

**BEST QUALITY
WITH HIGH
CAPACITY**

PROMED

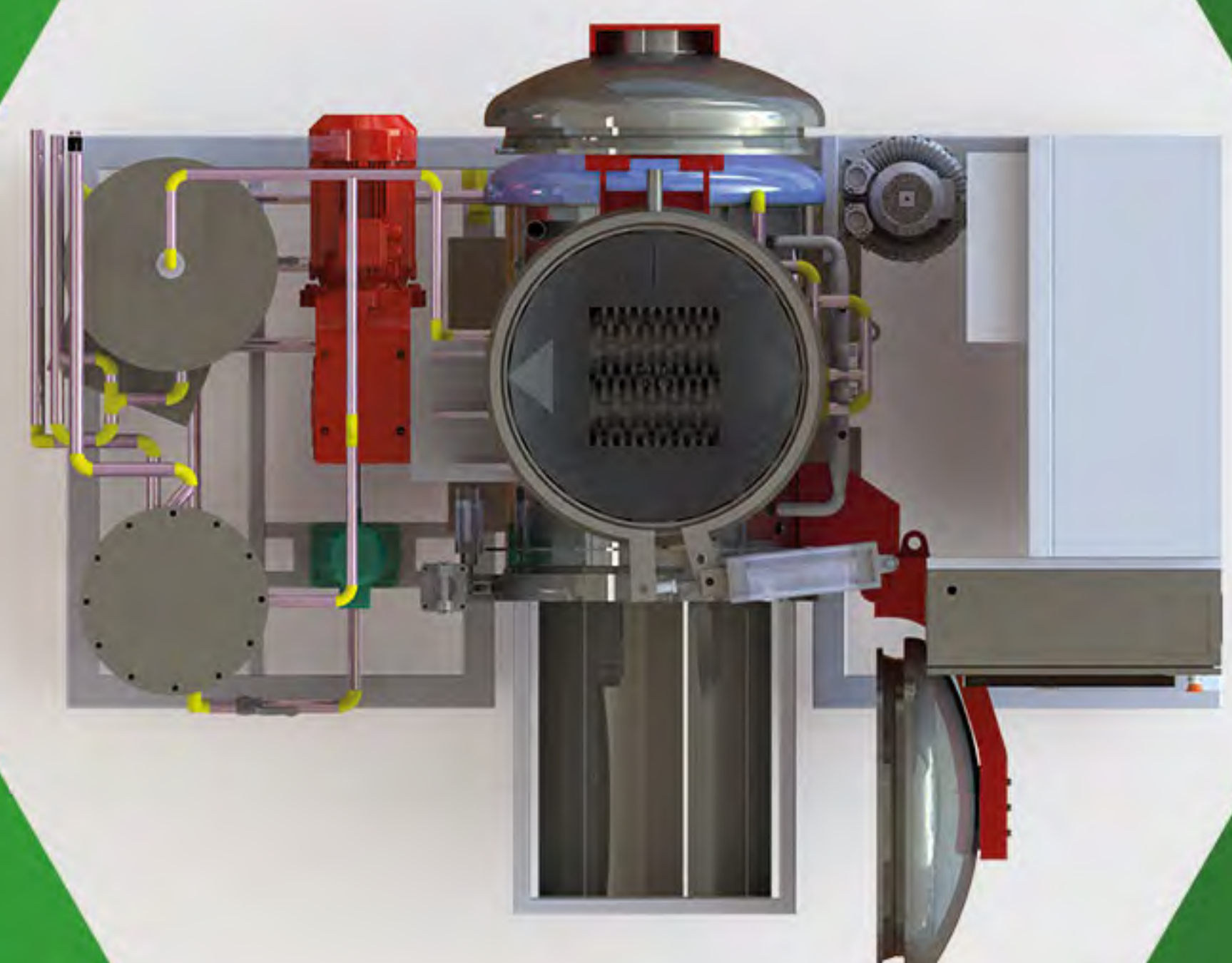
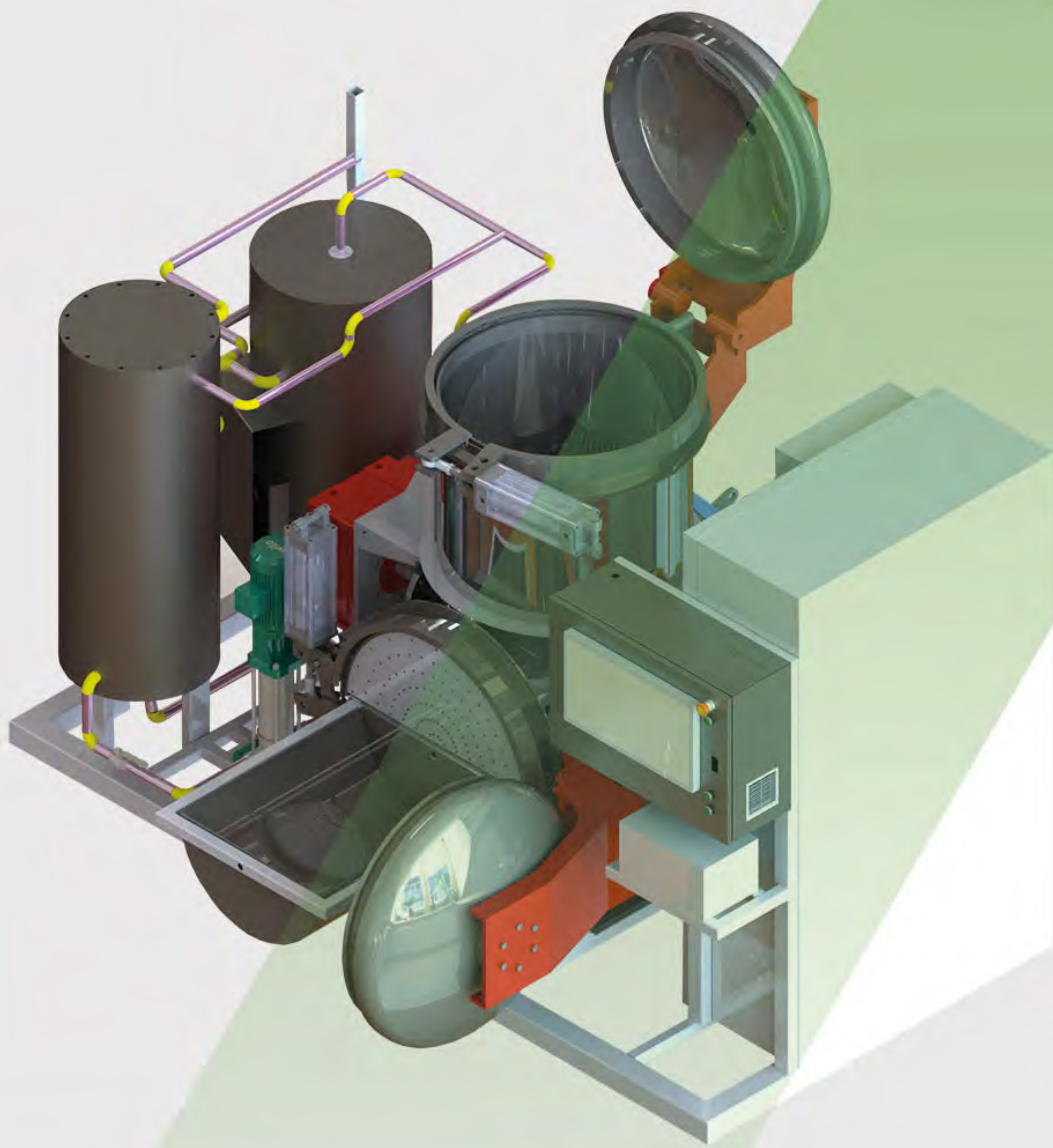
P150

