WSD® WASTE STERILIZATION DEPARTMENT

cisa
We care about life

WSD® Waste Sterilization Department

INFECTIOUS WASTE TREATMENT

Healthcare

Life Science

Cisa Group

Cisa Group is a global supplier of infection control systems with production plants in Italy and Brazil.

Founded in 1947, Cisa Group, together with Cisa America and Cisa Brasile, forms an international group that is one of the world's leading manufacturers of washing, disinfection and sterilization technology for infection control for the healthcare and life sciences industries.

HEALTHCARE INDUSTRY

LIFE SCIENCES INDUSTRY

Creating safer environments in hospitals, healthcare facilities and laboratory applications is a fundamental priority for the well-being of humans worldwide.
This is the commitment that drives Cisa to its claim:

We care about life

COMPLIANCE
CEE 93/42
CE 2007/47/EC
PED 2014/68/UE
EN 13445
2006/42/EC
2014/30/UE
014/35/UE

PRODUCT STANDARDS
CEI EN 61010
CEI EN 60204-1:2016
EN 61326-1:2013
UNI EN 285:2016
UNI EN ISO 15883

QUALITY SYSTEM
UNI EN ISO 9001:2015
UNI CEI EN ISO 13485:2016

Cisa Group is part of Faper Group, leading Italian supplier of world-class, innovative engineering solutions.
The Group is inspired by its founder, Fabio Perini, and has based its success on the ability to combine invention and simplicity.
Faper Group was established in 2001 as a holding company dedicated to innovation in the fields of tissue paper converting, healthcare and real estate management.

FAPER GROUP

MORE INFO ON THE FAPER GROUP WEBSITE

Technology

Healthcare

Cisa Group develops advanced infection control technologies for the safeguard of healthcare workers and the health of patients.

- Complete central sterilizing service departments for hospitals (CSSD)
- Sterilization for healthcare applications and clinics of all sizes
- Disinfection and washing technologies for different operational requirements

Life Science

Cisa Group is the technology partner for scientists, researchers and engineers who develop life-enhancing products every day.

- Washing and sterilization technologies for laboratories and research centres
- Sterilization for pharmaceutical production

Waste

Cisa Group, with 15 years of experience in the treatment of infectious waste, provides ground breaking solutions safe, economical and carbon friendly. Cisa Group is leading the field with the invention of its Waste Sterilization Department (WSD®).

- WSD. Complete waste treatment department
- WSM. Plug and Play Sterili-Station

Software

Over the years it has developed unique proprietary IT and energy saving systems.

- Tracecare® .Traceability of the sterilization process for the reconditioning of surgical kits in CSSDs
- TraceWaste. Traceability of the sterilization process for the treatment of infectious waste using Cisa WSD Waste sterilization departments

Medical Waste

The storage, treatment and disposal of infectious hospital waste represents one of the highest costs for the healthcare industry, from both a financial and environmental point of view.

The issues

Carbon footprint

Hospitals globally produce **millions of tonnes of infectious waste**, the equivalent to **millions of bags** that need to be transported by special vehicles, often to faraway sites, putting **millions of trucks on the road.**

Overall Cost of Operation

Management of infectious medical waste **is a high cost item**. The possibility of r**educing the costs related to hospital waste management** directly concerns Healthcare Managers and Hospitals. It is estimated that approximately 25% of all medical waste is hazardous infectious waste, which accounts for over 40% of the global hospital waste cost.

Storage and handling

The storage and handling of infectious waste are among the most serious, **hidden hazards** in hospital management. When this activity is delegated outside of the hospital facility, hazardous waste must be moved from the hospital warehouse to trucks under strict supervision. This is a **high-risk process**, which must be carried out following tightly regulated procedures in order to protect the health and safety of the healthcare workers involved.

Duty of care

In every country, legislation states that all waste producers are responsible for the entire waste management cycle up to final disposal. **Hospitals can remain reliable for waste treatment even after disposal.**

IT

"... the responsibility and cooperation of all those involved, for whatever reason, not only in the waste management cycle, but also in the goods from which waste originates". **Legislative Decree No. 152 of 2006, Court of Cassation Sentence April 10th 2012, No.13363**

UK

"... a responsibility to take all reasonable steps to ensure that when you transfer waste to another waste holder that the waste is managed correctly throughout its complete journey to disposal or recovery". **UK Environment Agency Statutory**

The challenge with the current waste process

Northumbria Healthcare NHS Foundation Trust has worked in partnership with our distributor Peacocks and Cisa Group to create an integrated end-to-end sustainable solution that can process clinical waste directly on-site.

