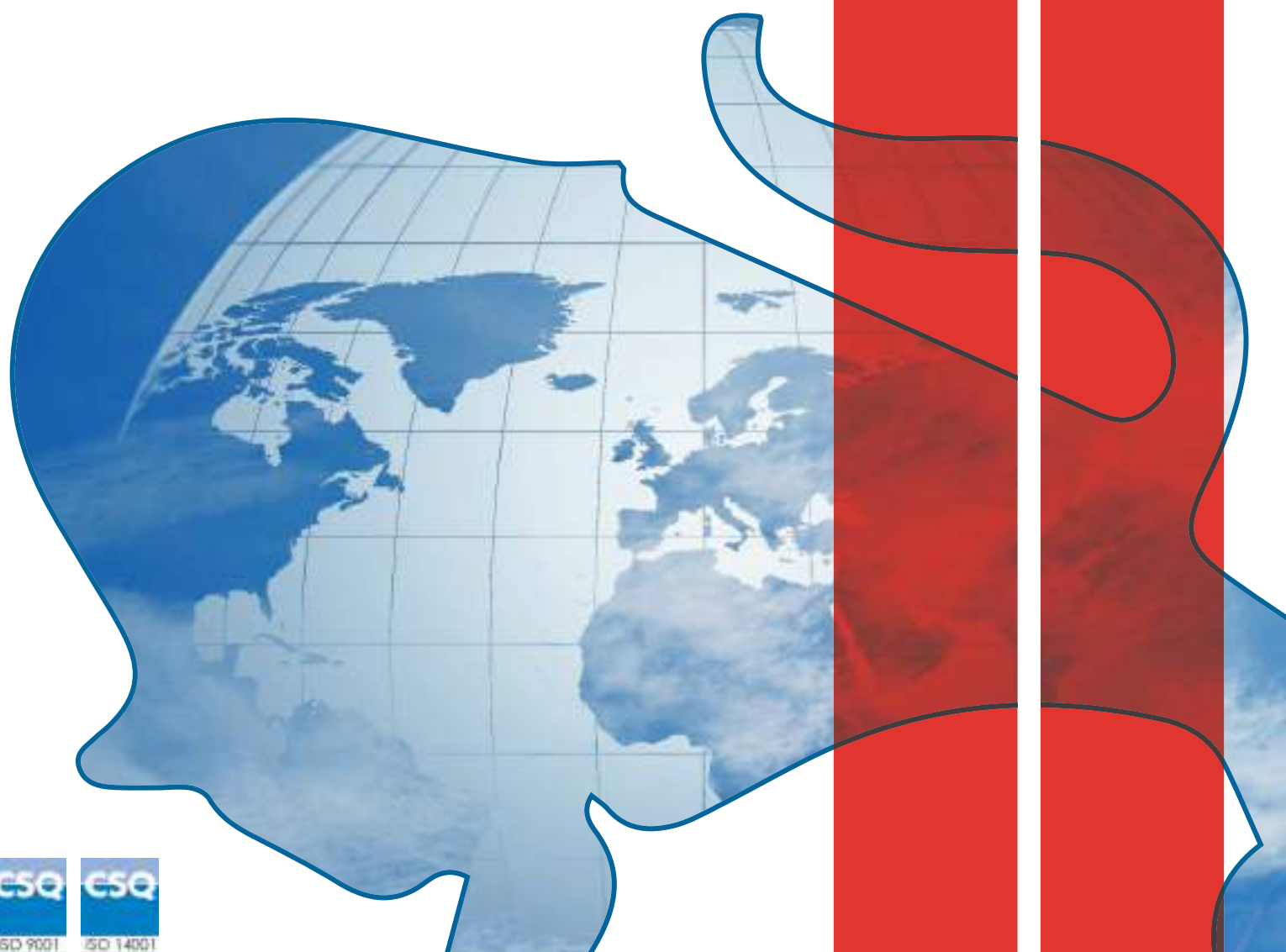


**FOR.TEC**



# INCINERATORS MANUFACTURER

TECHNOLOGY AT THE SERVICE OF THE ENVIRONMENT



# COMPANY PROFILE

**For.Tec. Forniture Tecnologiche S.r.l. is** an Italian Company with 40 years of experience designing, manufacturing, selling and installing high-tech ecologic plants: our daily efforts, researches, studies and tests are directed towards the development of perfect solutions to all the problems arising from waste management.

