



JOSEPH EGLI AG

Incineration plants with

MultiZon INCINERATOR

for batch operation

GG



Primarily for:

solid and liquid waste

Capacity range:

0,7 MW to 4,2 MW

Since the year 2004 **Hoval** company concentrates his activities in the area of the waste burning by **JOSEPH EGLI AG**

The reliable and successful **Hoval** MultiZon models "GG" are continually further development by **JEAG**.

PURPOSE

The purpose of the MultiZon units is to incinerate organic, combustible materials with a view to decreasing the volume and weight of materials, and to convert them sterile and disposable residual matter while complying fully with current environmental protection regulations.

FIELD OF APPLICATION

Type of waste:	Aggregate condition:	solid and liquid
	Heating value:	5 MJ/kg ÷ 40 MJ/kg
	Moisture:	up to 30%
	Density:	50 kg/m ³ ÷ 200 kg/m ³
Power range	Thermal capacity:	700 kW ÷ 4'200 kW
	Throughput (with H _u of 15 MJ/kg)	1'200 kg/day ÷ 8'000 kg/day

GENERAL

The key feature of the unit is the multizonal pyrolytic incineration of waste, particularly the separation of the different stages involved in the incineration process.

Advantages:

- acceptable emission standards maintained by the separation and control of the thermal decomposition and incineration process.
- extremely low particulate emission due to non-turbulent combustion under sub stoichiometric conditions.
- elimination of contaminants in the flue gas by complete oxidation of combustible gases in the thermal reactor.
- complete combustion of the waste, resulting in sterile ash.
- stable process which can accommodate variations in waste make-up.
- volume and mass reduction of approx. 95%, thereby lower disposal costs.
- wide range of unit sizes giving waste throughputs of 300 to 10'000 kg per day.
- utilization of the valuable heat from the waste to produce hot water or steam, giving very attractive pay-back periods.