Currently the NHS outsources its clinical waste to external providers and waste is sent weekly via high polluting diesel lorries. (*Source NHS UK 2022).

153.000 TONNES*
of clinical waste across acute and maternity NHS beds

108,000 TONNES*
of CO_2 created per year

£373 MILLION*
annual cost for the NHS

*STORAGE**

Waste can only be stored for a maximum of five days. Issues with transportation or third party processes can result in increased onsite storage.

*HANDLING**

When outsourced to off-site treatment, the hazardous waste must be moved from the storage facility by trucks, posing a high risk.

*ON SITE WASTE TREATMENT**

The sustainable on-site solution removes risk and increases resilience cutting costs ten-fold. With full control over the process, hospitals can reduce the carbon impact of clinical waste by up to 100% providing increased protection against any liability risks.

MORE INFO ON THE CURO WEBSITE

Cut carbon.
Cut costs. Cut Risk.

UK curo

Regulatory framework

Most countries are developing new rules and guidelines to reduce the cost and environmental impact of infectious waste, paying special attention to the **United Nations' Sustainable Development Guidelines (SDGs)**.

New regulations and guidelines

The cumulative effect of these guidelines is pushing legislators to promote on-site medical waste sterilization and treatment. Generally, new legislation has similar objectives.

UE

EU WASTE MANAGEMENT LEGISLATION

"Proximity: waste should be disposed of as close to the source as possible".

IT

THE CONVERSION LAW DECREE No.40/2020

Art.30 Bis and the subsequent Legislative Decree 76/2020, Art.63 Bis, establish that medical waste at infectious risk only, subjected to sterilization procedures according to the provisions of Presidential Decree 254 "Medical Waste", at public and private healthcare facilities, falls under the legal status of urban waste.

UK

HEALTH TECHNICAL MEMORANDUM 07-01 INFECTIOUS WASTE - YELLOW STREAM

5.31

Infectious waste known or suspected to be contaminated with pathogens classified in Category A in the Carriage Regulations should be treated on-site prior to removal to a disposal facility; on-site treatment may include autoclaving in purpose-built autoclave facilities before being transported.

5.34

Wherever possible, Category A infectious substances (including waste) should be treated on-site (using an autoclave or equivalent).

- **Treating waste at the source**
- **Reduce waste volumes to limit pollution due to transportation**
- **Adopt all measures to promote recycling and waste reuse**

On-site waste treatment

Cisa is leading the field with its newest, state-of-the-art invention, the **WASTE STERILIZATION DEPARTMENT (WSD®)**, an integrated on-site department to treat medical waste directly inside the hospital, dramatically **reducing volume and costs.**

WSD® provides Hospitals with **complete control over the entire treatment process**, **minimising liability**. The waste is sterilized and shredded using dedicated Cisa technology which is controlled by our proprietary **TRACEWASTE** traceability software.

Tests carried out in Italy and in the United Kingdom have confirmed the efficacy and safety of the **WSD®**.

01

UNI10384 standard compliance
Biological tests, Thermometric tests, Specific tests related to specific sterilization methods

02

Compliance with STAATT lev III methodology, EPR 5.07 Additional guidance and 11737-2:2020, UPD 71, ISO 11737-1:2008 standards
Inactivation of biological spores validation testing and exhaust water microbiological results

03

High safety standards for operator and community compliance
Chemical tests on effluents, microbiological testing of the processed waste, sound level testing, odour analysis, characterization of the processed waste (this is an analysis that determines the exact waste category)

WHITE PAPER
Cisa has produced a white paper containing 70 pages of tests carried out both in Italy and in the UK by independent laboratories confirming that the WSD and its mobile version:

- adhere to the highest standards in biological sterilization
- have clean emissions
- have clean effluent
- respect all rules and regulations regarding noise
- respect all rules and regulations regarding odour

Impact of waste management with WSD

Cisa **WSD®** solutions provide maximum protection for the people involved, the facility and the environment, ensuring safe, economical and sustainable management.
On-site sterilization makes it possible to transform large volumes of waste into small volumes, which can then be treated as mixed municipal waste, creating significant benefits for both the circular economy and financial management of the healthcare facility.

Lower waste volumes Waste can be treated as mixed municipal solid waste Up to 30 days of storage time	Reduction of waste volume and hazardousness Increased safety for operators Better protection of producers against waste management liabilities	Economic benefits Reduced environmental impact Maximum regulation compliance

One step closer to major milestones.

