



# MODUS-E

## ENERGY EFFICIENT LOOP STEAMER



## MACHINERY MANUFACTURER

From development to lifecycle support - customized machines, advanced software, and dedicated service for your success.

ONLINE VERSION



**WWW.ZIMMER-AUSTRIA.COM**

# DRIVEN BY PERFECTION

Driven by perfection and committed to the credo – **First in Quality & First in Service** – the machine manufacturer **ZIMMER AUSTRIA** has become the benchmark for dependable high-class machines in the textile printing industry. ZIMMER has shaped the market with **pioneering innovations and revolutionary technologies**. In our century of digitalisation and industry 4.0, ZIMMER has the required know-how, the global business partner network and the profound technologies to cope with the market needs of **cost-effectiveness, quality** and **flexibility**.

With the **knowledge for 150 years** **ZIMMER AUSTRIA** is constantly endeavouring to enhance our customer's competitive advantage by providing the most efficient machines in order to ensure highest possible results for various **application areas**:

## WHERE YOUR PRODUCTS COME TO LIFE



**HOME TEXTILE**



**APPAREL, KNITS & CLOTHING**



**TERRY PRODUCTS**



**PILE FABRICS**



**MILITARY TEXTILES**



**NONWOVEN PRODUCTS**

# SUCCESS THROUGH STEAMER TECHNOLOGY



**THE NEXT-GENERATION STEAMER  
ENSURES INTELLIGENT ENERGY  
USAGE, MAXIMUM COLOR  
BRILLIANCE, AND SIMPLY  
EXCELLENT FINISHING RESULTS.**

## MODUS-E KEY-FEATURES

- LATEST TECHNOLOGY
- STABLE MECHANIC DESIGN
- FOR ALL STEAMER APPLICATIONS:
  - saturated steam
  - superheated steam
  - hot air polymerizing
- WORKING WIDTH 2000 - 3400 mm
- NUMBER OF ZONES 1-4
- CLOTH CAPACITY 60 - 440 mm
- HIGH QUALITY MATERIALS
- HIGH ENERGY EFFICIENT
- MAXIMUM COLOUR BRILLIANCE





## LOOP STEAMER **MODUS-E**

The **ZIMMER AUSTRIA** loop steamer **MODUS-E** is engineered for **colour fixation** on both **traditional screen printed fabrics** and **digitally printed textiles**.

Thanks to its modular design, the steamer can be tailored to customer requirements, ensuring **excellent colour yield**, **high efficiency**, and **reduced energy consumption**. This makes the MODUS-E a sustainable and reliable solution for modern textile printing production.



**MODULAR  
DESIGN**



**ENERGY  
EFFICIENT**



**EXCELLENT  
COLOUR  
YIELD**



# THE EFFICIENT LOOP STEAMER MADE IN AUSTRIA



FROM VISION  
TO REALITY:  
PRECISION AT  
EVERY STEP



STILL PERFORMING.  
STILL LEADING. SINCE 1998.

Being present in the textile industry for many decades, **ZIMMER AUSTRIA** delivered the first loop steamer to Switzerland in 1998.

This first steamer is still in production which proves the robust and high-end quality for which the name **ZIMMER AUSTRIA** is standing for!



MANUFACTURING

**ZIMMER AUSTRIA** follows the philosophy to control the full product life cycle from design, manufacturing, assembly, start up and service all in house.



Locally Built. Globally Trusted.

All processes are located in **Klagenfurt | Austria** with a first level supply chain within a distance of 100 km. That makes it easy to integrate a profound quality control system combined with a continuous improvement process. A close contact to our customers allows to commit ourselves for adaptations of special customer needs and to quickly react on changes in the textile industry.

# THREE STEAMING TECHNOLOGIES ONE PERFECT RESULT.



## SATURATED STEAM

Mainly used when rapid heat increase of the fabric is needed. **ZIMMER AUSTRIA** provides a system that ensures instant contact of the fabric to a high amount of perfectly saturated steam in order to gain the required temperature and dampness in a minimum of time at perfect uniform distribution.

## SUPERHEATED STEAM

Mainly used to fix the dyes on synthetic fibers and mixtures of synthetic with natural fibers. The design of the fabric inlet ensures a quick heat increase of the fabric. The specific required fixation temperature can be comfortably adjusted on the touch screen.



## HOT AIR

Mainly used for pigment dyes and disperse on certain kind of fibers with hot air temperatures up to 190 °C. The operator mode can be simply switched on the HMI without any modification on the steamer.