**PRE-SHREDING
SYSTEM CAPACITY**

55 KG / HOUR

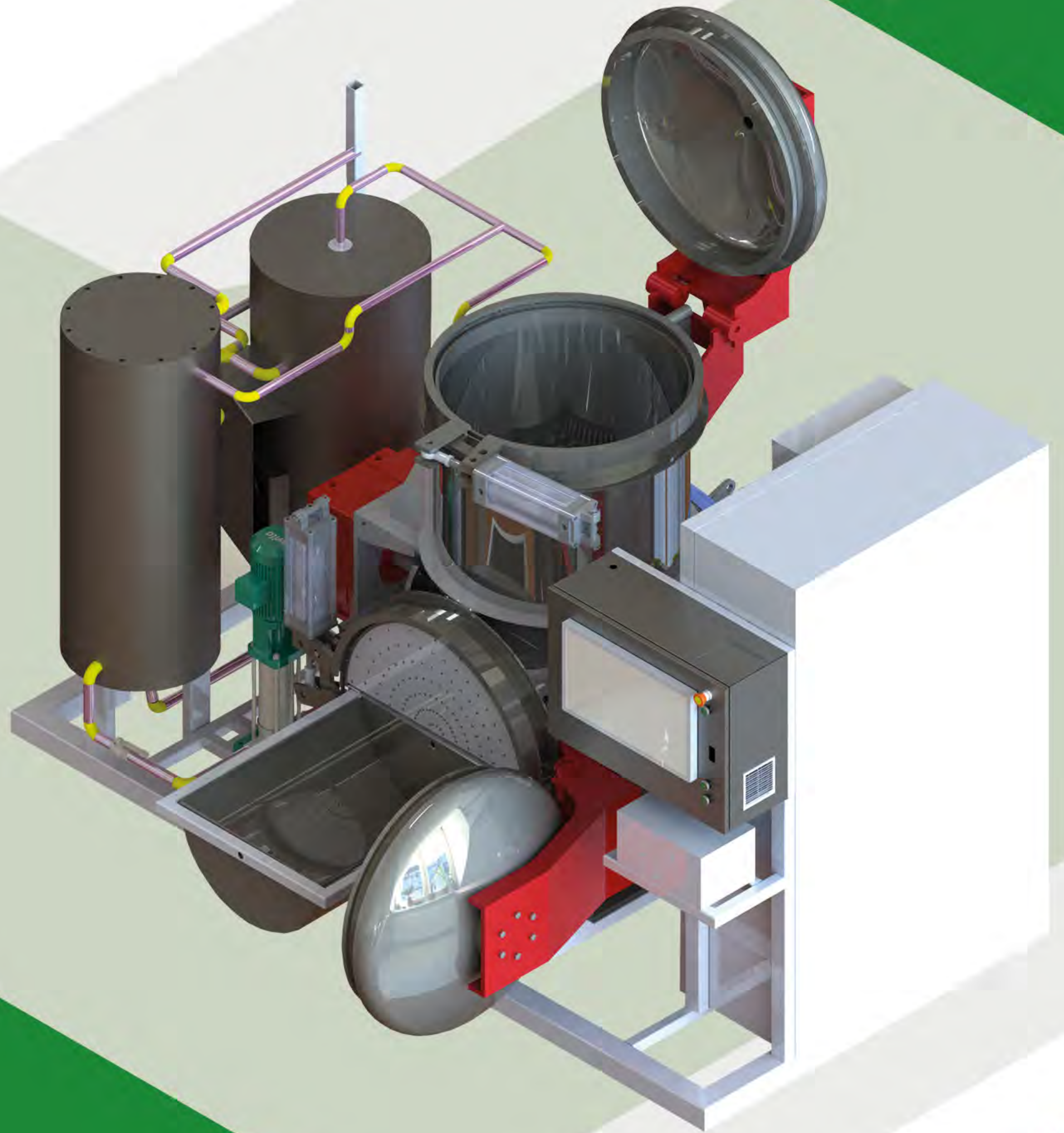
**880 KG
PER DAY**

(16 hours in day)



PROMED **P150**

Best Solution for
**Medical Waste
Sterilizations**



PROMED P150 Treat the following and more.



Sharp Waste

Hypodermic, intravenous, other needles, syringes, infusion sets, scalpels,



Pathological Waste

Human tissues, organs, or body fluids; unused blood products.



Pharmaceutical Waste

Pharmaceuticals that are expired or no longer needed; items contaminated or containing pharmaceuticals will be sterilized (not chemically neutralized).



Chemical Waste

Waste containing chemical substances from laboratories (not chemically neutralized).

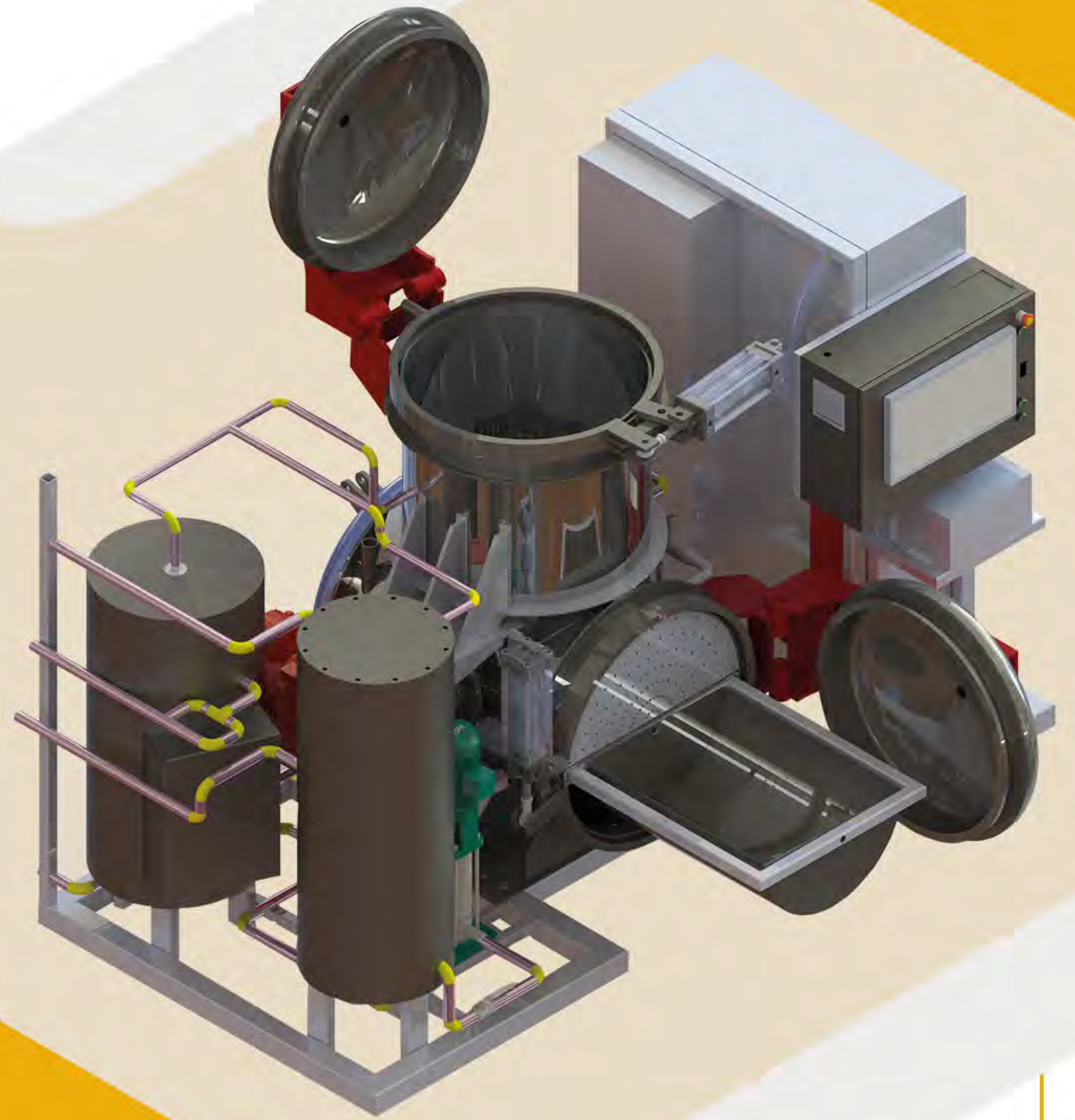


Infectious Waste

Waste contaminated with blood, other body fluids, laboratory cultures, microbiological stocks, waste that has human excreta, and other materials.