Improved health waste management can contribute to several of the UN's Sustainable Development Goals.

WSD® Waste Sterilization Department

WSD® is an inherently smart, end-to-end solution for medical waste treatment.

WSD®
WASTE STERILIZATION DEPARTMENT

PERFORMANCE

- Up to 400 kg/h*
- Multiple modules from 100 to 400 kg/h
- Traceability with:
  - Generation of batch labels
  - Loading in autoclave
  - Archiving of all batch processing data
  - Recording of loads into shredder
  - Potential traceability of ROT containers (on request)

MAIN FEATURES

- Steam sterilization
- Integrated Hepa pre-filter and sterilization of condensation (HP)**
- Patented Aquazero vacuum system for reduced water consumption***
- TraceWaste proprietary custom tailored traceability software

Considering a medium waste density between 0.12 and 0.15 kg/litre
***Residual effluents discharge only after the sterilization treatment in the machine*
**** Up to 250 litres of water saved per cycle for the vacuum generation*

Carbon footprint. Volume. Storage and handling. Cost.

Installing a **WSD®** will reduce volume and transportation by 8 times: that means millions of fewer vehicles on the road. Installing the **WSD®** may require no extra space as many hospitals will find the space to install the **WSD®** in their current waste storage facilities.

- ***WSD 100***
  UP TO 100 KG/H
- ***WSD 200***
  UP TO 200 KG/H
- ***WSD 400***
  UP TO 400 KG/H

WSM Sterili-Station

A quick alternative for simple deployment: plug and play mobile container

The WSM Sterili-Station developed by Cisa comes in a ready to use package, with no design/installation costs and easy placement.

01 **SHIPS ANYWHERE**
The container is not altered structurally

02 **SAFE OPERATION**
Separate dirty and clean areas

03 **EASY SET-UP**
Immediately operational

04 **HIGH OUTPUT IN SMALL SPACES**
Modular solutions up to 100 kg/h

05 **NO DESIGN/CONSTRUCTION COSTS**
Only requires electrical and water connection

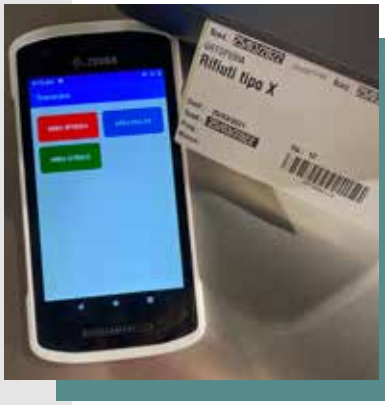
- ***WSM 50***
  UP TO 50 KG/H
- ***WSM 70***
  UP TO 70 KG/H
- ***WSM 100***
  UP TO 100 KG/H

Aquazero® technology

Thanks to Cisa patented **AQUAZERO®** technology, water consumption is extremely limited. A simple garden hose is sufficient to fill the tank that feeds the entire process. If necessary, the tank can be filled manually with canisters.

AQUAZERO
THE VACUUM WITHOUT WATER

TraceWaste



Enhanced safety with TraceWaste monitoring

The innovative Cisa **WSD®** solution for treating hospital waste with the **TraceWaste** software carries out the complete waste traceability process.

TraceWaste also makes it possible to protect facilities against waste management liabilities by ensuring maximum control over management and transport, simplifying the procedures for waste disposal.

Cisa Group's proprietary **TraceWaste**is recognised as a leading traceability software.

TRACE WASTE

Pioneering the future of clinical waste

The NHS has made a commitment in line with the 2008 *Climate Change Act* to reduce carbon emissions by 80%. Curo provides a bespoke process and system that is designed and implemented to the individual requirements.

The system can operate 24 hours a day delivering substantial reductions in transportation and waste management costs. *"Our goal is to reduce the carbon footprint of the current clinical waste process by 100%."*

By implementing Curo, an individual NHS Trust or Health Board has the opportunity to:

0 CO_2
Cut carbon emissions of CO_2 to 0kg

54 MILLION KW
electric generation benefit per year

OVER £1 BILLION
in potential savings over 5 years

UK curo

Cisa Production S.r.l. Unipersonale

Via E. Mattei, snc Angolo Via la Viaccia
55100 Lucca, Italy

Cisa Group
75
YEARS ANNIVERSARY
1947 • 2022

cisa
We care about life

KEEP IN TOUCH

+39 0583 15381

info@cisagroup.it

Cisa Group

cisagroup.it

Revision 04 October 2022