



CERTUSS

**EFFICIENT
PRODUCTION
WITH STEAM**

**CERTUSS STEAM GENERATORS
MADE IN GERMANY**

THE BEST STEAM

The best steam is produced as consistently quietly, easily, and reliably as possible with low energy and water consumption. Those who need industrial steam for their production processes benefit from these characteristics. And these are the performance features that have made CERTUSS steam generators a market leader in this industry.

CERTUSS reliability

The result of rigorous quality inspections of all components and production processes.





In more than 100 sectors, such as health care, the chemical, pharmaceutical and automotive industries, the hotel business, and the food and beverage sector, CERTUSS steam generators are an established name worldwide. With consistent research and advanced development along with the highest quality standards, for more than 50 years we have been developing gas-fired, oil-fired, and electric steam generators. The output classes for modules heated by fossil fuels range up to 2,000 kg/h and up to 320 kg/h per steam boiler for electric steam generators.

CERTUSS systems are known for a high degree of modularity. They can be combined into an intelligent multiple system in order to provide significantly larger outputs (up to 16 t/h).



One principle with many advantages:

the CERTUSS water tube boiler principle



Reinventing steam



How can you produce steam of the highest quality that is directly available with maximum reliability and without lengthy preheating times? The CERTUSS water tube boiler principle and an intelligent control system make it possible. Our team developed this technology consistently over decades. In connection with the typical CERTUSS design, we can supply compact, space-saving solutions that function quite economically. This means that in most countries, the installation conditions for these systems are more permissive.

Our systems only produce exactly the amount of steam that is needed right then in the production area. This makes them economical and environmentally sound. All CERTUSS steam generators meet the current ecological standards. We provide country-specific certifications and other acceptance protocols by request.



All CERTUSS heating coils are developed, manufactured, and inspected in the factory in Krefeld.

Durable, efficient, low-maintenance steam generators
to increase sustainability

The ideal type



For many years, our designers, engineers, and technicians have been working with an innovative spirit, technical expertise, and attention to detail to achieve the ideal type. We check all components to ensure the highest quality and use only the best. That's why CERTUSS steam generators are easy to operate, require little maintenance, and function reliably for decades. The CERTUSS production area is certified according to quality standard DIN EN ISO 9001:2015, but in many cases our quality requirements are even higher.





System advantages

EASY TO OPERATE

_All configurations and settings are easy to manage with the self-explanatory touchscreen.

DURABLE

_Preheating the feed water to 90° to 95°C separates the oxygen from the water and provides corrosion protection.

NO WAITING TIME

_The CERTUSS heating coil is the core component of the water tube boiler principle. Three minutes after the system is started, the high-speed steam generator is supplying saturated steam.

PRECISE

_The burner, which can be controlled exactly, supplies precisely regulated steam pressure in increments of 1/10 bar.

SAFE

_Based on the water tube boiler principle, much less water is heated than in conventional boilers. That reduces risk to a minimum.

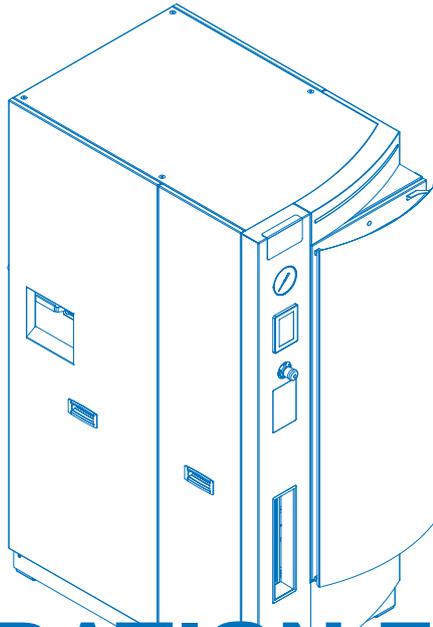
PROTECTED

_The automatic safety valve prevents overpressure.

EFFICIENT

_No heat loss due to the unique 3-fold air insulation and heat recycling. Not only is the combustion air preheated, but the outer covering is cooled as well, which minimizes loss and saves energy. The CERTUSS economizer allows the energy potential of the discharged flue gas to be used as well.





GENERATION E

E10MX – E320MX

**Electric, efficient, compact,
modular, and powerful**

The CERTUSS EMX series in the new generation of electric steam generators. In terms of efficiency, load adjustment, and footprint, this development is in a new performance class. Electric steam generators are heated by stainless steel heating rods with a large heating surface. The output of the heating elements is regulated continuously via semiconductor contactors. One energy-efficient advantage is the immediate modulating output adjustment to the actual steam demand during the operating cycle.







ELECTRIC WITH A LOW SPACE REQUIREMENT AND THE OPTION TO INCREASE OUTPUT

The EMX steam generators are ready for use 3–5 minutes after starting up the system and the equipment design guarantees continuous regulation of the steam output from 10 to 320 kg/h. Each module can be expanded up to an output of 160 kg/h. The new GENERATION E comes in eleven sizes with regard to output.

The compact design decreases the space requirement by up to 25%. Equipment dimensions match the standard door size (80 cm) for efficient assembly and the modular design provides great flexibility because modules can be arranged as desired.



EASY ACCESS [MAINTENANCE ADVANTAGE]

_FLEXIBLE ACCESS POINTS make maintenance quick and easy.

LOW WEAR [LONG LIFE]

_The new LONG LIFE DESIGN guarantees high durability, reliability, and long service life.

INSTALLATION [EFFICIENT]

_The optional integrated WATER MODULE MX-CPA simplifies installation and lowers costs.
 _The fully automatic 72-HOUR OPERATION increases efficiency.

CONTROL [PLUS]

_The proven THERMOTIMAT-PLUS CONTROL is optional. It provides corrosion protection; constant boiler pressure and consistent steam quality increase process reliability.

OPERATING PRESSURE [UP TO 16 BAR]

_Safe operating pressure up to 16 BAR guarantees a wide range of applications.

STEAM [QUALITY]

_Steam can be produced for INDUSTRIAL or CULINARY NEEDS based on the application.



HMI [EASY CONTROL]

_The new HUMAN-MACHINE INTERFACE guarantees easy, intuitive control in 15 languages.
 _When steam demand varies, the technology enables intelligent pressure adjustment and reduces consumption.
 _It also allows for CONDITION MONITORING and REMOTE SERVICES and meets all of the requirements for Industry 4.0.

ONE-VIEW CONTROL [REMOTE CONTROL]

_The LED STATUS DISPLAY and the WATER LEVEL DISPLAY at the front of the equipment provide continuous assurance regarding equipment condition at a glance.

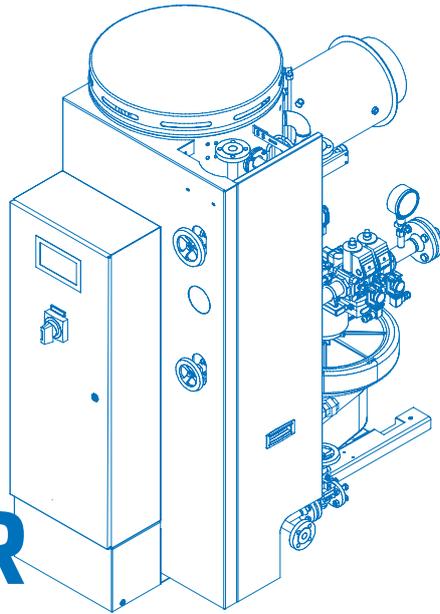
COOLING [INTEGRATED]

_The optional SWITCHING CABINET COOLING FUNCTION ensures operation even at high temperatures.