## OPERATION FEATURES

Besides the normal operation modes mentioned below the **ZIMMER AUSTRIA** steamer provides the possibility to drive the loop forming system backwards in case of a lost loop. This is a very unique and useful operation mode for the case that a loop will get lost which will just be found at **ZIMMER AUSTRIA**.

|                               |                                                                     |
|-------------------------------|---------------------------------------------------------------------|
| <b>PASSAGE WITHOUT LOOPS</b>  | Passage of web without loop building                                |
| <b>FEEDING WITH LOOPS</b>     | Operation with loop building, fabric exit with clock operation      |
| <b>NORMAL MODE</b>            | Operation with loop building, according to all settings             |
| <b>PULLING OUT + INFEEED</b>  | Empty the steamer at exit. A stretched forerunner will be installed |
| <b>PULLING OUT</b>            | Empty the steamer at exit                                           |
| <b>PULLING OUT AT INFEEED</b> | Empty the steamer at infeed                                         |



## HEATING SYSTEM

The steamer can be equipped with the following heating methods to achieve the required temperature:

- *Thermal oil heating*
- *Indirect gas heating (no flue gas inside the treatment atmosphere)*
- *Steam heating*

Each steaming chamber features two heating units with an integrated recirculation system for precise and uniform temperature and humidity control. This ensures optimized steam consumption and reduced urea usage in fabric pretreatment.



## LOOP FORMATION SYSTEM

The redesigned loop formation system ensures uniform pre-humidification and excellent colour yield. A preheated steam nozzle bar provides efficient heating with minimized urea consumption and no condensation on the fabric. Adjustable loop length ensures stable processing, especially for digital fabrics.



## ROD TRANSPORTATION SYSTEM

The transport rods are fixed to a continuously moving chain, eliminating the risk of jamming during operation. For delicate digital prints, every second rod can be easily removed to increase spacing and avoid fabric contact. Combined with a harmonized motion sequence, the system ensures smooth fabric transport while preventing colour repetition and smearing effects.



## STEAM CONDITIONING SYSTEM

The treatment medium (steam or air) is continuously recirculated by circulation fans to ensure uniform processing conditions. Fan speed can be infinitely adjusted to meet specific customer requirements. For delicate digital prints, lower fan speed helps to minimize air turbulences.

The process temperature is continuously monitored and precisely controlled through an integrated steam and water injection system.

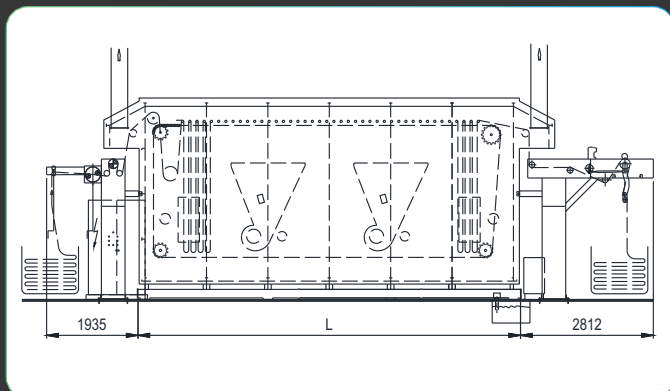


## OXYGEN CONTROL SYSTEM

Some dyes need a defined amount of oxygen in the treatment atmosphere for perfect color yield. The correct amount of oxygen can either be manually controlled by a pneumatic air valve. Optionally the steamer can also be equipped with a sensor to measure the actual oxygen content inside the steamer chamber.

# FABRIC OUTLET SYSTEM

Depending on customer's need the fabric outlet system can be installed either on the same side as the fabric inlet or at the opposite side.

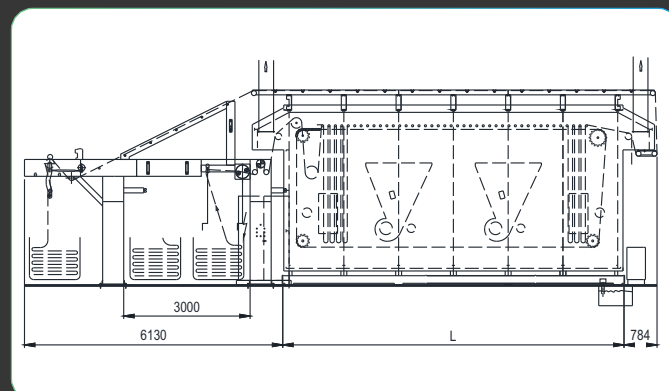


## ON OPPOSITE SIDES

This is the standard configuration.