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**WHY USE
VERTISA
PROMED**



- ✓ It's an alternative technology to incineration or any other non-burning system.
- ✓ The system does not produce wastewater.
- ✓ All systems are eco-friendly because they don't harm our nature or ecosystem.
- ✓ PROMED products only need electricity and water to operate.
- ✓ Customers get proper training, commissioning, and running the systems together with local staff.

Operational failure or broken parts within 1 year of the system being operating will be replaced

- ✓ with our cost.

Accredited by Austria HYGCEN evaluator and a laboratory that can effectively decontaminate

- ✓ or make the waste inert.

Proven technology, sustainable, long-lasting, and safe to operate.

- ✓ Customers are primarily assisted with technical performance and environmental reports.

TECHNICAL DESCRIPTION

Technical Features	Value
Size (L x W x H) (mm)	2400 x 1450 x 1900
Weight (Kg)	2930
Air Pressure (Bar max)	8
Electrical connection required (Kw)	35*
Working Characteristics Value	
Sterilizing Capacity (Kg/ Hour)	45-55
Process Volume Capacity (Lt.)	225
Average Waste Density (Kg/m ³)	100-150
Average Cycle Time (Min.)	30-40
Maximum Steam Flow (Kg/Hour)	170
Sterilization Efficiency (SAL)	8Log10
Consumption / Cycle Value	
Steam (Kg)	8
Electricity (Kw)	1.7**
Water (Lt)	None***
Special Consumables	None

* P50 – P100 – P150 includes built-in electrical steam boiler

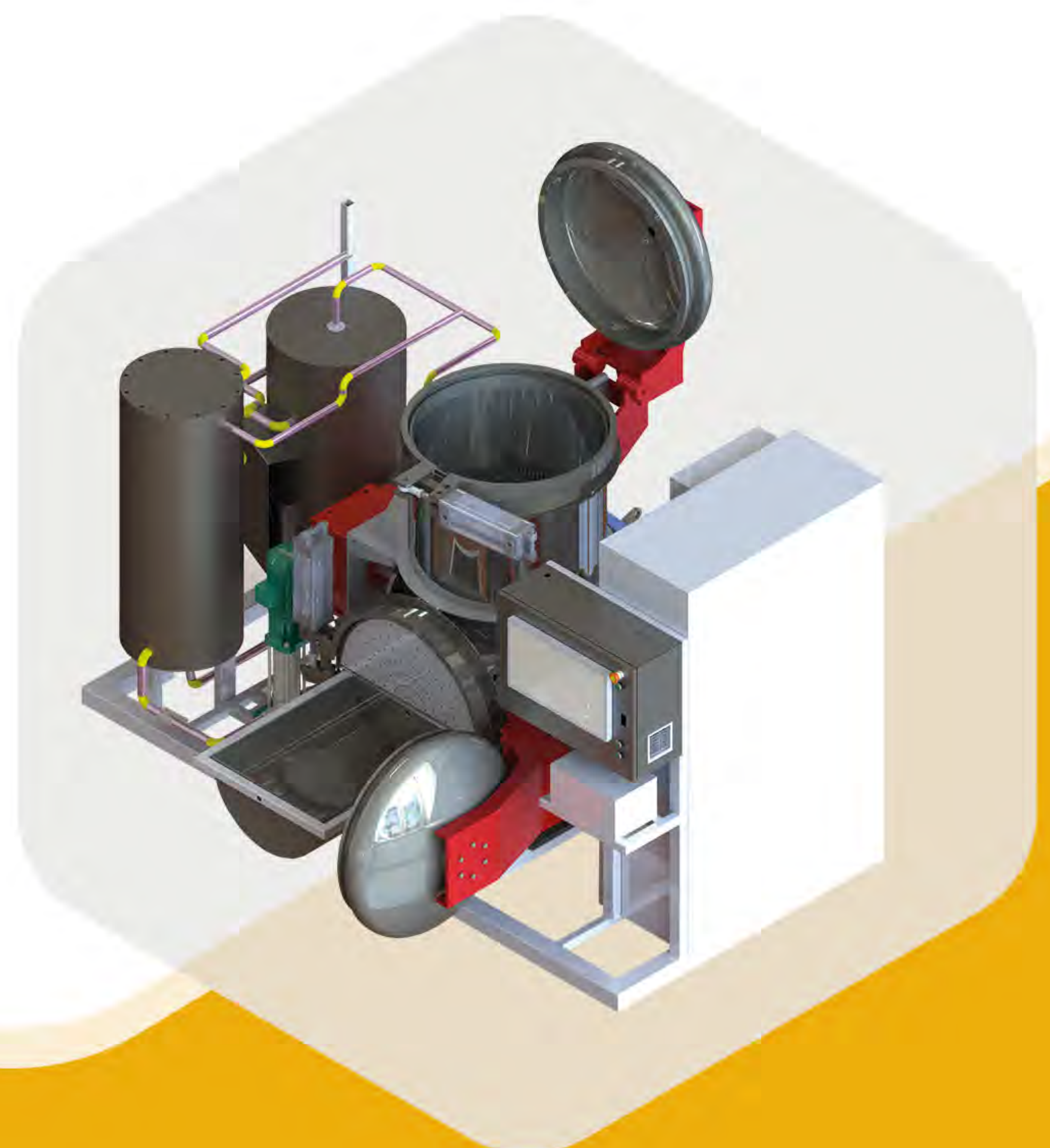
** Electrical consumption of the sterilizer only

*** Water consumption of integrated steam boiler: 7 – 12 Lt./ Cycle

All Systems can be customized to customer specifications

GENERAL FEATURES

- ✓ Pressure container built of high-quality Stainless Steel
- ✓ Produced according to EU Directives PED 2014/68/EU, 2006/42/EC, 2014/30/EU&EU Norms EN285
- ✓ Simultaneous Shredding and Sterilization process for higher capacity output
- ✓ Automatic loading and unloading ramp for the autoclave carts
- ✓ Sophisticated automation control system with advanced reporting and monitoring software
- ✓ Online access via the internet for supervision and troubleshooting
- ✓ Automatic elevator system for easy loading
- ✓ No water consumption
- ✓ Low fuel and electrical consumption for integrated steam boilers equipped with state of the art steam regeneration system
- ✓ Turnkey solutions by providing Steam Boilers, Container Washers, Compactor Systems designed and manufactured in
- ✓ House for a complete solution



TECHNICAL DESCRIPTION

Materials

The materials used for the tank and lids are all stainless steel type 321 quality (Asth USA Standard). The shredder is made of high-strength heat-treated quality steel, which has a high resistance to fatigue and attrition.

Quality control

The quality control is done according to the manufacturer's standard quality control.

General description

Nomination

PROMED is sterilizing equipment for infected dangerous waste originating from public health activity

Field of utilization

PROMED equipment is used for sterilization and decreasing the volume of waste originating from public health.

After shredding the hospital waste to an acceptable size, the sterilization is done by treating the waste and all inner components of the system with 138 °C steam for 10-15 Minutes. After the sterilization process, the waste is cooled down for safe handling. (Sterilization heat programmable up to 145°C, also sterilization time and cooling temperature can be programmed upon request).