➤ TECHNICAL DATA
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JUNIOR TC 80 – 400



The fully automatic, safe solution – in the smallest spaces

This series provides a practical solution for any application areas with low steam demand – such as small breweries or pharmaceutical or food production operations. The electronic control system makes the JUNIOR extremely easy to operate. It is especially adept in working situations in which steam is not continually required and it comes with all of the respective safety equipment ready for operation. The combustion management of the newest generation can be programmed for any fuel type. Its compact, vertical, space-saving design makes it perfect for areas with limited space.





EFFICIENT LOAD ADJUSTMENT, EASY TO OPERATE, AND PROVEN IN PRACTICE

System operation can be fully automatic when the optional Thermotimat automatic control is installed. Operators are not required. Manual operation is self-explanatory and easy. The operating display provides graphics which make the instructions for start-up and shutdown easy to understand. It also indicates operating status, programming, errors, and messages in any desired language. Remote control and programming can be set up by request.





USER-FRIENDLY

_Self-explanatory TOUCHSCREEN MENU NAVIGATION makes operation significantly simpler.

REMOTE CONTROL AND SERVICE

_Remote programming, control, and access to data via Ethernet, CAN bus, PROFIBUS or GSM/UMTS modem*.
 _Well-known for excellent service, customer service available 24 hours a day, 365 days a year.

ADVANTAGES OF OUR TECHNOLOGY

_Robust all-steel design with double-shell air cooling with no insulation materials.
 _Noise and vibration damping, elastic assembly attachments.
 _Vertical, stress-free, central mounting of the heating system with low-point blow down.

*Additional equipment.

EFFICIENT AND COST-EFFECTIVE

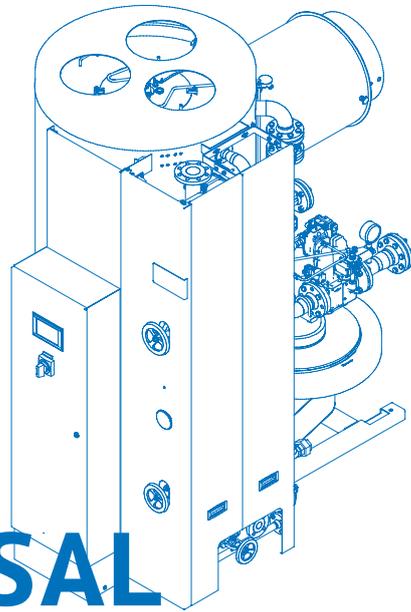
_Extremely high degree of efficiency (up to 98% with exhaust gas heat exchanger) due to 3-FOLD AIR INSULATION together with the simultaneous preheating of combustion air with very low emission losses.
 _Short heating time. Full steam output is achieved within 3–5 minutes.
 _ELECTRONIC COMBUSTION MANAGEMENT and the PILOT FLAME SYSTEM (gas burner) save energy and costs with immediate load adjustment starting at the respective stream demand.

OPERATION AND INSTALLATION

_Fully automatic operation
 _Secure installation with no foundation and a low space requirement.
 _Can be installed in work areas, no boiler house required.
 _No permit required for installation and operation up to Category III in Germany.
 _Compatible with all CERTUSS steam generators of the same or different designs.



➤ TECHNICAL DATA
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UNIVERSAL TC 500 – 2000

**Economical, highly efficient steam generation –
with greater output by request**

The UNIVERSAL steam generators are the perfect solution for production operations with higher steam demand. The output is flexible and can be adjusted to meet the amount of steam needed. All UNIVERSAL steam generators consist of modules that are completely equipped and ready for operation. They can be combined with each other in a cascade connection and come with an extensive safety package. In comparison with conventional solutions, CERTUSS steam generators require just one-third of the footprint space.



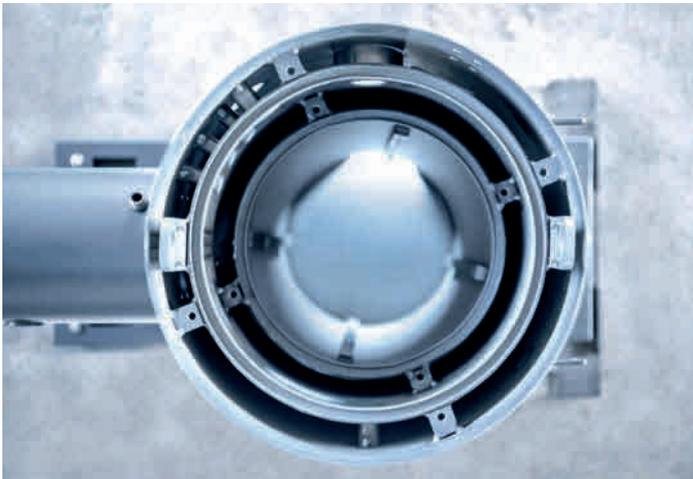




THE SECRET TO CERTUSS QUALITY: INNOVATIVE TECHNOLOGY, THE BEST COMPONENTS, AND METICULOUS CARE

Just as all CERTUSS steam generators, the large series also meets the highest requirements with regard to safety, efficiency, and operational advantages. The intuitive, easily understood control system offers both manual and fully automatic operation without any large personnel or time-related costs. Remote control, programming, and diagnostics are available via various connections.

In case the steam demand increases, the systems are compatible with every CERTUSS series and can be expanded to meet the exact needs.



Greater efficiency with the CERTUSS steam generator housing with 3-fold insulation

EFFICIENT AND COST-EFFECTIVE

- _Extremely high degree of efficiency (up to 98.5% with Economiser) due to 3-FOLD AIR INSULATION together with the simultaneous preheating of combustion air with very low emission losses.
- _Short heating time. Full steam output is achieved within 3–5 minutes.
- _ELECTRONIC COMBUSTION MANAGEMENT and the PILOT FLAME SYSTEM (gas burner) save energy and costs with immediate load adjustment starting at the respective stream demand.
- _Modulating output control from 50% to 100% steam output with GAS BURNER EQUIPMENT (two output increments with oil operation: 50% and 100%).
- _Low-maintenance FEED WATER PUMP with infinitely variable speed regulation.
- _Low-emission burner for each size developed especially to meet the most recent European standards.

OPERATIONAL ADVANTAGES

- _Self-explanatory TOUCHSCREEN MENU NAVIGATION makes operation significantly simpler.
- _THERMOTIMAT AUTOMATIC CONTROL for fully automatic operation*.
- _Remote control and control via Ethernet and mobile networks*.
- _Optional: "CVE" supply unit: a complete boiler house installation including a boiler feed pump, feed water tank, steam separator, water treatment, and wastewater mixing heat exchanger.