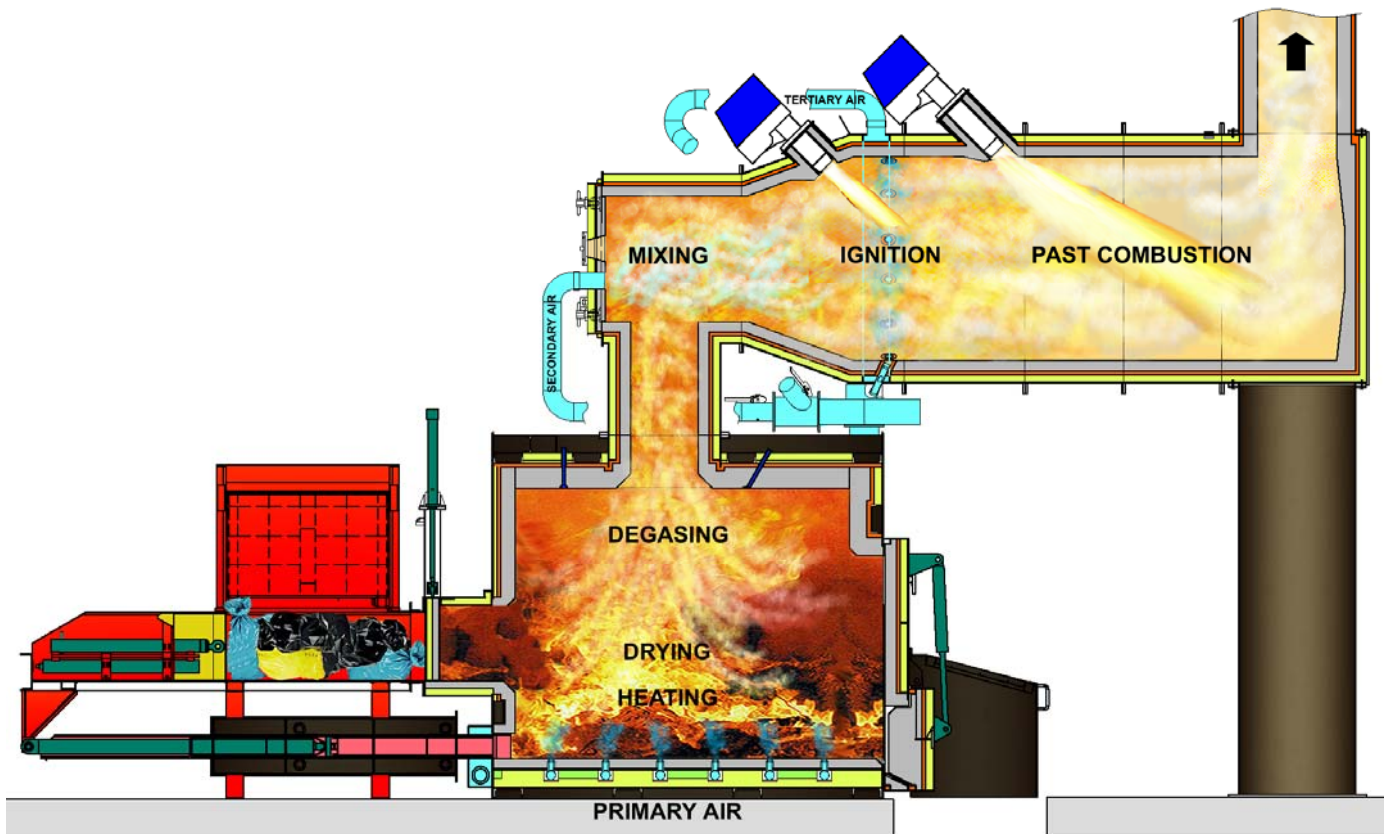
Independence of operation

The MultiZon enables localized incineration to be carried out as and when required. This gives independence from outside services and eliminates disposal costs and waste transport problems. In addition the MultiZon system enables the energy in the waste to be utilized to produce hot water, steam or thermo oil, resulting in high financial benefits.

Multiple applications

The MultiZon equipment is suitable for the incineration of common industrial waste, hospital waste and special waste such as tyres, solvents, textiles and various plastics. Even the recovery of precious metals, e.g. silver from films, is possible.

FUNCTIONAL PRINCIPLE OF THE MultiZon INCINERATION



The essential requirements for trouble free burning of waste are:

- Heating, drying and degassing of waste in the low temperature chamber.
- Mixing, igniting and complete oxidation of the gases in the thermal reactor.

Individual monitoring and control of each operation gives good incineration performance, virtually independent of the waste composition, with smoke free operation and uncontaminated gas emission.

The waste is heated to the required ignition temperature. Only sufficient oxygen is admitted to give the necessary reaction heat to maintain the thermal decomposition and degassing in the waste.

The gas released contains a large quantity of flammable, energy-rich constituents. The gas passes to the mixing zone in the thermal reactor and secondary air is introduced to give an ignitable mixture. This mixture then combines with tertiary air and burns out the ignition and reaction zones with a consequent rise in temperature.



SYSTEM DESCRIPTION

CHARGING

Various charging systems are available to comply with the type of waste.



Ram feeder with deashing and stocking device



Ram feeder with container typing and stocking device



Injection system for liquid waste

INCINERATION



Primary chamber GG7



Primary chamber GG24

Ash-ram with double stocking head



POST COMBUSTION



Thermal reactor – the key component

This unit is made up of a number of cylindrical steel sections with internal refractory lining. This allows the reactor volume to be adjusted to give appropriate residence times for different waste. The temperature in the internal reactor depends on the quality of the gas from the low temperature chamber and up to 1400°C can be reached.

ASH REMOVAL



Screw conveyor



Metallic belt conveyor



Sterile ash

Ash and slag fall from the last step into a container. They are then taken continuously by conveyor and transported to movable ash container.

HEAT RECOVERY



The hot gases can be drawn through a waste heat boiler to produce hot water, steam or thermo oil.

FLUE GAS TREATMENT

For different waste, different legal requirement and different climatic conditions we can provide different flue gas treatments to optimize efficiency and operating cost.



Dry adsorption by bag filter



Wet venturi and scrubber

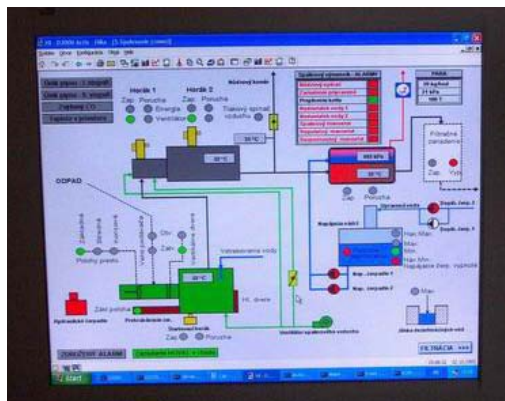


Combined wet and dry system

CONTROL SYSTEM



Control system



Process Visualization



Continuous monitoring system

TECHNICAL DATA*

Model

GG 7

GG 14

GG 24

GG 42

Capacity

		GG 7	GG 14	GG 24	GG 42
Thermal capacity	kW	700	1'400	2'400	4'200
Throughput volume	kg/h	150	300	550	1'000
Daily feeding time	h	8	8	8	8
Max. daily capacity	to/Tag	1.2	2.5	4.4	8.0

Combustion

Charging chamber volume	m ³	0.5	0.9	1.9	3.1
Combustion chamber volume	m ³	2.4	6.3	10.8	17.0
Burner capacity	kW	60 ÷ 83	60 ÷ 83	60 ÷ 83	60 ÷ 83
Incineration temperature	°C	600-900	600-900	600-900	600-900

Post combustion (1'200° C / 2 sec)

Post combustion chamber vol.	m ³	4.4	7.5	12.6	21.0
Burner capacity	kW				
Post combustion temperature	°C	1'200	1'200	1'200	1'200
Resident time	Sconds	2	2	2	2