## ON SAME SIDE

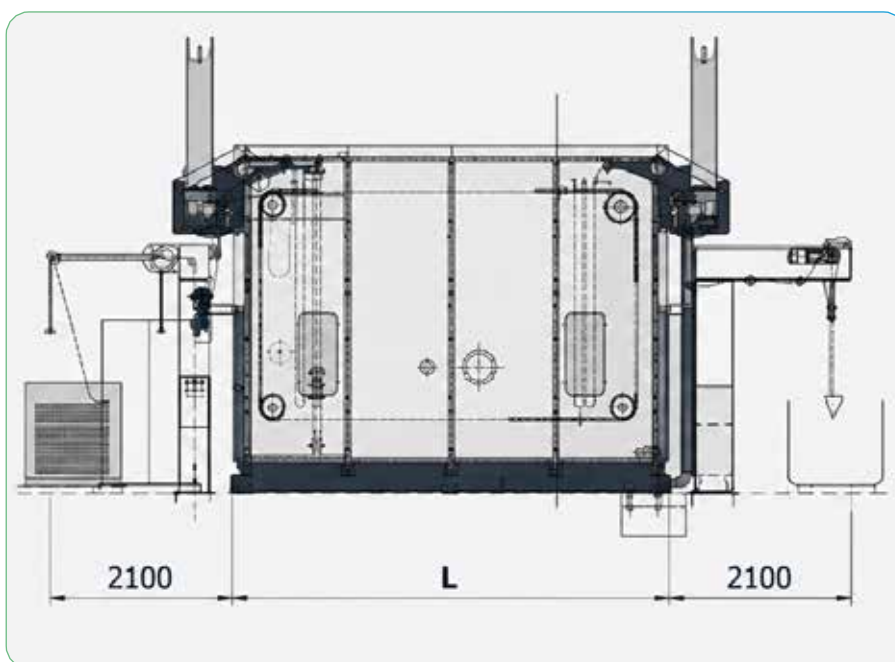
For certain stable fabrics this design brings the advantage to cool down the fabric due to the longer transport from steamer outlet to plaiter or winder. This method will not be possible for elastic fabrics.



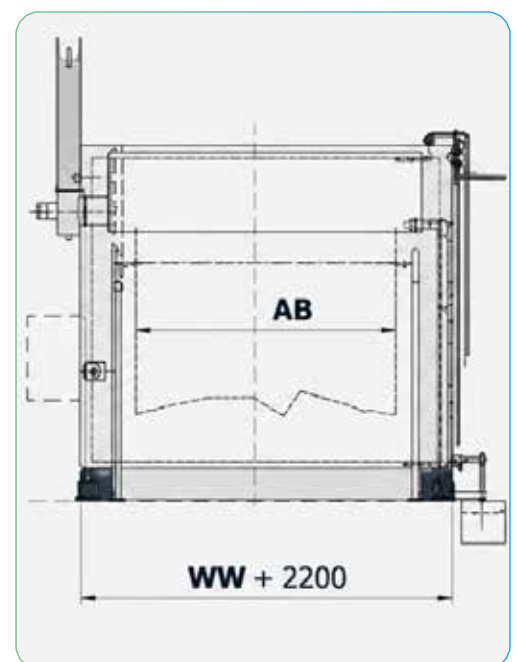
# MODUS-E

## TECHNICAL DATA

|                           |       |                        |         |            |          |          |          |
|---------------------------|-------|------------------------|---------|------------|----------|----------|----------|
| Working width (WW)        | mm    | 2000, 2600, 3000, 3400 |         |            |          |          |          |
| Fixation time             | min   | 5 - 40                 |         |            |          |          |          |
| Loop length               | mm    | 500 - 1800             |         | 800 - 2800 |          |          |          |
| Superheating capacity     | kW    | appro. 140 kW per zone |         |            |          |          |          |
| Number of zones           |       | 1                      | 1       | 1          | 2        | 3        | 4        |
| Cloth capacity            | m     | 60                     | 80      | 140        | 240      | 340      | 440      |
| Length (L)                | mm    | 4200                   | 5500    | 5500       | 8000     | 10500    | 13000    |
| Max. mechanical speed     | m/min | 25                     | 25      | 30         | 50       | 60       | 70       |
| Average steam consumption | kg/h  | 200-400                | 200-400 | 400-600    | 500-1000 | 700-1300 | 800-1400 |
| Electrical installation   | kW    | 40                     | 40      | 40         | 53       | 65       | 77       |