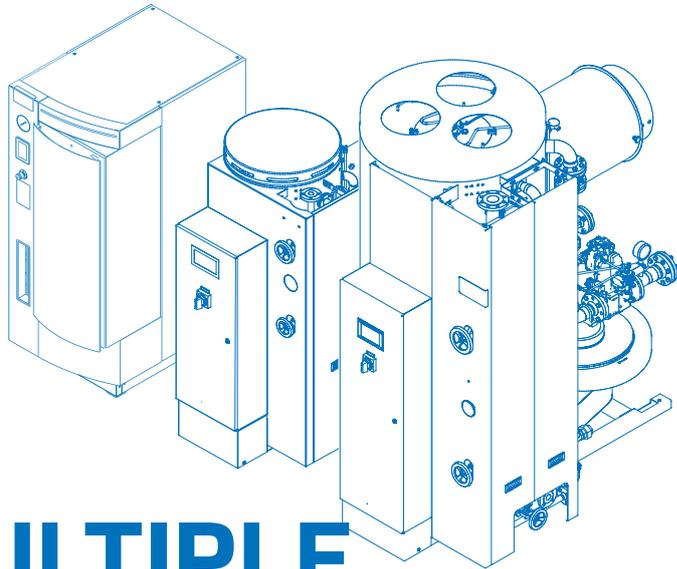
*Additional equipment.

INSTALLATION ADVANTAGES

- _Secure installation with no foundation and a low space requirement.
- _Can be installed in work areas, no boiler house required.
- _No permit required for installation and operation up to Category III in Germany.
- _Standard versions come with equipment for up to 72 hours of operation without manual invention (water monitoring optional).



➤ TECHNICAL DATA
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MULTIPLE SYSTEMS

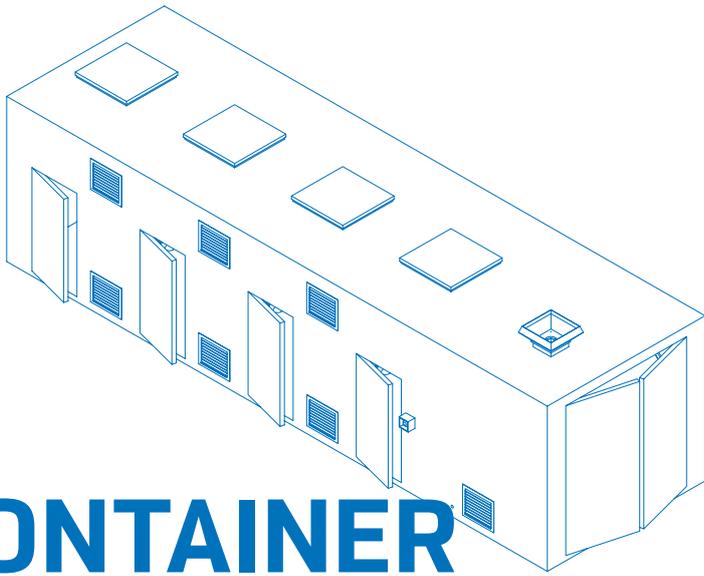
Efficiency means "nothing more than what is needed"

Multiple systems by CERTUSS enable a highly flexible steam supply while saving energy. With the integrated diagnostic system, steam production is ideally distributed between the base-load boiler and the peak-load boiler. This allows needs-oriented operation with a long service life, which is, in turn, sustainable.

Based on technical production conditions, various types of combustion and heating such as gas, oil, or electrical and various output classes can be combined to achieve the ideal solution.







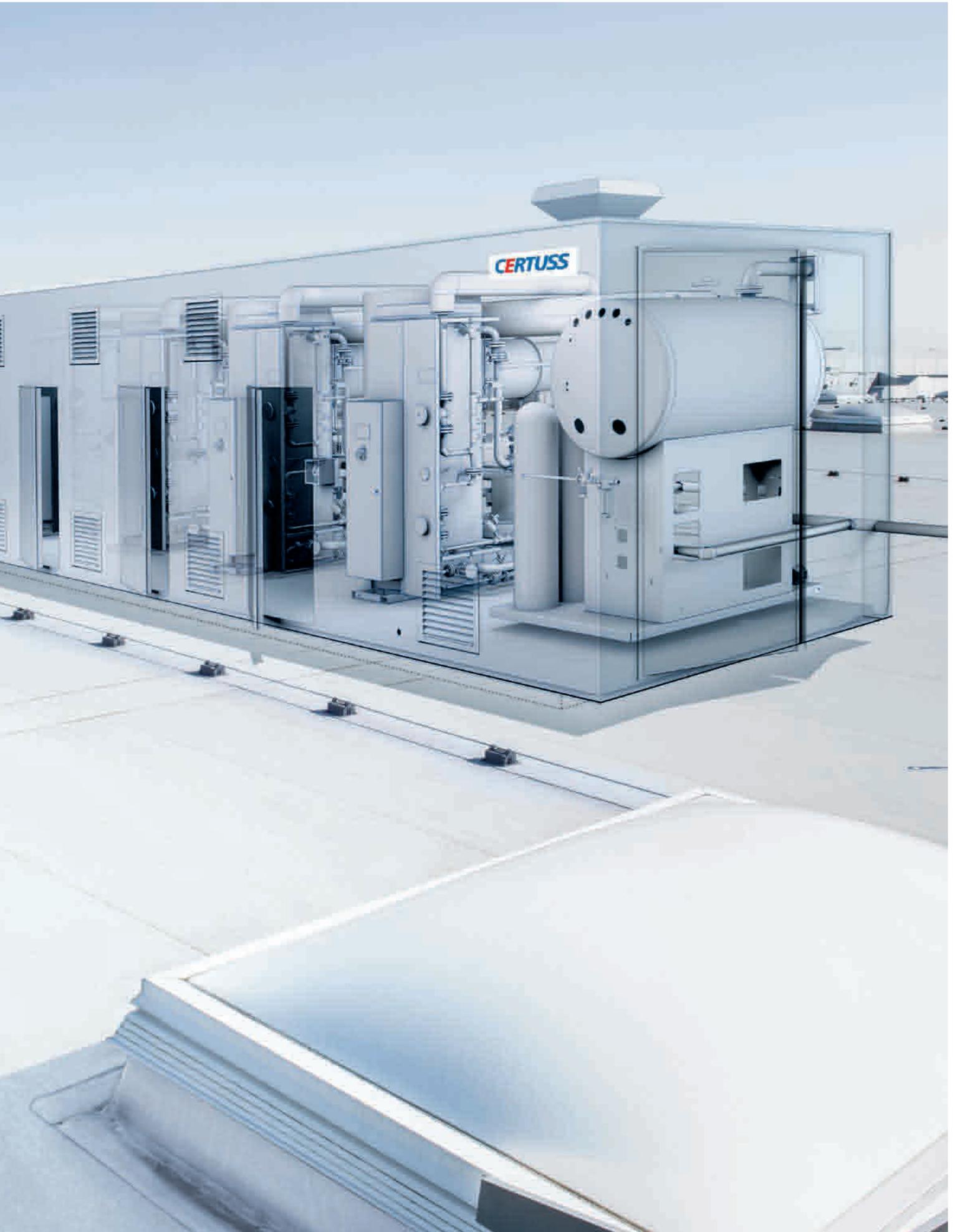
CONTAINER STEAM SYSTEMS

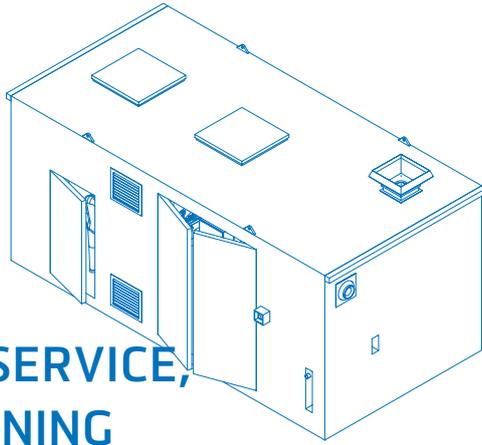
A custom built boiler house ready for operation

When steam production needs to be located outside of buildings or when mobile systems are required, we create the right enclosure solution.