Thanks to detailed engineering studies and skilled technicians' collaboration, we can offer a full range of incinerators for almost every type of waste, sophisticated crematories and new concept industrial ovens.

**The company comprises 2000 m2 production indoor area and more than 5000 m2 outdoor area and it is divided into departments as follows:**

- **GENERAL DIRECTION**
- **ADMINISTRATIVE DEPARTMENT**
- **SALES DEPARTMENT:** specialized sellers in incineration field give customers answers to all their doubts, they are ready to advise the most proper model of incinerator according to demand, they manage after-sales service and remote assistance. This department has a very efficient Export Office which handles an extensive dealer network and exports For.Tec. products in many Countries worldwide.
- **ENGINEERING DEPARTMENT:** a close-knit team of engineers and architects daily performs, with great professionalism, analysis of customers' specifications, feasibility studies, customized designs and tests; thanks to the collaboration with the Department of Civil and Mechanical Engineering of University of Cassino and Southern Lazio, we constantly develop new technologies to improve waste treatment solutions.
- **PRODUCTION DEPARTMENT:** skilled and experienced technicians implement projects and build up our incinerators and equipments with great attention to details, ensuring high level of security, high quality and shortest delivery times.



## We strive to fulfill each customer's needs:

we give the chance to **customize plants** with many optional equipments, such as automatic loading and deashing systems, wet scrubbers, dry depuration systems, heat recovery systems for hot water/hot-cold air/steam production and pollution control systems.

Our products are all fully CE Certified,  
our quality is **100% Made in Italy** and  
our incinerators are manufactured in  
compliance with the most restrictive  
construction, health and safety and  
environmental regulations.



The strengthening presence on the market of For.Tec. waste incinerators, corpses crematories, pet crematories and ecologic systems is an indispensable goal towards which all the efforts and best resources of the Company are continually directed.

In this perspective, For.Tec. Srl considers quality as a key strategic tool for the supply of products and services of absolute and certified reliability, efficiency and safety, in order to meet the Company's priority objective, namely customer's satisfaction.

The acknowledgment of our commitment to the quality research of our products has been awarded with the issuance of **International Quality Certifications**:



ISO 9001:2015 – IQNET  
ISO 14001:2015 – IQNET  
EN ISO 15614-1 A (Lloyd's Register)  
EN ISO 15614-1 B (Lloyd's Register)  
EN ISO 9606-1 A (Lloyd's Register)  
EN ISO 9606-1 G (Lloyd's Register)





## TECHNOLOGY

Equipped with Siemens PLC with remote control, modulating burners and systems for energy recovery.



## DESIGN

Strong attention to the aesthetic impact, use of quality materials in the finishes.



## ENVIRONMENT

Emission abatement systems based on Best Available Technology.

The FT crematory is a modulating type system with a hot hearth, therefore having a postcombustion chamber in the lower part and a cremation chamber on the back, with a wall and a sturdy sole built in refractory material with a high content of alumina on which the coffin will be placed, which divide the two chambers.

The sole, uniformly heated by the heat coming from the postcombustion chamber (preheated by law to over 850°C), will favour a better and faster cremation, with a particular speeding up of the calcification phase of the bone remains.

The large internal structure of the cremation chamber also allows the treatment of oversized coffins. The coffin loading door is made of AISI 304 stainless steel and it is insulated with top quality refractory material. Its operation is completely automatic and it is controlled by an operating panel: it allows both total and partial opening of the door, an operation that allows the collection of ashes and at the same time guarantees the safety of the operator.