MODUS-E (side view)

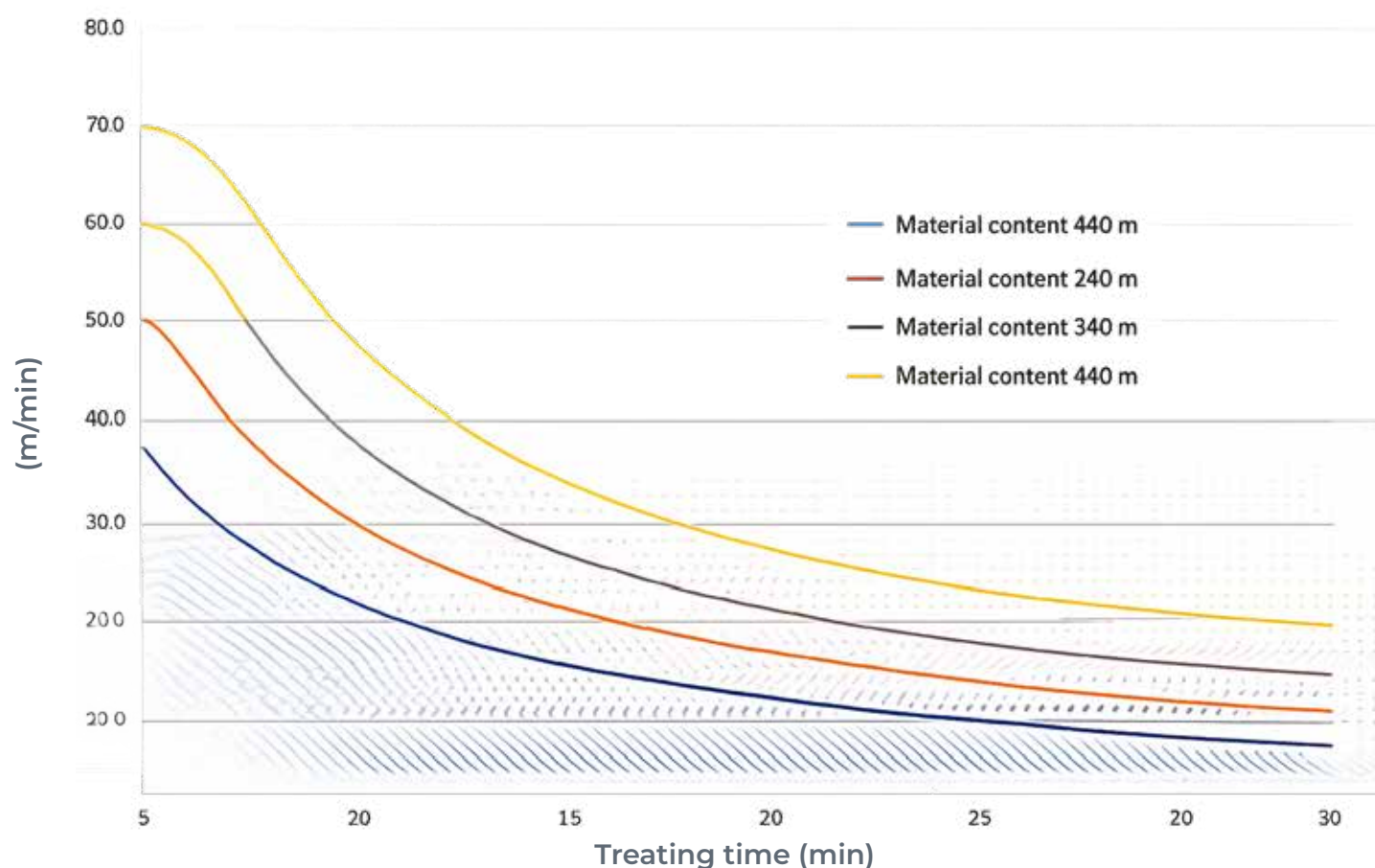


MODUS-E (front view)