The enclosure includes all of the components for generating steam. Your container design can include flexible adaptations to meet the requirements for your space and production and it will function just as economically as a stationary CERTUSS system. This solution also achieves full steam output within 5 minutes after system start-up.







**STRONG IN SERVICE,
FROM PLANNING
TO MAINTENANCE**

Your specifications are crucial

We would be happy to support you with the commissioning of your steam boiler installation and the instruction of your operators. We also adapt our maintenance and service models to meet your requirements exactly.

If you have questions, our customer service staff can help you.





CONTAINER ADVANTAGES

- _ Tailored to meet customer requests and specifications
- _ Compact and space-saving
- _ Mechanical and electrical components are all completely preinstalled
- _ High-quality, insulated stainless steel walls to protect the equipment
- _ External paint according to your specifications
- _ Insulated pipe installation inside
- _ Steel or UPVC door as desired
- _ Complete internal lighting
- _ Individual selection of installation location provides the greatest flexibility
- _ No separate boiler house required
- _ Lower costs for on-site installation
- _ Optional air-conditioning for the container

OPTIONAL EQUIPMENT

- _ CERTUSS steam generator(s)
- _ CVE supply unit
- _ Water treatment system
- _ Steam distributor
- _ Pressure reducing station
- _ Steam separator
- _ Condensate lifting system
- _ Air-conditioning
- _ Oil tank
- _ and more



CVE | CERTUSS

CVE SUPPLY UNIT

The best conditions for durability and steam quality

Consistent water quality is critical for the durability of the steam generator and for the resulting steam quality. The factory-installed CERTUSS CVE ensures the proper supply. It is adapted precisely to meet the respective system and installation situation and can be equipped to handle future increases in required output.

The CVE includes and regulates all of the connections for water, steam, electricity, and energy. The high-quality components for water treatment and supply are compact and are installed such that they are easily accessible and save space.

CERTUSS Flexibility

Every CERTUSS supply unit is configured precisely for current or future demand situations.



Customized prefabrication reduces installation time and costs to a minimum

The entire pipe installation between the steam generator and the supply unit is properly adapted and prefabricated to meet on-site conditions. The same applies for the electrical wiring and the connecting cables for the system. Planning in advance with CAD ensures precision and reliability. These preparations reduce on-site installation time and costs to a minimum.



OPTIONAL EQUIPMENT

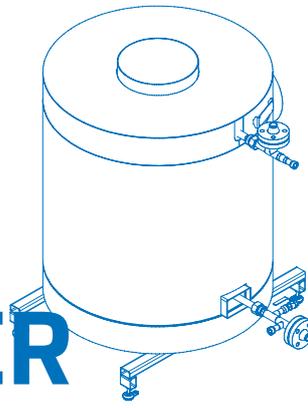
- _ Water treatment system, including automatic dosing
- _ Desalination heat exchanger
- _ Feed water tank
- _ Steam separator
- _ Blow down tank
- _ Pre-pressure pump
- _ Testomat (testing device)
- _ Conductivity monitor
- _ Switching cabinet



CVE ADVANTAGES

- _ All supply and water treatment components for CERTUSS steam generators are provided as a complete unit
- _ Low space requirement due to compact design
- _ Proper installation by professional guarantees safe operation
- _ Base frame is powder-coated for corrosion protection
- _ Complete with electrical sub-panel
- _ Easy accessibility and maintenance
- _ Inexpensive series production with elements that are perfectly adapted to each other
- _ Made with approved, high-quality materials
- _ Significant reduction in assembly time saves costs
- _ Factory installation of all connections for water, steam, electricity, and energy ensures safety





ECONOMISER CERTECON 80 – 2000

Efficiency that pays off and reduces CO₂

Flue gas heat exchangers increase the efficiency and reduce the CO₂ emissions of CERTUSS steam generators heated by oil or gas. CERTECON flue gas heat exchangers use the heat from exhaust gas to increase the temperature of the feed water. This achieves heat recycling of up to 43 kW, which increases efficiency and reduces fuel consumption.



ECONOMISER

SPI 500 – 2000

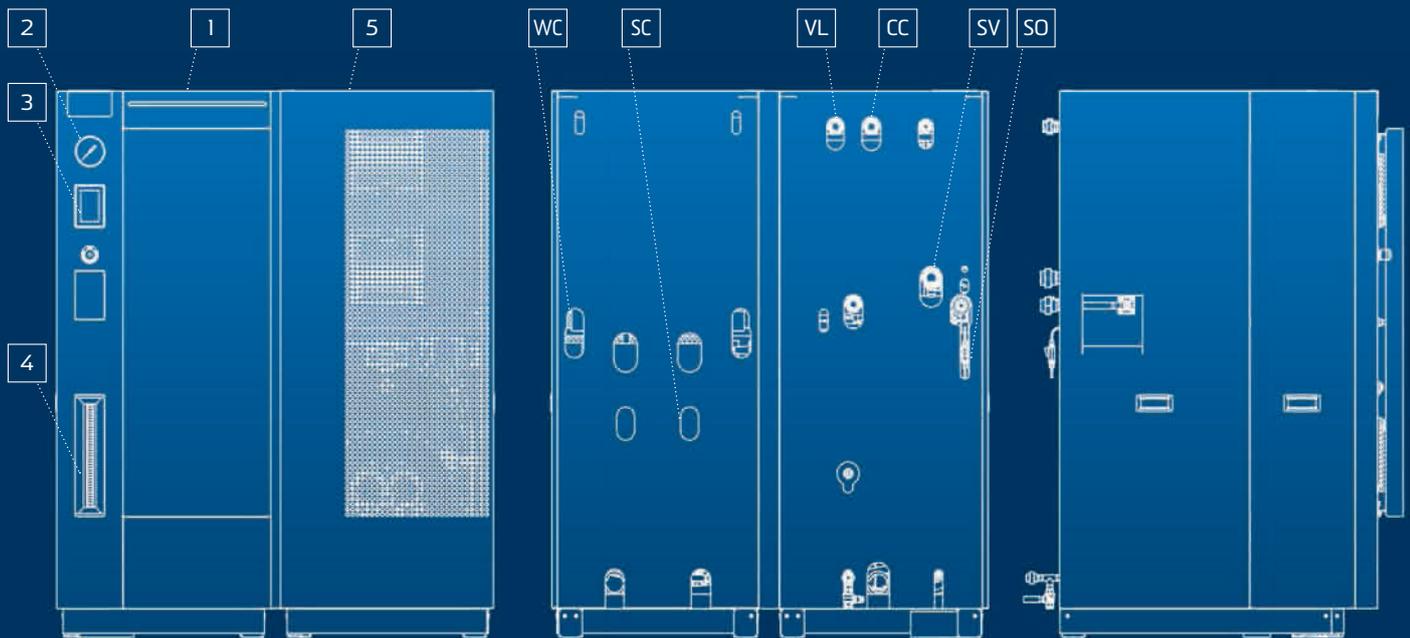
Lower energy consumption – higher efficiency

Depending on the gas-heated or oil-heated CERTUSS steam generator in use and the installation situation, this flue gas heat exchanger helps to reduce fuel consumption significantly while increasing efficiency. Heat recycling of up to 83 kW is possible.