Flue gas cleaning (dry system)

		dry adsorption/Hovalit			
Filter area	m ²	70	100	168	250
Max. filter rate	m/min	0.9	0.9	0.9	0.9
Max. gas temperature	°C	240	240	240	240

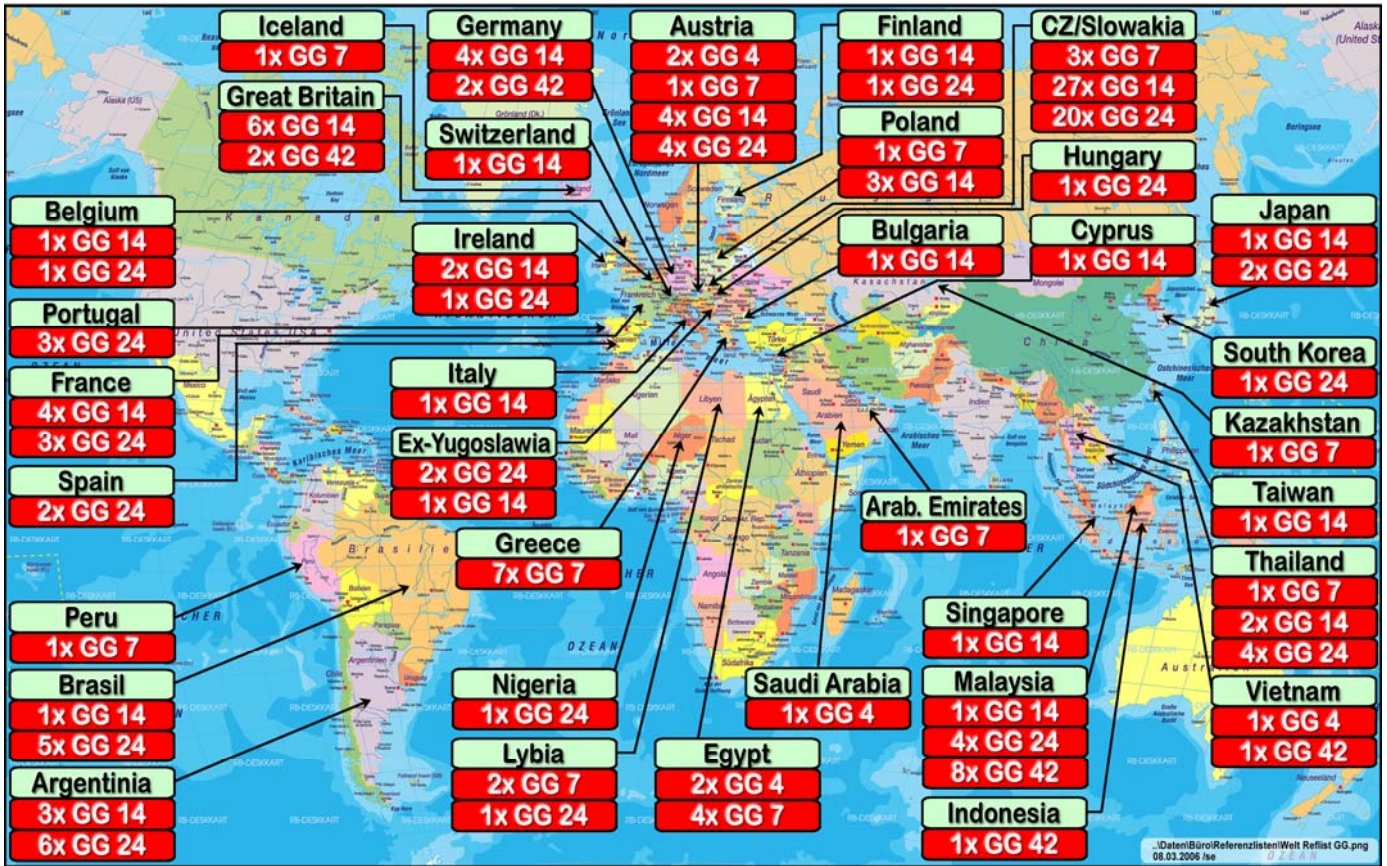
Consumption

(Details are based on experience values and depend very much on waste properties)

Fuel: oil light	kg/h	22	30	50	70
Alternative: natural gas (G20)	Nm ³ /h	26	36	60	84
Adsorbent	kg/h	9	15	25	40

- The technical data for our standard systems were recorded at the time of printing. They are, however, subject to continuous modification and cannot be guaranteed.
- The data are based on waste with a lower heating value of 15 MJ/kg an 10 % moisture.
- All consumption data are empirical values, highly dependent on the composition of waste and operating conditions and are therefore only indicative and not guaranteed.

WORLDWIDE OVER 170 „GG“ INCINERATORS IN OPERATION



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