As a rule, our **FT** plants have both an ash collection channel and a zinc collection channel, in order to allow the plant to be used in all verifiable conditions. The collection points are available, at the customer's choice, on the front or back of the oven.

The large internal structure of the cremation chamber also allows the treatment of oversized coffins.

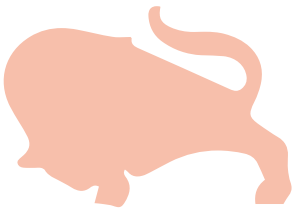
**A remote control system, installed on the machine and integrated with the management software, allows us builders or anyone in charge of plant maintenance to detect any problems and intervene remotely to solve them.**

The cremation process takes place exothermically, so that with an adequate amount of oxygen the combustion can be maintained without supporting fuel. This condition ensures a very low fuel consumption, which can be roughly quantified in 20 cubic meters per cremation.



The effluent gases from the cremation chamber, by means of a calibrated duct, flow into the post-combustion section, located on the lower part of the oven, and here they are treated at a temperature of over 860°C in order to operate their complete oxidation.

At the end of the process, the purified gases are conveyed into a chimney and expelled into the atmosphere or introduced into further abatement systems, supplied by us "ad hoc", in order to comply with the most restrictive national and European anti-pollution regulations.



ECOTEC

|                  | U.M.     | 550  | 1500  | 2500  | 5000  | 6000 multi              | 8000  | 10000 | 12000 multi             | 15000 multi             |
|------------------|----------|------|-------|-------|-------|-------------------------|-------|-------|-------------------------|-------------------------|
| Volume           | mc       | 0,55 | 1,5   | 2,5   | 5     | 6                       | 8     | 10    | 12                      | 15                      |
| Burning capacity | kg/h     | ≤ 40 | ≤ 100 | ≤ 150 | ≤ 300 | ≤ 400                   | ≤ 450 | ≤ 500 | ≤ 750                   | ≤ 850                   |
| Loading capacity | kg/cycle | 70   | 200   | 300   | 600   | Only continuous loading | 1000  | 1250  | Only continuous loading | Only continuous loading |

\* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

EXCE OS

|                  | U.M.     | 4    | 8    | 12    | 25    | 35    | 50    | 100   |
|------------------|----------|------|------|-------|-------|-------|-------|-------|
| Volume           | mc       | 0,4  | 0,8  | 1,2   | 2,5   | 3,5   | 5     | 10    |
| Burning capacity | kg/h     | ≤ 25 | ≤ 50 | ≤ 100 | ≤ 200 | ≤ 250 | ≤ 300 | ≤ 500 |
| Loading capacity | kg/cycle | 60   | 120  | 180   | 375   | 525   | 750   | 1500  |

\* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

ROTOMAC

|                  | U.M.     | 1000    | 1500    | 2500    | 4000     | 6000      | 12000      | 15000      | 18000      |
|------------------|----------|---------|---------|---------|----------|-----------|------------|------------|------------|
| Volume           | mc       | 0,9     | 1,5     | 2,5     | 4        | 6         | 12         | 15         | 18         |
| Burning capacity | Kg/h     | ≤ 100   | ≤ 150   | ≤ 200   | ≤ 350    | ≤ 500     | ≤ 650      | ≤ 750      | ≤ 1000     |
| Loading capacity | Kg/cycle | 200/350 | 300/500 | 500/900 | 850/1500 | 1350/2500 | Continuous | Continuous | Continuous |

\* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

EXCE AN

|                  | U.M.     | 4     | 8     | 12    | 25    | 35     | 50     | 100    |
|------------------|----------|-------|-------|-------|-------|--------|--------|--------|
| Volume           | mc       | 0,4   | 0,8   | 1,2   | 2,5   | 3,5    | 5      | 10     |
| Burning capacity | kg/h     | ≤ 50  | ≤ 100 | ≤ 150 | ≤ 250 | ≤ 300  | ≤ 350  | ≤ 500  |
| Loading capacity | kg/cycle | ≤ 120 | ≤ 240 | ≤ 360 | ≤ 750 | ≤ 1050 | ≤ 1500 | ≤ 3000 |

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# T-BULL

|                                        |      |                                                                     |                                              |      |           |
|----------------------------------------|------|---------------------------------------------------------------------|----------------------------------------------|------|-----------|
| Incineration chamber volume            | m³   | 12,17                                                               | Maximum potential of incineration burners    | Kw   | 190 x 6   |
| Loading volume in incineration chamber | m³   | 7,30                                                                | Post-combustion chamber burners              | no.  | 2         |
| Burning Capacity                       | Kg/h | up to 1000*                                                         | Maximum potential of post-combustion burners | Kw   | 319 x 2   |
| Door's opening dimensions              | mm   | 3900 x 1920                                                         | Indicative consumption of Diesel             | l/h  | 60        |
| Incineration chamber's dimensions      | mm   | 3900 (Length)<br>1920 (Width)<br>1550 (Height 1)<br>1700 (Height 2) | Electric consumption                         | kW   | 2         |
| Incineration chamber burners           | no.  | 6                                                                   | Power supply                                 | Type | 230v 50Hz |
|                                        |      |                                                                     | Total weight                                 | Tons | 21        |

# FD 4.0

|                                          |          |                                                    |
|------------------------------------------|----------|----------------------------------------------------|
|                                          | U.M.     | 4.0                                                |
| Volume                                   | mc       | 0,80                                               |
| Burning capacity                         | kg/h     | <50 (classified as a low-capacity installation)    |
| Loading capacity                         | kg/cycle | ≤150                                               |
| Fuel                                     | type     | Diesel/Natural gas/Lpg                             |
| Maximum total power of installed burners | Kw       | 490 (vers. Diesel)<br>475 (vers. Natural gas/Lpg)  |
| Reference Standards                      | -        | Regulation EU 142/2011 and Regulation EU 1069/2009 |

\* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded waste

# FIDO 550

|                                          |          |                                                    |
|------------------------------------------|----------|----------------------------------------------------|
|                                          | U.M.     | 550                                                |
| Volume                                   | mc       | 0,57                                               |
| Burning capacity                         | kg/h     | ≤40 (classified as a low-capacity installation)    |
| Loading capacity                         | kg/cycle | 120                                                |
| Fuel                                     | type     | Diesel/Natural gas/Lpg                             |
| Maximum total power of installed burners | Kw       | 380 (vers. Diesel)<br>350 (vers. Natural gas/Lpg)  |
| Reference Standards                      | -        | Regulation EU 142/2011 and Regulation EU 1069/2009 |

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# TR PYROLYTIC

|                          |      |         |         |          |          |         |         |         |          |
|--------------------------|------|---------|---------|----------|----------|---------|---------|---------|----------|
|                          | U.M. | 2000 OR | 5000 OR | 12000 OR | 20000 OR | 2000 VR | 5000 VR | 8000 VR | 12000 VR |
| Useful Volume            | Mc   | 2       | 5,3     | 12,1     | 20,7     | 2,1     | 5,5     | 7,6     | 12       |
| Internal Dimensions      | mm   | 1000    | 1400    | 1600     | 2000     | 1200    | 1300    | 1500    | 2000     |
| HxWxL                    |      | 2000    | 2400    | 3600     | 4500     | 1200    | 2000    | 2200    | 2400     |
|                          |      | 1000    | 1600    | 2100     | 2300     | 1400    | 2100    | 2300    | 2500     |
| Paint treatment capacity | kg/h | 15      | 35      | 50       | 80       | 15      | 35      | 40      | 55       |
| Loading capacity         | Kg   | 320     | 550     | 700      | 850      | 320     | 550     | 650     | 700      |