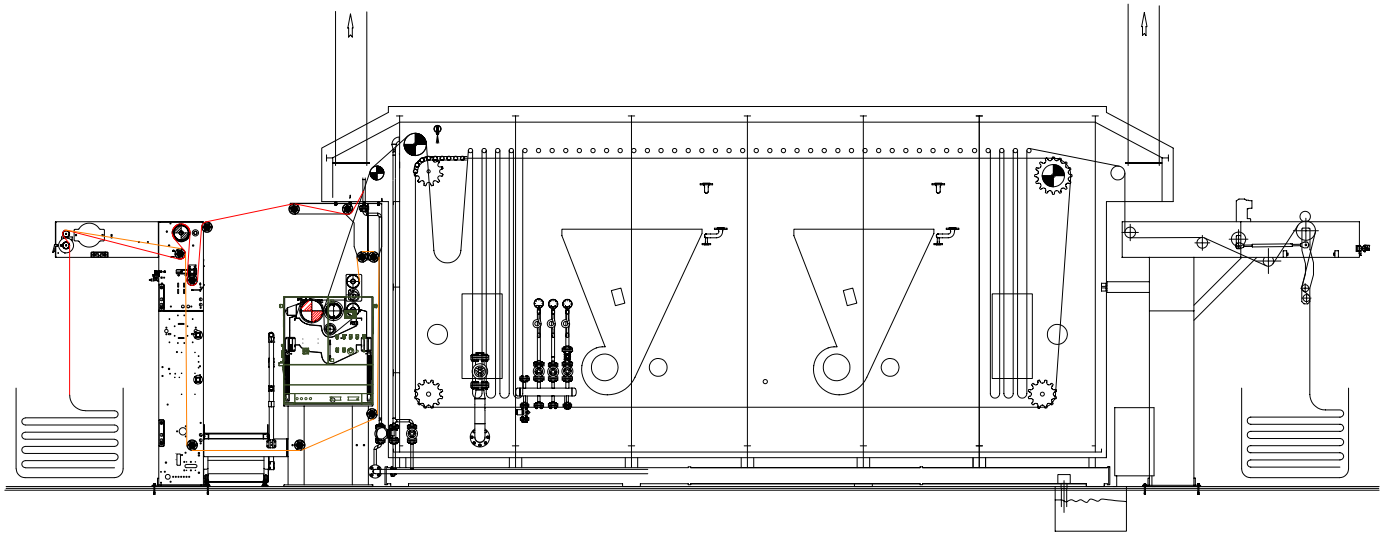
# APPLICATION EXAMPLE

| FIBRES        | DYESTUFF                   | STEAMING MODUS | TEMPERATURE   | TREATING TIME |
|---------------|----------------------------|----------------|---------------|---------------|
| COTTONVISCOSE | Reactive<br>Vat-Indanthron | Saturated      | 102°C - 104°C | 10 - 12 min.  |
|               | Pigment                    | Hot Air        | 160°C         | 5 - 6 min.    |
| NYLON         | Acid                       | Saturated      | 102°C - 103°C | 20 - 30 min.  |
| POLYSTER      | Disperse                   | Superheated    | 170°C         | 10 - 12 min.  |
| SILK / WOOL   | Acid                       | Saturated      | 102°C - 104°C | 15 - 30 min.  |

## PRODUCTIVITY



# OPTIONAL UPGRADING SYSTEMS



## FOULARD

For certain dyes like vat dyes the steam fixation process has to be combined with an impregnation system for the fabric just before entering the steam atmosphere.

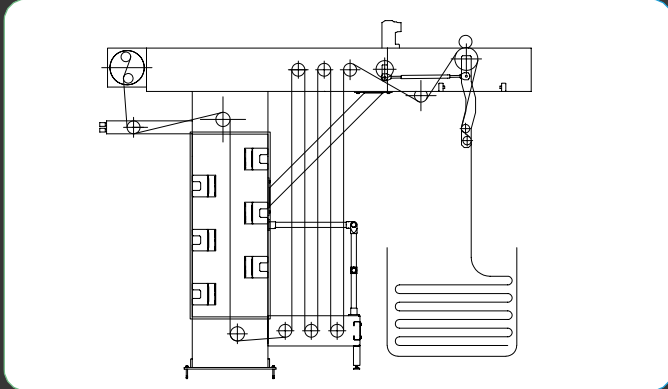
**ZIMMER AUSTRIA** can provide customized solutions with integrated foulard systems.



