

Pero

Advanced Parts Cleaning Systems



SLENDER & STRONG: **UNIVERSAL** CLEANING

BATCH CLEANING PLANT
for the energy-efficient cleaning of components and workpieces

R0

R0 MEANS 'R Zero'

PLANT

FOR THE OPTIMUM CLEANING MEDIUM
- UNIVERSAL FOR SEVERAL MEDIA

The plants from the **R Zero*** series use all the strengths of solvents for cleaning and degreasing.

All common cleaning media can be used for the optimum removal of contaminations.



For cleaning with
→ modified alcohols
→ hydrocarbons &
→ halogenated hydrocarbons



The R0 is designed for intermediate and final cleaning

The R0 UNIVERSAL version, for the use of different media, is a future proof design.

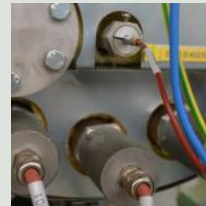
Thanks to the full vacuum technology the plants operates at low temperatures - gentle on both the parts being cleaned and the medium - with a very high degree of technical cleanliness and a good overall ecological balance.

* R The R plants are built to a standard design with a wide range of options to meet your specific cleaning and production requirements.

Zero The number stands for the work holding dimensions of, for example, L 380 x W 220 x H 200 mm or 410 x 245 x 130 mm and similar formats.

Energy efficiency

- Heat recovery
- Low connected load and energy consumption
- Well-insulated containers and pipes
- Full vacuum technology



Efficiently heated distillation unit



Stable and durable insulation

Media care

Thanks to the integrated distillation unit the cleaning medium is continuously refined and is available in highest quality for cleaning.

- Permanently high distillation performance
- Vacuum residual distillation integrated

The oils and non-filterable contaminants introduced are separated from the solvent by means of residual distillation.

Machine Cooling Options

- Integrated air cooling
- Externally installed coolers using refrigeration technology (closed loop water chillers) or air cooling

These options enable operation without **external** cooling water.

The bottom line - your benefits

→ You achieve the demanded technical cleanliness selectively and economically with the optimum cleaning medium.

→ You can clean a large variety of parts made of different materials with just one cleaning plant.

→ The R0 plant provides the cleaning medium continuously and in top quality for continuous cleaning while saving resources.

SOLID & RELIABLE

The compact R0 plant cleans various parts and workpieces

USE & APPLICATIONS



The R0 - conceived for the reliable achievement of a defined technical cleanliness for medium to ultra-small parts.



Economical cleaning, degreasing and conservation of components from the following areas

Watch & clock



Jewellery manufacture



Optics



Medical technology



Medical technology

Precision manufacturing



Electronics



Electronics

The bottom line - your benefits

→ You benefit from the advantages of parts cleaning on an industrial scale with applications that require small containers

→ With the newly developed R0 you gain decades of experience with the predecessor model and the proven process technology of the Pero R-series.

→ As an exclusive cleaning solution the R0 fits inside a small room, but can also be used for intermediate or final cleaning in a production cell.

ECOLOGICAL & EFFICIENT

The R0 plant for parts cleaning also achieves the highest degrees of purity

TECHNICAL CLEANLINESS

PLANT WITH UNIVERSAL PROCESS TECHNOLOGY

Cleaning mechanisms

- Flooding, full bath
- Swivelling, rotation, interval/cyclic rotation
- Wave flooding

Extra Power

- Vapour degreasing
- Initial vapour degreasing
- Ultrasonic unit (optional)

Drying

- Condensation drying combined with vacuum technology

Initial vapour degreasing

The initial vapour degreasing is an effective cleaning step. Solvent vapour condenses on the parts in the working chamber and thoroughly removes oil and grease.

As the standard initial cleaning step the cleaning baths remain free from contamination. The contamination is carried directly into the distillation unit, where it is separated from the solvent.



Ultrasonic cleaning

An increased mechanical cleaning effect can be achieved with this optional equipment.