Our team would be happy to discuss the details with you.



TECHNICAL DATA
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- 1 Model Electrical E16OMX
- 2 Pressure gauge
- 3 Touchscreen
- 4 Level indicator
- 5 Supply unit MX-CPA

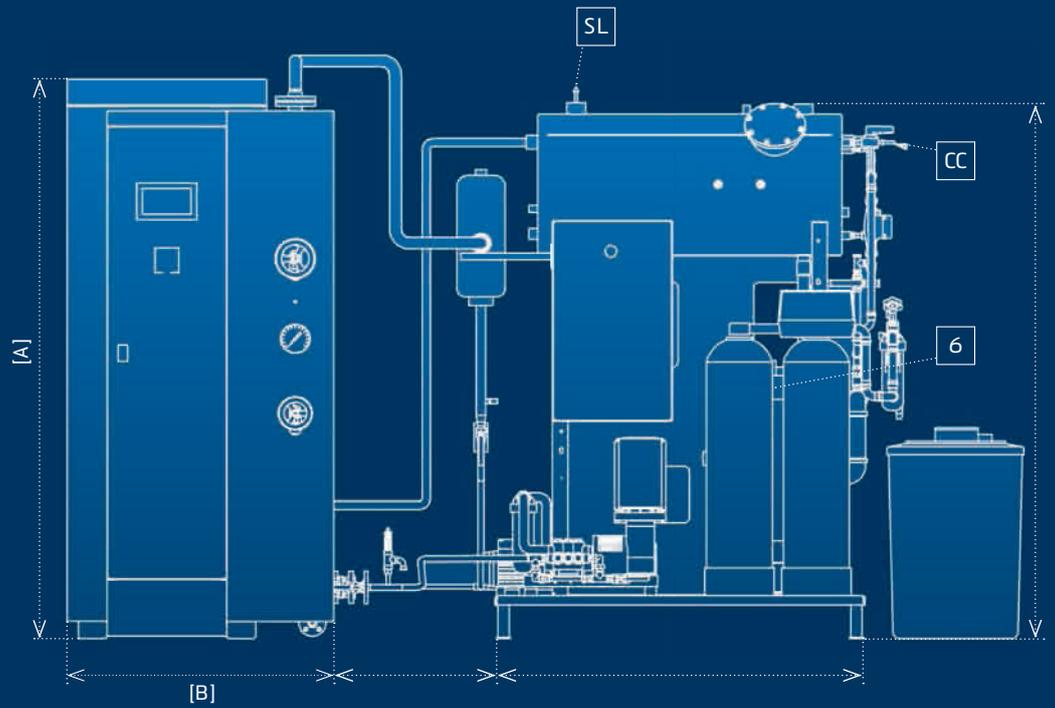
- SO Steam outlet
- SV Safety valve to the outside
- VL Vapor vent line to the outside
- WC Water connection
- CC Condensate connection
- SC Sewer connection

GENERATION E

E10MX – E320MX

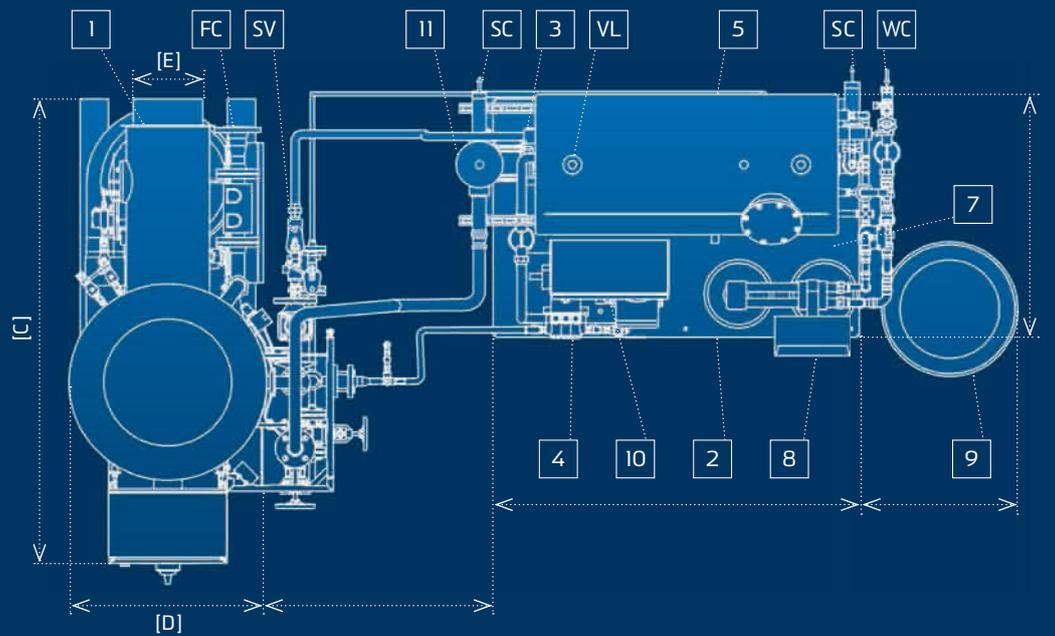
Model E-MX		10	20	40	60	80	100	130	160	200	260	320	
Capacities													
Steam output	kg/h	10	20	40	60	80	100	130	160	200	260	320	
Heat output	kW	8	16	32	48	67	80	107	120	160	200	240	
Electrical output	kW	8,7	16,7	32,7	48,7	67,7	80,7	107,7	120,7	160,7	200,7	240,7	
Water content	l	37 (NV= 18,5)			45 (NV = 28,9)				89 (NV = 56,7)				
Dimensions (H x W x D)	mm	1900 x 774 x 1150						1900 x 1580 x 1150					
Operating voltage		380 – 480 V · 50/60 Hz											
Pressures													
Max. permissible overpressure	MPa (bar)	0,4 (4) · 0,6 (6) · 1,0 (10) · 1,2 (12) · 1,6 (16)											
Operating pressure min./max.	MPa (bar)	0,3/0,365 (3,0/3,65) · 0,35/0,55 (3,5/5,5) · 0,35/0,91 (3,5/9,1) · 0,35/1,1 (3,5/11,0) · 0,35/1,45 (3,5/1,45)											
Categories													
Acc. to PED [DGRL]	4 bar	II					III						
2014/68/EU	6 – 16 bar	III					III						
Acc. to German industrial safety reg. [BetrSichV]	4 bar	II					III						
	6 – 10 bar	III					III						
	12 – 16 bar	III					IV						
Materials													
Pressure vessel		P235GH / Stainless steel (AISI 304/AISI 316 Ti)											
Feed water tank		Stainless steel (AISI 316 Ti)											
Armatures		Brass / Stainless steel (AISI 316L/AISI 316 Ti)											
Housing		S235JR / Stainless steel (AISI 304)											
The following services are incurred depending on the design													
Electrical power control voltage 230 VAC (option MX-CPA)	kW							0,25					
Electrical power cooling unit	kW						0,95			1,45			
Electrical power feed water heating	kW						9 / 18			9 / 18 / 27 / 36			
Operating voltage		380 – 480 V · 50/60 Hz											
Connections													
Steam outlet							1/2"			1"			
Soft water connection							1/2"						
Safety valve	4 bar						1"			1 1/4"			
	6 – 10 bar						1"			1"			
	12 – 16 bar						1"			1 1/4"			
Blow down/desalination line							1/2"						
Overflow/drainage feed water tank							1"						
Condensate return							1"						
Vapor vent line							1"						
Volume													
Water level	V	45,5 l											

Right to technical revision reserved.