\* Only indicative and non-binding data, they may change, also significantly, according to the exact composition of the loaded material

# FUMES DEPURATION SYSTEMS

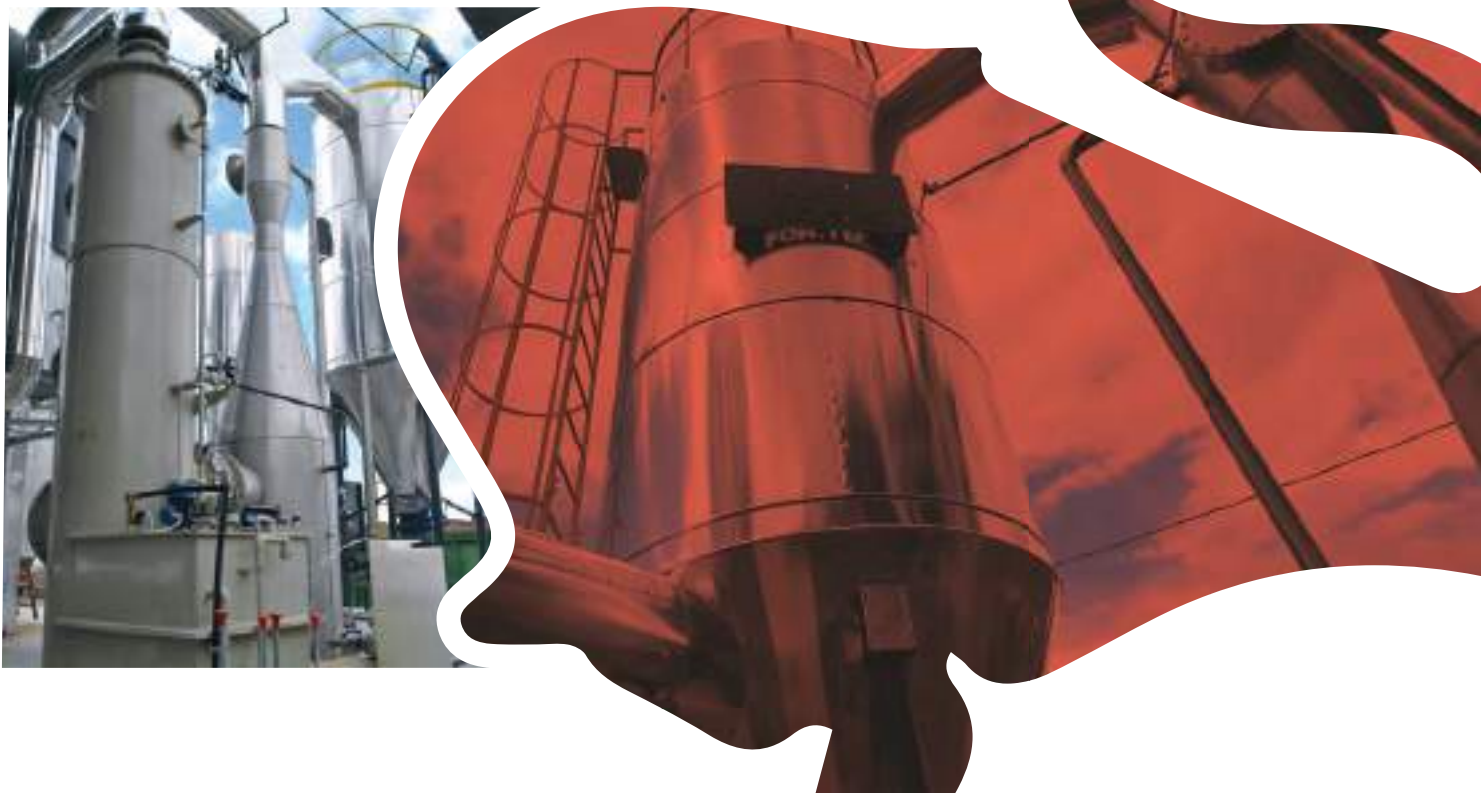
## DRY DEPURATION SYSTEM

Thanks to careful design, continuous research and great care in the construction, the "dry" emission abatement system installed on our plants is a cutting-edge instrumentation for pollution control, allowing compliance with the more restrictive European and World regulations.