- Ultrasonic rods for efficient transmission into the cleaning medium
- Increased effect thanks to vacuum technology
- Programmable movement of the goods during the treatment for effective cleaning and drying.

Filtration

The R0 offers a very large filter surface for the care of the cleaning medium.

- Bag filter with sealing collar
- Full-flow filtration of the medium



A filter unit is installed for each medium tank

The bottom line - your benefits

- You achieve the demanded technical cleanliness with standard cleaning programmes or with self-defined programmes.

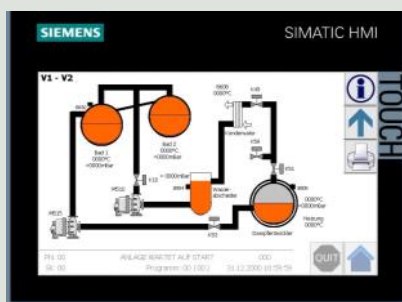
- The R0 offers precise, highly effective parts movements and mechanical cleaning effects in the liquid medium or in the vapour degreasing phase.

- In combination with the efficient distillation unit, the application-specific filter design enables economically clean components.

SIMPLE OPERATION

Control

- High-definition colour touch HMI screen
- Standard programs are preconfigured. Create custom programs to suit specific need
- Status information is displayed in plain text
- Reading-in of cleaning programs by bar codes, QR or RFID codes (option)
- Audit software (option)
- Data logging (option)



Visualisation of the vapour degreasing process



Simple call-up of operating data and settings. Password protection for different user levels of access.



Cleaning medium, filters and distillation are maintained with simple multi-maintenance programs - the plant is maintained and ready for further operation

Loading, cleaning & unloading

- Automatic working chamber door (standard)
- Automatic feeding (option)
- Intuitively operable control symbols
- Programme preselection
- Weekly timer integrated

Maintenance

- Profinet for remote maintenance and data communication
- Wide easy access openings for maintenance and for cleaning the tanks

Safety & comfort

- Controlling of the direction of rotation of the basket turning device
- Filter drying (standard) minimises operator exposure and gives valuable cost reductions in solvent usage
- Automatic lubrication of the basket rotation system

Filter drying

Filter drying avoids removing the filter when it is still wet - maintaining full compliance and operator safety.

Automatic oil drainage

The distillation residues are sucked automatically and without emissions into a barrel.

The bottom line - your benefits

→ The process technology offers many part processing options and enables the best cleaning result to be achieved.

→ The maintenance work can be accomplished quickly and simply.

→ Remote maintenance offers you fast and direct support by Pero Service.