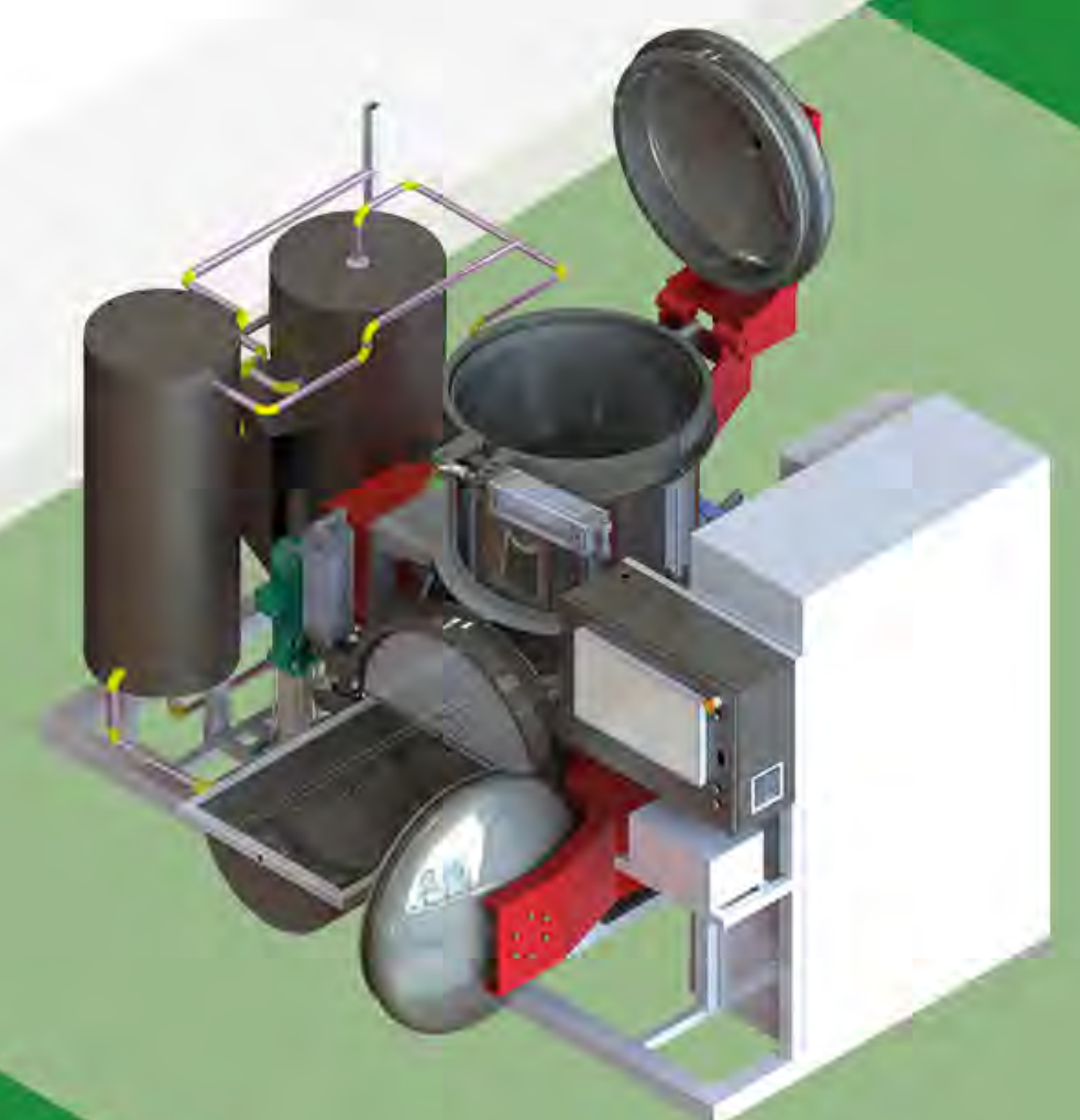
The discarded waste can be accepted as steril communal waste. (Minimum Sterilisation efficiency: 8 Log 10).

After sterilizing the waste with heat treatment, the PROMED system decreases the volume significantly. Compared to the traditional processes, not only decreases the cost of dumping and the cost of transportation.

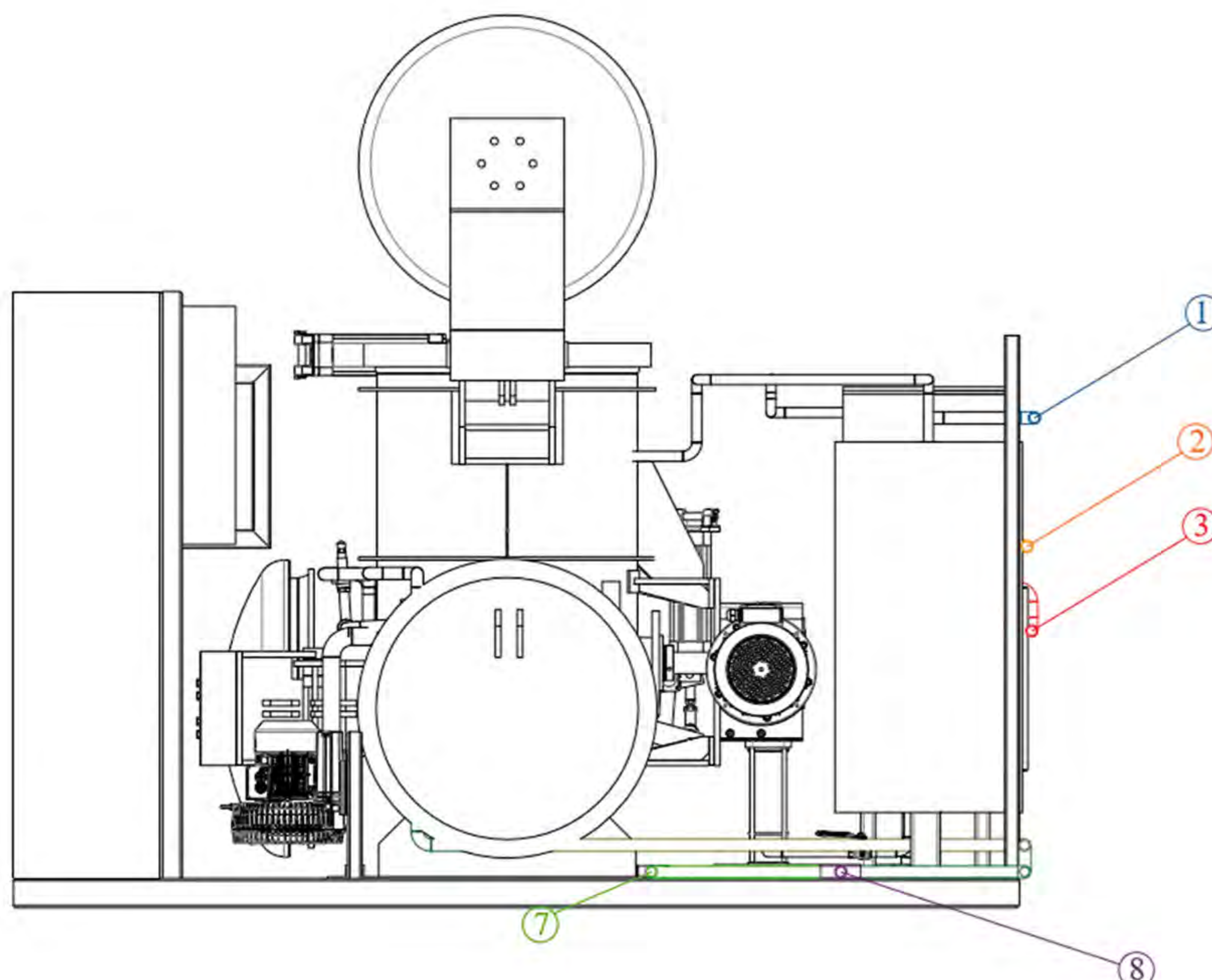
The process destroys the following micro-organisms:

- bacteria flores, microbacterias, fungus spores
- the neutralization of viruses

The equipment is suitable for the treatment of general medical waste.