- 1 Model JUNIOR TC
- 2 CVE supply unit
- 3 Pre-pressure pump
- 4 Feed water pump
- 5 Feed water tank
- 6 Mixing heat exchanger
- 7 Dosing device
- 8 Water softening system
- 9 Brine tank
- 10 Switching cabinet
- 11 Steam separator

- SC Steam connection
- WC Water connection
- VL Vapor vent line to the outside
- SV Safety valve to the outside
- SC Sewer connection
- CC Condensate connection
- FC Fuel connection



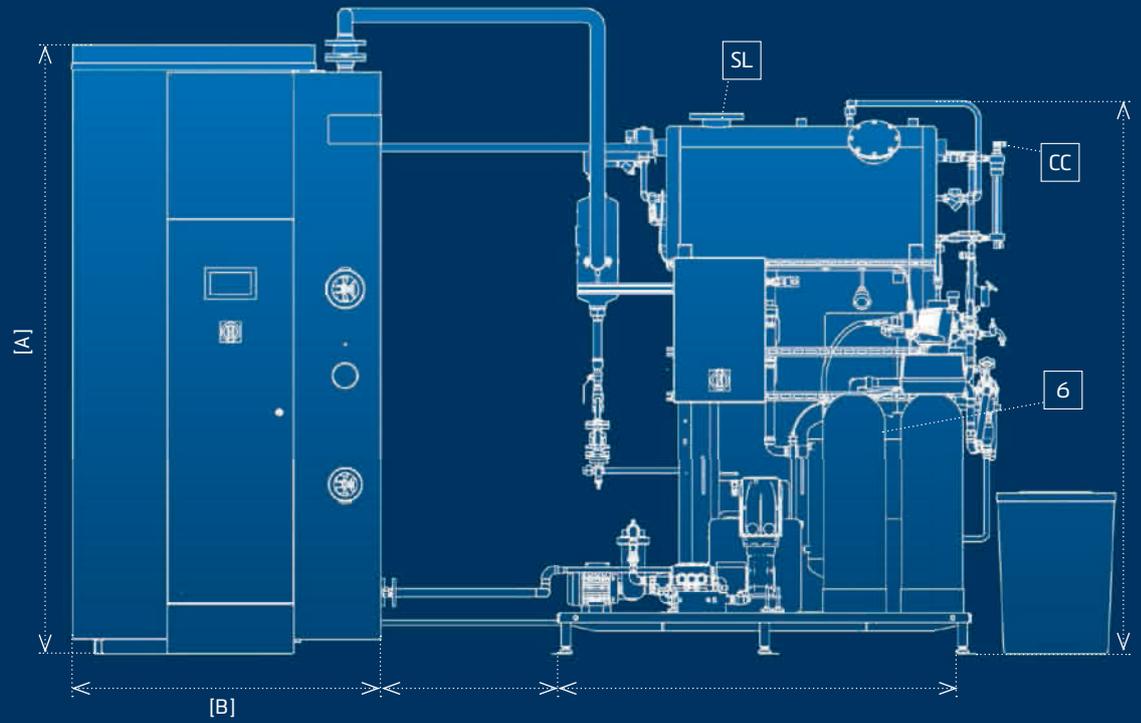
JUNIOR

TC 80 – 400

Model JUNIOR		80	120	150	200	250	300	350	400
Size		1		2			3		
Capacities									
Steam output	kg/h	80	120	150	200	250	300	350	400
Heating capacity	kW	53	80	100	133	167	201	235	268
Nominal load	kW	58	87	109	145	186	224	255	291
Levels									
1									
Pressures									
Max. operating pressure	MPa (bar)	0,8 – 2,9 (8 – 29)		0,8 – 2,9 (8 – 29)		0,8 – 2,9 (8 – 29)			
Max. permissible overpressure	MPa (bar)	1,0 – 3,2 (10 – 32)		1,0 – 3,2 (10 – 32)		1,0 – 3,2 (10 – 32)			
Consumption									
Heating oil (EL)	kg/h	4,9	7,3	9,2	12,2	15,4	18,3	21,2	24,4
Natural gas	m ³ /h	6,7	9,6	12,2	16,0	19,7	23,5	27,3	31,4
Liquid gas	m ³ /h	2,2	3,4	4,3	5,6	7,3	8,5	9,9	11,3
Dimensions									
Height A	mm	1515		1600		1850			
Width B	mm	730		770		875			
Depth C	mm	1295		1475		1580			
Boiler ø D	mm	500		560		640			
Flue gas pipe ø E	mm	180		200		250			
Flue gas center ø F	mm	1050		1120		1360			
Weight	kg	320		420		520			
Connections									
Electrical connection load	kVA	3,33		3,37		3,92			
Oil connection	DN	3/8"		3/8"		3/8"			
Natural gas	DN	20		32		40			
Liquid gas	DN	20		20		20			
Feed water	DN	1 1/4"		1 1/4"		1 1/4"			
Steam connection	DN	15		20		25			
Safety valve	DN	1"		40		40			
Start-up line	DN	3/4"		3/4"		1"			
Regulations (Germany)									
Building inspectorate approvals or notifications are required for combustion systems		Categorized into Category I, II, or III depending on output and maximum permissible operating overpressure acc. to European directive PED [DGRL] 2014/68/EU				No approval required acc. to German industrial safety reg. [BetrSichV]			
TÜV									
Not subject to TÜV testing and monitoring ¹⁾									