# OPTIONAL UPGRADING SYSTEMS

## FABRIC HEATING / COOLING

Especially for digital prints a heating system might be installed in order to dry the residual humidity on the fabric in order to prevent marks or stains. If required different cooling systems (conveyor rolls, active cooling rollers,...) can be provided customized to the production needs.

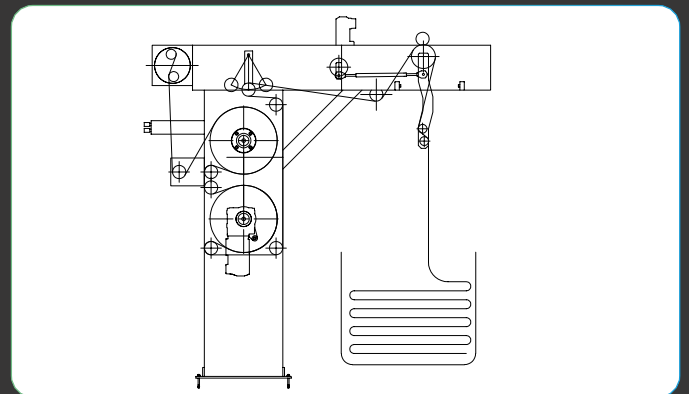


### HEATING / COOLING

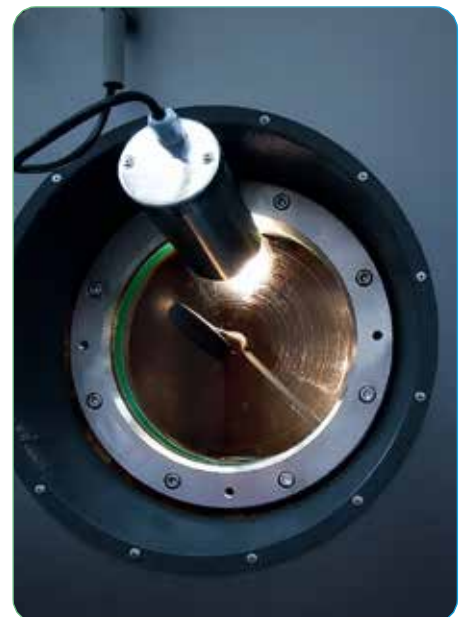
A heating system based on infrared elements could be installed right after the steamer exit. A combination of redirection rollers might be integrated for cooling the fabric before plating or rewinding.

### HEATING / COOLING

Depending on the required process either cooling or heating drums can be added into the fabric outlet system. Also combinations with cooling passages like indicated in the drawing above can be offered following specific customer needs.