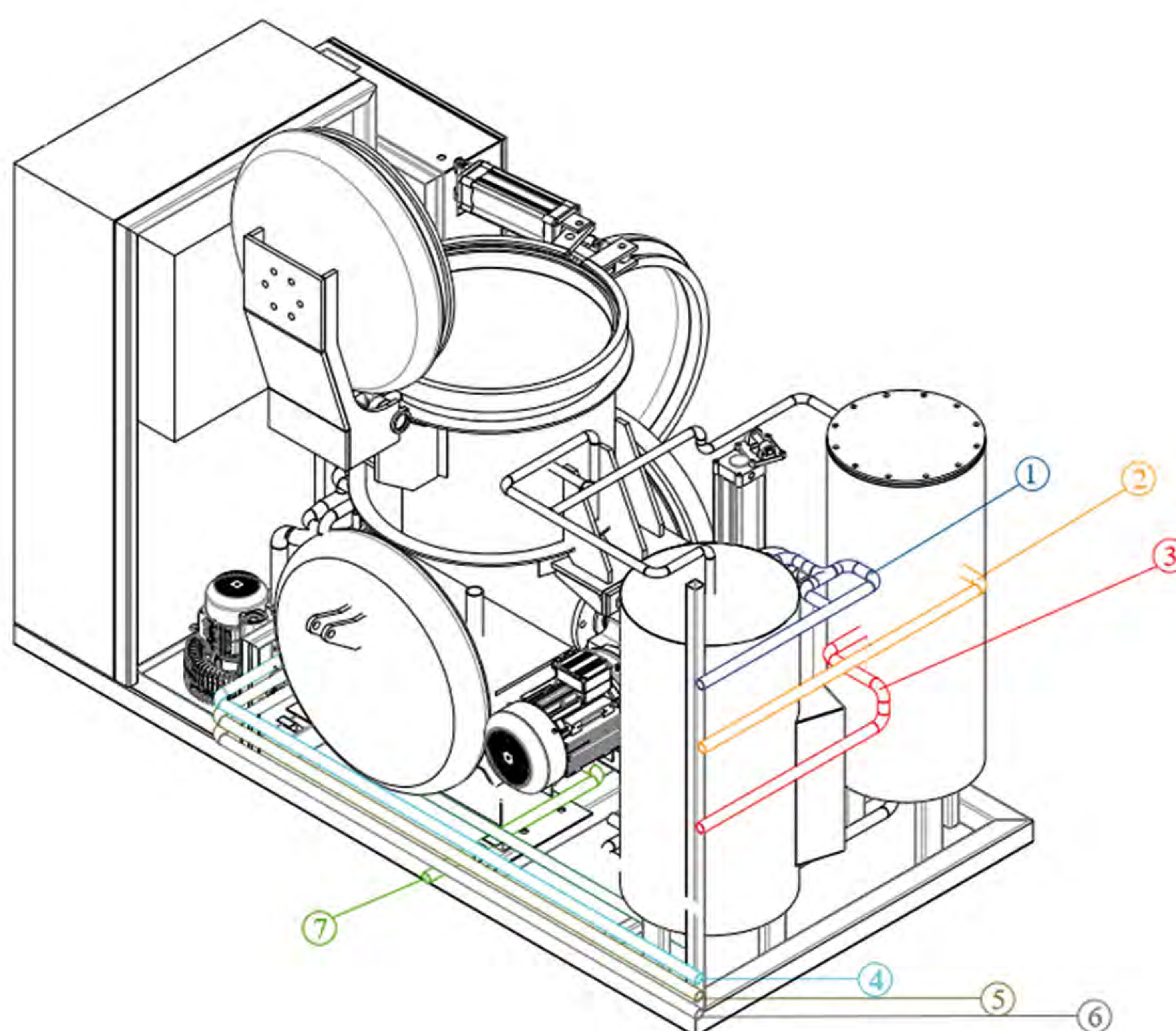


DESCRIPTION OF UNITS OF EQUIPMENT



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- 1- Safety valve of the steam boiler
- 2- Steam outlet
- 3- Municipal water inlet
- 4- Safety valve of the sterilization unit
- 5- Vacuum system discharge
- 6- Cooling water supply for vacuum motor
- 7- Waste water system discharge
- 8- Reference model of the connection between pose number 5 and 7



MAIN COMPONENTS OF THE SYSTEM

- ▶ Openable lid of feeding chamber
- ▶ Insulation layer on feeding lid
- ▶ Openable lid of feeding chamber
- ▶ Opening /closing device of feeding lid (pneumatic cylinder)
- ▶ Security ring mechanism for feeding lid
- ▶ Opening /closing device of security ring (pneumatic cylinder)
- ▶ Security lock mechanism for security lock
- ▶ Opening /closing device of security lock (pneumatic cylinder)
- ▶ Position sensor on pneumatic cylinder
- ▶ Window for checking shredding
- ▶ Sealing for feeding lid
- ▶ Steam Generator
- ▶ Steam Generator Pump
- ▶ Water Tank
- ▶ Funnel over shredder
- ▶ Shredder unit
- ▶ Shredder shaft (x1)
- ▶ Shredder reduction gearbox (x1)
- ▶ Shredder reduction gearbox motor (x1)
- ▶ Shredder shaft pressure sealing components
- ▶ Waste trap door
- ▶ Waste trap door closing device (pneumatic cylinder)
- ▶ Water level sensor of Steam Generator
- ▶ Openable lid of discharging chamber
- ▶ Insulation layer on discharging lid
- ▶ Openable lid of discharging chamber
- ▶ Opening /closing device of discharging lid (pneumatic cylinder)
- ▶ Security ring mechanism for discharging lid
- ▶ Opening /closing device of security ring (pneumatic cylinder)
- ▶ Security lock mechanism for security lock
- ▶ Opening /closing device of security lock (pneumatic cylinder)
- ▶ Position sensor on pneumatic cylinder
- ▶ Sealing for discharging lid
- ▶ Pressor sensor of chamber wall
- ▶ Pressure sensor
- ▶ Pressor sensor of treated waste
- ▶ Mechanical safety pressure valves (2x)
- ▶ Steam inlet valve
- ▶ Steam outlet valve
- ▶ Cooling water/air inlet valve
- ▶ Draining valve
- ▶ Pneumatic cylinder actuator valves
- ▶ Plc control panel
- ▶ User control panel
- ▶ Air compressor
- ▶ Sterilized Waste Tray
- ▶ Sterilized Waste Tray Handle

OPERATING DESCRIPTION

The operating cycle of PROMED equipment

- After the execution of the previous cycle, the machine is in a sterilized and closed position.
- With the pushing of the control button, the Control device permits the feeding. The machine eliminates the pressure of the sealing of the feeding lid, opens the safety ring and lock of the feeding lid and the Operator with the pressing of the permission button opens the feeding lid and stays steady for feeding.
- Feeding is done with the help of the container elevator. The waste must be placed in the upper chamber.
- While feeding, the shredder is switched off throughout the feeding process, for safety precautions.
- After closing the upper chamber air-tight, the PLC unit starts the sterilizing program, which automatically operates till discharging (Except shredding start activation by button).
- First, the feeding lid ring and bolt close and the seal is put under pressure.
- The machine checks the air-tight closing.
- The first phase of the sterilizing program is the shredding, the shredder starts automatically, and with an optimum program cuts the waste into the required size. In the meantime, the waste arranging machine (mixer) moves the cartons and waste bags so that they continuously enter into the shredder.
- The average shredding time depends on the composition of the waste. The end of the shredding is observed by pushing a control button by the operator.
- If shredding is observed automatically for safety reasons the shredding continues for a couple of minutes, so that the waste may completely empty the knives and grate. But as this waste has been sterilized with the rest of the waste also, it does not matter if some waste remains in the shredder as this will be discharged with the next
- feeding.
- After this stage, the temperature rises until the temperature in the center of the waste reaches 134 °C. The temperature of the waste should at least remain at not lower than 134 C. degrees for 10 minutes.
- **The 134 C degree and the time limit of 10 minutes provide the guarantee of the sterilizing of waste.** Please note, that with the temperature the pressure also increases to proportional to temperature. The optimum sterilization and steam consumption are controlled by taking into consideration the quantity of
- steam, temperature, and pressure data.
- After the sterilizing has been completed, begins the cooling process of the chamber by blowing pressurized
- air into the pressure vessel.
- After reaching the cooling time, the following steps are made automatically:
 - Draining of condensed water into the sewage
 - Pressure-equalizing
 - Opening of safety ring and lock of discharging lid
 - Blinking of the green lamp to allow Operator to open discharging lid
 - The opening of the discharge lid is done by the Operator by pushing the operating permission button