SLENDER & POWERFUL

The sophisticated design concept of the R0 parts cleaning plant

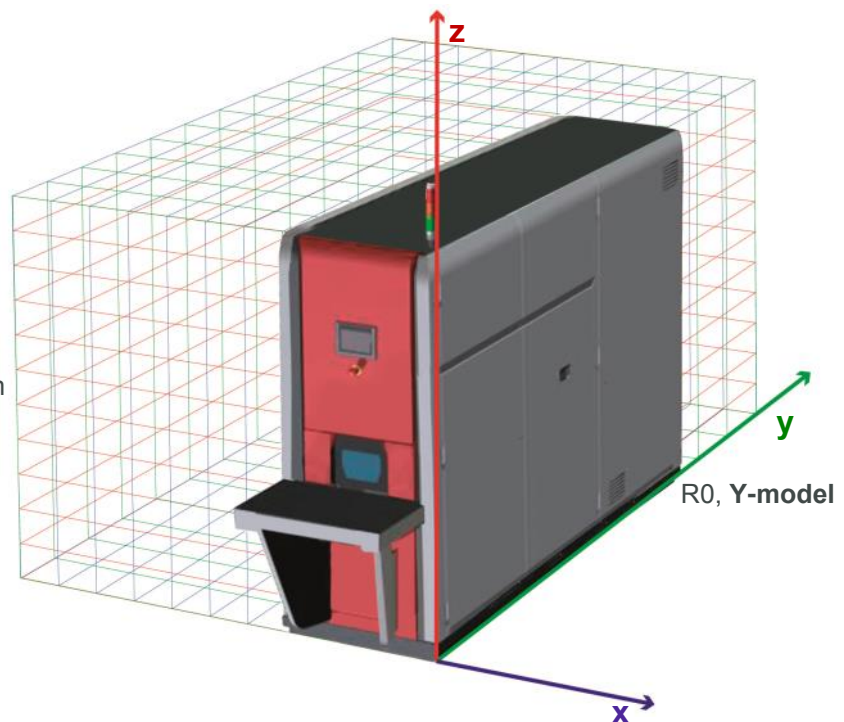
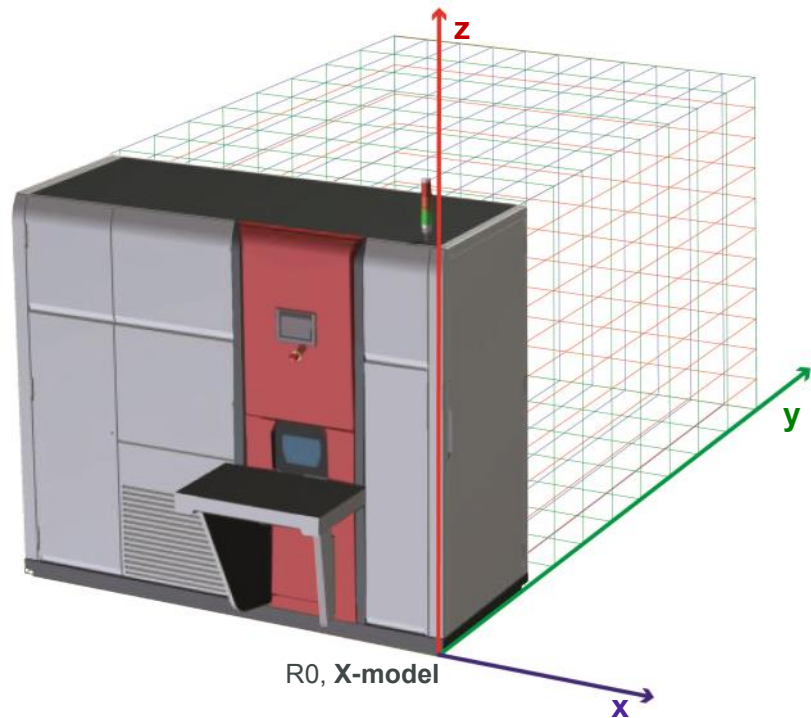
DESIGNS

TO SUIT EVERY PLACE OF USE
PARTICULARLY LOW INSTALLATION HEIGHT

The concept of the R0 makes two designs possible: The wide **X-model** and the deep **Y-model**.

The models use the same modules and the identical basic structure.

The modular construction and the series production of the R0 result in cost benefits for the users.



The R0 fits through a small industrial door

The bottom line - your benefits

→ You use a powerful cleaning solution on the smallest footprint and with the lowest installation height.

→ The design depends on your local requirements but nevertheless offers good accessibility for maintenance and service.

→ The rational manufacturing and conception of the R0 bring you monetary benefits in the procurement.

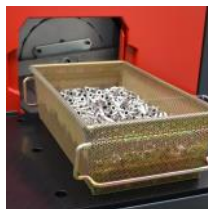


FEEDING

MANY FORMATS AVAILABLE -
OPTIMUM COMBINATIONS POSSIBLE

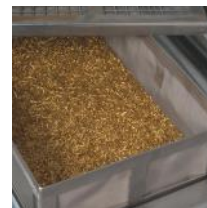
The goods to be cleaned can alternatively be

- fed manually in the case of small and medium numbers of batches, or
- fed and removed by an automatic feeder (option)



Cleaning with

- Universal / system / small part baskets
- basket-in-basket systems
- sheet metal boxes; pallets
- setting pallets; floor inserts



Reliably achieve goals:

- efficient cleaning, de-oiling & conserving
- handling without surface damage
- careful parts transport



The bottom line - your benefits

- For flow line production the R0 is available with auto loading for continuous automated production cleaning.