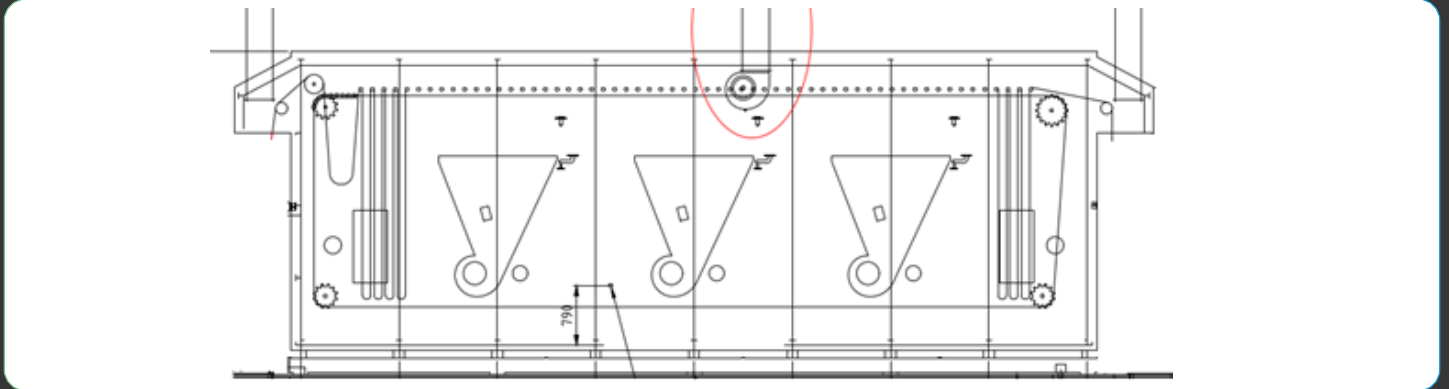
## MODUS-E DETAILS



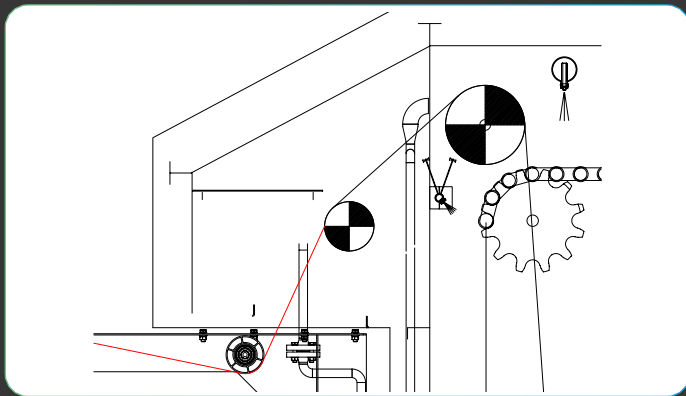
# OPTIONAL UPGRADING SYSTEMS

## RAPID VAPOR EXTRACTION SYSTEM

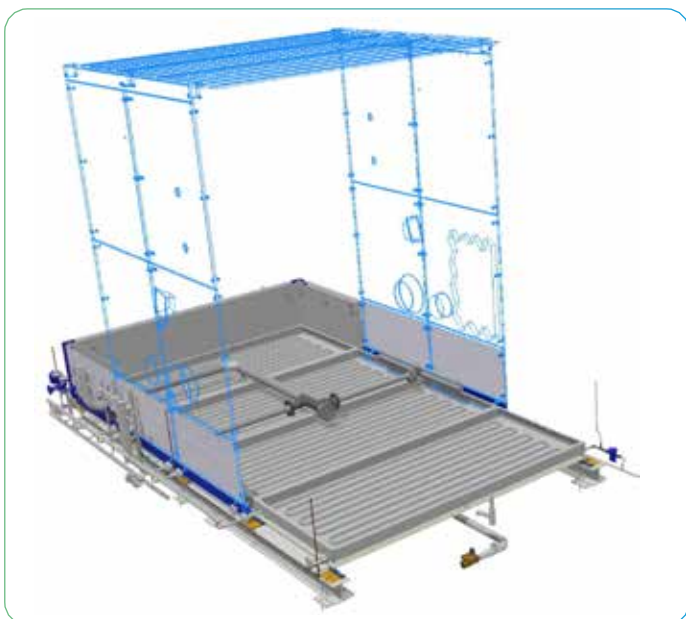
An additional exhaust fan system allows the steam to be rapidly extracted and therefore allowing the operator to enter the steamer within a short period of waiting time.



## CONVEYOR PROD CLEANING SYSTEMS



## INTEGRATED STEAM GENERATION



Steam will be generated inside the steamer using an integrated heating system and a **"boiling water atmosphere"**. This system generates the most uniform temperature and steam condition distribution within the treatment area.

# TECHNOLOGY CENTER

## INNOVATION IN ACTION

### EXPERIENCE INNOVATION. ENGINEER SOLUTIONS.

Where high-tech meets real-world application: our Technology Center is the place where pioneering processes are developed, new applications are tested, and customers benefit from our expertise, experience, and state-of-the-art equipment.

### DEVELOPMENT & REAL-WORLD TESTING

At the heart of our innovation process, new technologies are developed and tested under real production conditions on textiles, technical materials, and specialty products. From concept to completion, we deliver cutting-edge printing & coating solutions with maximum precision – always by your side.

### APPLICATION EXPERTISE. CUSTOMER PARTNERSHIP.

From product samples and process optimization to new materials, customer solutions are tested directly on original substrates. This ensures reliable, reproducible results that are fully ready for production.

### TRAINING, WORKSHOPS & KNOWLEDGE TRANSFER

From workshops and operator training to product development, our Technology Center is a hub for knowledge, practical expertise, and innovation – always at the forefront of our technology.

**R&D**

**Sampling**

**Training**

**Workshops**

**Convention**





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**FINISHING SYSTEMS**

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**CONTRACT MANUFACTURING**



## GET IN TOUCH

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**ZIMMER AUSTRIA**  
SCREEN & COATING SYSTEMS



Ebentaler Strasse 133  
9020 Klagenfurt | Austria



+43 (463) 3848-0  
[sales@zimmer-austria.com](mailto:sales@zimmer-austria.com)

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