OPERATING DESCRIPTION

- The opening of the discharge lid is done by the Operator by pushing the operating permission button.
- When releasing the button the opening process will be interrupted for safety reasons, therefore the Operator must constantly push the button till the opening process is finished.
- After this stage, the waste-collecting container must be positioned below the swing lid. The swing lid opens by constantly pushing the operating permission button.
- After the opening of the swing lid, pushing the button again will start the shredder, so that the remaining sterilized and shredded waste should fall out – as much as possible. The shredder will stop by pushing the button again, and the closing process of the swing lid will begin by constantly pushing the button.
- The Operator pulls out the container and by constantly pushing the operating button, closes the discharging lid.

When the lid is closed, the control device automatically closes the lid's safety ring and lock, and the sealing

- is put under pressure
- With the completion of this process, the sterilizing cycle ends.

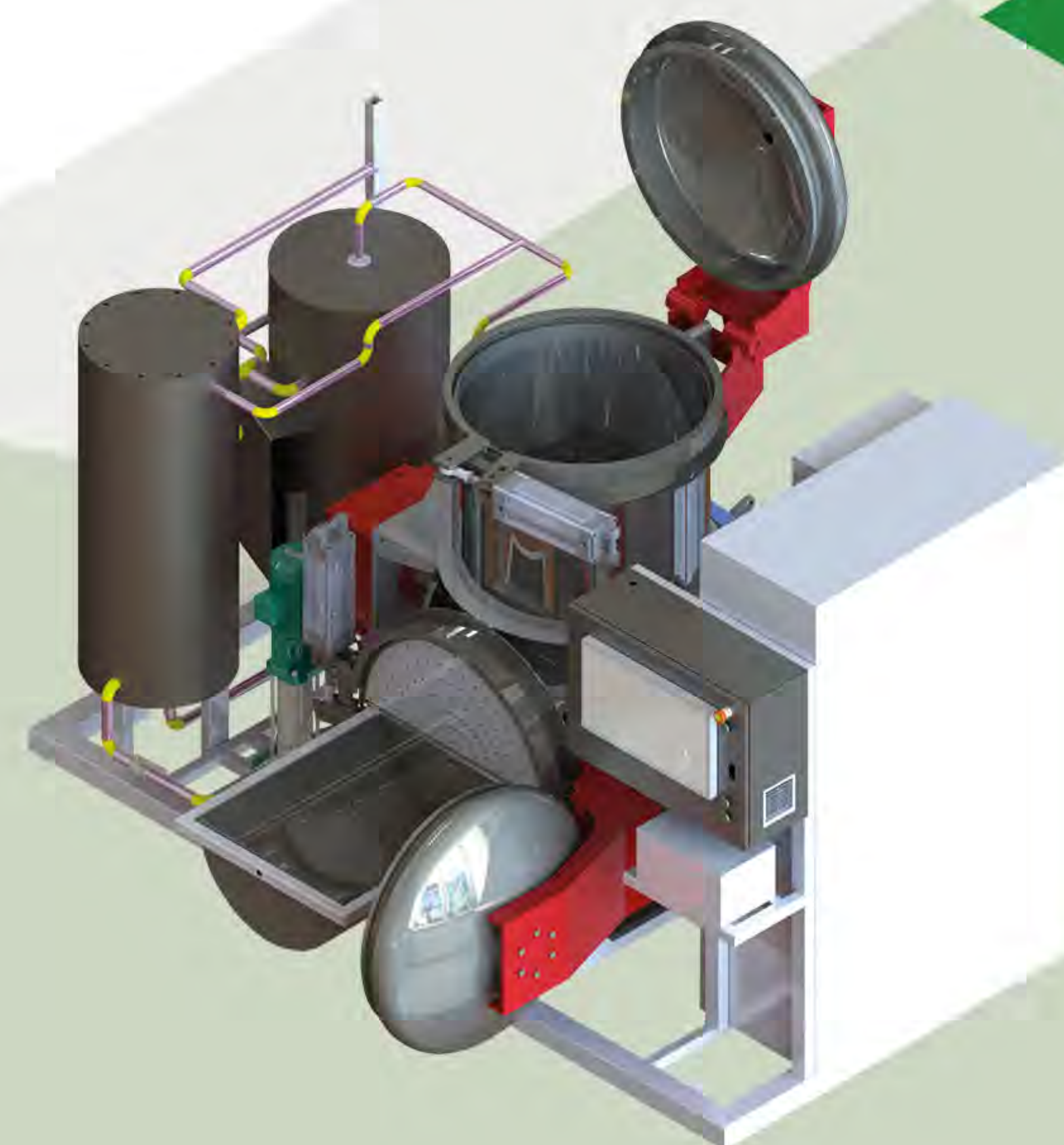
The whole cycle is controlled by the Control PLC, which not only controls the system but by the end of the program records, temperature, pressure, time, the sterilization value, etc.. of each phase.

Through the monitor of the PLC, the condition of the equipment can always be followed by the operator.

Energy Balance

Average steam consumption for one cycle is 15 - 40 kg
(depending on waste and environmental temperature)

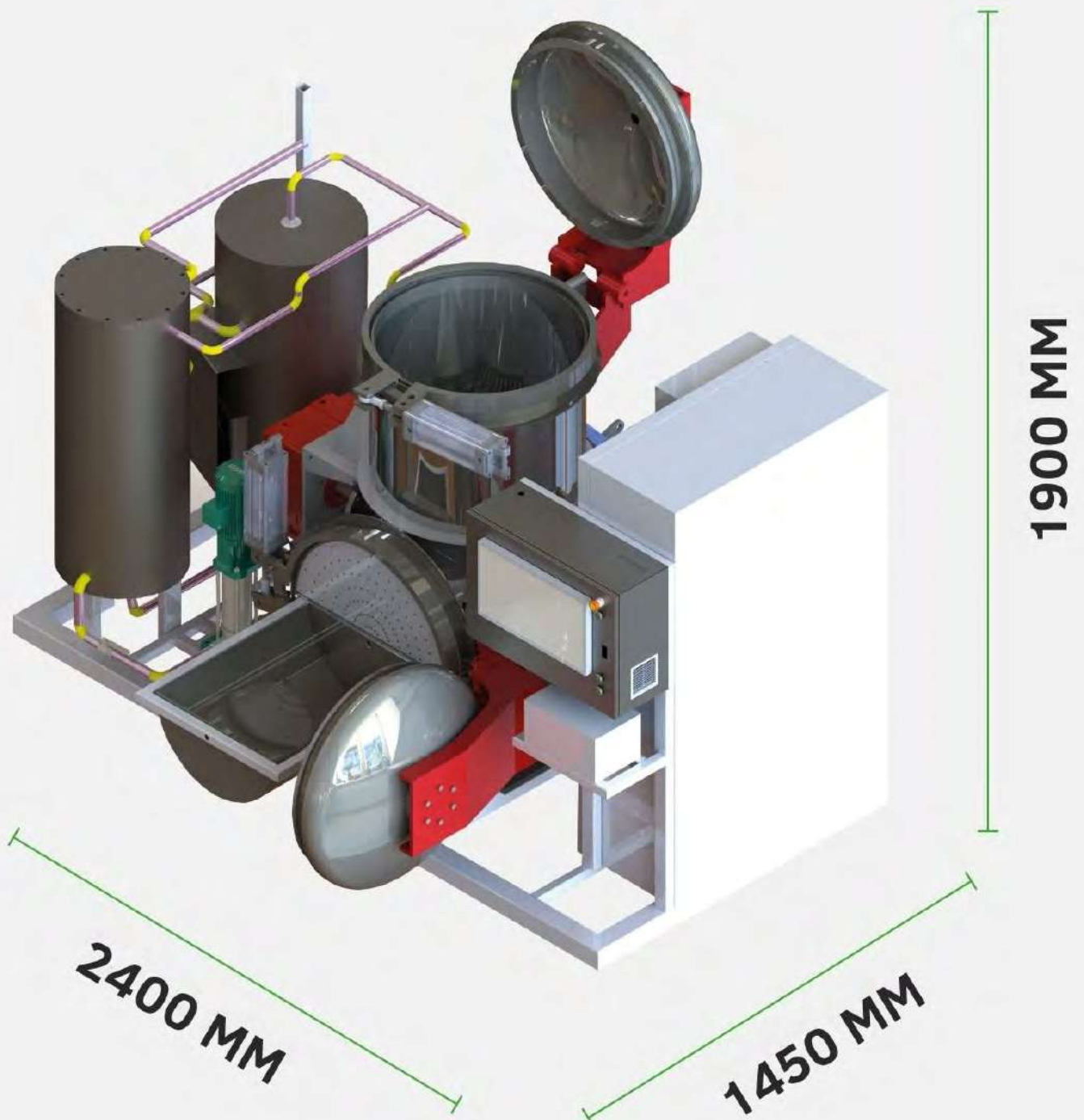
The pressure vessel is insulated. The aim of heat insulation is to decrease temperature loss and to improve the average efficiency.