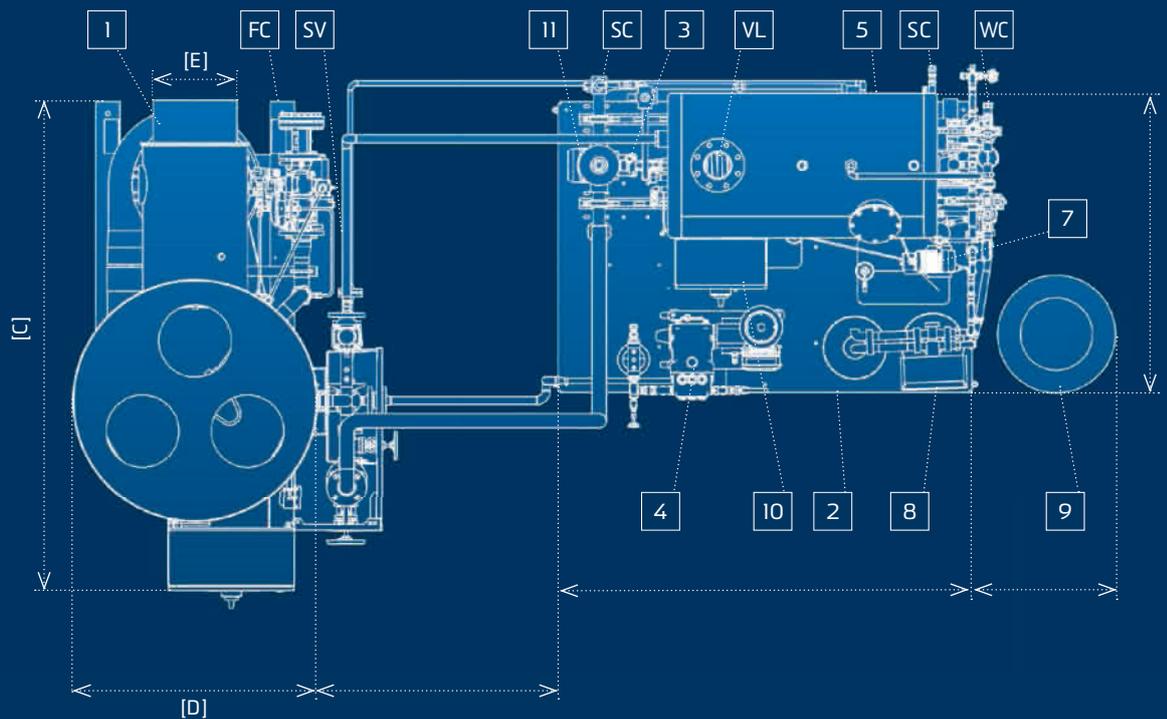
¹⁾ With the exception of the steam generators of the Junior 250 – 400 series with maximum permissible operating overpressure.

Right to technical revision reserved.



- 1 Model UNIVERSAL TC
- 2 CVE supply unit
- 3 Pre-pressure pump
- 4 Feed water pump
- 5 Feed water tank
- 6 Mixing heat exchanger
- 7 Dosing device
- 8 Water softening system
- 9 Brine tank
- 10 Switching cabinet
- 11 Steam separator

- SC Steam connection
- WC Water connection
- VL Vapor vent line to the outside
- SV Safety valve to the outside
- SC Sewer connection
- CC Condensate connection
- FC Fuel connection



UNIVERSAL TC 500 – 2000

Model UNIVERSAL		500	600	700	850	1000	1300	1500	1800	2000
Size		4		5		6		7		
Capacities										
Steam output	kg/h	500	600	700	850	1000	1300	1500	1800	2000
Heating capacity	kW	328	393	459	557	656	853	984	1180	1320
Nominal load	kW	364	436	510	619	728	947	1091	1349	1454
Stages		2		2		2		2		
Pressures										
Max. operating pressure	MPa (bar)	0,8 – 3,0 (8 – 30)		0,8 – 2,9 (8 – 29)		0,8 – 2,9 (8 – 29)		0,8 – 2,9 (8 – 29)		
Max. permissible overpressure	MPa (bar)	1,0 – 3,2 (10 – 32)		1,0 – 3,2 (10 – 32)		1,0 – 3,2 (10 – 32)		1,0 – 3,2 (10 – 32)		
Consumption										
Heating oil (EL)	kg/h	30,6	37,1	43,5	50,2	61,7	79,4	93,8	110,1	122,1
Natural gas	m ³ /h	39,7	47,5	56,1	68,1	80,2	102,9	118,9	142,9	158,7
Liquid gas	m ³ /h	14,1	16,9	19,5	23,6	28,1	36,5	42,0	49,9	55,2
Dimensions										
Height A	mm	1985		2290		2535		2675		
Width B	mm	955		1160		1275		1420		
Depth C	mm	1725		1930		2125		2415		
Boiler ø D	mm	700		870		1000		1100		
Flue gas pipe ø E	mm	250		300		350		500		
Flue gas center ø F	mm	1460		1750		1940		2025		
Weight	kg	950		1100		1500		2300		
Connections										
Electr. connection gas	kVA	5,66		6,71		12,53		17,86		
Electr. connection oil/comb.	kVA	6,63		7,68		13,50		18,83		
Oil connection	DN	3/8"		3/8"		3/8"		1/2"		
Natural gas	DN	50		65		65		80		
Liquid gas	DN	25		40		40		50		
Feed water	DN	1 1/4"		1 1/4"		1 1/4"		1 1/4"		
Steam connection	DN	32		40		50		65		
Safety valve	DN	40		40		40		50		
Start-up line	DN	3/4"		1"		1 1/2"		1 1/2"		
Categorization										
EPEG categorie		III		up to 25 bar III / 25–32 bar IV		up to 16 bar III / 16–32 bar IV		up to 10 bar III / 10–32 bar IV		
Regulations (Germany)										
Germany BetrSichV	Tests § 15–16	III		up to 20 bar CERTUSS ¹⁾ / 20-32 bar AIA ²⁾		AIA ²⁾		AIA ²⁾		

¹⁾ Through CERTUSS customer service as "qualified persons"

²⁾ Through "approved inspection agency", e.g. TÜV

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ECONOMISER

CERTECON 80 – 650

CERTECON	80 – 120		150 – 200				250 – 650				
CERTUSS Steam generator – Type			JUNIOR				UNIVERSAL				
	80	120	150	200	250	300	350	400	500	600	
Dimensions											
Flue gas inlet ø internal	mm	180	200		250						
Flue gas outlet ø external	mm	178	198		248						
Centre-to-centre distance connecting pieces	mm	220	270		350						
Outer diameter	mm	250	280		370						
Installation length	mm	590	640		740						
Connections¹											
Water inlet/outlet PN 100	DN	15				20					
Nominal width condensate connection	DN					1/2"					
Capacities¹											
Heat output at full load up to	kW	0,9	1,5	1,5	4,0	4,0	4,5	5,0	5,5	6,0	7,0
Connected burner output max.	kW	58	87	109	145	182	218	255	291	364	436
Heating flue gas temperature max.	°C					350					
Other data¹											
Weight without water filling	kg	24	33		66						
Pressure equipment volume V	l	1,49	3,16		5,66						
Operating overpressure PS	bar	10 – 40	10–13	16–32	40	10–32				40	
Product PS x V	max.	59,6	41,08	101,12	126,4	181,12				226,4	
PED [DGRL] 2014/68/EU, Annex II, diagram 5, category		GIP	I	II	IV	II				IV	