**The abatement process, which acts directly and effectively on each individual pollutant, consists of the following steps:**

- 1.** Thermal afterburner for the abatement by oxidation of the VOCs present in the fumes, operating at temperatures of over 850/1100°C in the presence of an excess of air at 6%.
- 2.** Cooling of gas temperatures up to 180°C for the subsequent abatement phases, carried out by means of a fume/water, fume/air or fume/diathermic oil heat exchanger, according to the different application needs.
- 3.** Injection into the gas stream of ventilated powder of lime hydrate for the abatement, by absorption, of fluorine compounds (transformed into calcium fluorides  $\text{CaF}_2$ ) and sulphur compounds (transformed into calcium sulphates  $\text{CaSO}_4$ ); the lime hydrate also absorbs hydrofluoric acid (HF), and produces an effect on hydrochloric acid (HCl) directly proportional to the higher humidity of the environment.
- 4.** Injection into the gas stream of activated carbon powder, in order to prevent the formation of dioxins and furans. The activated carbon dust retains these pollutants by adsorption, guaranteeing yields up to 95%. A mix of hydrated lime and active carbon powder at 20/25% can be found on the market with the name of Sorbalite ®
- 5.** Dedusting by bag filtration, which is able to guarantee an excellent and easy performance on the abatement of dust; our filtration system guarantees dust emission standards <5 mg/mc
- 6.** Washing of the fumes by means of a wet scrubber which guarantees an excellent reduction of water-soluble substances such as HCL, HF and  $\text{SO}_2$ .



**DRY DEPURATION SYSTEM**

# FUMES DEPURATION SYSTEMS

## WET SCRUBBER

One of the leading products of For.Tec brand in the campaign to protect the environment strenuously conducted by the company, is the WET SCRUBBER system for wet abatement of effluent dust in the atmosphere. This system consists of scrubber connected by a duct, which is internally lined with refractory material, at the outlet of the effluent gases from the post-combustion chamber of For.Tec ovens.

The purification of the powders takes place through a curtain of water which, sprayed finely and at high pressure by means of special nozzles on the entire passage section, wets the fine powders contained in the effluent fumes, dragging them with it. The washing water, mixed with the aforementioned powders, precipitates into a settler, built with carbon steel sheet, and here, after having sedimented the impurities, it is put back into circulation by means of an electric pump which feeds the nozzles. At the bottom of said settler, which also acts as a storage tank for the washing water, the decanted sludge (a few tens of kg each year), thanks to a valve, is periodically discharged.



## There are many strengths of our Wet Scrubber:

- The scrubber system is activated automatically when the incinerator is started and turns off at the end of the set cycle.
- Since the system is "closed cycle" there is no need to change the washing water. A float valve automatically replenishes only the few liters of water lost due to evaporation.
- In the event of anomalies or malfunctioning of the washing system, a special equipment reports the fact by means of an alarm, both visual and audible



# WET SCRUBBER



Hundreds of customers in the world have chosen our ovens!

## CUSTOMIZED SERVICES

- Feasibility studies
- Functional Layout
- Thermo fluid dynamics CFD simulations
- Assistance with authorization procedures
- Scheduled maintenance
- Remote assistance

## QUALITY



Certified Company  
Management System  
**ISO 9001:2015**



Certified Company  
Management System  
**ISO 14001:2015**