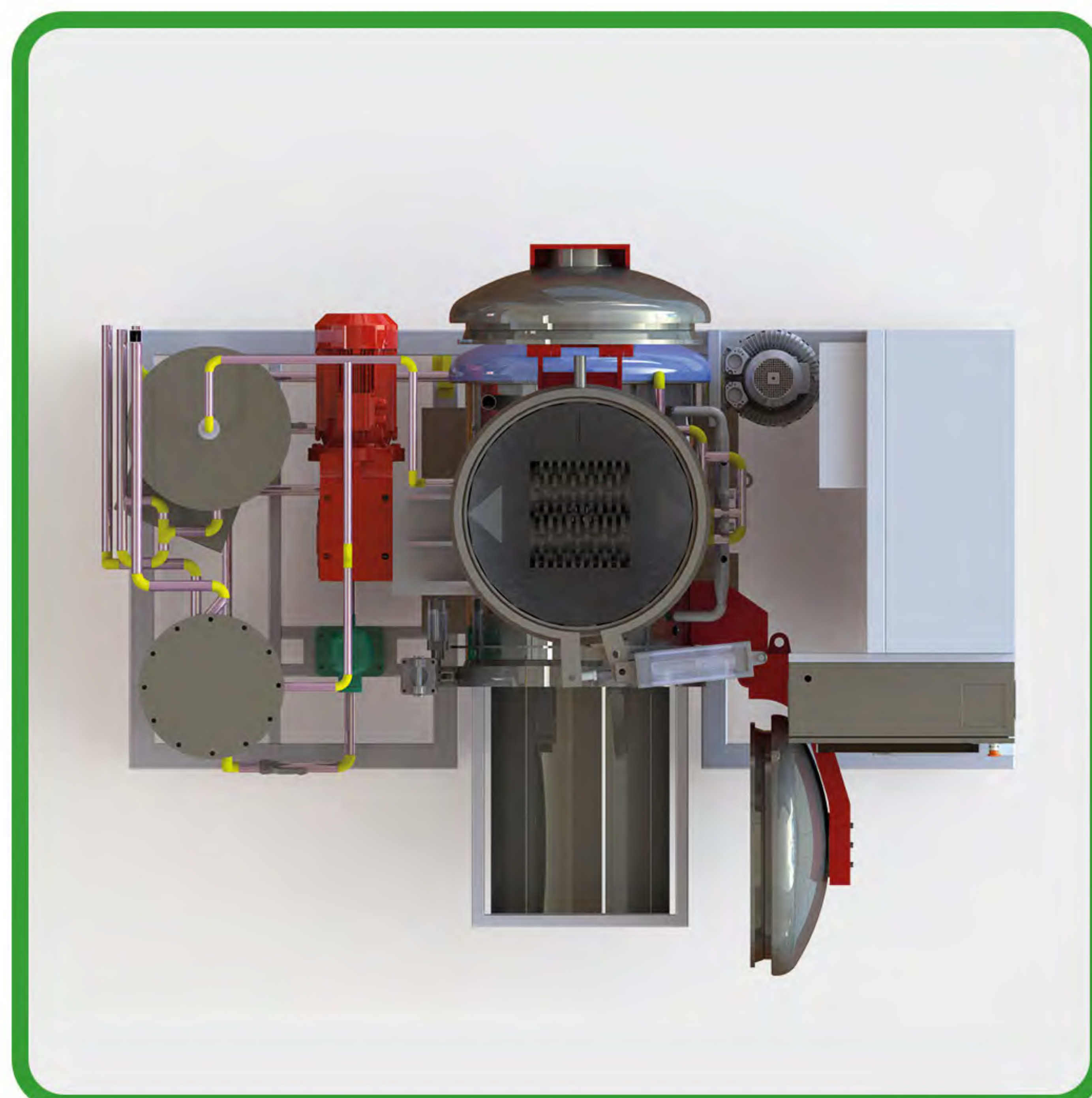
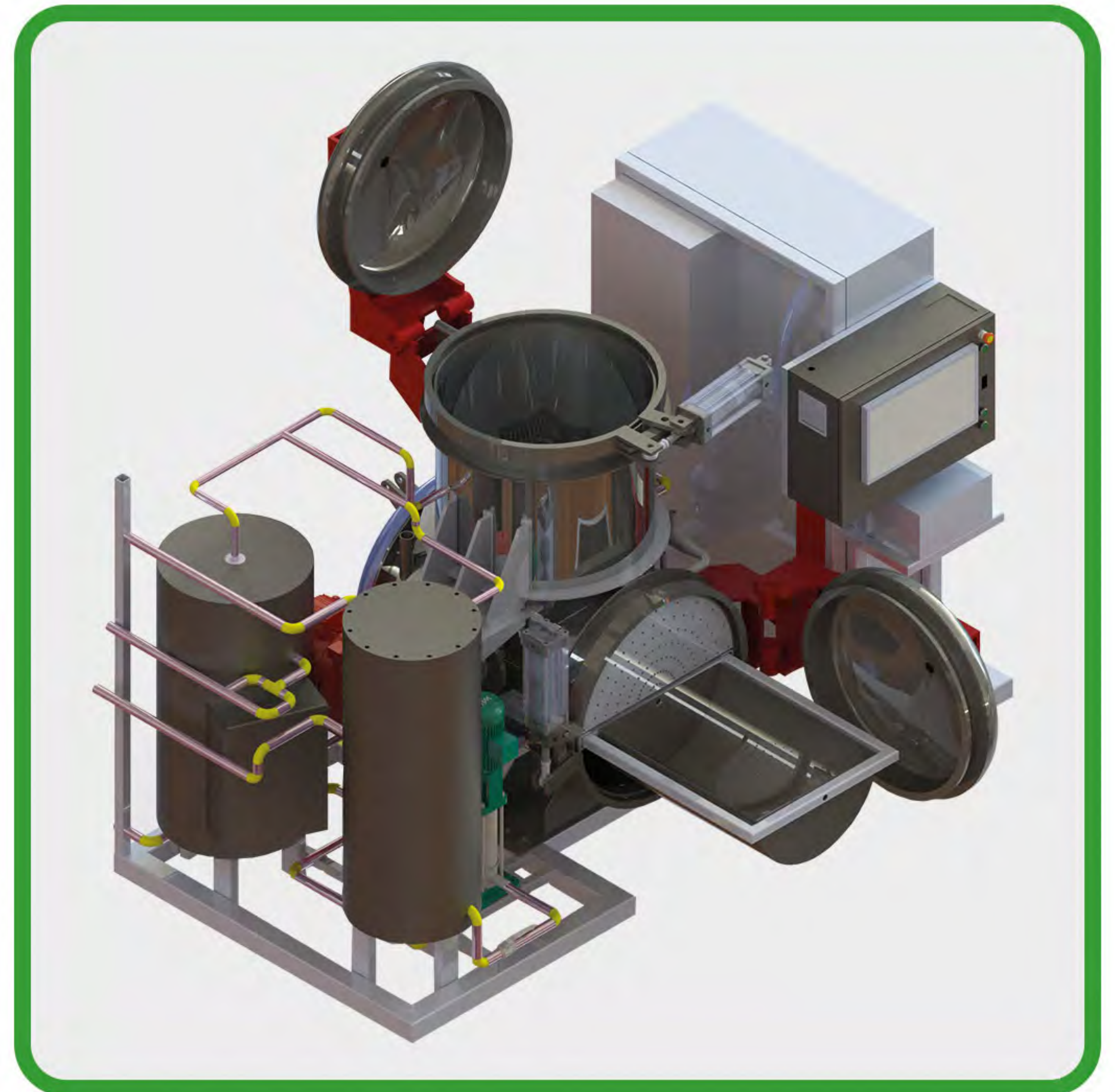
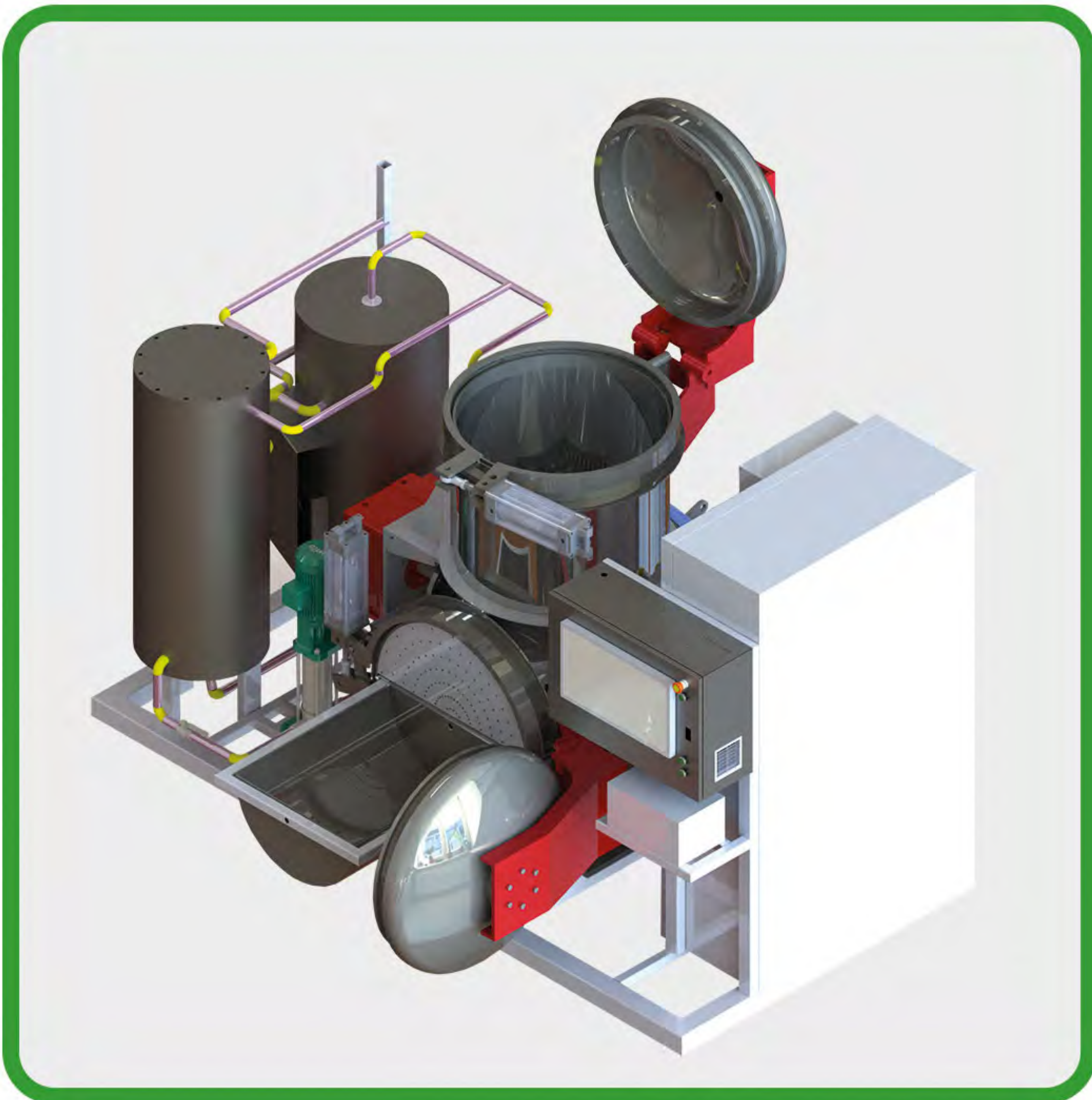
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Sharp Waste
Pathological Waste
Pharmaceutical Waste
Chemical Waste
Infectious Waste