CERTECON 700 – 2000

CERTECON	700 – 960		1000 – 1300		1500 – 2000	
CERTUSS Steam generator – Type			UNIVERSAL			
	700 – 850		1000 – 1300		1500 – 2000	
Dimensions						
Flue gas inlet ø internal	mm	300	350		500	
Flue gas outlet ø external	mm	295	345		495	
Connecting piece distance	mm	850	900		940	
Distance floor / connecting piece	mm			355		
Height	mm	1325	1385		1450	
Diameter	mm	900	1020		1100	
Connections¹						
Water inlet/outlet PN 100	DN	25		32		
Desliming	DN	15		25		
Dewatering flue gas condensate				3/4"		
Capacities¹						
Heat output at full load up to	kW (ca.)	15	25		43	
Connected burner output max.	kW	730	1100		1480	
Heating flue gas temperature max.	°C			350		
Other data¹						
Weight without water filling	kg	320	387		442	
Pressure equipment volume V	l	43,1	51,6		71,6	
Operating overpressure PS	bar	10 – 32	40	10 – 32	40	10 – 32
Product PS x V	max.	1379,2	1724	1651,2	2064	2291,2
PED [DGRL] 2014/68/EU, Annex II, diagram 5, category		III	IV	III	IV	III



ECONOMISER SPI 500 – 2000

Size Model UNIVERSAL	500	600	700	850	1000	1300	1500	1800	2000	
Artikel-Nr.	33.0018.1		33.0018.2		33.0018.4		33.0018.6			
Dimensions										
Equipment height	mm	1830		2145		2360		2520		
Equipment width with insulation	mm	1360		1360		1460		1660		
Equipm. depth across flue gas connections	mm	860		860		880		900		
Internal Ø, flue gas inlet	mm	255		305		355		505		
External Ø, flue gas outlet	mm	245		295		345		495		
Floor to center of flue gas inlet/outlet	mm	1460		1750		1940		2025		
Floor to center of water inlet	mm	875		990		1155		1165		
Clear width (internal housing dimensions)	mm	600			700			900		
Spacing, feed water connections	mm	375				525				
NV, feed water connections PN40 (Mat. 16Mo3)	mm			25				32		
Height, substructure	mm	350		465		630				
Weight	kg	550		650		720		860		
Capacities¹⁾										
Heat output at full load up to	kW	21	25	32	38	45	55	66	76	83
Heating surface	m ²	15		20		24		31		
Pressure loss, flue gas side max.	mbar	0,2	0,3	0,5	0,7	0,7	1,1	0,9		
Flue gas volume, flue gas side	m ³	0,28		0,33		0,42		0,63		
Flow rate, water side	m ³ /h	0,5	0,6	0,7	0,85	1,0	1,3	1,5	1,8	2,0
Pressure loss, water side	bar	0,01		0,02		0,03	0,05	0,07	0,10	0,12

¹⁾ Values can deviate depending on the burner output, operating overpressure, and capacity utilization of the steam generator.

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WE'D BE HAPPY TO ASSIST YOU



CONRAD BRAUNER

Sales Manager
Germany

+49 (0) 2151 578-266
conrad.brauner@certuss.com



HOLGER DEIMANN

Global Sales & Marketing Manager

+49 (0) 2151 578-190
h.deimann@certuss.com



STEFAN DERKS

Sales – Germany,
West / North

+49 (0) 2151 578-229
s.derks@certuss.com



KERSTEN MANKO

Sales – Germany,
South

+49 (0) 2151 578-242
k.manko@certuss.com

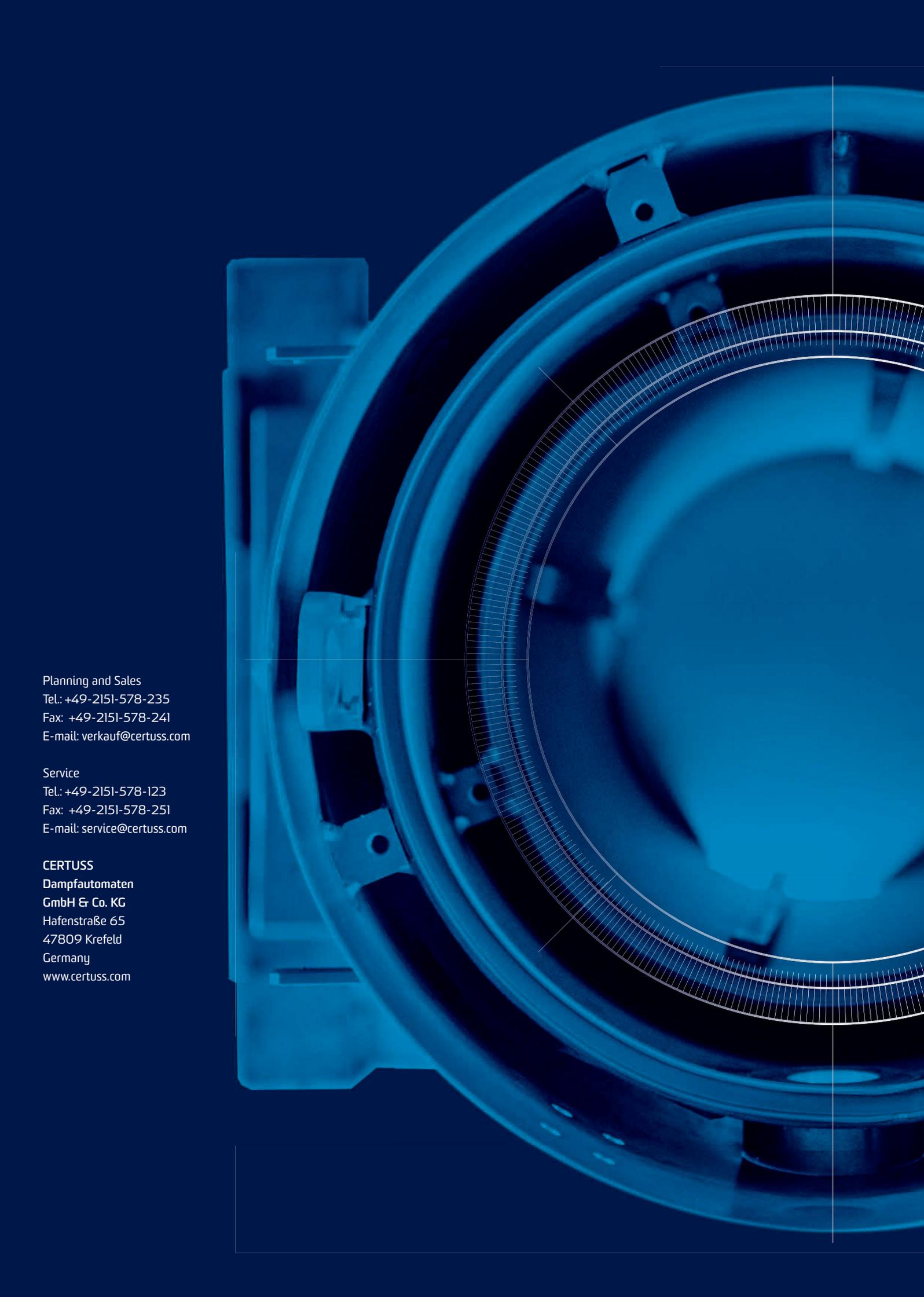


GABOR NEUHERZ

Sales – Germany,
East / North

+49 (0) 2151 578-145
g.neuherz@certuss.com





Planning and Sales
Tel.: +49-2151-578-235
Fax: +49-2151-578-241
E-mail: verkauf@certuss.com

Service
Tel.: +49-2151-578-123
Fax: +49-2151-578-251
E-mail: service@certuss.com

CERTUSS
Dampfautomaten
GmbH & Co. KG
Hafenstraße 65
47809 Krefeld
Germany
www.certuss.com