- Use optimum parts carriers to achieve careful parts cleaning.

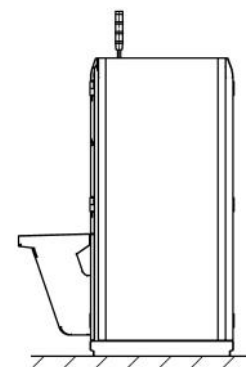
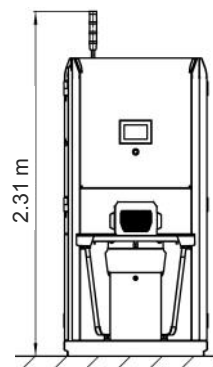
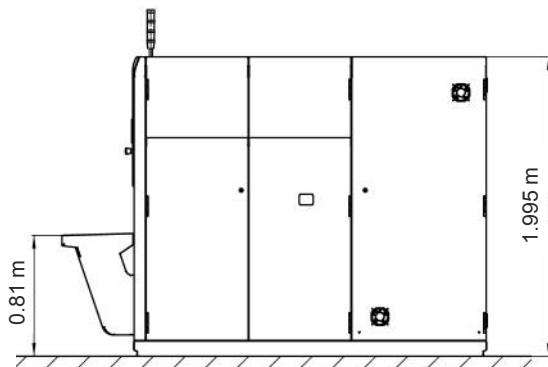
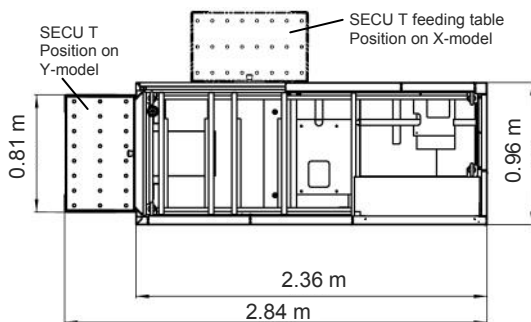
- Optimum goods carriers and an appropriate feeding solution ensure the demanded technical cleanliness with optimum ergonomics.



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TECHNICAL DATA

tem	Data	
Machine install. dimensions	Width of X/Y-model (without feeder)	2.36 / 0.96 m
	Depth of X/Y-model (without feeder)	0.96 / 2.36 m
	Depth of the manual / automatic feeder	0.48 m
	Installed height (without / with 3-colour light)	1.995 / 2.31 m
	Feeding height for the baskets, approx.	0.81 m
Max. external basket dimensions	Length x width x height (standard, nominal)	380 x 220 x 200 mm 410 x 245 x 130 mm (Novel)
Max. batch weight	Parts with goods carriers	50 kg
Cleaning media	Hydrocarbons (HC) and modified alcohols (with flashpoint > 55 °C); halogenated hydrocarbons	
Performance	Max. no. of batches per hour with 35 kg steel Cleaning > vapour degreasing > drying	14
Supply	Compressed air	6 bar
	Electrical connection	3 x 400 V PEN; 50 Hz
	Cooling water	max. 32 °C, Δp = 2 bar
Transport	Plant (weight / dimensions), Y-model [X-model]	1.5 t / 3.1 [2.5] x 1.1 [1.7] x H 2.4 m
	Automatic feeder (weight / dimensions)	650 kg / 2.7 x 1.2 x H 1.4 m

R0, Y-model
Front viewR0, X-model
Side view

All specifications without guarantee.
Subject to errors and technical changes.



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