DIMENSIONS OF THE STERILIZER



IMAGES



PHOTOS



REFERENCES

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EMS MAKİNA LTD. ŞTİ. 2010 Elazığ / Turkey	ATLAS İNŞAAT LTD. ŞTİ. 2016 Elazığ / Turkey	VITALTEK PERU 2019 Cotahuasi / Peru	VERTISA NICARAGUA 2017 Matagalpa / Nicaragua
ROHAN TEMİZLİK LTD. ŞTİ. 2009 Van / Turkey	ENVIROEQUIP S.A. 2016 Ayacucho / Peru	MAYA COMERCIAL 2019 Guatemala City / Guatemala	VERTISA NICARAGUA 2017 Esteli / Nicaragua
İLKE TEMİZLİK LTD. ŞTİ. 2010 Zonguldak / Turkey	GREENWAY LLC 2016 Constantine / Algeria	GENCLER 2019 Basra / Iraq (Comp. Sterilizer)	VERTISA NICARAGUA 2017 Leon / Nicaragua
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QUALITY STANDARDS



ISO 9001
Quality Management Systems



ISO 10002 Customer
Satisfaction Quality Management



ISO 14001 Environmental
Management Systems



ISO 45001
(OH&S) Management Systems



OHSAS 18001 Occupational
Health and Safety Standards



ISO 13485 Medical Device
Quality Management System



CE
Certificate of Conformity



TÜV
EU Type-Examination Certificate

VERTISA

CONTACT

VERTISA MANUFACTURING FACILITY 1

Ostim OSB Mah. 1262 Cad. No: 4 Yenimahalle / Ankara

Main +90 312 475 27 15 www.vertisa.eu

Fax +90 312 475 27 15 info@vertisa.eu

VERTISA MANUFACTURING FACILITY 2

Dempa San Sit 3793 Sk. No 18. Yenimahalle / Ankara

Main +90 312 475 27 15 www.vertisa.eu

Fax +90 312 475 27 15 info@vertisa.eu

VERTISA USA

3956 Town Center Blvd #217 Orlando, FL 32837 USA

Main +1 (407) 852-8277 www.vertisausa.com

Office +1 (407) 255-8377 info@vertisausa.com

VERTISA CENTRAL OFFICE



+90 (312) 476 73 27



info@vertisa.eu
info@vertisa.com.tr



Ostim Osb Mah.
1187 Cd. 21
Ankara TURKEY