energy.

### For solid and liquid (hazardous) waste:

MAGS is a compact omnivorous appliance that gasifies all organic waste, including paper, plastic, cardboard, food, used oils, sludge, oily rags, wood pallets and others. Compared to conventional waste management solutions, such as incinerators, MAGS consumes very little fuel, has clean emissions, improves efficiency, and reduces greenhouse gases.

#### Clean, clear and odorless emissions:

The emissions generated by MAGS are clear, odorless, and meet the most stringent land and sea based regulations. Typically, exhaust connection is small and can be directly vented off, providing flexibility and a significant installation cost reduction.

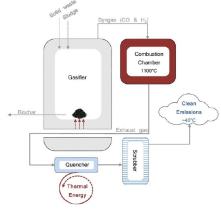
#### **Safe, operator friendly and fully automated:**

All surfaces and discharges are safe for the operator, eliminating health and safety concerns typically associated with thermal waste treatment onboard. Automation and remote monitoring allows anyone to operate MAGS with minimal training.

### **Waste as fuel and energy recovery:**

MAGS technology is very efficient as the system is self-fueling via synthesis gas formed during the gasification process. In addition, gasification technology is highly suitable to recover the thermal energy from the MAGSV8 - 2 chamber gasifier Dry waste (IMO-mix I): 50 kg / hr Liquid (Sludge | Oils) : 18 ltr / hr





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# MAGS™ An energy appliance fueled by waste

# Improved Economics • Environmental Stewardship • Safety

Low fuel consumption and Energy efficient system based on auto-gasification technology Eliminates 50 kg/hr of solid organic based waste or 18 L/hr of liquid oily sludge

Eliminates disposal costs for hazardous organic waste. Recovers 100 kWh Simple and flexible integration with ship's systems. No connection to funnel /exhaust stack

A Clean thermal treatment technology for all organic based waste onboard Over 95% volume reduction of waste with non-hazardous by-products

Auto-Gasification prevents and avoids the formation of harmful substances Exceptionally clean emissions, exceeding MARPOL regulations, enabling in port operation

Simple operation with minimal training and remote monitoring Reliable, Type Approved system requiring minimal maintenance Indirect and non-invasive thermal process accepts a wide range of waste

Maintaining a safe, clean and sanitary habitat under all circumstances

#### **Economic Benefits**

A significant reduction of your dry – and hazardous liquid waste disposal costs.

Low fuel consumption due to process of Auto-gasification (MAGS is a semi-self fueling machine) 100 kW per hour of energy recovered from your waste

Complete effluent, flue gas and emission treatment, no deferred costs

Suitable for continuous operation processing dry – and liquid waste, heat-losses are prevented

#### **Operational Benefits**

Simple operator interface (Touchscreen HMI fully PLC – controlled) Easily operable by all staff

Process a wide variety of waste fractions simultaneously

Ability to process your waste everywhere: in Port, at Sea, in Special areas and Polar waters Simple change-over from dry waste to liquid/sludge processing

Integrated automated liquid waste injection system (sludge, residual liquids, waste oils etc.)

Improved safety due to gradual, non-volatile low oxygen thermal treatment Easy and flexible installation: no connection required to exhaust stack / funnel

Reduced installation costs



Exceptionally clean, odor- and harmless emissions exceeding marine and land standards Reduces overall greenhouse gas formation associated with disposal of your waste A fit-for-purpose Waste to Energy – recovery appliance No Hazardous, toxic by –products









